

## [MS-NCNBI-Diff]:

# Network Controller Northbound Interface

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# 1 Introduction

Network Controller Northbound Interface specifies the Northbound API (NBI) definition of the Network Controller Protocol. The NBI is a RESTful API using JSON as the message format. The first sections of this document provide an overview of the API and common usage of it. The bulk of this document is the design of the resources that make up the NBI. The resources are in order of the top-level resources with their respective descendant resources defined in conjunction with their ancestor resource. The Network Controller Protocol is used by tenants and network administrators to control data center networking.

Sections 1.5, 1.8, 1.9, 2, and 3 of this specification are normative. All other sections and examples in this specification are informative.

## 1.1 Glossary

This document uses the following terms:

**access control list (ACL):** A list of access control entries (ACEs) that collectively describe the security rules for authorizing access to some resource; for example, an object or set of objects.

**ancestor:** In a tree structure, an element from which other elements inherit attributes.

**asynchronous operation:** An operation executed on the server side. The client continues executing and does not check whether a response is available from the server.

**autonomous system number (ASN):** A unique number allocated to each autonomous system for use in the BGP routing protocol.

**Border Gateway Protocol (BGP):** An inter-autonomous system routing protocol designed for TCP/IP routing.

**classless inter-domain routing (CIDR):** An alternate method for allocating IP addresses and routing IP packets, known as supernetting, that organizes IP addresses into subnetworks that are independent of the address values. It enables multiple subnets to be grouped together for network routing to reduce the growth of Internet routing tables and preserve available IPv4 addresses.

**create retrieve update delete (CRUD):** The four basic functions of persistent storage. The "C" stands for create, the "R" for retrieve, the "U" for update, and the "D" for delete. CRUD is used to denote these conceptual actions and does not imply the associated meaning in a particular technology area (such as in databases, file systems, and so on) unless that associated meaning is explicitly stated.

**descendant:** A member that is below the current member in a hierarchy.

**Domain Name System (DNS):** A hierarchical, distributed database that contains mappings of domain names to various types of data, such as IP addresses. DNS enables the location of computers and services by user-friendly names, and it also enables the discovery of other information stored in the database.

**Dynamic Host Configuration Protocol (DHCP):** A protocol that provides a framework for passing configuration information to hosts on a TCP/IP network, as described in [RFC2131].

**encryption:** In cryptography, the process of obscuring information to make it unreadable without special knowledge.

**Hypertext Transfer Protocol (HTTP):** An application-level protocol for distributed, collaborative, hypermedia information systems (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

**Hypertext Transfer Protocol Secure (HTTPS):** An extension of HTTP that securely encrypts and decrypts web page requests. In some older protocols, "Hypertext Transfer Protocol over Secure Sockets Layer" is still used (Secure Sockets Layer has been deprecated). For more information, see [SSL3] and [RFC5246].

**inbound:** The network traffic flowing from the client to the server.

**Internet Protocol security (IPsec):** A framework of open standards for ensuring private, secure communications over Internet Protocol (IP) networks through the use of cryptographic security services. IPsec supports network-level peer authentication, data origin authentication, data integrity, data confidentiality (encryption), and replay protection.

**Internet Protocol version 4 (IPv4):** An Internet protocol that has 32-bit source and destination addresses. IPv4 is the predecessor of IPv6.

**Internet Protocol version 6 (IPv6):** A revised version of the Internet Protocol (IP) designed to address growth on the Internet. Improvements include a 128-bit IP address size, expanded routing capabilities, and support for authentication and privacy.

**JavaScript Object Notation (JSON):** A text-based, data interchange format that is used to transmit structured data, typically in Asynchronous JavaScript + XML (AJAX) web applications, as described in [RFC7159]. The JSON format is based on the structure of ECMAScript (Jscript, JavaScript) objects.

**Media Access Control (MAC) address:** A hardware address provided by the network interface vendor that uniquely identifies each interface on a physical network for communication with other interfaces, as specified in [IEEE802.3]. It is used by the media access control sublayer of the data link layer of a network connection.

**multiplexer (MUX):** A software component that processes inbound traffic according to configured mapping rules.

**NetBIOS:** A particular network transport that is part of the LAN Manager protocol suite. NetBIOS uses a broadcast communication style that was applicable to early segmented local area networks. A protocol family including name resolution, datagram, and connection services. For more information, see [RFC1001] and [RFC1002].

**network address translation (NAT):** The process of converting between IP addresses used within an intranet, or other private network, and Internet IP addresses.

**opaque:** Data that the client does not use and data (or, more often, a handle) for use on the server on behalf of the client. Opaque data is sent to the client and returned to the server and used to access data or state information needed to process client calls/requests.

**outbound:** Network traffic flowing from the server to the client.

**Representational State Transfer (REST):** A class of web services that is used to transfer domain-specific data by using HTTP, without additional messaging layers or session tracking, and returns textual data, such as XML.

**resource:** An entity that can be identified by a URI. This term is used as specified in [RFC2616] section 1.3.

**Secure Sockets Layer (SSL):** A security protocol that supports confidentiality and integrity of messages in client and server applications that communicate over open networks. SSL supports server and, optionally, client authentication using X.509 certificates [X509] and [RFC5280]. SSL is superseded by Transport Layer Security (TLS). TLS version 1.0 is based on SSL version 3.0 [SSL3].



**security association (SA):** A simplex "connection" that provides security services to the traffic carried by it. See [RFC4301] for more information.

**Singleton SAO:** An SAO that is created the first time a method on its server type is called; subsequent calls to the remote methods on the server type reuse the existing SAO unless it expires. For shorter-lived SAOs, see single-call SAO.

**top-level resource:** A resource that has no ancestors.

**Transport Layer Security (TLS):** A security protocol that supports confidentiality and integrity of messages in client and server applications communicating over open networks. TLS supports server and, optionally, client authentication by using X.509 certificates (as specified in [X509]). TLS is standardized in the IETF TLS working group.

**Uniform Resource Identifier (URI):** A string that identifies a resource. The URI is an addressing mechanism defined in Internet Engineering Task Force (IETF) Uniform Resource Identifier (URI): Generic Syntax [RFC3986].

**Uniform Resource Locator (URL):** A string of characters in a standardized format that identifies a document or resource on the World Wide Web. The format is as specified in [RFC1738].

**Virtual Filtering Platform (VFP):** A component that runs on a host and processes network traffic according to a configuration that is comprised of a set of programmable rules.

**virtual private network (VPN):** A network that provides secure access to a private network over public infrastructure.

**web service:** A software system designed to support interoperable machine-to-machine interaction over a network, using XML-based standards and open transport protocols.

**Windows Management Instrumentation (WMI):** The Microsoft implementation of Common Information Model (CIM), as specified in [DMTF-DSP0004]. WMI allows an administrator to manage local and remote machines and models computer and network objects using an extension of the CIM standard.

**XML:** The Extensible Markup Language, as described in [XML1.0].

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as defined in [RFC2119]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the Errata.

### 1.2.1 (Updated Section) Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information.

[ECMA-404] Ecma International, "The JSON Data Interchange Format", Standard ECMA-404 1st Edition / October 2013, <http://www.ecma-international.org/publications/files/ECMA-ST-ARCH/ECMA-404%201st%20edition%20October%202013.pdf>

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[MSKB-3216755] Microsoft Corporation, "January 26, 2017—KB 3216755 (OS Build 14393.726)", <https://support.microsoft.com/en-us/help/4011347/windows-10-update-kb3216755>

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[X509] ITU-T, "Information Technology - Open Systems Interconnection - The Directory: Public-Key and Attribute Certificate Frameworks", Recommendation X.509, August 2005, <http://www.itu.int/rec/T-REC-X.509/en>

## 1.2.2 Informative References

[RFC1034] Mockapetris, P., "Domain Names - Concepts and Facilities", STD 13, RFC 1034, November 1987, <http://www.ietf.org/rfc/rfc1034.txt>

## 1.3 Overview

Network Controller Northbound Interface provides the Northbound API (NBI) definition of the Network Controller Protocol. The NBI is a Representational State Transfer (REST) (RESTful) web services API that uses JavaScript Object Notation (JSON) as the message format, as specified in [ECMA-404] and [JSON-Schema]. The first sections of this document provide an overview of the API and common usage of it. The bulk of this document is the design of the resources that make up the NBI.

The Network Controller Protocol is used by tenants and network administrators to control data center networking. Common tasks that would use these APIs include tenants designing and monitoring a virtual network in a data center and data center network admins monitoring the overall data center.

### 1.3.1 Client-Server Interactions

This section details the client-server interactions between the Network Controller (as the server) and any clients that call into its Northbound REST APIs.

#### 1.3.1.1 ETag usage

The ETag (entity-tag) is an HTTP/1.1 response header field that is defined by the W3C organization (See [RFC2616] section 14.19). The Network Controller supports the behavior of ETag as defined by W3C. In addition, the following section outlines the behavior of the **etag** element that a client can expect from the Network Controller when nested resources are updated.

**Case 1:** A parent resource is updated.

- The **etag** of the parent is updated.
- The **etag** of all child resources are updated.
- Recursively the **etag** of all child resources of the parent's child resources are updated.

**Example 1:** If a **logicalNetworks** resource is updated then its **etag** is updated along with all **subnets** resources under it and all **ipPools** resources under all **subnets** resources under the original **logicalNetworks** resource.

**Case 2:** A child resource is updated.

- Recursively the **etag** of the parent resource of the child resource is updated.
- The **etag** of the child resource is updated.
- The **etag** of all child resources of the specific child resource are updated.
- The **etag** of any other child resources of the parent are not updated.

**Example 1:** If a **subnets** resource is updated then its **etag** is updated along with the **etag** of the parent **logicalNetworks** resource and all **ipPools** resources under the specific **subnets** resource. Any other **subnets** resources under the original **logicalNetworks** resource will not have their **etag** updated.

**Example 2:** If an **ipPools** resource is updated then its **etag** is updated along with the **etag** of the parent **subnets** resource and the **etag** of the **subnets'** parent **logicalNetworks** resource. But if there are any other **subnets** resources under the **logicalNetworks** resource and **ipPools** resources under these **subnets** resources their **etag** will not be updated.

**Case 3:** A resource with dependencies is updated

- The **etag** of the resource is updated.
- The **etag** of the dependent resource is not updated.

**Example 3:** A **gateways** resource takes a dependency on a **GatewayPools** resource. Then the **GatewayPools** resource is updated. The **GatewayPools** resource's **etag** is updated but the **gateways** resource's **etag** is not updated.

This is the table of HTTP/1.1 response codes related to **etags**.

<b>PUT</b>	<b>Resource does not exist</b>	<b>Resource exists</b>
If-Match = "" / absent	201 Created	200 OK
If-Match = "*"	412 Precondition Failed	200 OK
If-Match = "xyz"	412 Precondition Failed	200 OK / 412 Precondition Failed
If-None-Match = "*"	201 Created	412 Precondition Failed

<b>PATCH</b>	<b>Resource does not exist</b>	<b>Resource exists</b>
If-Match = "" / absent	404 Not Found	200 OK
If-Match = "*"	404 Not Found	200 OK
If-Match = "xyz"	404 Not Found	200 OK / 412 Precondition Failed

<b>DELETE</b>	<b>Resource does not exist</b>	<b>Resource exists</b>
If-Match = "" / absent	204 No Content	200 OK
If-Match = "*"	204 No Content	200 OK
If-Match = "xyz"	204 No Content	200 OK / 412 Precondition Failed

### 1.3.1.2 Idempotency

All requests coming from clients are expected to contain an **x-ms-client-request-id** header. If the client needs to retry a request due to intermittent network issues, the same value will be sent in the header. This allows the Network Controller to ignore the retry if it has already been processed. Note that even if the request is ignored, the same response will be returned, since the client needs the values in the response.

If the retry arrives while the original request is still being processed, the Network Controller is responsible for identifying the situation and handling it by either cancelling the original request, waiting until it completes or returning 202 (Accepted) in case of asynchronous operations.

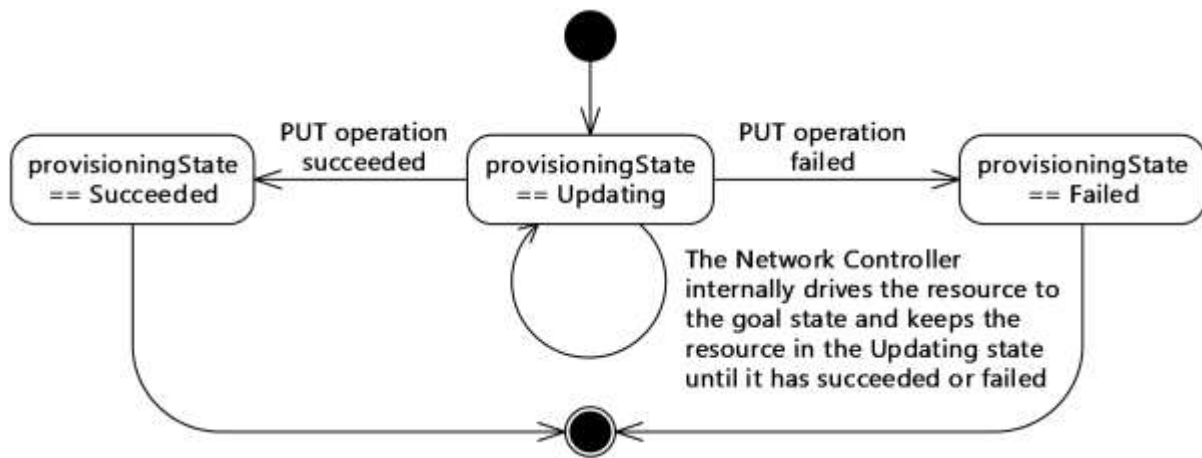
### 1.3.2 Asynchronous Operations

All operations that mutate resources can potentially take a long time to complete. The Network Controller provides the **operations** and **operationsResults** resources for determining the status of any asynchronous operations.

Because the Network Controller is a distributed service made up of several services, it handles transient failures internally. It does this by having a retry loop that will continue retrying the operation several times while keeping the resource in the Updating state. If the operation succeeded, the retry loop will be stopped and the resource will be put in the Succeeded state. If after the retry limit is reached in the retry loop, then the retries will stop and the resource will be put in the Failed state.

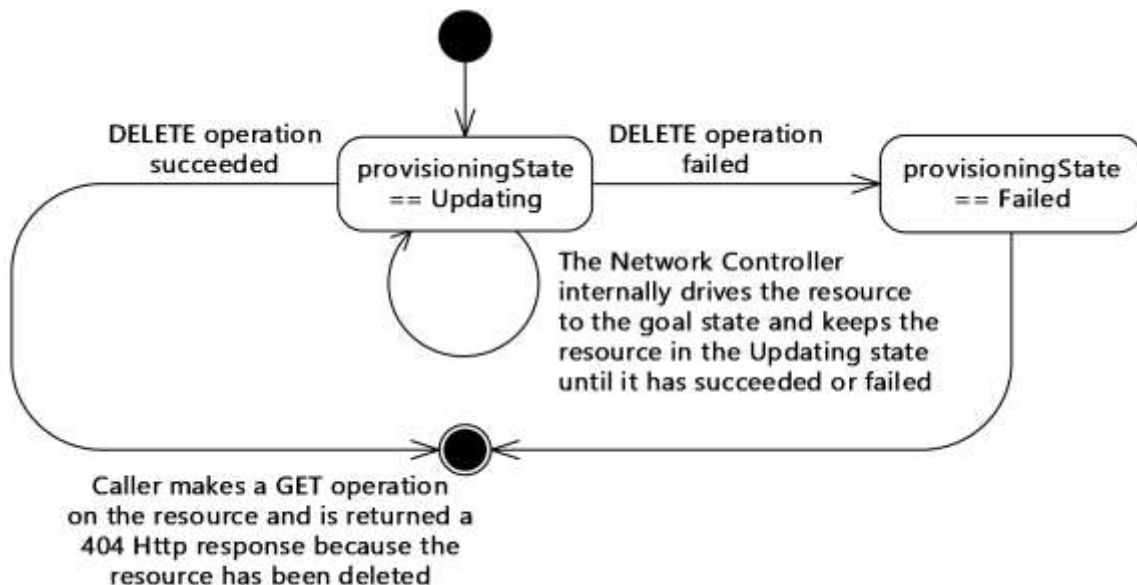
For understanding the current state of the specific resource (as opposed to the state of a specific operation on the resource) the **properties.provisioningState** element is used.

For asynchronous operations, the valid states are Deleting, Failed, Succeeded, and Updating. In the following state diagram, the client makes a **PUT** operation on an asynchronous resource, and receives an **operationId**, which is used to monitor the provisioning state of the operation, including failure details if a failure occurs.



**Figure 1: State diagram for asynchronous PUT operations**

In the following state diagram, the client makes a **DELETE** operation on an asynchronous resource, and receives back the **operationId**, location, and **Retry-After**, which are used to monitor the state of the operation, including failure details if a failure occurs.



**Figure 2: State diagram for asynchronous DELETE operations**

### 1.3.2.1 POST and DELETE Operations

For **POST** and **DELETE** operations, the following pattern is to be used to execute the operation asynchronously:

1. The client initiates a **POST** or **DELETE** operation.
2. The Network Controller returns HTTP code 202 (Accepted) with a **Location** header, an **Azure-AsyncOperation** header, and, optionally, a **Retry-After** header. The time interval in the **Retry-After** header can only be specified in seconds, with a minimum of 15 seconds and a maximum of 15 minutes.

3. The client waits for the **Retry-After** interval, if it was specified, or the default of 60 seconds if it wasn't, as specified in section 2.2.1.3.7.
4. Client invokes the Uniform Resource Identifier (URI) specified in the **Location** header using the **GET** verb.
5. If the operation is not complete, the Network Controller returns 202 (Accepted) again, optionally with a **Retry-After** header.
6. If the operation is complete, the Network Controller returns the exact same response that would have been returned had the operation been executed synchronously.
7. As per the protocol for **Asynchronous Operations** described in section 1.3.2, a consumer can query the status of an asynchronous operation by initiating **GET** requests on the HTTP resource as specified in the **Location** header or **Azure-AsyncOperation** header. The **Location** header returned by the Network Controller is of the following form, where **operationId** is the value of the **x-ms-request-id** header returned by the resource provider.

```
https://<url>/networking/v1/operationResults/{operationId}
```

### 1.3.2.2 PUT Operation

The following process executes the **PUT** operation asynchronously:

1. The client initiates a **PUT** operation.
2. The Network Controller returns HTTP code 200 (OK) or 201 (Created) with an **Azure-AsyncOperation** and the **provisioningState** element of the resource is set to Updating.

**Note** If the **provisioningState** is set to Succeeded or Failed in the HTTP response to the original **PUT** operation, then the operation was not an asynchronous operation.

3. The client periodically polls the **operations** resource to determine the state of the operation.
  - If the **operations** resource returns InProgress in the status element and a **GET** operation is performed on the actual resource will show the **provisioningState** element set to Updating.
  - If the **operations** resource returns Succeeded in the status element, then the operation has succeeded. Performing a **GET** operation on the actual resource will show the **provisioningState** element set to Succeeded if no additional operations have been started on the resource.
  - If the **operations** resource returns Failed in the **status** element, then client knows the operation has failed and the response also includes the error message related to the failure. Performing a **GET** operation on the actual resource will show the **provisioningState** element set to Failed if no additional operations have been started on the resource.

**Note** For **PUT** operations, the **operations** resource is used to determine the state of the operations and not the **provisioningState** element on the actual resource, because concurrent operations could change the **provisioningState** while the **operations** resource will always return the state of the specific operation. See **Concurrent Operations** section 1.3.3 for more details on how the client handles concurrent operations.

**PUT** operations do not return the **Location** header because the result of the operation is returned synchronously. The **Azure-AsyncOperation** header value has the following format:

```
https://<url>/networking/v1/operations/{operationId}
```

### 1.3.2.3 Differences between operations and operationResults

The **GET** <location header value> returns either HTTP code 202 (Accepted) if operation did not complete yet, or 204 (No Content) and no body (if succeeded), or HTTP status indicating an error (for example, 500 (Internal Server Error)) and a body containing error information.

The **GET** <AsyncOperation header value> always returns HTTP code 200 (OK) and an **AsyncOperation** resource.

The **Location** header is more common but is ambiguous because when **GET** <Location> returns status code 500 (Internal Server Error), it is not clear if **DELETE** or **GET** failed.

The **Azure-AsyncOperation** header is better in that regard because it does not return HTTP Status for the asynchronous part of the **DELETE** operation.

### 1.3.2.4 properties.provisioningState usage

For asynchronous operations, the **operations** and **operationsResults** resources are the recommended approach to determining the state of a specific operation. For understanding the current state of the specific resource (as opposed to the state of a specific operation on the resource) the **properties.provisioningState** element is used. This section describes the state machine that underlies transitioning between provisioning states and how the Network Controller makes changes to the **properties.provisioningState** element of parent/child resources or dependent resources. The valid provisioning states are the following (see Common JSON Elements, section 2.2.2, for a detailed definition of each):

- Deleting
- Failed
- Succeeded
- Updating

There are two valid state diagrams: one for synchronous and one for asynchronous operations.

### 1.3.2.5 State Diagrams for Synchronous Operations

For synchronous operations, the only valid states are Failed or Succeeded. In the following state diagrams, the caller makes a **PUT** operation, or a **DELETE** operation on a synchronous resource until it succeeds or fails and then is moved to the appropriate final state.

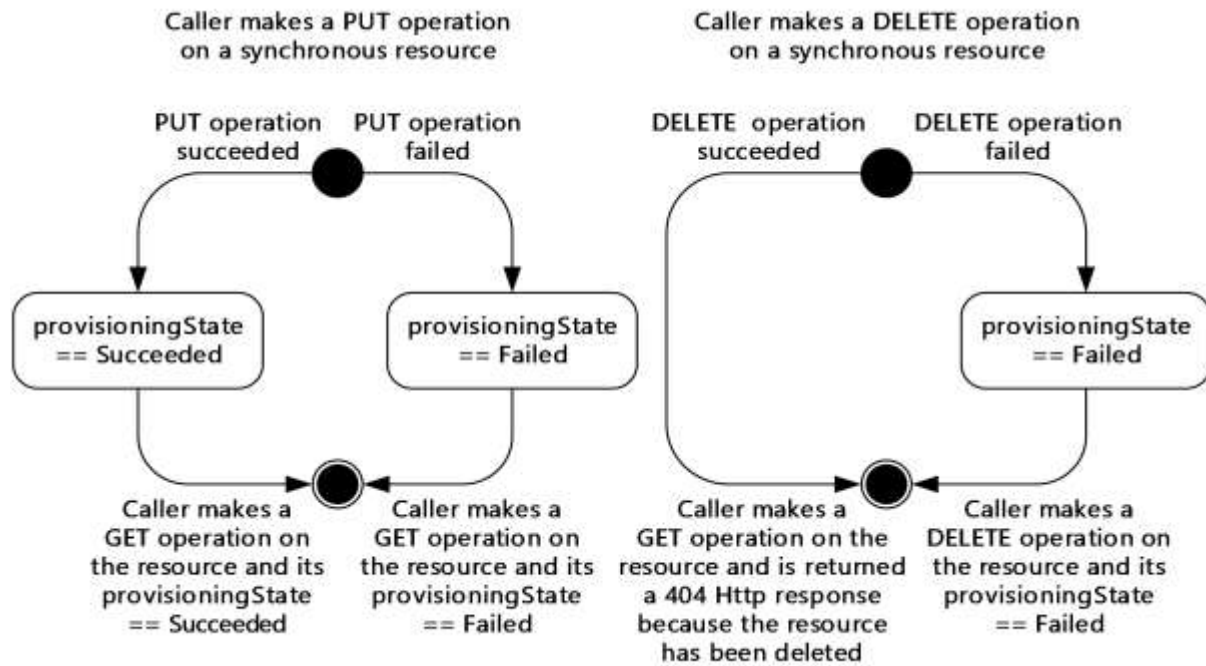


Figure 3: State diagrams for synchronous operations

### 1.3.2.6 State Diagrams for Asynchronous Operations

For asynchronous operations, the valid states are Deleting, Failed, Succeeded, and Updating. In the following state diagram, the caller makes a **PUT** operation on an asynchronous resource and receives an **operationId**, which is used to monitor the state of the operation including failure details if a failure occurs.

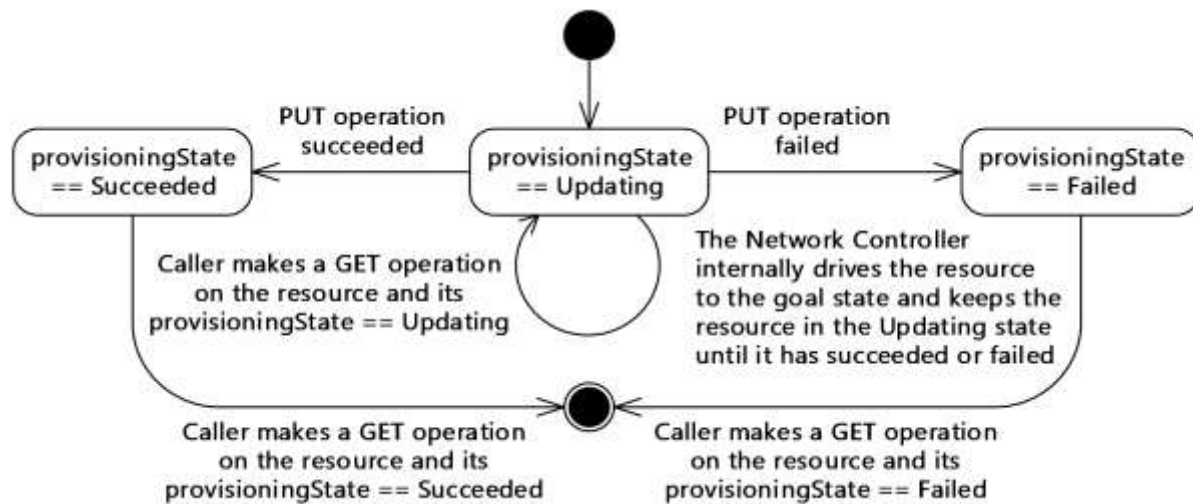
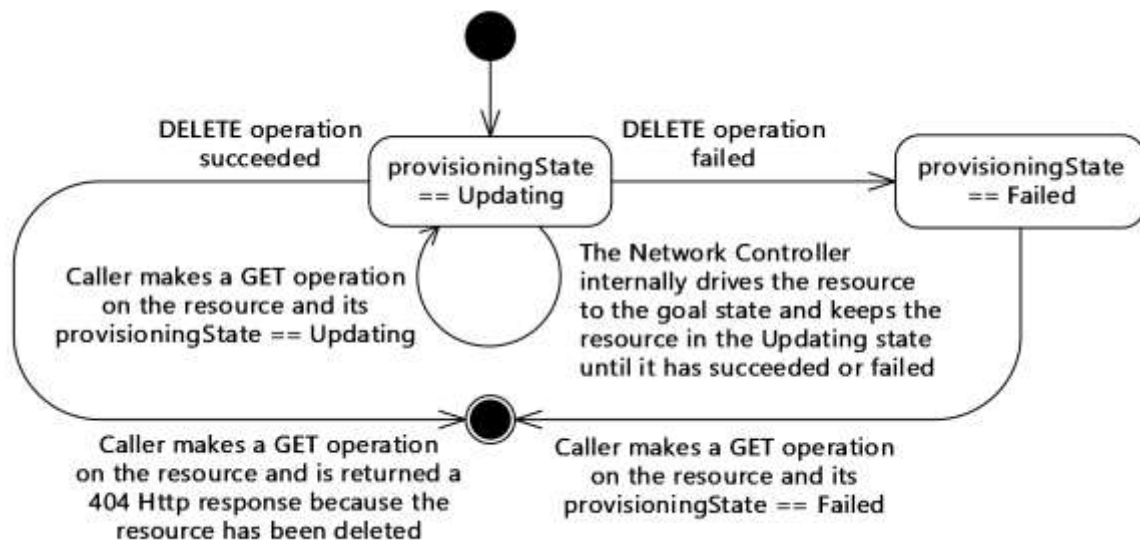


Figure 4: State diagram for asynchronous PUT and GET operations

In the following state diagram, the caller makes a **DELETE** operation on an asynchronous resource and receives back the **operationId**, location, and **Retry-After**, which are used to monitor the state of the operation including failure details if a failure occurs.





**Figure 5: State diagram for asynchronous DELETE operations**

### Provisioning State changes for Parent/Child resources or dependent resources

**Case 1:** A parent resource is updated.

- The **property.provisioningState** element of the ancestor resource is in the Updating state until it succeeds or fails, and then is moved to the appropriate final state.
- The **property.provisioningState** element of all descendant resources will be in the same state.
- Recursively the **property.provisioningState** element of all descendant resources of the parent's child resources are updated.

**Example 1:** If a **logicalNetworks** resource is updated then its **property.provisioningState** element is updated along with all **subnets** resources under it and all **ipPools** resources under all **subnets** resources under the original **logicalNetworks** resource.

**Case 2:** A descendant resource is updated.

- Recursively the **property.provisioningState** element of the ancestor resource of the descendant resource is updated.
- The **property.provisioningState** element of the descendant resource is updated.
- The **property.provisioningState** element of all descendant resources of the specific descendant resource are updated.
- The **property.provisioningState** element of any other descendant resources of the parent are not updated.

**Example 1:** If a **subnets** resource is updated then its **property.provisioningState** element is updated along with the **property.provisioningState** element of the parent **logicalNetworks** resource and all **ipPools** resources under the specific **subnets** resource. Any other **subnets** under the original **logicalNetworks** resource will not have their **property.provisioningState** element updated.

**Example 2:** If an **ipPools** resource is updated then its **property.provisioningState** element is updated along with the **property.provisioningState** element of the parent **subnets** resource and the **property.provisioningState** element of the **subnets'** parent **logicalNetworks** resource. But if there are any other **subnets** resources under the **logicalNetworks** resource and

**ipPools** resources under these **subnets** resources, their **property.provisioningState** elements will not be updated.

**Note** Deleting a child resource is a special case because the child object will have its **property.provisioningState** element set to Deleting state while its ancestor resource will be set to Updating state until the **DELETE** operation has succeeded or failed.

**Case 3:** An asynchronous operation on a resource with dependencies is updated

- The **property.provisioningState** element of the resource is in the Updating state until it succeeds or fails and then is moved to the appropriate final state.
- The **property.provisioningState element** of the dependent resource is not updated.

**Example 1:** A **gateways** resource takes a dependency on a **GatewayPools** resource. Then the **GatewayPools** resource is updated. The **GatewayPools** resource's **property.provisioningState** element will be in the updating state until the asynchronous operation has succeeded for failed but the **gateways** resource's **property.provisioningState** is not changed from the current state.

### 1.3.3 Concurrent Operations

#### 1.3.3.1 Concurrent operations on the same resource

The Network Controller allows for concurrent operations on the same resource. Clients of the Network Controller's Northbound Interface have to be aware that concurrent operations from different clients will happen and therefore interactions with the Network Controller have to be developed with this assumption in mind.

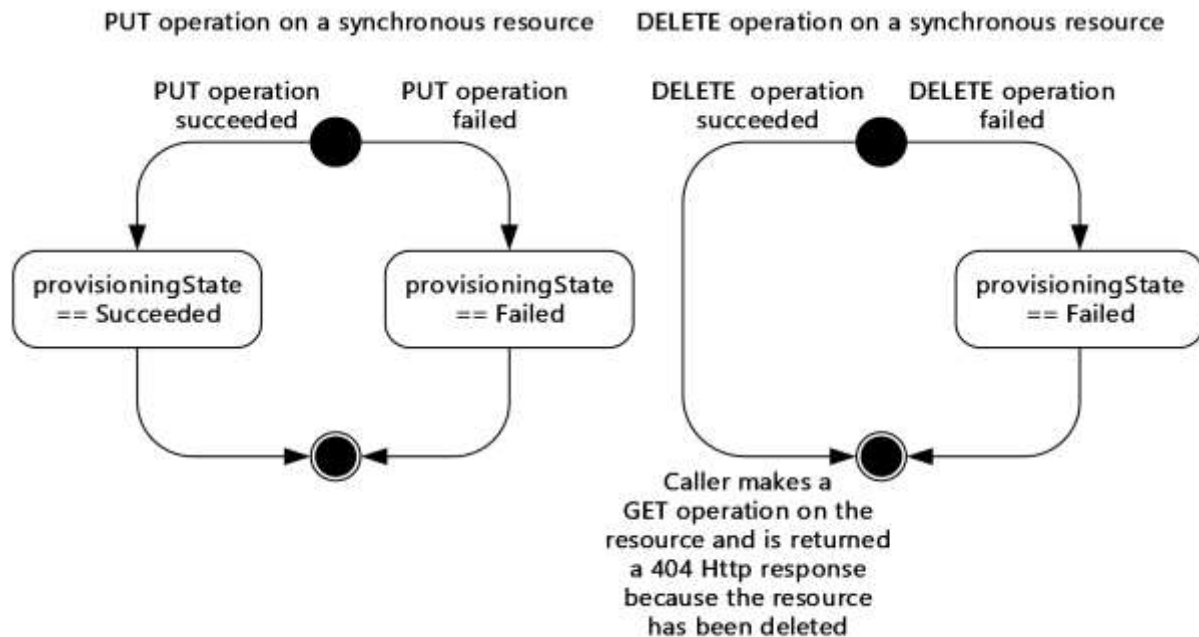
Because the Network Controller is a distributed service made up of several services, it handles transient failures internally. It does this by having a retry loop that the Software-Defined Networking API (SDNAPI) service uses for communicating with the other services. The SDNAPI service is the component in the network controller that listens for HTTP/HTTPS web requests, parses them and forwards them on to the appropriate service module for handling. This retry loop will continue retrying the operation several times while keeping the resource in the Updating state. If the operation succeeded, the retry loop will be stopped and the resource will be put in the Succeeded state. If after the retry limit is reached in the retry loop, then the retries will stop and the resource will be put in the Failed state. The Network Controller internally handles asynchronous operations when there aren't concurrent operations on the same resource.

The Network Controller can have only one operation in progress at a time for all resources in a parent-child tree. The rules for concurrent operations on the same resource are as follows:

1. **PUT** on top-level resource moves parent and all children (descendants) into Updating state
2. **PUT** on top-level resource cancels **PUT** on itself and any **PUT/DELETE** on its children (descendants)
3. **DELETE** on top-level resource moves top level resource and its entire set of descendants into Deleting state.
4. **DELETE** of top-level resources cancels **PUT/DELETE** on itself and any descendants.
5. **PUT** on a descendant resource moves ancestor state to Updating.
6. **PUT** on descendant resource cancels **PUT** on any parent or a **PUT** on itself. It does not cancel **PUT** on its sibling.
7. **DELETE** of descendant resource moves ancestors to Updating state and itself to Deleting state.

8. **DELETE** of descendant resource cancels **PUT** of ancestors or **PUT/DELETE** on itself.

For synchronous operations, the only valid states are Failed or Succeeded. The following diagrams show states for synchronous **PUT** or **DELETE** operations.



**Figure 6: State diagrams for synchronous operations**

If an operation cannot cancel another operation in progress on the resource, its child, sibling, or parent, the request is rejected with HTTP code 409 (Conflict) response. The error details are as follows:

**Error code:** AnotherOperationInProgress

**Error message:** Another operation on this or dependent resource is in progress. To retrieve the status of the operation, use uri: {0}.

**Note** **PUT** or **DELETE** of descendant resource updates the **etag** of itself and the ancestors. **PUT** on top-level resource updates the **etags** of all descendants.

For more information about how the Network Controller internally handles asynchronous operations, see section 1.3.2.

### 1.3.3.2 Concurrent operations when there are dependent resources

In the Network Controller's Northbound API there are several resources that depend on other resources. This occurs when a resource has a required or optional element that is a **resourceRef** to a different resource. One example is that a **gateways** resource is dependent on a **GatewayPools** resource.

### 1.3.3.3 Network Controller dependent resources

This section provides a complete list of all the dependencies between resources and how concurrent operations are handled. In addition, the sections on each resource provides its dependency information.

Read-only elements that are a **resourceRef** to a different resource will indicate that the resource has a different resource that has taken a dependency on it (for example, **GatewayPools** has a read-only **resourceRef** to one or more **gateways** resources).

There are 4 scenarios that are relevant for concurrent operations when there are dependent resources.

**DELETE descendant resource:** When a **DELETE** operation is performed on a descendant resource while its **property.provisioningState** is in the Updating, Deleting, or Failed state, that the **DELETE** operation will be processed.

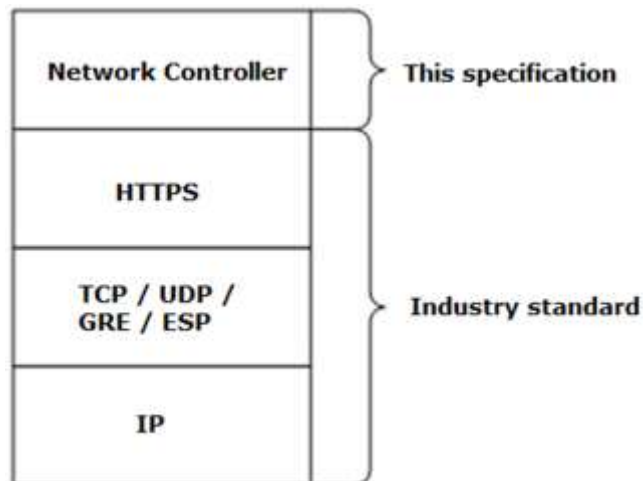
**PUT descendant resource:** When a **PUT** operation is performed on a descendant resource while its **property.provisioningState** is in the Updating, Deleting, or Failed state, the **PUT** operation returns an HTTP code 409 (Conflict) response. See the error code section in each resource for error response content details.

**DELETE dependent resource:** When a **DELETE** operation is performed on a dependent resource that has resources depending on it, the **DELETE** operation will return an HTTP code 409 (Conflict) response. See the error code section in each resource for error response content details.

**PUT dependent resource:** When a **PUT** operation is performed on a resource while there are dependent resources, the **PUT** operation will be processed.

## 1.4 Relationship to Other Protocols

The following figure illustrates the relationship of this protocol to industry-standard protocols.



**Figure 7: Relationship of the Network Controller to industry-standard protocols**

## 1.5 Prerequisites/Preconditions

The certificate that allows communications between the Network Controller and the client **MUST** be present on the Network Controller.

## 1.6 Applicability Statement

This protocol defines a set of APIs for server and REST. This protocol is applicable to both Internet and intranet client-server scenarios.

## 1.7 (Updated Section) Versioning and Capability Negotiation

This protocol supports versioning. Currently 47 versions are supported: v1, v2, v3, v3.1, v3.2, and v4. v5. <1> The URL has to include the v1, v2, v3, v3.1, v3.2, v4, or v4v5 token. Each API that supports additional properties in version n compared to n-1 will be contained in a description of the behavior in the sections following Protocol Details (section 3).

The 47 prefixes supported are as follows:

```
https://<url>/networking/v1/  
https://<url>/networking/v2/  
https://<url>/networking/v3/  
https://<url>/networking/v3.1/  
https://<url>/networking/v3.2/  
https://<url>/networking/v4/  
https://<url>/networking/v5/
```

**url:** The address or name of the REST server of the Network Controller.

This protocol provides a mechanism for capability negotiation. <2>

The JSON Schemas in the appendix are present for a given version only if there are changes compared to its previous version. For example, **accessControlLists** resources can be retrieved via v2 and v3 uri in the current version, but there are no changes in properties compared to v1. In such a case, only the v1 schema is documented.

## 1.8 Vendor-Extensible Fields

This protocol does not provide any vendor-extensible fields.

## 1.9 Standards Assignments

This protocol has not been assigned any standard parameters.

## 2 Messages

### 2.1 Transport

This protocol consists of a set of RESTful (representational state transfer) web services, and HTTPS over TCP/IP, as specified in [RFC2616]. All client messages to the server MUST use HTTPS.

Protocol messages MUST be formatted as specified either in XML or in JSON. Protocol server faults MUST be returned by using HTTP status codes as specified in [RFC2616], section 10, Status Code Definitions.

### 2.2 Common Data Types

#### 2.2.1 HTTP Headers

The methods in this protocol use the following HTTP/1.1 headers as part of the information exchanged, prior to any requests or responses that are included in the exchange.

##### 2.2.1.1 Content-Type

The **Content-Type** header is a response header that is common to all requests and responses. It contains the content type of the payload. This header is provided by clients in HTTP/1.1 requests to the Network Controller, and it is also provided by the Network Controller in HTTP responses to the client. This header is optional for responses that do not contain content, otherwise it is required. The only valid type is:

```
application/json
```

The status code `InternalServerError` (section 3.1.5.31) will be returned in the HTTP Response property if the **Content-Type** header does not contain the appropriate value.

##### 2.2.1.2 Request Headers

The following HTTP/1.1 headers are provided by clients in HTTP requests to the Network Controller, in addition to the existing set of standard HTTP headers.

Header	Section	Type	Description
<b>Accept-Language</b>	2.2.1.2.1	Optional	The language in which error messages are returned.
<b>Content-Type</b>	2.2.1.1	Required or Optional	The content type of the payload. Mandatory for PUT, MUST be "application/json; charset=UTF-8". Optional for <b>GET</b> or <b>DELETE</b> .
<b>if-match</b>	2.2.1.2.2	Optional	An <b>etag</b> that can be obtained by executing a <b>GET</b> command on a resource or collection of resources, or an etag that is contained in the output of a <b>PUT</b> or <b>PATCH</b> command.
<b>Referrer</b>	2.2.1.2.3	Optional	Specifies the hostname of the computer of the end user.
<b>x-ms-client-ip-address</b>	2.2.1.2.4	Optional	IP address of the client. This is recorded in the tracing logs for every Network Controller Northbound operation

Header	Section	Type	Description
			for audit.
<b>x-ms-client-request-id</b>	2.2.1.2.5	Optional	A unique ID provided by the client that the service uses to identify the specific request.
<b>x-ms-return-client-request-id</b>	2.2.1.2.6	Optional	Determines whether the Network Controller will echo the <b>x-ms-client-request-id</b> .

### 2.2.1.2.1 Accept-Language

Optional. Specifies language in which error messages are returned. The default is en-us.

### 2.2.1.2.2 If-Match

Optional. The client can provide this header in **PUT** and **PATCH** requests. Specifies an **etag** that can be obtained by executing a **GET** command on a resource or collection of resources, or from the output of a **PUT** or **PATCH** command.

### 2.2.1.2.3 Referrer

Optional. Specifies the hostname of the client, or the hostname of the computer of the end user.

### 2.2.1.2.4 x-ms-client-ip-address

Optional. Specifies IP address of the client. This is recorded in the trace logs for every Network Controller Northbound operation.

### 2.2.1.2.5 x-ms-client-request-id

Optional. Contains a unique ID provided by the client to identify the specific request. If two subsequent write requests (two **PUTs**, **POSTs**, or **DELETEs**) have the same id, the Network Controller assumes that last request is a retry and returns the same result it returned for the previous request. The Network Controller also returns the same **x-ms-client-request-id** value with the response unless the response is explicitly disabled by using request header **x-ms-return-client-request-id** and setting the value to FALSE.

This value is echoed in the response if the **x-ms-return-client-request-id** header is set to TRUE.

### 2.2.1.2.6 x-ms-return-client-request-id

Optional. Specifies whether the Network Controller will return the **x-ms-client-request-id** to the client. Valid values are TRUE and FALSE. The default value is TRUE.

## 2.2.1.3 Response Headers

The following HTTP headers are provided by the Network Controller in HTTP responses to the client in addition to the existing set of standard HTTP headers.

Header	Section	Description
<b>Azure-AsyncOperation</b>	2.2.1.3.1	Contains the URL to enable monitoring of asynchronous operations.
<b>Content-Length</b>	2.2.1.3.2	The length of the content that is returned.
<b>Content-Type</b>	2.2.1.1	Required. The content type of the payload. This header is not required

Header	Section	Description
		in responses that do not contain content.
<b>Date</b>	2.2.1.3.3	The date that the request was processed, in [RFC1123] format.
<b>ETag</b>	2.2.1.3.4	An opaque string representing the state of the resource at the time the response was generated.
<b>HTTP/1.1</b>	2.2.1.3.5	Indicates the HTTP status code of the request.
<b>Location</b>	2.2.1.3.6	Header for long-running operations. Contains the URL where the status of the long running operation can be checked.
<b>Retry-After</b>	2.2.1.3.7	Header for long-running operations. Set to the delay that the client uses when checking for the status of the operation.
<b>Server</b>	2.2.1.3.8	Indicates the HTTP server that is returning the HTTP response. For the Network Controller, the value will be Microsoft-HTTPAPI/2.0.
<b>x-ms-request-id</b>	2.2.1.3.9	A unique identifier for the current operation, service generated.

### 2.2.1.3.1 Azure-AsyncOperation

This is a common response header that contains the URL that can be used to monitor the progress of asynchronous operations. See section 1.3.2 for more details.

### 2.2.1.3.2 Content-Length

This contains the length of the content that is returned, as a byte value.

### 2.2.1.3.3 Date

This contains the date that the request was processed, in [RFC1123] format.

### 2.2.1.3.4 ETag

This is a common response header that contains an opaque string representing the state of the resource at the time the response was generated. This header is returned for requests that target a single entity. The Network Controller will also always return an **etag** in the response body, as the **etag** property of an entity.

If the request does not include an **If-Match** request header, then the Network Controller returns an error response code. Other status codes that are associated with the **etag** header are as follows.

Status code	Description
200 (OK)	Operation completed successfully.
201 (Created)	Resource completed successfully.
204 (No Content)	Resource to delete does not exist
412 (Precondition Failed)	Parent resource is unavailable
404 (Not Found)	Resource was not found.



### 2.2.1.3.5 HTTP/1.1 Header

This is a common response header that contains the HTTP status code of the request. The Network Controller will return the appropriate status code.

### 2.2.1.3.6 Location

This specifies that the operation is a long-running operation. It is set to the URL that contains the status of the long running operation.

### 2.2.1.3.7 Retry-After

Header for long-running operations. Set to the delay that the client uses when checking for the status of the operation. This value is an integer and represents the seconds. By default, this is set for all delete operations.

### 2.2.1.3.8 Server

This contains a reference to the HTTP server that is returning the HTTP response. For the Network Controller, the value is Microsoft-HTTPAPI/2.0.

### 2.2.1.3.9 x-ms-request-id

This is a common response header that contains a unique identifier for the current operation, service generated.

## 2.2.2 Common JSON Elements

Every resource that supports CRUD operations uses common JSON elements in any request or response. The following table summarizes the set of common URI parameters defined by this specification.

JSON Element	Type	Description
<b>resourceId</b>	Optional or Required	The resource ID is the identifier for the resource. The value MUST be unique in the context of the resource if it is a top-level resource, or in the context of the direct parent resource if it is a child resource.  When optional for ancestor resource, then required for descendant resource. See section 2.2.3.
<b>resourceRef</b>	Read-only Optional or Required	A relative URI to an associated resource. See section 1.3.3.2.
<b>instanceId</b>	Read-only	This is the globally unique Id generated and used internally by the Network Controller. This value is a GUID in the form of XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX. It is possible to do a reverse mapping from <b>instanceId</b> to <b>resourceId</b> with the <b>internalResourceInstances</b> resource, section 3.1.5.24. The <i>instanceId</i> element cannot be used directly in the API.
<b>tags</b>	Optional	Key-value pairs of arbitrary data that the client stores with the resource on the controller.
<b>resourceMetadata</b>	Optional	Structured data that the client provides to the server. This is an optional element, but it is suggested that all clients fill in the data that is applicable to them.

JSON Element	Type	Description
<b>resourceMetadata.client</b>	Optional	Indicates the client that creates or updates the resource. Although this element is optional, it is strongly recommended that it contain an appropriate value.
<b>resourceMetadata.tenantId</b>	Optional	The identifier of the tenant in the client environment. Provides linkage between the resource in the Network Controller and the tenant in the client network.
<b>resourceMetadata.groupId</b>	Optional	The identifier of the group that the tenant belongs to within the client environment. This is usually used in environments that contain multiple tenants that are aggregated into groups that the client manages. This provides linkage between the resource in the Network Controller and the group that the tenant belongs to in the client network.
<b>resourceMetadata.resourceName</b>	Optional	Indicates the globally unique name of the resource. If it is not assigned a value, then it will be blank.
<b>resourceMetadata.originalHref</b>	Optional	The original URI of the resource if the client uses a URI based system to organize resources.
<b>properties</b>	Optional	Array of structured data. The structure of this data is unique to each resource except two common read-only elements - <b>etag</b> and <b>provisioningState</b> .
<b>properties.etag</b>	Read-only	An opaque string representing the state of the resource at the time the response was generated. This header is returned for requests that target a single entity. The Network Controller will also always return an <b>etag</b> in the response body. The <b>etag</b> is updated every time the resource is updated.
<b>properties.provisioningState</b>	Read-only	Indicates the various states of the resource. Valid values are Deleting, Failed, Succeeded, and Updating.

### 2.2.3 Common URI Parameters

Every resource that supports CRUD operations uses common JSON elements in any request or response. The following table summarizes the set of common URI parameters defined by this specification.

URI parameter	Section	Description
<i>&lt;url&gt;</i>	2.2.3.5	The URL of the Network Controller.
<i>grandParentResourceId</i>	2.2.3.1	The user-defined resource ID of the network resource that is the ancestor of the resource that is the ancestor of the descendant resource.
<i>operationId</i>	2.2.3.2	The value of the <b>x-ms-request-id</b> header returned by the resource provider.
<i>parentResourceId</i>	2.2.3.3	The user-defined resource ID of the network resource that is the ancestor of the descendant resource. Depending on the type of resource, it can be: <ul style="list-style-type: none"> <li>▪ User-defined, system-defined, or both</li> <li>▪ Unique across all resources of the same type</li> <li>▪ Unique across all resources of the same type in the context of the</li> </ul>

URI parameter	Section	Description
		specific grandparent resource.
<i>resourceId</i>	2.2.3.4	The resource ID of the network resource to create, retrieve, update or delete. Depending on the type of resource, it can be: <ul style="list-style-type: none"> <li>User-defined, system-defined, or both</li> <li>Unique across all resources of the same type</li> <li>Unique across all resources of the same type in the context of the specific ancestor resource.</li> </ul> When the <i>resourceId</i> is optional for an ancestor resource, it is required for the descendant resources.
<i>instanceId</i>	3.1.5.24	The globally unique Id generated and used internally by the Network Controller. The mapping resource that enables the client to map between the <b>instanceId</b> and the <b>resourceId</b> .

### 2.2.3.1 grandParentResourceId

The *grandParentResourceId* parameter contains the resource ID that is associated with network objects that are ancestors of the parent of the necessary resource. When the relationship is specified on the Network Controller, it is created as a top-level resource prior to its usage as the parent of another resource.

It is user-defined for the following grandchild resources: **ipPools**, **routes**.

The *grandParentResourceId* is user-defined as the parent of the following descendant resources: the **subnets** resource when it is parent for the **ipPools** resource, the **subnets** resource when it is parent for the **routes** resource, the **logicalNetworks** resource when it is parent to the **subnets** resource.

### 2.2.3.2 operationId

The *operationId* parameter contains the resource ID that is associated with network objects that contain or point to the necessary resource.

### 2.2.3.3 parentResourceId

The *parentResourceId* parameter contains the resource ID that is associated with network objects that are ancestors of the necessary resource. When the relationship is specified on the Network Controller, it is created as a top-level resource prior to its usage as the parent of another resource.

The *parentResourceId* is user-defined for the following descendant resources: **aclRules**, **backendAddressPools**, **bgpPeers**, **bgpRouters**, **frontendIPConfigurations**, **networkInterfaces**, **inboundNatRules**, **ipConfigurations**, **ipPools**, **loadBalancingRules**, **networkConnections**, **outboundNatRules**, **policyMaps**, **probes**, **routes**, and **subnets**.

### 2.2.3.4 (Updated Section) resourceId

The *resourceId* parameter contains the resource ID that is associated with various network resources and containers. The value cannot be changed after the resource is created. It is a constant for singleton resources and other specific resources. The resources that use constants and their values are as follows.

Resource	Value
auditingSettings	configuration
diagnostics	connectivityCheck
diagnostics	slbState
diagnostics	networkcontrollerstate
iDnsServer	configuration
loadBalancerManager	config
monitoring	networkControllerStatistics
virtualNetworkManager	configuration
virtualSwitchManager	configuration

The *resourceId* parameter is user-defined for the following resources: **accessControlLists**, **aclRules**, **backendAddressPools**, **bgpPeers**, **bgpRouters**, **credentials**, **frontendIPConfigurations**, **GatewayPools**, **gateways**, **inboundNatRules**, **ipConfigurations**, **ipPools**, **loadBalancerMuxes**, **loadBalancers**, **loadBalancingRules**, **logicalNetworks**, **securityTags**, **subnets**, **macPools**, **networkConnections**, **outboundNatRules**, **networkInterfaces**, **policyMaps**, **probes**, **publicIPAddresses**, **routes**, **routeTables**, **servers**, **serviceInsertions**, **VirtualGateways**, **virtualNetworks**, and **virtualServers**.

The *resourceId* parameter is system-defined for the following resources: **Diagnostics**, **connectivityCheckResults**, **Diagnostics slbStateResults**, **operations**, and **operationResults**.

The *resourceId* parameter is user-defined or system generated for the following resource: **subnets**.

The *resourceId* parameter MUST be unique within its context if it is a top-level resource. The server will send an error response of 400 (Bad Request) to the client if there are conflicts in the uniqueness of the *resourceId*. This means that the *resourceId* parameter MUST be unique across all of the resources of the same type for the following resources: **accessControlLists**, **bgpPeers**, **credentials**, **GatewayPools**, **gateways**, **loadBalancerMuxes**, **loadBalancers**, **logicalNetworks**, **macPools**, **policyMaps**, **publicIPAddresses**, **routeTables**, **securityTags**, **servers**, **serviceInsertions**, **VirtualGateways**, **virtualNetworks**, and **virtualServers**.

A resource that is the child within a parent-child relationship MUST be unique within the context of the specific ancestor interfaces resource. For example, two **aclRules** resources can have the same *resourceId* if their parent **accessControlLists** resources are different; however, two **aclRules** resources cannot have the same *resourceId* if they have the same parent.

The resources that MUST be unique in the context of the parent are:

- **loadBalancers** ancestor resource: **backendAddressPools**, **frontendIPConfigurations**, **inboundNatRules**, **loadBalancingRules**, **outboundNatRules**, **probes**
- **subnets** ancestor resource: **ipPools**, **routes**
- **networkInterfaces** ancestor resource: **ipConfigurations**
- **logicalNetworks** ancestor resource: **subnets**
- **servers** ancestor resource: **networkInterfaces**
- **VirtualGateways** ancestor resource: **bgpPeers**, **bgpRouters**, **networkConnections**, **policyMaps**

- **virtualNetworks** ancestor resource: **subnets**

The parent resource of a **PUT** request is an optional element and can be retrieved from the URL in cases where it is not supplied. For all descendant resources this is a required element. If it is not supplied, the server sends a 400 (Bad Request) response to the client.

### 2.2.3.5 url

The *url* parameter contains the Uniform Resource Locator (URL) for the Network Controller. It identifies the server that is running the Network Controller. It **MUST** be the value in the following table.

Value	Meaning
<url>/networking	The URL <b>MUST</b> be the remainder of the address of the computer on which the Network Controller is running, in addition to other services.

### 2.2.4 (Updated Section) Data Structures

The following table summarizes the set of common data structures that are consumed or produced by this protocol. Common structure definitions are included in this section, whereas those that are particular to a specific request/response body are defined within its corresponding sections.

Data structure	Section	Description
<b>accessControlLists</b>	In the <b>networkInterfaces</b> resource, the <b>ipConfigurations</b> resource, section 3.1.5.11.2. In the <b>virtualNetworks</b> resource, the <b>subnets</b> resource section 3.1.5.18.2.	Contains an <b>accessControlLists</b> resource that defines the access control lists (ACLs) in and out of the IP Configuration.
<b>aclRules</b>	The <b>aclRules</b> resource, section 3.1.5.1.2.	Indicates the rules in an access control list, Indicates the action the ACL Rule will take.
<b>addressPrefixes</b>	The <b>addressSpace</b> resource in the <b>virtualNetworks</b> resource, section 3.1.5.18.	Indicates the valid list of address prefixes that can make up this virtual network.
<b>addressSpace</b>	The <b>virtualNetworks</b> resource, section 3.1.5.18.	Required. Indicates the address space of the virtual network.
<b>backendAddressPools</b>	The <b>outboundNatRules</b> resource, section 3.1.5.5.6. The <b>loadBalancingRules</b> resource, section 3.1.5.5.5.	Indicates an array of references to a <b>backendAddressPools</b> resource. Inbound traffic is randomly load balanced across IPs in the backend pool. Indicates a reference to the pool of IP addresses where outbound traffic originates.
<b>backendIPConfigurations</b>	The <b>backendAddressPools</b> resource, section 3.1.5.5.2.	An array of references to <b>ipConfigurations</b> resources. There is no restriction on having the same IP configurations in multiple <b>backendAddressPools</b> .
<b>bgpPeers</b>	In the <b>VirtualGateways</b> resource, in the <b>bgpPeers</b> resource, the	A collection of Border Gateway Protocol (BGP) peers associated with the

Data structure	Section	Description
	<b>bgpRouters</b> resource, section 3.1.5.17.2.2.	<b>bgpRouters</b> resource.
<b>bgpRouters</b>	The <b>VirtualGateways</b> resource, section 3.1.5.17.	An array of <b>bgpRouters</b> on the physical switch.
<b>connections</b>	The <b>gateways</b> resource, section 3.1.5.4.	A collection of all the connections on the gateway.
<b>connections</b>	The <b>servers</b> resource, section 3.1.5.15. The <b>loadBalancerMuxes</b> resource, section 3.1.5.7. The <b>iDnsServers</b> resource, section 3.1.5.25. The <b>virtualServers</b> resource, section 3.1.5.21.	An array of <b>connections</b> that specify the information needed to connect to the specific device to manage and control it.
<b>destinationSubnets</b>	The <b>rules</b> resource in the <b>serviceInsertions</b> resource, section 3.1.5.16.	An array of <b>subnets</b> to match as the destination subnet.
<b>details</b>	The <b>operations</b> resource, section 3.1.5.12. The <b>operationResults</b> resource, section 3.1.5.13.	Contains detailed information about the error.
<b>dhcpOptions</b>	The <b>virtualNetworks</b> resource, section 3.1.5.18.	Indicates the DHCP options used by servers in the virtual network.
<b>dnsRecord</b>	The <b>publicIPAddresses</b> resource, section 3.1.5.14.	Properties of a DNS record associated with this public IP address. This field is not supported.
<b>dnsServers</b>	The <b>subnets</b> resource, section 3.1.5.8.2. In the <b>virtualNetworks</b> resource, the <b>dhcpOptions</b> resource section 3.1.5.18.	An array of IP Addresses for the DNS servers that this resource uses to resolve DNS queries by devices or hosts.
<b>dnsSettings</b>	The <b>networkInterfaces</b> resource, section 3.1.5.11	Indicates the DNS settings of this network interface.
<b>error</b>	The <b>operations</b> resource, section 3.1.5.12. The <b>operationResults</b> resource, section 3.1.5.13.	A group of elements that contain information about an error and its cause when the request was in error or could not be processed.
<b>etag</b>	The <b>etag</b> header, section 2.2.1.3.4	The Network Controller returns an <b>etag</b> in the response body as the <b>etag</b> property of the resource.
<b>externalIPAddress</b>	The <b>gateways</b> resource, section 3.1.5.4.	A collection of IP address information.
<b>frontendIPConfigurations</b>	The <b>loadBalancers</b> resource, section 3.1.5.5. The <b>frontendIPConfigurations</b> resource, section 3.1.5.5.3.	Indicates the frontend IP addresses of the load balancer.
<b>frontendIPConfigurations</b>	The <b>inboundNatRules</b> resource,	Indicates an array of references to

Data structure	Section	Description
	section 3.1.5.5.4. The <b>outboundNatRules</b> , section 3.1.5.5.6. The <b>loadBalancingRules</b> resource, section 3.1.5.5.5.	<b>frontendIPConfigurations</b> resources.
<b>gatewayCapacityKiloBitsPerSecond</b>	The <b>GatewayPools</b> resource, section 3.1.5.3.	Indicates the total capacity of the gateway pool in kilobits per second.
<b>GatewayPools</b>	The <b>VirtualGateways</b> resource, section 3.1.5.17.	The collection of references to <b>GatewayPools</b> resources in which connections can be created. This information is populated at the time of subscription and can be changed only by using the Service administrator portal.
<b>gateways</b>	The <b>GatewayPools</b> resource, section 3.1.5.3.	An array that contains references to the <b>gateways</b> resources in the gateway pool.
<b>gatewaySubnets</b>	The <b>VirtualGateways</b> resource, section 3.1.5.17.	Indicates collection of references to IPv4/IPv6 subnet of the virtual subnet Identifier (VSID)/gateway subnet that contains the specified gateway.
<b>greConfiguration</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4.	Indicates details of Generic Routing Encapsulation (GRE) configuration. GRE is defined in [RFC2784].
<b>IcmpProtocolConfig</b>	The <b>Diagnostics ConnectivityCheck</b> resource, section 3.1.5.22.1. The <b>Diagnostics ConnectivityCheckResults</b> resource, section 3.1.5.22.2.	Contains the details of an Internet Control Message Protocol (ICMP) Protocol specific configuration, as specified in [RFC792].
<b>iDnsServer</b>	The <b>iDnsServer</b> resource, section 3.1.5.25.	Indicates the configuration details for the DNS server in the internal DNS service.
<b>inboundNatRules</b>	The <b>loadBalancers</b> resource, section 3.1.5.5. The <b>inboundNatRules</b> resource, section 3.1.5.5.4.	Indicates an array of inbound network address translation (NAT) rules configured for the load balancer.
<b>ipConfiguration</b>	The <b>networkInterfaces</b> resource, section 3.1.5.15.2.	Indicates an array of IP configurations.
<b>ipConfigurations</b>	The <b>accessControlLists</b> resource, section 3.1.5.1.	Indicates references to the IP addresses of <b>networkInterfaces</b> resources that are associated with an <b>accessControlLists</b> resource.
<b>ipConfigurations</b>	The <b>subnets</b> resource in the <b>virtualNetworks</b> resource, section 3.1.5.18.2.	Indicates an array of references of <b>networkInterfaces</b> resources that are connected to the subnet.
<b>ipPools</b>	The <b>ipPools</b> resource, section 3.1.5.8.2.2. The <b>subnets</b> resource, section 3.1.5.8.2.	Indicates the IP Pools that are contained in the logical subnet.

Data structure	Section	Description
<b>ipsecConfiguration</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4.	Details of IPsec configuration.
<b>IPv4AddressPrefixes</b>	The <b>vpnConfiguration</b> in the <b>VirtualGateways</b> resource, section 3.1.5.17.	Indicates collection of IPv4 address pools from which virtual private network (VPN) clients are assigned addresses.
<b>I3Configuration</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4.	Indicates details of L3 configuration.
<b>loadBalancerMuxes</b>	The <b>virtualServers</b> resource, section 3.1.5.21.	Indicates the loadBalancer multiplexer (MUX) running on this virtualServer.
<b>loadBalancers</b>	The <b>loadBalancer</b> resource, section 3.1.5.5.	Contains information about the frontend and backend configurations for load balancing.
<b>loadBalancingRules</b>	The <b>loadBalancer</b> resource, section 3.1.5.5.	Contains a list of load balancing configurations.
<b>loadBalancingRules</b>	The <b>backendAddressPools</b> resource, section 3.1.5.5.2. The <b>probes</b> resource, section 3.1.5.5.7.	An array of references to <b>loadBalancingRules</b> resources.
<b>localVpnTrafficSelector</b>	The <b>ipsecConfiguration</b> resource in the <b>networkConnections</b> resource, section 3.1.5.17.4	Indicates collection of IPsec <b>TrafficSelectors</b> on the host side.
<b>logicalSubnets</b>	The <b>networkInterfaces</b> resource, section 3.1.5.15.2.	Indicates an array of <b>subnets</b> resource that the network interface is connected to.
<b>mainMode</b>	The <b>ipsecConfiguration</b> resource in the <b>networkConnections</b> resource, section 3.1.5.17.4.	In the <b>networkConnections</b> resource. Main mode IPsec configuration details, as specified in [RFC2409].
<b>ManagementAddresses</b>	The <b>loadBalancerMuxes</b> resource, section 3.1.5.7.	The management address used to connect to the server.
<b>networkConnections</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4. The <b>VirtualGateways</b> resource, section 3.1.5.17.	Indicates list of network connections that are configured for this <b>VirtualGateways</b> resource.
<b>networkInterfaces</b>	The <b>gateways</b> resource, section 3.1.5.4. The <b>subnets</b> resource, section 3.1.5.8.2.	An array of references to <b>networkInterfaces</b> resources that are used by a gateway or a logical subnet.
<b>networkInterfaces</b>	In the <b>servers</b> resource, the <b>networkInterfaces</b> resource section 3.1.5.15.2.	An array of references to <b>networkInterfaces</b> resources that represent the physical network interface cards (NICs) of the server. These resources are automatically created.
<b>outboundNatRules</b>	The <b>backendAddressPools</b> resource, section 3.1.5.5.2. The <b>loadBalancers</b> resource, section 3.1.5.5.	An array of references to the <b>outboundNatRules</b> resources.



Data structure	Section	Description
<b>output.DataGroups</b>	The <b>Diagnostics slbStateResults</b> resource, section 3.1.5.22.4.	The hierarchical output of this diagnostics operation. Data group as level 1, data section as level 2 and data unit as level 3.
<b>peerIPAddresses</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4.	Array of IP Addresses of the destination (S2S IP).
<b>peerRouterConfigurations</b>	The <b>routerConfiguration</b> structure in the <b>loadBalancerMuxes</b> resource, section 3.1.5.7.	The BGP settings that are used to establish and maintain BGP peering with one or more peers.
<b>peerTrafficSelector</b>	The <b>ipsecConfiguration</b> resource in the <b>networkConnections</b> resource, section 3.1.5.17.4.	Indicates collection of IPSec <b>TrafficSelectors</b> on the enterprise side.
<b>policyMaps</b>	The <b>VirtualGateways</b> resource, section 3.1.5.17.	A collection of <b>policyMaps</b> resources for the <b>VirtualGateways</b> resource.
<b>probes</b>	The <b>probes</b> resource, section 3.1.5.5.7. The <b>loadBalancers</b> resource, section 3.1.5.5.	Indicates an array of <b>probes</b> configured for the load balancer.
<b>properties</b>	The <b>Properties</b> in Common JSON Elements, section 2.2.2.	An array of structured data. The structure of this data is unique to each resource except two common read-only elements: <b>etag</b> and <b>provisioningState</b> . If properties is not included this will cause the resource to be created but have no properties.
<b>publicIPAddresses</b>	The <b>GatewayPools</b> resource, section 3.1.5.3.	A collection of public IP address to which external connections connect.
<b>portSettings</b>	The <b>networkInterfaces</b> resource, section 3.1.5.11.	Contains a reference to quality of service settings to apply to virtual network interface.
<b>redundantGatewayCount</b>	The <b>GatewayPools</b> resource, section 3.1.5.4.	Indicates the number of redundant gateway VMs that will be used for each <b>VirtualGateways</b> instance to ensure its availability.
<b>remoteVpnTrafficSelector</b>	The <b>ipsecConfiguration</b> resource in the <b>networkConnections</b> resource, section 3.1.5.17.4.	Indicates collection of IPSec <b>TrafficSelectors</b> on the host side.
<b>resourceMetadata</b>	Specified in Common JSON Elements, section 2.2.2.	An array of structured data that client sends to the server.
<b>routerConfiguration</b>	The <b>loadBalancerMuxes</b> resource, section 3.1.5.7.	Provides the BGP router configuration to the MUX to ensure that it peers with the datacenter routing infrastructure and properly advertises routes.
<b>routerIP</b>	The <b>bgpRouters</b> resource in the <b>VirtualGateways</b> resource, section 3.1.5.17.2.	Indicates IP addresses to which BGP peering can be established.
<b>routes</b>	The <b>routeTables</b> resource, section 3.1.5.10.	The routes that are contained in a route table.

Data structure	Section	Description
<b>routes</b>	The <b>routes</b> resource in the <b>subnets</b> resource, section 3.1.5.8.2.3.	The routes that are contained in the logical subnet.
<b>routes</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4.	All the routes (static and those learned via BGP) on the network Interface. Traffic that matches the routes is transmitted on the network Interface.
<b>rules</b>	The <b>serviceInsertions</b> resource, section 3.1.5.16.	Indicates an array of rules that define what traffic goes through the service insertion.
<b>configurationState</b>	<p>This is a common base data structure that can be present on resources. Currently the following resources contain an instance of this structure.</p> <p>The <b>gateways</b> resource section 3.1.5.4.</p> <p>The <b>loadBalancerMuxes</b> resource section 3.1.5.7.</p> <p>The <b>networkInterfaces</b> resource section 3.1.5.11.</p> <p>The <b>servers</b> resource section 3.1.5.15.</p> <p>The <b>VirtualGateways</b> resource section 3.1.5.17.</p> <p>The <b>bgpRouters</b> resource section 3.1.5.17.2.</p> <p>The <b>bgpPeers</b> resource section 3.1.5.17.2.2.</p> <p>The <b>networkConnections</b> resource section 3.1.5.17.4.</p> <p>The <b>virtualNetworks</b> resource section 3.1.5.18.</p>	<p>Configuration state indicates any failures in processing goal state corresponding to the resource it is contained in. In absence of failures it can note that the configuration corresponding to the resource was successful.</p> <p>Multiple failures can be noted against the same resource. The overall severity of these failures is reflected in the <b>status</b> field of the <b>configurationState</b> structure.</p> <p>Information pertaining to each failure is collected in the <b>detailedInfo</b> field. Please see definition of <b>detailedInfo</b> field following.</p> <p>Running state update time is noted within the running state structure. The <b>LastUpdatedTime</b> stores this information.</p>
<b>configurationState.detailedInfo</b>	The <b>configurationState</b> structures can contain one or more <b>detailedInfo</b> fields to reflect fine-grained success or failure information in processing operations related to the resource which the configuration state field is contained in. Specific values related to each resource are listed in each section.	<p>The <b>detailedInfo</b> has 3 fields:</p> <p>0. <b>Source:</b> The source field identifies the component within the SDN stack that encountered a failure while processing this resource. Possible values are: ResourceGlobal, SoftwareLoadBalancerManager, VirtualNetwork, VirtualSwitch, Firewall.</p> <p>1. <b>Message:</b> A friendly message that describes the encountered error.</p> <p>2. <b>Code:</b> This field contains somewhat fine-grained classification of the error encountered while processing this resource.</p> <p><b>Note</b> Some codes and Messages correspond to success cases as well.</p>
<b>configurationState.status</b>	Resources where <b>configurationState</b>	The <b>status</b> MUST be one of the following values: Uninitialized,

Data structure	Section	Description
	might be present.	InProgress, Success, Warning, Failure. <b>Note configurationState.status</b> contains Uninitialized until the initial <b>configurationState</b> has been calculated.
<b>configurationState.lastUpdatedTime</b>	Resources where <b>configurationState</b> might be present.	A timestamp that is used to order the sequence of events. The representation is implementation-specific.
<b>configurationState.id</b>	Resources where <b>configurationState</b> might be present.	Certain resources use the <b>id</b> field. It is discussed in the section where it is applicable. The <b>id</b> is an instance ID for a resource. See the following sections for definitions of instance IDs. See <b>instanceId</b> specified in Common JSON Elements, section 2.2.2.
<b>configurationState</b>	The <b>loadBalancers</b> resource section 3.1.5.5. The <b>frontendIPConfigurations</b> resource section 3.1.5.5.3. The <b>publicIPAddresses</b> resource section 3.1.5.14.	A <b>LoadBalancerVipConfigurationState</b> structure that represents the running state of a VIP endpoint. This structure extends the base <b>configurationState</b> and adds a <b>LoadBalancerVipEndPointConfigurationState</b> type array that is a list of <b>VipEndPointStates</b> . See <b>frontendIPConfigurations</b> section 3.1.5.5.3 for more details.
<b>securityTags</b>	<a href="#">The networkInterfaces resource, section 3.1.5.11.</a>	<a href="#">An array of securityTag resources that are associated with a networkInterfaces resource.</a>
<b>serviceInsertionElements</b>	The <b>networkInterfaces</b> resource, section 3.1.5.11.	Indicates an array of <b>serviceInsertions</b> resources that contains this <b>networkInterfaces</b> resource.
<b>serviceInsertionElements</b>	The <b>serviceInsertions</b> resource, section 3.1.5.16.	Indicates an array of service insertion elements through which to send packets that match the rules.
<b>sourceSubnets</b>	The <b>rules</b> resource in the <b>serviceInsertions</b> resource, section 3.1.5.16.	Indicates an array of subnets to match as source subnet. For a single source IP address match specify as a /32 subnet.
<b>statistics</b>	The <b>networkConnections</b> resource, section 3.1.5.17.4. The <b>bgpPeers</b> resource in the <b>bgpRouters</b> resource in the <b>VirtualGateways</b> resource, section 3.1.5.17.2.2.	Statistics of the connection.
<b>subnets</b>	The <b>accessControlLists</b> resource, section 3.1.5.1.	An array of references to <b>subnets</b> resources that are associated with the access control list.
<b>subnets</b>	The <b>logicalNetworks</b> resource, section 3.1.5.8. The <b>virtualNetworks</b> resource, section 3.1.5.18.	Indicates the <b>subnets</b> that are on the virtual network or are contained in the logical network.

Data structure	Section	Description
<b>subnets</b>	The <b>serviceInsertions</b> resource, section 3.1.5.16.	Indicates an array of references to <b>subnets</b> resources this <b>serviceInsertions</b> resource is associated with.
<b>subnets</b>	The <b>routeTables</b> resource, section 3.1.5.10.	Indicates an array of references to <b>subnets</b> resources this routeTables configuration is associated with.
<b>tags</b>	Most resources.	Key-value pairs of arbitrary data that the client stores with the resource.
<b>usage</b>	The <b>ipPools</b> resource, section 3.1.5.8.2.2. The <b>macPools</b> resource, section 3.1.5.9.	Indicates the usage statistics of the IP pool or the MAC address pool.
<b>vipIpPools</b>	The <b>loadBalancerManager</b> resource, section 3.1.5.6.	An array of references to <b>ipPools</b> resources to use for the frontend IP Addresses.
<b>VirtualGateways</b>	The <b>gateways</b> resource, section 3.1.5.4. The <b>GatewayPools</b> resource, section 3.1.5.3.	A collection of virtual gateways for a tenant. This enumerates the tenants that are dependent on this gateway.
<b>virtualNetworks</b>	The <b>logicalNetworks</b> resource, section 3.1.5.8.	An array of <b>virtualNetworks</b> resources that are using the network.
<b>virtualNetworkPeerings</b>	The <b>virtualNetworks</b> resource, section 3.1.5.18, <b>virtualNetworkPeerings</b> section 3.1.5.18.3.	Array of <b>virtualNetworkPeerings</b> resources that describe peering relationships.
<b>virtualServers</b>	The <b>virtualServer</b> resource.	Indicates an array of virtual servers that are on the server and being managed by the Network Controller.
<b>vlanIds</b>	In the <b>servers</b> resource, section 3.1.5.15. under the <b>networkInterfaces</b> resource, section 3.1.5.15.2.	Indicates the ID of the VLANs to which the network interface of a server is connected.
<b>vpnConfiguration</b>	The <b>VirtualGateways</b> resource, section 3.1.5.17.	Indicates details of remote access for VPN client configuration.

## 3 Protocol Details

### 3.1 Server Details

Besides **PUT/GET/DELETE** operations on resources, the server supports the ability to enumerate all resources of a certain kind if these resources are not singletons. For example, `virtualnetworkmanager/configuration` is a singleton. Details about the **GET ALL** enumerations are provided in the subsections of each resource. In general, the response for **GET ALL** follows this pattern.

```
{
  "value": [
    resource1,
    resource2,
    resourceN
  ],
  "nextLink": ""
}
```

In the value array, `resource1` to `resourceN` are valid resources of the same kind. The value is a JSON array of objects. The `nextLink` is a link for the client to retrieve the next page of the response, in case the server paginates the response.<3>

#### Error response

The server **MUST** return the error response as JSON content in the response when it fails to complete the **GET/PUT/DELETE** operation. There is commonality of responses for the various resources, so this topic is treated in detail in section 3.1.5.31.

#### 3.1.1 Abstract Data Model

This section describes a conceptual model of possible data organization that an implementation maintains to participate in this protocol. The described organization is provided to facilitate the explanation of how the protocol behaves. This document does not mandate that implementations adhere to this model as long as their external behavior is consistent with that described in this document.

##### 3.1.1.1 Resource Counters

Resources **SHOULD**<4> provide counter information. Counters are read-only data sets that provide insights into the operation of the resource. Resources that return count information **MUST** return arrays of the **ResourceCounter** structure, called **ResourceCounters**, defined following.

The following property elements are valid for the **ResourceCounter** structure.

Element name	Type	Description
<b>name</b>	Read-only	A unique string identifier within the scope of the resource that returns the specific counter. Supported strings are described for each individual resource.
<b>unit</b>	Read-only	Decimal, Seconds, or MilliSeconds.
<b>currentValue</b>	Read-only	Integer value whose meaning is dependent on the unit.
<b>context</b>	Read-only	A structure that describes the source and category of the counter.
<b>context.source</b>	Read-only	For counters with the category Performance or Global source can be:

Element name	Type	Description
		<b>NetworkController, SoftwareLoadBalancer, VirtualNetworkManager, VirtualSwitchManager, GatewayManager, or FirewallManager.</b> For counters with the category Diagnostics the source string can be anything.
<b>context.category</b>	Read-only	Global, Performance, or Diagnostics.

Server implementations SHOULD return all **counters** with category Global and Performance as indicated for each resource type. **Counters** with category Diagnostics are implementation specific; they are meant to aid in debugging the specific server implementation.

### 3.1.2 Timers

None.

### 3.1.3 Initialization

The Network Controller MUST be installed and configured prior to using the **macPools** resource. The **macPools** resource SHOULD be created prior to the creation of any **servers**.

The certificate that allows communications between the NC and the client MUST be present on the NC.

### 3.1.4 Higher-Layer Triggered Events

None.

### 3.1.5 (Updated Section) Message Processing Events and Sequencing Rules

The following resources are required to create and maintain a proper network configuration between the Network Controller (NC) and its clients. A policy or policies is a synonym for network configuration settings such as IP or MAC addresses.

Resources are processed one at a time. However, the **GET** method can act on all the resources at once when the **resourceId** is omitted. The following table lists all the resources.

Resource	Section	Description
<b>accessControlLists</b>	3.1.5.1	Contains a list of access control list (ACL) rules that can be assigned to subnets or individual NICs and IP addresses.
<b>aclRules</b>	3.1.5.1.2	Describes the network traffic that is allowed or denied for a network interface of a virtual machine.
<b>auditingSettings</b>	3.1.5.20	Contains configuration related to auditing network traffic on hosts.
<b>backendAddressPools</b>	3.1.5.5.2	This resource represents the list of IPs that can receive network traffic that comes via the front-end IPs. The Load Balancing multiplexer (MUX) handles incoming traffic via the front-end IPs and distributes them to backend IPs based on load balancing configuration.
<b>bgpPeers</b>	3.1.5.17.2.2	The <b>bgpPeers</b> resource of the <b>bgpRouters</b>

Resource	Section	Description
		resource of the <b>VirtualGateways</b> resource. Configures Border Gateway Protocol (BGP) peers of the <b>VirtualGateways</b> resource.
<b>bgpRouters</b>	3.1.5.17.2	The <b>bgpRouters</b> resource of the <b>VirtualGateways</b> resource. Contains the configuration for the BGP router in the virtual gateway.
<b>credentials</b>	3.1.5.2	Contains the credential information needed to connect to a southbound device, with the appropriate permissions to manage the device, or enabling the Network Controller to connect to and configure a device in the network.
<b>diagnostics/ConnectivityCheck</b>	3.1.5.22.1	This resource initiates a <b>diagnostics Action</b> to check data path connectivity between two endpoints.
<b>diagnostics/ConnectivityCheckResults</b>	3.1.5.22.2	This resource queries the result of a previously initiated <b>diagnostics Action</b> between two endpoints.
<b>diagnostics/NetworkControllerState</b>	3.1.5.22.5	This resource creates a dump of internal server data that can be used for troubleshooting.
<b>diagnostics/SlbState</b>	3.1.5.22.3	This resource initiates a <b>diagnostics Action</b> to collect internal state for the software load Balancer.
<b>diagnostics/SlbStateResults</b>	3.1.5.22.4	This resource queries the result of a previously initiated diagnostics slbState action.
<b>discovery</b>	3.1.5.30	This resource provides versioning information.
<b>frontendIPConfigurations</b>	3.1.5.5.3	This resource represents the frontend IP addresses of the load Balancer.
<b>GatewayPools</b>	3.1.5.3	Contains an array of gateways that provide the infrastructure for <b>VirtualGateways</b> resources for tenant virtual networks.
<b>gateways</b>	3.1.5.4	Provides gateway services to one or more <b>virtualNetworks</b> resources.
<b>iDnsServer</b>	3.1.5.25	Contains the configuration details for the DNS server in the internal DNS (iDNS) service.
<b>inboundNatRules</b>	3.1.5.5.4	This resource is used to configure the load balancer to apply Network Address Translation (NAT) of inbound traffic.
<b>internalResourceInstances</b>	3.1.5.24	This resource provides a means to map instance IDs to resource IDs or to get all the mappings.
<b>ipConfigurations</b>	3.1.5.11.2	This resource represents configuration information for IP addresses: allocation method, actual IP address, membership of a logical or virtual subnet, load balancing and access control information.
<b>ipPools</b>	3.1.5.8.2.2	The <b>ipPools</b> resource represents the range from which IP addresses will be allocated for nodes

Resource	Section	Description
		within a subnet. The start and end IP addresses of the pool for a virtual subnet are based on the IP prefix of the virtual subnet.
<b>loadBalancerManager</b>	3.1.5.6	The <b>loadBalancerManager</b> resource is a singleton resource that configures the load balancing service of the Network Controller.
<b>loadBalancerMuxes</b>	3.1.5.7	The <b>loadBalancerMuxes</b> resource represents a MUX VM deployed in the Network Controller's stamp.
<b>loadBalancers</b>	3.1.5.5	Consists of a frontend and a backend configuration. The frontend configuration exposes the IP address of the load Balancer. The backend configuration specifies the distribution of traffic across VM instances and how to determine the health of VM instances or endpoints.
<b>loadBalancingRules</b>	3.1.5.5.5	This resource is used to configure load balancing policies. The policies dictate the kind of traffic that is load-balanced, and port mapping between frontend IPs and backend IPs.
<b>logicalNetworks</b>	3.1.5.8	A collection of logical subnets or a logical partition of physical network that is dedicated for a specific purpose.
<b>subnets</b>	3.1.5.8.2	A <b>subnets</b> resource consists of a subnet/VLAN pair. The <b>vlanId</b> resource is required; however, it MAY contain a value of zero if the subnet is not associated with a vlan.
<b>macPools</b>	3.1.5.9	The <b>macPools</b> resource specifies one or more ranges of MAC addresses, which are used internally by the Network Controller. The MAC addresses are used for both overlay and underlay needs.
<b>monitoring/NetworkControllerStatistics</b>	3.1.5.23	This resource provides a means to get usage and health information for a few resources.
<b>networkConnections</b>	3.1.5.17.4	Specifies a connection from a virtual network to external networks.
<b>networkInterfaces</b>	3.1.5.11	Specifies the configuration of either a host virtual network interface card (host vNIC) or a virtual server NIC (VMNIC).
<b>operationResults</b>	3.1.5.13	Provides the status of a specific asynchronous operation. The URL for a specific <b>operations</b> resource is returned in the <b>Location</b> header of that operation.
<b>operations</b>	3.1.5.12	Provides the status of a specific asynchronous operation. The URL for a specific <b>operations</b> resource is returned in the <b>Azure-AsyncOperation</b> header of that operation.
<b>outboundNatRules</b>	3.1.5.5.6	This resource is used to configure the load Balancer to apply Network Address Translation (NAT) to outbound traffic.



Resource	Section	Description
<b>policyMaps</b>	3.1.5.17.3	The <b>policyMaps</b> resource of the <b>VirtualGateways</b> resource. Contains the routing policies that enable the BGP routers in the virtual gateway to exchange information as specified with peers. A routing policy consists of match criteria and actions that are executed when the conditions specified in the match criteria are satisfied.
<b>probes</b>	3.1.5.5.7	Configures the mechanism of detection of connectivity issues with load balanced IPs.
<b>publicIPAddresses</b>	3.1.5.14	Specifies an IP Address that can be used to communicate with the virtual network from outside it. This address is publically available for use by the <b>VirtualGateways</b> resource and the <b>loadBalancer</b> resource.
<b>routes</b>	3.1.5.10.2	Create <b>routes</b> under a tenant's Route Table.
<b>routes</b>	3.1.5.8.2.3	Represents a provider route that the host uses to route traffic to a specific destination. If a host connects to a logical subnet as part of hosting a virtual network, then all routes in that logical subnet are applied to the host.
<b>routeTables</b>	3.1.5.10	Contains a list of tenant routes that can be assigned to virtual subnets to control routing within a virtual network.
<b>securityTags</b>	<a href="#">3.1.5.31</a>	<a href="#">A grouping of network interfaces used to manage and apply firewall policies.</a>
<b>servers</b>	3.1.5.15	Represents a physical server that is being controlled by the Network Controller.
<b>serviceInsertions</b>	3.1.5.16	Specifies the relationship between the service insertion and the service insertion rule.
<b>subnets</b>	3.1.5.18.2	Contains the Virtual Subnet IDs (VSIDs) under a tenant's Virtual Network Routing Domain ID (RDID). User can specify the addressPrefix to use for the <b>subnets</b> , the <b>accessControlLists</b> to protect the <b>subnets</b> , the <b>routeTable</b> to apply to the subnet, and optionally <b>serviceInsertions</b> to use within the subnet.
<b>VirtualGateways</b>	3.1.5.17	A logical entity that runs on multiple gateways in the <b>GatewayPools</b> resource, the <b>VirtualGateways</b> resource describes the gateway used for cross-premises connectivity from the virtual network.
<b>virtualNetworkManager</b>	3.1.5.19	A singleton resource that configures the virtual network service of the Network Controller. The properties in this resource are global for all virtual networks managed by the Network Controller.
<b>virtualNetworkPeerings</b>	3.1.5.18.3	Peers virtual networks so that network traffic can be shared without the need of a gateway resource.

Resource	Section	Description
<b>virtualNetworks</b>	3.1.5.18	Creates a Virtual Network using Hyper-V Network Virtualization (HNV) for tenant overlays.
<b>virtualServers</b>	3.1.5.21	A resource that corresponds to a VM. Such resources need to be created for VMs that correspond to <b>gateways</b> (section 3.1.5.4) and <b>loadBalancerMuxes</b> resources (section 3.1.5.7).
<b>virtualSwitchManager</b>	3.1.5.26	Configures the virtual switch properties on every server managed by the Network Controller.

The responses to all the resources can result in the following status codes.

Status Code	Description
200 (OK)	Indicates that the operation was successful. The server MUST return this status code when the operation was performed on an existing REST resource.
201 (Created)	Indicates that the operation was successful. The server MUST return this status code when a new REST resource was created on the server due to execution and completion of the operation.
202 (Accepted)	Indicates that the request has been accepted and is being processed. See <b>Asynchronous Operations</b> , section 1.3.2, to understand how the client handles responses with 202 (Accepted).
204 (No Content)	Indicates that the resource with the specified <b>resourceId</b> could not be found.
404 (Not Found)	Indicates that the resource does not exist.
409 (Conflict)	An operation cannot cancel another operation in progress on the resource, its child, sibling, or parent.
412 (Precondition Failed)	Indicates that the resource's <b>etag</b> doesn't match one specified in the <b>If-Match</b> header.
500 (Internal Server Error)	Indicates that the validation on the resource has failed. See the message body of the response for more details.

### 3.1.5.1 (Updated Section) accessControlLists

An **accessControlLists** resource contains a list of access control list (ACL) rules. Access control list resources can be assigned to virtual subnets or IP configurations.

An ACL can be associated with:

- Subnets of a virtual or logical network. This means that all network interface cards (NICs) with IP configurations created in the subnet inherit the ACL rules in the Access Control List. Often, subnets are used for a specific architectural tier (frontend, middle tier, backend) in more complex applications. Assigning an ACL to subnets can thus be used to control the network flow between the different tiers.
- IP configuration of a NIC. This means that the ACL will be applied to the parent network interface of the specified IP configuration.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.1.1.1	Create a new <b>accessControlLists</b> resource or update an existing <b>accessControlLists</b> resource.
<b>GET</b>	3.1.5.1.1.2	Get one <b>accessControlLists</b> resource.
<b>GET ALL</b>	3.1.5.1.1.3	List all <b>accessControlLists</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.1.1.4	Delete an <b>accessControlLists</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>aclRules</b>	Optional	Indicates the rules in an access control list. See section 3.1.5.1.2 for full details on this element.
<b>inboundDefaultAction</b>	Optional	Indicates the default action for inbound rules. Valid values are Permit or Deny. The default value is Permit.
<b>ipConfigurations</b>	Read-only	Indicates references to IP addresses of <b>networkInterfaces</b> resources this access control list is associated with.
<b>outboundDefaultAction</b>	Optional	Indicates the default action for outbound rules. Valid values are Permit or Deny. The default value is Permit.
<b>subnets</b>	Read-only	Indicates an array of references to <b>subnets</b> resources this access control list is associated with.
<b>configurationState</b>	Optional Read-only	See <b>configurationState</b> in section 2.2.4.
<b>configurationState.id</b>	Optional Read-only	This is the instance ID of the access control list.
<b>virtualNetworkInterfaceErrors</b>	Optional Read-only	An array of <b>configurationState</b> objects as defined in section 2.2.4.

### 3.1.5.1.1 HTTP Methods

### 3.1.5.1.1.1 PUT

This method creates a new **accessControlLists** resource or updates an existing **accessControlLists** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.1.1.1.1 Request Body

The format for the request body for the **accessControlLists PUT** method is as follows.

```
{
  "properties": {
    "aclRules": [
      {
        "resourceId": "port2003",
        "properties": {
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "2003",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "13.168.100.21",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      },
      {
        "resourceId": "port5100",
        "properties": {
          "description": "Port 5100 over tcp",
          "protocol": "Tcp",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "5100",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "13.168.100.22",
          "priority": "201",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}
```

```
}
  }
]
}
```

The JSON schema for the **accessControlLists PUT** method is located in section 6.1.1.

### 3.1.5.1.1.1.2 Response Body

The format for the **accessControlLists PUT** response body is the same as the format for the **accessControlLists GET** response body (section 3.1.5.1.1.2.2). The JSON schema is located in section 6.1.2.

### 3.1.5.1.1.1.3 (Updated Section) Processing Details

This method creates a new **accessControlLists** resource or updates an existing **accessControlLists** resource.

The server fails PUT operations if the **portDefaultState** property of the **virtualSwitchManager** resource is equal to **AllowTraffic**.

### 3.1.5.1.1.2 GET

This method retrieves an **accessControlLists** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.1.1.2.1 Request Body

None.

### 3.1.5.1.1.2.2 (Updated Section) Response Body

The format for the response body for the **accessControlLists GET** method is as follows.

```
{
  "resourceRef": "/accessControlLists/ff285019-45d6-4afa-a109-9faca0fda415",
  "resourceId": "ff285019-45d6-4afa-a109-9faca0fda415",
  "etag": "W/\"9b5305e6-3cf4-45d6-a108-6bce0411f0ab\"",
}
```

```

"instanceId": "99d5c41e-fba5-4bbd-aa63-2c6ba3da7553",
"properties": {
  "provisioningState": "Succeeded",
  "aclRules": [
    {
      "resourceRef": "/accessControlLists/ff285019-45d6-4afa-a109-9faca0fda415/aclRules/b5bfc35d-423a-4c2f-9cf0-5f2c5aa4482e",
      "resourceId": "b5bfc35d-423a-4c2f-9cf0-5f2c5aa4482e",
      "etag": "W/\"9b5305e6-3cf4-45d6-a108-6bce0411f0ab\"",
      "instanceId": "4a36c357-33df-41bd-b5a4-a7fdc57af257",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "2003",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "13.168.100.23",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled",
        "description": "CTS rule"
      }
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/6ebf2132-2871-4535-b412-b6e255bcafa2/ipConfigurations/74fe0850-09a0-4526-9d43-906cd4e6f52a"
    }
  ],
  "subnets": [],
  "configurationState": {
    "status": "Failure",
    "lastUpdatedTime": "2016-06-14T19:11:54.416138-07:00",
    "id": "c08b3aec-be27-4be2-ab5e-19e1705ca555",
    "virtualNetworkInterfaceErrors": [
      {
        "status": "Failure",
        "detailedInfo": [
          {
            "source": "Firewall",
            "message": "The Firewall Service encountered an error in pushing the rules to the Virtual machine host, through Ovsdb protocol. Error Code : 80131500",
            "code": "PolicyConfigurationFailure"
          }
        ]
      },
      {
        "lastUpdatedTime": "2016-06-14T19:11:54.416138-07:00",
        "id": "4058b793-6c28-43d4-a957-937d453075d7"
      }
    ]
  }
},
"tags": {
  "good": "0",
  "full": "empty"
}
}

```

The JSON schema for the **accessControlLists** GET method is located in section 6.1.2.

### 3.1.5.1.1.2.3 (Updated Section) Processing Details

The server uses the **resourceId** contained in the body of the message to locate the **accessControlLists** resource to send to the client. The server MUST return a status code of 200 (OK) if the operation succeeds, and the server MUST return a status code of 404 (Not Found) if the resource does not exist.

The properties that are associated with the **accessControlLists** resource are in section 3.1.5.1.

The server returns configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.id** MUST be set to the access control list resource identifier. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server returns a configuration state property **configurationState.status** set to Success if there were no errors. The following is an example.

```
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-12-01T13:58:11.8350187-08:00",
  "id": "98a05ec0-62ef-45ce-9540-da8dc6ffddde"
}
```

The server returns a configuration state property **configurationState.status** set to Failure if there were errors during configuration of settings. The property **configurationState.virtualNetworkInterfaceErrors** MUST contain **configurationState** content as defined in section 2.2.4. Acceptable code values for this inner **configurationState** are in the following table.

<b>configurationState.status</b>	<b>Code</b>	<b>Description</b>
Failure	Unknown	An unknown error occurred while configuring policies.
Failure	PolicyConfigurationFailure	The server failed to send settings to lower layer components.
Failure	PolicyConfigurationFailureOnVfp	The server sent settings to the lower layer components, but the they could not be configured.

The following is an example of failures.

```
"configurationState": {
  "status": "Failure",
  "lastUpdatedTime": "2016-12-01T13:58:11.8350187-08:00",
  "id": "98a05ec0-62ef-45ce-9540-da8dc6ffddde",
  "virtualNetworkInterfaceErrors": [
    {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "Firewall",
          "message": "The Firewall Service encountered an error in adding the rules
to the Virtual Network Interface. Error Code : 80070002",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ]
    }
  ],
  "lastUpdatedTime": "2016-12-01T13:58:11.8350187-08:00",
  "id": "aebdfd8-ed06-43fd-96be-1773ad6fc750"
}
```

```
}
}
}
}
```

### 3.1.5.1.1.3 GET ALL

This operation retrieves a list of all **accessControlLists** resources in the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

#### 3.1.5.1.1.3.1 Request Body

None.

#### 3.1.5.1.1.3.2 (Updated Section) Response Body

The format for the **accessControlLists GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/accessControlLists/049460a0-3d29-48a5-92fe-1b418287f2a1",
      "resourceId": "049460a0-3d29-48a5-92fe-1b418287f2a1",
      "etag": "W/\"736b0e54-7976-42fd-a89e-c7d00e9fbcf0\"",
      "instanceId": "12053554-2e17-4389-8667-c3b9c7eb4d6f",
      "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
          {
            "resourceRef": "/accessControlLists/049460a0-3d29-48a5-92fe-1b418287f2a1/aclRules/1d62b477-9992-400b-bfbb-411c8c91ed9d",
            "resourceId": "1d62b477-9992-400b-bfbb-411c8c91ed9d",
            "etag": "W/\"736b0e54-7976-42fd-a89e-c7d00e9fbcf0\"",
            "instanceId": "985c5ee5-e275-4006-8cba-5fd704ef4c62",
            "properties": {
              "provisioningState": "Succeeded",
              "protocol": "All",
              "sourcePortRange": "0-65535",
              "destinationPortRange": "31267",
              "action": "Allow",
              "sourceAddressPrefix": "*",
              "destinationAddressPrefix": "20.169.0.22",
              "sourceSecurityTags": [
```



```

    ],
    "destinationSecurityTags": [
    ],
    "priority": "200",
    "type": "Inbound",
    "logging": "Enabled"
  }
},
"ipConfigurations": [
  {
    "resourceRef": "/networkInterfaces/418eefd9-82b4-46ba-acda-354bb4559b23/ipConfigurations/601917dc-cd8c-4561-8de7-4161085bf0ac"
  }
],
"subnets": [
],
"configurationState": {
  "status": "Failure",
  "lastUpdatedTime": "2016-06-14T19:11:54.416138-07:00",
  "id": "c08b3aec-be27-4be2-ab5e-19e1705ca555",
  "virtualNetworkInterfaceErrors": [
    {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "Firewall",
          "message": "The Firewall Service encountered an error in pushing the rules
to the Virtual machine host, through Ovsdb protocol. Error Code : 80131500",
          "code": "PolicyConfigurationFailure"
        }
      ],
      "lastUpdatedTime": "2016-06-14T19:11:54.416138-07:00",
      "id": "4058b793-6c28-43d4-a957-937d453075d7"
    }
  ]
}
},
{
  "resourceRef": "/accessControlLists/0b8d785b-bd56-4cd3-9fda-317ec3211cac",
  "resourceId": "0b8d785b-bd56-4cd3-9fda-317ec3211cac",
  "etag": "W/\"f4497264-84c9-489e-a37f-5b687b888351\"",
  "instanceId": "fff90af7-631a-45d0-a965-0491067f2941",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/0b8d785b-bd56-4cd3-9fda-317ec3211cac/aclRules/b7eb9623-4ce3-4687-bf0b-9a9cf3245208",
        "resourceId": "b7eb9623-4ce3-4687-bf0b-9a9cf3245208",
        "etag": "W/\"f4497264-84c9-489e-a37f-5b687b888351\"",
        "instanceId": "b4ab908b-caba-4728-a147-555f15e4a0cb",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.168.0.25",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}
}

```

```

    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/b33b9c69-32f9-4ef9-83cf-
d42c3510cea7/ipConfigurations/0115d4cc-e5a9-43fd-a729-41a791e540fb"
      }
    ],
    "subnets": [
    ]
  }
},
{
  "resourceRef": "/accessControlLists/1253aa5c-6de6-41ef-b4cf-a36a2ac8abb1",
  "resourceId": "1253aa5c-6de6-41ef-b4cf-a36a2ac8abb1",
  "etag": "W/\"6a4601fd-e427-44cc-87b3-403e7d434c65\"",
  "instanceId": "f22df31d-822d-479c-9fb6-30f4237b39d4",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/1253aa5c-6de6-41ef-b4cf-
a36a2ac8abb1/aclRules/bd36daaa-e337-4185-838f-dae07e251e8b",
        "resourceId": "bd36daaa-e337-4185-838f-dae07e251e8b",
        "etag": "W/\"6a4601fd-e427-44cc-87b3-403e7d434c65\"",
        "instanceId": "99588a06-08c7-468e-acf7-1c76e62a514a",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.168.0.26",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/2325bf87-8f25-4187-9796-
3a568946cf13/ipConfigurations/14c78c28-7104-417b-b57c-068a431c9649"
      }
    ],
    "subnets": [
    ]
  }
},
{
  "resourceRef": "/accessControlLists/14604ca7-8079-4c0a-a5f7-91a460b7e547",
  "resourceId": "14604ca7-8079-4c0a-a5f7-91a460b7e547",
  "etag": "W/\"77daffcc-dc38-4fc4-9c08-2d111a40941f\"",
  "instanceId": "31c647f3-72ec-4947-8e8d-d4d023f63b5e",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/14604ca7-8079-4c0a-a5f7-
91a460b7e547/aclRules/df034f28-6492-4577-a80f-0a7009c55c97",
        "resourceId": "df034f28-6492-4577-a80f-0a7009c55c97",
        "etag": "W/\"77daffcc-dc38-4fc4-9c08-2d111a40941f\"",
        "instanceId": "af13fd31-79a0-432c-97cd-339c6be0bfb1",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",

```

```

        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.170.0.21",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/24599f61-01ef-484d-98d3-dcbb81d2d076/ipConfigurations/bdc7dbe5-bb40-44c4-ae9e-6d37c2558647"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/162ac5f0-7b18-4aee-a470-1764aa9e068f",
  "resourceId": "162ac5f0-7b18-4aee-a470-1764aa9e068f",
  "etag": "W/\"3db28c51-0c6d-48f8-bfal-14263ef3f17b\"",
  "instanceId": "a7c0b162-46ef-4c5c-bbc3-266cd7c8d4cb",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/162ac5f0-7b18-4aee-a470-1764aa9e068f/aclRules/f15507e8-5d46-45d3-9efb-30c28a78dc9c",
        "resourceId": "f15507e8-5d46-45d3-9efb-30c28a78dc9c",
        "etag": "W/\"3db28c51-0c6d-48f8-bfal-14263ef3f17b\"",
        "instanceId": "df2d3959-e471-4a14-9f56-071058dbd5ff",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.168.0.21",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/c088c35a-cd91-4352-a33a-e513bfd6f169/ipConfigurations/4cbf96c7-56d3-4aea-a2b0-617ea3c45d42"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/1e05607b-7524-491f-a703-4399a6799090",
  "resourceId": "1e05607b-7524-491f-a703-4399a6799090",

```

```

"etag": "W/\\"9bad685c-42eb-4497-a0b9-dbca466e0cb9\\\"",
"instanceId": "483b4be9-f338-4517-81f9-219fb018ef45",
"properties": {
  "provisioningState": "Succeeded",
  "aclRules": [
    {
      "resourceRef": "/accessControlLists/1e05607b-7524-491f-a703-4399a6799090/aclRules/1fe29735-e639-459c-bc53-5dc1a7129039",
      "resourceId": "1fe29735-e639-459c-bc53-5dc1a7129039",
      "etag": "W/\\"9bad685c-42eb-4497-a0b9-dbca466e0cb9\\\"",
      "instanceId": "4ab0800e-e776-46a0-a093-863c4a66940e",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.21",
        "sourceSecurityTags": [
          ],
        "destinationSecurityTags": [
          ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/6c28c3f6-0a1e-42a6-bec7-fdec4885c52f/ipConfigurations/ba2f6b90-c63e-4203-9199-e6cffa41986c"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/28ecc664-74e0-41fc-81f8-b38a4c6975c7",
  "resourceId": "28ecc664-74e0-41fc-81f8-b38a4c6975c7",
  "etag": "W/\\"c3562a19-9845-428d-9609-f9ea0995e72a\\\"",
  "instanceId": "523fc8ce-503f-41c3-9c85-de506192afd2",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/28ecc664-74e0-41fc-81f8-b38a4c6975c7/aclRules/d9f12865-ec9a-4b64-9ba1-899bc0c17b72",
        "resourceId": "d9f12865-ec9a-4b64-9ba1-899bc0c17b72",
        "etag": "W/\\"c3562a19-9845-428d-9609-f9ea0995e72a\\\"",
        "instanceId": "2c2137e6-b9f1-4fb8-a96c-d28299a76240",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.168.0.27",
          "sourceSecurityTags": [
            ],
          "destinationSecurityTags": [
            ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}

```

```

    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/4e435410-a0e6-450a-a582-40fa7382d474/ipConfigurations/5c4c0c3c-336b-4a49-8566-8b861f4dcb49"
      }
    ],
    "subnets": [
    ]
  }
},
{
  "resourceRef": "/accessControlLists/2d151145-53f0-49a1-b980-7f68adc79c89",
  "resourceId": "2d151145-53f0-49a1-b980-7f68adc79c89",
  "etag": "W/\"756ac992-bf88-4329-bf46-676b630400f8\"",
  "instanceId": "0018cb4e-596e-4503-8847-5c1c871b4fda",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/2d151145-53f0-49a1-b980-7f68adc79c89/aclRules/de76ee71-6749-4c5b-bcf6-651a697f1fa4",
        "resourceId": "de76ee71-6749-4c5b-bcf6-651a697f1fa4",
        "etag": "W/\"756ac992-bf88-4329-bf46-676b630400f8\"",
        "instanceId": "b8bac4d9-6b5e-400b-8a4d-45f0ef83b94f",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "*",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ],
    "ipConfigurations": [
    ],
    "subnets": [
      {
        "resourceRef": "/virtualNetworks/b1fdf9f9-a2a9-49e2-a207-0e210fac77ba/subnets/2010829e-7c10-4b6a-aab8-0332f9bb6fb7"
      }
    ]
  }
},
{
  "resourceRef": "/accessControlLists/44870ad0-cf6d-4c0b-9eb2-1de4b0b45342",
  "resourceId": "44870ad0-cf6d-4c0b-9eb2-1de4b0b45342",
  "etag": "W/\"94dbc080-32a3-40a7-aa51-fela8cd026c1\"",
  "instanceId": "be445606-97cb-43af-a961-9afed9ecd85a",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/44870ad0-cf6d-4c0b-9eb2-1de4b0b45342/aclRules/3ec50e18-a66d-4daf-b70f-2cf1ce997a45",
        "resourceId": "3ec50e18-a66d-4daf-b70f-2cf1ce997a45",
        "etag": "W/\"94dbc080-32a3-40a7-aa51-fela8cd026c1\"",
        "instanceId": "09a7e3c7-6f51-43ea-be31-f25174eb4066",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",

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        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.170.0.26",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/3b2f21f0-fd38-40b4-8c53-
e6f648f1ba25/ipConfigurations/ff715733-de86-4dd1-a3ee-70afedf49b38"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/47ad53ea-cf60-4266-8e89-1e8be8234f61",
  "resourceId": "47ad53ea-cf60-4266-8e89-1e8be8234f61",
  "etag": "W/\"e92706a1-717a-4c8c-9c04-96ed5ad47b45\"",
  "instanceId": "8849536d-5460-419f-a036-370846ef410e",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/47ad53ea-cf60-4266-8e89-
1e8be8234f61/aclRules/dba8f86e-25ea-4702-9628-962732cb4984",
        "resourceId": "dba8f86e-25ea-4702-9628-962732cb4984",
        "etag": "W/\"e92706a1-717a-4c8c-9c04-96ed5ad47b45\"",
        "instanceId": "585efbfb-d269-465e-8a49-85b018f01466",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.170.0.24",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/1a5800e4-bd4e-474a-bfe9-
b154e7174dc9/ipConfigurations/e011114a-b631-4eb3-9422-d4c7e3f1e959"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/4e387fd0-a83d-46f1-af14-257f2676a7b7",
  "resourceId": "4e387fd0-a83d-46f1-af14-257f2676a7b7",

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"etag": "W/\\"bbf3cf36-14c7-42f3-97a6-2437818f48ae\\",
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"properties": {
  "provisioningState": "Succeeded",
  "aclRules": [
    {
      "resourceRef": "/accessControlLists/4e387fd0-a83d-46f1-af14-
257f2676a7b7/aclRules/f0f5f438-09ac-4acd-958d-586d5fe0230c",
      "resourceId": "f0f5f438-09ac-4acd-958d-586d5fe0230c",
      "etag": "W/\\"bbf3cf36-14c7-42f3-97a6-2437818f48ae\\",
      "instanceId": "39e68201-4d43-44ed-befc-f1be6a0e736a",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "0-65535",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "*",
        "sourceSecurityTags": [
          ],
        "destinationSecurityTags": [
          ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    }
  ],
  "ipConfigurations": [
  ],
  "subnets": [
    {
      "resourceRef": "/virtualNetworks/fccclc28-6e3a-4d9f-b32a-
4d460d0bf21f/subnets/227326db-f68e-40c6-8f7b-d2c5a15695f3"
    }
  ]
},
{
  "resourceRef": "/accessControlLists/507106e7-36cf-42d5-b831-0114de8e6ac2",
  "resourceId": "507106e7-36cf-42d5-b831-0114de8e6ac2",
  "etag": "W/\\"68668a39-27aa-45a3-a578-b6e285529483\\",
  "instanceId": "a8842acd-f995-4a54-b659-76dc31d99d44",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/507106e7-36cf-42d5-b831-
0114de8e6ac2/aclRules/442c895c-8013-4cb2-b96f-4f6b9b90924b",
        "resourceId": "442c895c-8013-4cb2-b96f-4f6b9b90924b",
        "etag": "W/\\"68668a39-27aa-45a3-a578-b6e285529483\\",
        "instanceId": "446443c0-9d06-4cf6-8ec4-2efe8a97602a",
        "properties": {
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          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "*",
          "destinationAddressPrefix": "*",
          "sourceSecurityTags": [
            ],
          "destinationSecurityTags": [
            ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}

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    },
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    "subnets": [
    {
        "resourceRef": "/virtualNetworks/1b04d9e5-c435-4aea-8ea3-365250e9ff7b/subnets/18cd3cf0-5507-4876-8232-3175f3f020af"
    }
    ]
},
{
    "resourceRef": "/accessControlLists/5a7e4538-43fd-4519-9305-ed3e51a4449d",
    "resourceId": "5a7e4538-43fd-4519-9305-ed3e51a4449d",
    "etag": "W/\"6c029bf6-94b3-429c-9714-218aca49b06a\"",
    "instanceId": "626a1625-4ae2-42a9-8c4e-5f97d3dcbc3d",
    "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
        {
            "resourceRef": "/accessControlLists/5a7e4538-43fd-4519-9305-ed3e51a4449d/aclRules/933b7d87-fde0-413e-b387-2e843a4080ff",
            "resourceId": "933b7d87-fde0-413e-b387-2e843a4080ff",
            "etag": "W/\"6c029bf6-94b3-429c-9714-218aca49b06a\"",
            "instanceId": "9ff29ca5-a86c-4365-a8f5-17ca1072c1b1",
            "properties": {
                "provisioningState": "Succeeded",
                "protocol": "All",
                "sourcePortRange": "0-65535",
                "destinationPortRange": "31267",
                "action": "Allow",
                "sourceAddressPrefix": "*",
                "destinationAddressPrefix": "20.170.0.25",
                "sourceSecurityTags": [
                ],
                "destinationSecurityTags": [
                ],
                "priority": "200",
                "type": "Inbound",
                "logging": "Enabled"
            }
        }
        ],
    },
    "ipConfigurations": [
    {
        "resourceRef": "/networkInterfaces/57f32f39-07d8-4f6c-9014-270d5af96b50/ipConfigurations/eed8e42e-17e7-46b8-80fd-c580f7a37d54"
    }
    ],
    "subnets": [
    ]
    }
},
{
    "resourceRef": "/accessControlLists/5cd7c188-a510-40de-ae59-d8f338f638eb",
    "resourceId": "5cd7c188-a510-40de-ae59-d8f338f638eb",
    "etag": "W/\"a47e550c-526f-4dba-9b58-a650500f489c\"",
    "instanceId": "31305b92-68bc-473f-a91c-cc6efc743b44",
    "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
        {
            "resourceRef": "/accessControlLists/5cd7c188-a510-40de-ae59-d8f338f638eb/aclRules/bab91fb0-ce4a-4fff-a0b7-a545d7ed41cb",
            "resourceId": "bab91fb0-ce4a-4fff-a0b7-a545d7ed41cb",
            "etag": "W/\"a47e550c-526f-4dba-9b58-a650500f489c\"",
            "instanceId": "73f052fc-96e9-4a5d-992b-f16ad5f766c2",
            "properties": {
                "provisioningState": "Succeeded",

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        "protocol": "All",
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        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.25",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
{
    "resourceRef": "/networkInterfaces/1c4f0be6-0ba9-417c-9f66-
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}
],
"subnets": [
]
}
},
{
    "resourceRef": "/accessControlLists/673519cb-f22d-432e-bae0-e8d5f3da5a17",
    "resourceId": "673519cb-f22d-432e-bae0-e8d5f3da5a17",
    "etag": "W/\"2885d50c-8053-46e1-9350-dfe9241c4f34\"",
    "instanceId": "0df2783a-0f30-46dc-a133-faad53335a1c",
    "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
            {
                "resourceRef": "/accessControlLists/673519cb-f22d-432e-bae0-
e8d5f3da5a17/aclRules/3d2080b2-2fca-4ccb-8b97-3337e92aeb5e",
                "resourceId": "3d2080b2-2fca-4ccb-8b97-3337e92aeb5e",
                "etag": "W/\"2885d50c-8053-46e1-9350-dfe9241c4f34\"",
                "instanceId": "5a25bbbd-df7a-4cbd-8c2a-55736dbdc4cd",
                "properties": {
                    "provisioningState": "Succeeded",
                    "protocol": "All",
                    "sourcePortRange": "0-65535",
                    "destinationPortRange": "31267",
                    "action": "Allow",
                    "sourceAddressPrefix": "*",
                    "destinationAddressPrefix": "20.169.0.23",
                    "sourceSecurityTags": [
                    ],
                    "destinationSecurityTags": [
                    ],
                    "priority": "200",
                    "type": "Inbound",
                    "logging": "Enabled"
                }
            }
        ],
        "ipConfigurations": [
            {
                "resourceRef": "/networkInterfaces/80f93684-4711-4319-beac-
dfb81c2cef23/ipConfigurations/cdcedf7f-e216-406a-971a-cbd553e3020e"
            }
        ],
        "subnets": [
        ]
    }
},
{
    "resourceRef": "/accessControlLists/782332ab-9736-49c7-a5a2-71e31bd7c898",

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```

"resourceId": "782332ab-9736-49c7-a5a2-71e31bd7c898",
"etag": "W/\"225175df-cddf-4752-88e0-94bf2f302ce2\"",
"instanceId": "9e26e2f7-32c6-4f29-85a8-344660df17b1",
"properties": {
  "provisioningState": "Succeeded",
  "aclRules": [
    {
      "resourceRef": "/accessControlLists/782332ab-9736-49c7-a5a2-71e31bd7c898/aclRules/1eb3767c-40fd-4ef4-bcb5-b6e40e3d4eb9",
      "resourceId": "1eb3767c-40fd-4ef4-bcb5-b6e40e3d4eb9",
      "etag": "W/\"225175df-cddf-4752-88e0-94bf2f302ce2\"",
      "instanceId": "1163eda6-c64a-4f8d-8490-6609bfc3e6fb",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.168.0.22",
        "sourceSecurityTags": [
          ],
        "destinationSecurityTags": [
          ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/9aca78f4-dbdb-4201-8199-1e530a38b1c2/ipConfigurations/4a1870d8-6c53-4e6c-afdb-9f490e9a8f18"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/942b2145-982f-47d1-b360-e65d589c200c",
  "resourceId": "942b2145-982f-47d1-b360-e65d589c200c",
  "etag": "W/\"6b22bafe-ac18-4fd9-b468-8efc4c8bc684\"",
  "instanceId": "f9bf6580-e1a0-4fd7-a32d-ee55f13e7998",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/942b2145-982f-47d1-b360-e65d589c200c/aclRules/8bb9cd37-ed88-4486-bff1-57ff54d86cd0",
        "resourceId": "8bb9cd37-ed88-4486-bff1-57ff54d86cd0",
        "etag": "W/\"6b22bafe-ac18-4fd9-b468-8efc4c8bc684\"",
        "instanceId": "07818909-bba2-4500-8d93-852e33332ea6",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.169.0.24",
          "sourceSecurityTags": [
            ],
          "destinationSecurityTags": [
            ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}

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    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/bb78e9a2-3949-4d93-81e8-8ba5bd01c0d1/ipConfigurations/d8685944-e3f5-45e5-ac4b-162a9431b70f"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/969e7826-44ef-4a11-baa9-98cd6414fb45",
  "resourceId": "969e7826-44ef-4a11-baa9-98cd6414fb45",
  "etag": "W/\"9a819856-6e87-46d6-92e8-e92e3b114b86\"",
  "instanceId": "9a5e1f25-0cbc-43b4-b185-7f84c2291205",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/969e7826-44ef-4a11-baa9-98cd6414fb45/aclRules/a5b6bfd-91ce-4879-ad35-e783a20e88a1",
        "resourceId": "a5b6bfd-91ce-4879-ad35-e783a20e88a1",
        "etag": "W/\"9a819856-6e87-46d6-92e8-e92e3b114b86\"",
        "instanceId": "764ac2e7-9fa7-4c33-b6cd-d0b84b553476",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.170.0.27",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/7d855a76-7be7-4681-8710-cff77f67fbcdb/ipConfigurations/8f26861a-3a97-4564-8fc0-7b40553c954a"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/994ea3d0-43a5-4bbf-baae-fa72bc87a7b5",
  "resourceId": "994ea3d0-43a5-4bbf-baae-fa72bc87a7b5",
  "etag": "W/\"ba590e2a-3ba9-4964-b2d4-9bfce3fc1f71\"",
  "instanceId": "4dded1f2-af8f-4c2b-9400-357f73fadd96",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/994ea3d0-43a5-4bbf-baae-fa72bc87a7b5/aclRules/ef188f68-79d6-4e37-8cbc-2e55e0554167",
        "resourceId": "ef188f68-79d6-4e37-8cbc-2e55e0554167",
        "etag": "W/\"ba590e2a-3ba9-4964-b2d4-9bfce3fc1f71\"",
        "instanceId": "9c4f2ed9-9ec5-4c31-b0b3-12f32474f83b",
        "properties": {
          "provisioningState": "Succeeded",

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        "protocol": "All",
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        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.26",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
{
    "resourceRef": "/networkInterfaces/10ad4e45-26a5-4dc1-85a5-618525b940df/ipConfigurations/e016f4e6-766e-4ac7-a9d8-ef1881d4e824"
}
],
"subnets": [
]
}
},
{
    "resourceRef": "/accessControlLists/b3430b40-f6ab-4bb7-9587-17adfc8d258f",
    "resourceId": "b3430b40-f6ab-4bb7-9587-17adfc8d258f",
    "etag": "W/\"8804d8e1-b8e2-4581-a132-4e66997a8780\"",
    "instanceId": "bda54313-903f-4623-92c7-7923e1984f91",
    "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
            {
                "resourceRef": "/accessControlLists/b3430b40-f6ab-4bb7-9587-17adfc8d258f/aclRules/7cb584e8-a018-4061-a95b-1263fef7c861",
                "resourceId": "7cb584e8-a018-4061-a95b-1263fef7c861",
                "etag": "W/\"8804d8e1-b8e2-4581-a132-4e66997a8780\"",
                "instanceId": "38737310-2a72-454e-a7f3-aedc56bae055",
                "properties": {
                    "provisioningState": "Succeeded",
                    "protocol": "All",
                    "sourcePortRange": "0-65535",
                    "destinationPortRange": "31267",
                    "action": "Allow",
                    "sourceAddressPrefix": "*",
                    "destinationAddressPrefix": "20.168.0.23",
                    "sourceSecurityTags": [
                    ],
                    "destinationSecurityTags": [
                    ],
                    "priority": "200",
                    "type": "Inbound",
                    "logging": "Enabled"
                }
            }
        ]
    }
},
"ipConfigurations": [
{
    "resourceRef": "/networkInterfaces/f2a23d03-ea52-43a9-8c1f-7921b4621ddf/ipConfigurations/9a9b2039-f578-43bd-b761-2de4f5b10e18"
}
],
"subnets": [
]
}
},
{
    "resourceRef": "/accessControlLists/bd8ae3b4-5f4b-4a1d-ab58-b30e15932af0",

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"resourceId": "bd8ae3b4-5f4b-4a1d-ab58-b30e15932af0",
"etag": "W/\\"f841ece6-95de-4390-8c5a-da803c179cb1\\"",
"instanceId": "35ff4cd3-f4c2-446b-a8d6-dddd81d37231",
"properties": {
  "provisioningState": "Succeeded",
  "aclRules": [
    {
      "resourceRef": "/accessControlLists/bd8ae3b4-5f4b-4a1d-ab58-
b30e15932af0/aclRules/e37cbf9a-83f5-4f2b-831a-c316cf71f3a5",
      "resourceId": "e37cbf9a-83f5-4f2b-831a-c316cf71f3a5",
      "etag": "W/\\"f841ece6-95de-4390-8c5a-da803c179cb1\\"",
      "instanceId": "1458c402-bb13-4a6a-a551-7bc464db60ba",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.27",
        "sourceSecurityTags": [
          ],
        "destinationSecurityTags": [
          ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/c996e4c2-d062-4e8f-a9b9-
30f63cc36fffb/ipConfigurations/6e3bcf32-5af0-4b33-b6f6-1b8f902ea0e3"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/dd2481a6-51b7-42d8-b22d-b87c191c7c70",
  "resourceId": "dd2481a6-51b7-42d8-b22d-b87c191c7c70",
  "etag": "W/\\"cb1703c4-9a53-4989-b843-23f2790db01b\\"",
  "instanceId": "8ec4262d-62f7-4970-b931-f53acd198678",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/dd2481a6-51b7-42d8-b22d-
b87c191c7c70/aclRules/35479197-05fb-4292-a88f-e02f74ce5133",
        "resourceId": "35479197-05fb-4292-a88f-e02f74ce5133",
        "etag": "W/\\"cb1703c4-9a53-4989-b843-23f2790db01b\\"",
        "instanceId": "3bd79d27-8791-4149-b88d-a856e2ddcaa0",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.170.0.23",
          "sourceSecurityTags": [
            ],
          "destinationSecurityTags": [
            ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}

```

```

    }
  ],
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/balb152b-2671-4dd1-9069-763eb77ae259/ipConfigurations/3980df14-989b-4f0c-adaa-1be54b78b5e1"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/e8920953-c894-4eac-9cf7-ca79ee8412dc",
  "resourceId": "e8920953-c894-4eac-9cf7-ca79ee8412dc",
  "etag": "W/\"7fa32fec-62bb-4659-a6b8-48951f615ecc\"",
  "instanceId": "6d641dab-a2a4-44fb-871c-e286ebb4ae95",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/e8920953-c894-4eac-9cf7-ca79ee8412dc/aclRules/e4f6b8a9-a8d8-46a3-b5f6-4c6948edcdd3",
        "resourceId": "e4f6b8a9-a8d8-46a3-b5f6-4c6948edcdd3",
        "etag": "W/\"7fa32fec-62bb-4659-a6b8-48951f615ecc\"",
        "instanceId": "196dc2b8-c44c-4627-acb4-f600e9bbfcaa",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.170.0.22",
          "sourceSecurityTags": [
          ],
          "destinationSecurityTags": [
          ],
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/fe79110d-7075-478c-975c-79f362791a88/ipConfigurations/268203d3-bffc-4d82-a402-6e274d3dce28"
    }
  ],
  "subnets": [
  ]
}
},
{
  "resourceRef": "/accessControlLists/ea828ec-2c50-426f-90db-97449b187d3f",
  "resourceId": "ea828ec-2c50-426f-90db-97449b187d3f",
  "etag": "W/\"1c2e4e25-7b2c-48f5-b9a2-660351e17097\"",
  "instanceId": "3dab675e-62f6-42c9-a929-a31dfe28c3c0",
  "properties": {
    "provisioningState": "Succeeded",
    "aclRules": [
      {
        "resourceRef": "/accessControlLists/ea828ec-2c50-426f-90db-97449b187d3f/aclRules/dafb0eaf-446d-4d22-a05d-b4fc6182a419",
        "resourceId": "dafb0eaf-446d-4d22-a05d-b4fc6182a419",
        "etag": "W/\"1c2e4e25-7b2c-48f5-b9a2-660351e17097\"",
        "instanceId": "530ea20d-95d3-43a4-83f0-053a556ed638",
        "properties": {
          "provisioningState": "Succeeded",

```

```

        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.168.0.24",
        "sourceSecurityTags": [
        ],
        "destinationSecurityTags": [
        ],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
{
    "resourceRef": "/networkInterfaces/6a5e50b8-9662-4645-b5cc-f4bb19e14202/ipConfigurations/5092e884-f118-453a-842b-9c0242e55588"
}
],
"subnets": [
]
}
],
"nextLink": ""
}

```

The JSON schema for the **accessControlLists GET ALL** method is located in section 6.1.3.

### 3.1.5.1.1.3.3 Processing Details

The server locates the **accessControlLists** resource. The server MUST return a status code of 200 (OK) if the operation succeeds. If no **accessControlLists** resources are defined, the server MUST return the result as an empty array.

### 3.1.5.1.1.4 DELETE

This method deletes an **accessControlLists** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)

Status code
412 (Precondition Failed)

### 3.1.5.1.1.4.1 Request Body

None.

### 3.1.5.1.1.4.2 Response Body

None.

### 3.1.5.1.1.4.3 Processing Details

Deletes an **accessControlLists** resource.

### 3.1.5.1.2 (Updated Section) aclRules

The **aclRules** resource describes the network traffic that is allowed or denied for a network interface of a virtual machine. Currently, only inbound rules are expressed.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{parentResourceId}/aclRules/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.1.2.1.1	Create a new <b>aclRules</b> resource or update an existing <b>aclRules</b> resource.
<b>GET</b>	3.1.5.1.2.1.2	Get one <b>aclRules</b> resource.
<b>GET ALL</b>	3.1.5.1.2.1.3	List all <b>aclRules</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.1.2.1.4	Delete an <b>aclRules</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>action</b>	Required	Indicates the <b>action</b> the ACL Rule will take. Valid values are



Element name	Type	Description
		Allow or Deny. There is no default value since it is a required element.
<b>description</b>	Optional	Indicates a description of the ACL rule.
<b>destinationAddressPrefix</b>	Required	<p>Indicates the classless inter-domain routing (CIDR) value of destination IP or a pre-defined tag to which traffic is destined. You can specify 0.0.0.0/0 for IPv4 all and ::/0 for IPv6 all traffic. The asterisk (*) can be specified for all the IPv4 and IPv6 traffic combined.</p> <p>Pre-defined tags can also be used within <b>aclRules</b> which are being applied to virtual subnets or IP configurations of virtual subnets. Pre-defined tags cannot be applied to IP configurations of logical subnets. Valid pre-defined TAG values are VIRTUALNETWORK, INTERNET, or AZURELOADBALANCER.</p> <p>VIRTUALNETWORK - This tag denotes all your virtual network address space.</p> <p>INTERNET - This tag denotes the IP address space that is outside the virtual network and reachable by public Internet.</p> <p>AZURELOADBALANCER - This tag denotes the datacenter IP addresses from which the load balancer health probes originate.</p>
<b>destinationSecurityTags</b>	Optional	<p>An array of <b>securityTags</b> resources that acts as the destination field of the ACL rule. IP addresses of network interfaces associated with the security tags are concatenated and assigned to the destination IP field of the ACL rule. This field must not be included or be an empty array if the property <b>destinationAddressPrefix</b> contains at least one address prefix.</p> <p>This property is supported in URI version v5 or later.</p>
<b>destinationPortRange</b>	Required	<p>Indicates the destination ports that will trigger this ACL rule. Valid values include a single port, port range separated by hyphen (-), or asterisk (*) for all ports. All numbers are inclusive.</p> <p>Example: 80, 80-80, 80-81, *</p> <p>The port value MUST be between 1 and 65535.</p>
<b>logging</b>	Required	Indicates whether logging will be turned on for when this rule gets triggered. Valid values are Enabled or Disabled. The default value is Enabled.
<b>priority</b>	Required	Indicates the priority of the rule relative to the priority of other ACL rules. This is a unique numeric value in the context of an <b>accessControlLists</b> resource. Value from 101 – 65000 are user defined. Values 1- 100 and 65001 – 65535 are reserved.
<b>protocol</b>	Required	<p>Indicates the protocol to which the ACL rule will apply. Allowed values are TCP, UDP, HTTP, ICMPv4, ICMPv6, and <b>*-All</b>. The asterisk (*) value "All" means any protocol.</p> <p>ICMPv4 and ICMPv6 are supported with URI version v3 or later.</p>
<b>sourceAddressPrefix</b>	Required	<p>Indicates the CIDR value of source IP or a pre-defined TAG from which traffic is originating. You can specify 0.0.0.0/0 for IPv4 all and ::/0 for IPv6 all traffic. The asterisk (*) can be specified for all the IPv4 and IPv6 traffic combined.</p> <p>Valid pre-defined TAG values are VIRTUALNETWORK, INTERNET, or AZURELOADBALANCER.</p> <p>VIRTUALNETWORK - This tag denotes all your virtual network address space.</p> <p>INTERNET - This tag denotes the IP address space that is outside the virtual network and reachable by public Internet.</p>

Element name	Type	Description
		AZURELOADBALANCER - This tag denotes the datacenter IP addresses from which the load balancer health probes originate.
<b>sourceSecurityTags</b>	Optional	An array of <b>securityTags</b> resources that acts as the source field of the ACL rule. IP addresses of network interfaces associated with the security tags are concatenated and assigned to the source IP field of the ACL rule. This field must not be included or be an empty array if the property <b>sourceAddressPrefix</b> contains at least one address prefix. This property is supported in URI version v5 or later.
<b>sourcePortRange</b>	Required	Indicates the source ports that will trigger this ACL rule. Valid values include a single port, port range separated by hyphen (-), or asterisk (*) for all ports. All numbers are inclusive. Example: 80, 80-80, 80-81, * The value MUST be between 1 and 65535.
<b>type</b>	Required	Indicates whether the rule is to be evaluated against ingress traffic (Inbound) or egress traffic (Outbound). Valid values are Inbound or Outbound. There is no default value since it is a required element.

### 3.1.5.1.2.1 HTTP Methods

#### 3.1.5.1.2.1.1 PUT

This method creates a new **aclRules** resource or updates an existing **aclRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{parentResourceId}/aclRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.1.2.1.1.1 Request Body

The format for the response body for the **aclRules PUT** method is as follows.

```

{
  "resourceId": "1d62b477-9992-400b-bfbb-411c8c91ed9d",
  "resourceMetadata": {
  },
  "properties": {
    "provisioningState": "Succeeded",
    "protocol": "All",
    "sourcePortRange": "0-65535",
    "destinationPortRange": "31267",
    "action": "Allow",
    "sourceAddressPrefix": "*",
    "destinationAddressPrefix": "20.169.0.22",
    "priority": "200",
    "type": "Inbound",
    "logging": "Enabled"
  }
}

```

The JSON schema for the **aclRules PUT** method is located in section 6.1.4.1.

### 3.1.5.1.2.1.1.2 Response Body

The format for the **PUT aclRules** response body is the same as the format for the **GET aclRules** response body (section 3.1.5.1.2.1.2). The JSON schema is located in section 6.1.4.2.

### 3.1.5.1.2.1.1.3 Processing Details

Describes the network traffic that is allowed or denied for a network interface of a virtual machine.

### 3.1.5.1.2.1.2 GET

This method retrieves an **aclRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{parentResourceId}/aclRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.1.2.1.2.1 Request Body

None.

### 3.1.5.1.2.1.2.2 (Updated Section) Response Body

The format for the response body for the **aclRules GET** method is as follows.

```
{
  "resourceRef": "/accessControlLists/049460a0-3d29-48a5-92fe-1b418287f2a1/aclRules/1d62b477-9992-400b-bfbb-411c8c91ed9d",
  "resourceId": "1d62b477-9992-400b-bfbb-411c8c91ed9d",
  "etag": "W/\"736b0e54-7976-42fd-a89e-c7d00e9fbcf0\"",
  "instanceId": "985c5ee5-e275-4006-8cba-5fd704ef4c62",
  "properties": {
    "provisioningState": "Succeeded",
    "protocol": "All",
    "sourcePortRange": "0-65535",
    "destinationPortRange": "31267",
    "action": "Allow",
    "sourceAddressPrefix": "*",
    "destinationAddressPrefix": "20.169.0.22",
    "sourceSecurityTags": [],
    "destinationSecurityTags": [],
    "priority": "200",
    "type": "Inbound",
    "logging": "Enabled"
  }
}
```

The JSON schema for the **aclRules GET** method is located in section 6.1.4.2.

### 3.1.5.1.2.1.2.3 Processing Details

This method retrieves an **aclRules** resource.

### 3.1.5.1.2.1.3 GET ALL

This method retrieves all **aclRules** resources that belong to an **accessControlLists** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{parentResourceId}/aclRules
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.1.2.1.3.1 Request Body

None.

### 3.1.5.1.2.1.3.2 (Updated Section) Response Body

The format for the response body for the **aclRules GET ALL** method is as follows.

```

{
  "value": [
    {
      "resourceRef": "/accessControlLists/049460a0-3d29-48a5-92fe-1b418287f2a1/aclRules/1d62b477-9992-400b-bfbb-411c8c91ed9d",
      "resourceId": "1d62b477-9992-400b-bfbb-411c8c91ed9d",
      "etag": "W/\"736b0e54-7976-42fd-a89e-c7d00e9fbcf0\"",
      "instanceId": "985c5ee5-e275-4006-8cba-5fd704ef4c62",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.22",
        "sourceSecurityTags": [],
        "destinationSecurityTags": [],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    },
    {
      "resourceRef": "/accessControlLists/049460a0-3d29-48a5-92fe-1b418287f2a1/aclRules/1d62b477-9992-400b-bfbb-411c8c91ed9d",
      "resourceId": "1d62b477-9992-400b-bfbb-411c8c91ed9d",
      "etag": "W/\"736b0e54-7976-42fd-a89e-c7d00e9fbcf0\"",
      "instanceId": "985c5ee5-e275-4006-8cba-5fd704ef4c62",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "All",
        "sourcePortRange": "0-65535",
        "destinationPortRange": "31267",
        "action": "Allow",
        "sourceAddressPrefix": "*",
        "destinationAddressPrefix": "20.169.0.22",
        "sourceSecurityTags": [],
        "destinationSecurityTags": [],
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
      }
    }
  ],
  "nextLink": ""
}

```

The JSON schema for the **aclRules GET** method is located in section 6.1.4.3.

### 3.1.5.1.2.1.3.3 Processing Details

Retrieves all **aclRules** resources that belong to an **accessControlLists** resource.

### 3.1.5.1.2.1.4 DELETE

This method deletes an **aclRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/accessControlLists/{parentResourceId}/aclRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.1.2.1.4.1 Request Body

None.

#### 3.1.5.1.2.1.4.2 Response Body

None.

#### 3.1.5.1.2.1.4.3 Processing Details

Deletes an aclRules resource.

### 3.1.5.2 (Updated Section) credentials

The **credentials** resource contains the credential information needed to connect to a southbound device with the appropriate permissions to manage the device. This resource is referenced by one or more southbound device resources combining the credential information with the connection information, therefore allowing the network controller to connect to and configure a device in the network.

A **credentials** resource can be referenced by one or more resources. **Credentials** resources are stored in encrypted form. Encryption is done using the Secure Sockets Layer (SSL)/Transport Layer Security (TLS) certificate provisioned on the Network Controller nodes, as specified in [RFC2818] and [X509]. If the credential type is usernamePassword, the credentials value (password) is not provided in the **GET** response. If a **credentials** resource is referenced by one or more devices and is deleted, the reference will be removed from all devices.

It is invoked through the following URI.

```
https://<url>/networking/v1/credentials/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.2.1.1	Create a new <b>credentials</b> resource or update an existing <b>credentials</b> resource.
<b>GET</b>	3.1.5.2.1.2	Get one <b>credentials</b> resource.
<b>GET ALL</b>	3.1.5.2.1.3	List all <b>credentials</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.2.1.4	Delete a <b>credentials</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>type</b>	Required	Indicates the type of the credential. Valid values are: usernamePassword X509Certificate SnmpCommunityString GroupManagedServiceAccount
<b>userName</b>	Optional	If the <b>credentials</b> resource is of type usernamePassword, then this username used for the credential. If the credential resource is of type GroupManagedServiceAccount, this contains the name of the account. For all other types, this field will be ignored.
<b>value</b>	Required	Indicates the value of the <b>credentials</b> resources type. The actual value will depend on the type field: usernamePassword: this element represents the password. X509Certificate: this element represents the certificate thumbprint. SnmpCommunityString: this element represents the community string. GroupManagedServiceAccount: this element is expected to be empty.
<b>networks</b>	Optional Read-only	Indicates an array of references to the virtual networks that use this credential to encrypt virtualized traffic. This property is supported in URI version v2 or later.
<b>auditingSettings</b>	Optional	A singleton resource that configures the directory where servers log firewall auditing information. This property is supported with URI version v3 or later.

### 3.1.5.2.1 HTTP Methods

#### 3.1.5.2.1.1 PUT

This method creates a new **credentials** resource or updates an existing **credentials** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/credentials/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.2.1.1.1 Request Body

The format for the request body for the **credentials PUT** method is as follows.

```
{
  "properties": {
    "type": "usernamePassword",
    "userName": "localhost\\administrator",
    "value": "SeMmFe1bh3f2ZgGRs6XHR+"
  }
}
```

The JSON schema for the **credentials PUT** method is located in section 6.2.1.

### 3.1.5.2.1.1.2 Response Body

The format for the **credentials PUT** response body is the same as the format for the **credentials GET** response body (section 3.1.5.2.1.2.2). The JSON schema is located in section 6.2.2.

### 3.1.5.2.1.1.3 Processing Details

Creates a new **credentials** resource or updates an existing **credentials** resource. For **credentials** resources of type **GroupManagedServiceAccount (GMSA)**, **PUT** is not allowed. When Network Controller is deployed using **Install-NetworkController** cmdlet, the **GMSA** account provided there will automatically be added to the **credentials** resource.

### 3.1.5.2.1.2 GET

This method retrieves a **credentials** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/credentials/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.



The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.2.1.2.1 Request Body

None.

### 3.1.5.2.1.2.2 Response Body

The format for the response body for the **credentials GET** method is as follows.

```
{
  "resourceRef": "/credentials/8e6e30ac-4853-42e2-9909-3c222c197bc1",
  "resourceId": "8e6e30ac-4853-42e2-9909-3c222c197bc1",
  "etag": "W/\"3a581ff1-554a-4fef-81d9-680ba4bdb22f\"",
  "instanceId": "d4e62086-09de-4bd1-8b9a-bb7a25c96546",
  "properties": {
    "provisioningState": "Succeeded",
    "type": "X509Certificate",
    "value": "2A299C0C4B52D8719217880C53F789F5071D0C6F",
    "networks": [],
    "auditingSettings": {
      "resourceRef": "/auditingSettings/configuration"
    }
  }
}
```

The JSON schema for the **credentials GET** method is located in section 6.2.2.

### 3.1.5.2.1.2.3 Processing Details

Retrieves a **credentials** resource.

### 3.1.5.2.1.3 GET ALL

This method retrieves all **credentials** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/credentials/
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.2.1.3.1 Request Body

None.

### 3.1.5.2.1.3.2 Response Body

The format for the response body for the **credentials GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894",
      "resourceId": "5eda8dd3-9fad-4f73-bb46-fa696b2ca894",
      "etag": "W/\"858c6520-f861-4ab0-9e18-8a11822bbafd\"",
      "instanceId": "0a83672d-08d1-4ce3-92f8-8cb3efcaf60e",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "X509Certificate",
        "value": "DED5163DBA00F32C842B35B6250B852464BA7978"
      }
    },
    {
      "resourceRef": "/credentials/SA21n28-3-credentials",
      "resourceId": "SA21n28-3-credentials",
      "etag": "W/\"e5bc80c8-7013-42ce-b1e9-c2df34f73999\"",
      "instanceId": "3dcf5684-63b4-4577-b6da-ffbf46f435d",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "usernamePassword",
        "userName": "localhost\\localadminuser",
        "value": "VZZfCgilTXfcM7axGvzpUztMsPnKQTPn152CFcxKmFk="
      }
    },
    {
      "resourceRef": "/credentials/SA21n28-4-credentials",
      "resourceId": "SA21n28-4-credentials",
      "etag": "W/\"dd2d880b-8dd5-4f44-b0d1-0e32f2027c9d\"",
      "instanceId": "6c5d30d4-dce4-47c8-b9f3-8ad2b233c1d6",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "usernamePassword",
        "userName": "localhost\\localadminuser",
        "value": "tpmR2o32hkahVfw4VchYkReo3I9gjfhGQqWOCZkgBw="
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **credentials GET ALL** method is located in section 6.2.4.

### 3.1.5.2.1.3.3 Processing Details

This method retrieves all **credentials** resources.

### 3.1.5.2.1.4 DELETE

This method deletes a **credentials** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/credentials/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.2.1.4.1 Request Body

None.

#### 3.1.5.2.1.4.2 Response Body

None.

#### 3.1.5.2.1.4.3 Processing Details

Deletes a **credentials** resource.

### 3.1.5.3 (Updated Section) GatewayPools

The **GatewayPools** resource aggregates a set of **gateways** resources into a single pool. It contains an array of **gateways** that provide the infrastructure needed to service **VirtualGateways** instances with differentiated services for tenant virtual networks.

A gateway pool usually consists of gateways that provide services, such as IPsec, Generic Routing Encapsulation (GRE) ([RFC2784]) or a Forwarding (L3) gateway. A gateway pool can also be created for different categories of customers or resellers. After a gateway pool is created, **gateways** of identical type and capacity can be added to the pool. Each tenant can be assigned one or more gateway pools from which its connections are serviced. **Gateways** in a gateway pool can service multiple tenants.

It is invoked through the following URI.

```
https://<url>/networking/v1/GatewayPools/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.3.1.1	Create a new <b>GatewayPools</b> resource or update an existing <b>GatewayPools</b> resource.
<b>GET</b>	3.1.5.3.1.2	Get one <b>GatewayPools</b> resource.
<b>GET ALL</b>	3.1.5.3.1.3	List all <b>GatewayPools</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.3.1.4	Delete a <b>GatewayPools</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>Type</b>	Required	Indicates the type of the role of gateway VMs in the pool. The following are valid string values: s2sIPsec s2sGre forwarding ALL
<b>greVipSubnets</b>	Read/write. Required if Type is equal to s2sGre or ALL.	Indicates the logical subnet from which VIPs for <b>gateways</b> providing GRE-based network connections.
<b>publicIPAddresses</b>	Read/write Optional	Indicates collection of public IP address references. These are the IPs to which external connections connect to. This is optional in case <b>Type</b> is s2sGre.
<b>redundantGatewayCount</b>	Read/write	Indicates the number of redundant gateway VMs that will be used for each <b>VirtualGateways</b> instance to ensure its availability. For example, in a 3+1 gateway deployment, 1 will be redundant gateway count.
<b>gatewayCapacityKiloBitsPerSecond</b>	Read/write	Indicates the total capacity of each gateway in the pool in kilobits per second.
<b>Gateways</b>	Read-only	Indicates references to collection of <b>gateways</b> that comprise the gateway pool.
<b>VirtualGateways</b>	Read-only	Indicate references to collection of <b>VirtualGateways</b> (that contains subscription connection information) that are dependent on the pool.

### 3.1.5.3.1 HTTP Methods

#### 3.1.5.3.1.1 PUT

This method creates a new **GatewayPools** resource or updates an existing **GatewayPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/GatewayPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.3.1.1.1 Request Body

The format for the request body for the **GatewayPools PUT** method is as follows.

```
{
  "resourceId": "default",
  "properties": {
    "ipConfiguration": {
      "greVipSubnets": [
        {
          "resourceRef": "/logicalNetworks/00000000-2222-0000-9999-000000000000/Subnets/00000000-2222-1111-9999-000000000003"
        }
      ],
      "publicIPAddresses": [
        {
          "resourceRef": "/publicIPAddresses/00000000-5555-0000-0001-000000000000"
        }
      ]
    },
    "redundantGatewayCount": 0,
    "gatewayCapacityKiloBitsPerSecond": 104857600,
    "radiusServer": "1.2.3.4",
    "radiusSecret": "111_aaa",
    "type": "All"
  }
}
```

The JSON schema for the **GatewayPools PUT** method is located in section 6.3.1.

### 3.1.5.3.1.1.2 Response Body

The same as the format for the **GatewayPools GET** response body (section 3.1.5.3.1.2.2). The JSON schema is located in section 6.3.2.

### 3.1.5.3.1.1.3 Processing Details

Creates a new **GatewayPools** resource or updates an existing **GatewayPools** resource.

### 3.1.5.3.1.2 GET

This method retrieves a **GatewayPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/GatewayPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.3.1.2.1 Request Body

None.

### 3.1.5.3.1.2.2 Response Body

The format for the **GatewayPools GET** response body is as follows.

```
{
  "resourceRef": "/GatewayPools/default",
  "resourceId": "default",
  "etag": "W/\"0800327a-f275-4fb7-a8ac-9db9f9b74dfa\"",
  "instanceId": "d3bc394b-0779-4e87-a5c2-44f48091ecc2",
  "properties": {
    "provisioningState": "Succeeded",
    "type": "All",
    "ipConfiguration": {
      "greVipSubnets": [
        {
          "resourceRef": "/logicalNetworks/00000000-2222-0000-9999-000000000000/subnets/00000000-2222-1111-9999-000000000003"
        }
      ],
      "publicIPAddresses": [
        {
          "resourceRef": "/publicIPAddresses/00000000-5555-0000-0001-000000000000"
        }
      ]
    }
  }
}
```

```
]
},
"redundantGatewayCount": 0,
"gatewayCapacityKiloBitsPerSecond": 104857600,
"gateways": [
  {
    "resourceRef": "/Gateways/CloudGw1"
  }
],
"VirtualGateways": [
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_1"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_2"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_3"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_4"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_5"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_6"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_7"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_8"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_9"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_10"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_11"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_12"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_13"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_14"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_15"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_16"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_17"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_18"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_19"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_20"
  }
]
```

```
    ]
  }
}
```

The JSON schema for the **GatewayPools GET** method is located in section 6.3.2.

### 3.1.5.3.1.2.3 Processing Details

Retrieves a **GatewayPools** resource.

#### 3.1.5.3.1.3 GET ALL

This method retrieves all **GatewayPools** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/GatewayPools
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.3.1.3.1 Request Body

None.

#### 3.1.5.3.1.3.2 Response Body

The format for the **GatewayPools GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/GatewayPools/default",
      "resourceId": "default",
      "etag": "W/\"0800327a-f275-4fb7-a8ac-9db9f9b74dfa\"",
      "instanceId": "d3bc394b-0779-4e87-a5c2-44f48091ecc2",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "All",
        "ipConfiguration": {
          "greVipSubnets": [
            {
              "resourceRef": "/logicalNetworks/00000000-2222-0000-9999-000000000000/subnets/00000000-2222-1111-9999-000000000003"
            }
          ],
          "publicIPAddresses": [
            {
              "resourceRef": "/publicIPAddresses/00000000-5555-0000-0001-000000000000"
            }
          ]
        }
      }
    }
  ]
}
```



```
    }
  ]
},
"redundantGatewayCount": 0,
"gatewayCapacityKiloBitsPerSecond": 104857600,
"gateways": [
  {
    "resourceRef": "/Gateways/CloudGw1"
  }
],
"VirtualGateways": [
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_1"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_2"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_3"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_4"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_5"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_6"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_7"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_8"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_9"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_10"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_11"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_12"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_13"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_14"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_15"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_16"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_17"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_18"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_19"
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_20"
  }
]
```

```
    }
  ]
},
"nextLink": ""
}
```

The JSON schema for the **GatewayPools GET ALL** method is located in section 6.3.3.

### 3.1.5.3.1.3.3 Processing Details

Retrieves all **GatewayPools** resources.

### 3.1.5.3.1.4 DELETE

This method deletes a **GatewayPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/GatewayPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.3.1.4.1 Request Body

None.

### 3.1.5.3.1.4.2 Response Body

None.

### 3.1.5.3.1.4.3 Processing Details

Deletes a **GatewayPools** resource.

### 3.1.5.4 (Updated Section) gateways

A **gateways** resource is the computing resource that provides gateway services to one or more **virtualNetworks** resources. The configuration in this resource is the generic configuration that provides gateway services to the virtualNetwork resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/gateways/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides v1~~ or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.4.1.1	Create a new <b>gateways</b> resource or update an existing <b>gateways</b> resource.
<b>GET</b>	3.1.5.4.1.2	Get one <b>gateways</b> resource.
<b>GET ALL</b>	3.1.5.4.1.3	List all <b>gateways</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.4.1.4	Delete a <b>gateways</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>VirtualGateways</b>	Read-only	Reference to collection of tenants' virtual gateways. This helps in enumerating the tenants that are dependent on this gateway.
<b>configurationState</b>	Optional Read-only	Indicates the last known running state of this gateway. See <b>configurationState</b> specification in section 2.2.4. More details are given in the section for the <b>GET</b> operation section 3.1.5.4.1.2.
<b>virtualServer</b>	Read-only	Reference to the virtual server that acts as a gateway.
<b>totalCapacity</b>	Read-only	Indicates total bandwidth capacity of the gateway when it was provisioned. This value indicates plain-text processing capacity. For example, for a 6-core VM the value will be 6 Gbps.
<b>connections</b>	Read/write	Indicates a reference to collection of all the connections on the gateway.
<b>pool</b>	Required	Indicates a reference to the <b>GatewayPools</b> resource the gateway is part of.
<b>networkInterfaces</b>	Required Read/write	Indicates the external and internal network interfaces that the <b>gateways</b> resource operates on. Both references <b>MUST</b> be present on both read and write. The references cannot be changed after the <b>gateways</b> resource is created.
<b>networkInterfaces.externalNetworkInterface</b>	Read/Write	A resource reference to a network interface with precisely one IP configuration on a logical network.

Element name	Type	Description
<b>networkInterfaces.internalNetworkInterface</b>	Read/Write	A resource reference to a network interface without any IP configurations.
<b>type</b>	Read-only	Indicates the type of pool – All, IKEv2, GRE, or forwarding.
<b>bgpConfig</b>	Read/write	Indicates the BGP peering information required for peering with Top-of-Rack (ToR) router for GRE Gateway.
<b>bgpConfig.extASNumber</b>	Read/write	Extended (4-byte) Autonomous System Number (ASN) of the local BGP Router in XX.YY format.
<b>bgpConfig.bgpPeer</b>	Read/write	Indicates information of the BGP peer.
<b>bgpConfig.bgpPeer.peerIP</b>	Read/write	IP address of the peer, in this case the ToR.
<b>bgpConfig.bgpPeer.peerExtAsNumber</b>	Read/write	Extended (4-byte) ASN of the peer BGP router in XX.YY format.

### 3.1.5.4.1 HTTP Methods

#### 3.1.5.4.1.1 PUT

This method creates a new **gateways** resource or updates an existing **gateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/gateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.4.1.1.1 Request Body

The format for the request body for the **gateways PUT** method is as follows.

```
{
  "resourceId": "CloudGw1",
  "properties": {
```

```

    "pool": {
      "resourceRef": "/GatewayPools/default"
    },
    "types": [
      "s2sipsec",
      "s2sgre",
      "forwarding",
      "vpn"
    ],
    "virtualServer": {
      "resourceRef": "/VirtualServers/CloudGw1"
    },
    "networkInterfaces": {
      "externalNetworkInterface": {
        "resourceRef": "/NetworkInterfaces/00000000-3333-0000-1111-000000000001"
      },
      "internalNetworkInterface": {
        "resourceRef": "/NetworkInterfaces/00000000-3333-0000-0000-000000000001"
      }
    },
    "bgpConfig": {
      "extASNumber": "0.1",
      "bgpPeer": [
        {
          "peerIP": "11.0.1.100",
          "peerExtAsNumber": "0.1"
        }
      ]
    }
  }
}

```

The JSON schema for the **gateways PUT** method is located in section 6.4.1.

### 3.1.5.4.1.1.2 Response Body

The same as the format for the **gateways GET** response body (section 3.1.5.4.1.2.2). The JSON schema is located in section 6.4.2.

### 3.1.5.4.1.1.3 Processing Details

Creates or updates a **gateways** resource.

### 3.1.5.4.1.2 GET

This method retrieves a **gateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/gateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.4.1.2.1 Request Body

None.

### 3.1.5.4.1.2.2 Response Body

The format for the **gateways GET** response body is as follows.

```
{
  "resourceRef": "/gateways/CloudGw1",
  "resourceId": "CloudGw1",
  "etag": "W/\"367c9147-5186-4ff5-99f6-712d9b73d022\"",
  "instanceId": "956d2556-57db-4f53-ac05-cd4f01563a6e",
  "properties": {
    "provisioningState": "Succeeded",
    "VirtualGateways": [
      {
        "virtualGateway": {
          "resourceRef": "/VirtualGateways/VirtualGateway_1"
        },
        "networkConnections": [
          {
            "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_IPSEC_1"
          },
          {
            "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_Gre_1"
          },
          {
            "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_L3_1"
          }
        ],
        "bgpRouter": {
          "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1"
        }
      },
      {
        "virtualGateway": {
          "resourceRef": "/VirtualGateways/VirtualGateway_2"
        },
        "networkConnections": [
          {
            "resourceRef":
"/VirtualGateways/VirtualGateway_2/NetworkConnections/VirtualGateway_2_IPSEC_1"
          }
        ],
        "bgpRouter": {
          "resourceRef":
"/VirtualGateways/VirtualGateway_2/BgpRouters/BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9c1f665"
        }
      },
      {
        "virtualGateway": {
          "resourceRef": "/VirtualGateways/VirtualGateway_3"
        }
      }
    ]
  }
}
```

```

        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_3/NetworkConnections/VirtualGateway_3_IPSEC_1"
            },
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_3/BgpRouters/BGP_VirtualGateway_3_366d5a41-19c9-4ec8-bd82-01a2fb9fef37"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_4"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_4/NetworkConnections/VirtualGateway_4_IPSEC_1"
            },
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_4/BgpRouters/BGP_VirtualGateway_4_b73ef149-6db2-4d60-abfc-1fc7bf6c2271"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_5"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_5/NetworkConnections/VirtualGateway_5_IPSEC_1"
            },
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_5/BgpRouters/BGP_VirtualGateway_5_7d561f64-09e0-4338-be20-49d5e812c94d"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_6"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_6/NetworkConnections/VirtualGateway_6_IPSEC_1"
            },
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_6/BgpRouters/BGP_VirtualGateway_6_78c53fcf-ac05-4e8b-ae03-775d4875fad4"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_7"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_7/NetworkConnections/VirtualGateway_7_IPSEC_1"
            },
        ],
    },

```

```

        "bgpRouter": {
          "resourceRef":
"/VirtualGateways/VirtualGateway_7/BgpRouters/BGP_VirtualGateway_7_351ddc6d-d68c-40b1-94db-
d2a5939c4eb0"
        },
      ],
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_8"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_8/NetworkConnections/VirtualGateway_8_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_8/BgpRouters/BGP_VirtualGateway_8_f4c1d9a5-b3b8-4aa0-8b7e-
c7cec321a0de"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_9"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_9/NetworkConnections/VirtualGateway_9_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_9/BgpRouters/BGP_VirtualGateway_9_6c2433ae-410f-4eb2-bd38-
3c6a4c170079"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_10"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_10/NetworkConnections/VirtualGateway_10_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_10/BgpRouters/BGP_VirtualGateway_10_b04b21a5-eab4-49e2-9770-
d98a63662c17"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_11"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_11/NetworkConnections/VirtualGateway_11_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_11/BgpRouters/BGP_VirtualGateway_11_6e83f798-f561-4f45-844e-
e6a0585930d8"
      }
    }
  ],

```



```

    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_12"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_12/NetworkConnections/VirtualGateway_12_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_12/BgpRouters/BGP_VirtualGateway_12_ef8630d4-8aac-46df-b037-0d93eb8b6a82"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_13"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_13/NetworkConnections/VirtualGateway_13_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_13/BgpRouters/BGP_VirtualGateway_13_d6efc0cd-c388-475c-b3ae-45ce38d213c9"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_14"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_14/NetworkConnections/VirtualGateway_14_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_14/BgpRouters/BGP_VirtualGateway_14_424d5a1c-654d-4279-ae22-bd2e61d050ca"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_15"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_15/NetworkConnections/VirtualGateway_15_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_15/BgpRouters/BGP_VirtualGateway_15_8f4ea52f-b2b1-4641-b554-454ef27ae9e3"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_16"
      },
      "networkConnections": [
        {

```

```

        "resourceRef":
"/VirtualGateways/VirtualGateway_16/NetworkConnections/VirtualGateway_16_IPSEC_1"
    },
    "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_16/BgpRouters/BGP_VirtualGateway_16_42df86d7-6a36-42fc-a558-9f9110b8288d"
    }
},
{
    "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_17"
    },
    "networkConnections": [
        {
            "resourceRef":
"/VirtualGateways/VirtualGateway_17/NetworkConnections/VirtualGateway_17_IPSEC_1"
        }
    ],
    "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_17/BgpRouters/BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-aeacfde18626"
    }
},
{
    "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_18"
    },
    "networkConnections": [
        {
            "resourceRef":
"/VirtualGateways/VirtualGateway_18/NetworkConnections/VirtualGateway_18_IPSEC_1"
        }
    ],
    "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_18/BgpRouters/BGP_VirtualGateway_18_0d2b38e7-79fd-4eb2-a445-8214c0da5d05"
    }
},
{
    "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_19"
    },
    "networkConnections": [
        {
            "resourceRef":
"/VirtualGateways/VirtualGateway_19/NetworkConnections/VirtualGateway_19_IPSEC_1"
        }
    ],
    "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_19/BgpRouters/BGP_VirtualGateway_19_19b87991-6ec7-4e79-8b25-b5bbac60baf6"
    }
},
{
    "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_20"
    },
    "networkConnections": [
        {
            "resourceRef":
"/VirtualGateways/VirtualGateway_20/NetworkConnections/VirtualGateway_20_IPSEC_1"
        }
    ],
    "bgpRouter": {

```

```

        "resourceRef":
"/VirtualGateways/VirtualGateway_20/BgpRouters/BGP_VirtualGateway_20_557cfc53-e621-4559-bcb1-
elf2045fbc56"
    }
  ],
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T21:34:32.1843967-07:00"
  },
  "virtualServer": {
    "resourceRef": "/virtualServers/CloudGw1"
  },
  "networkInterfaces": {
    "externalNetworkInterface": {
      "resourceRef": "/networkInterfaces/00000000-3333-0000-1111-000000000001"
    },
    "internalNetworkInterface": {
      "resourceRef": "/networkInterfaces/00000000-3333-0000-0000-000000000001"
    }
  },
  "type": "All",
  "state": "Active",
  "healthState": "Healthy",
  "totalCapacity": 104857600,
  "availableCapacity": 18636800,
  "bgpConfig": {
    "extASNumber": "0.1",
    "bgpPeer": [
      {
        "peerIP": "11.0.1.100",
        "peerExtAsNumber": "0.1"
      }
    ]
  },
  "connections": [],
  "externalIPAddress": [
    {
      "ipAddress": "27.1.1.15",
      "prefixLength": 24
    }
  ],
  "pool": {
    "resourceRef": "/GatewayPools/default"
  }
}
}

```

The JSON schema for the **gateways GET** method is located in section 6.4.2.

### 3.1.5.4.1.2.3 Processing Details

Retrieves a **gateways** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server MUST return a configuration state property **configurationState.status** set to Success if there were no errors. The server MUST return a configuration state property **configurationState.status** set to Failure if there were errors during the configuration of settings. The **configurationState.detailedInfo** contains an array of objects per the definition in section 2.2.4. The following table contains acceptable values in the response.

<b>configurationState.status</b>	<b>Code inside the configurationState.detailedInfo array</b>	<b>Description</b>
Failure	Failure	Unable to fetch properties from the virtual switch.
InProgress	HostUnreachable	Gateway cleanup is in progress.
Failure	HostUnreachable	Could not connect to the gateway.
Failure	PolicyConfigurationFailure	Could not configure policies on the gateway.

### 3.1.5.4.1.3 GET ALL

Retrieves all **gateways** resources. Lists all **gateways** resources in the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/gateways
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

<b>Status code</b>
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.4.1.3.1 Request Body

None.

#### 3.1.5.4.1.3.2 Response Body

The format for the **gateways GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/gateways/CloudGw1",
      "resourceId": "CloudGw1",
      "etag": "W/\"367c9147-5186-4ff5-99f6-712d9b73d022\"",
      "instanceId": "956d2556-57db-4f53-ac05-cd4f01563a6e",
      "properties": {
        "provisioningState": "Succeeded",
        "VirtualGateways": [
          {
            "virtualGateway": {
              "resourceRef": "/VirtualGateways/VirtualGateway_1"
            }
          }
        ]
      }
    }
  ]
}
```

```

        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_IPSEC_1"
            },
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_Gre_1"
            },
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_L3_1"
            }
        ],
        "bgpRouter": {
            "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_2"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_2/NetworkConnections/VirtualGateway_2_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_2/BgpRouters/BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9clf665"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_3"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_3/NetworkConnections/VirtualGateway_3_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_3/BgpRouters/BGP_VirtualGateway_3_366d5a41-19c9-4ec8-bd82-01a2fb9fef37"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_4"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_4/NetworkConnections/VirtualGateway_4_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_4/BgpRouters/BGP_VirtualGateway_4_b73ef149-6db2-4d60-abfc-1fc7bf6c2271"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_5"
        },
    },

```

```

        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_5/NetworkConnections/VirtualGateway_5_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_5/BgpRouters/BGP_VirtualGateway_5_7d561f64-09e0-4338-be20-49d5e812c94d"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_6"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_6/NetworkConnections/VirtualGateway_6_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_6/BgpRouters/BGP_VirtualGateway_6_78c53fcf-ac05-4e8b-ae03-775d4875fad4"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_7"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_7/NetworkConnections/VirtualGateway_7_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_7/BgpRouters/BGP_VirtualGateway_7_351ddc6d-d68c-40b1-94db-d2a5939c4eb0"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_8"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_8/NetworkConnections/VirtualGateway_8_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_8/BgpRouters/BGP_VirtualGateway_8_f4c1d9a5-b3b8-4aa0-8b7e-c7cec321a0de"
        }
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_9"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_9/NetworkConnections/VirtualGateway_9_IPSEC_1"
            }
        ],
    },

```

```

        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_9/BgpRouters/BGP_VirtualGateway_9_6c2433ae-410f-4eb2-bd38-3c6a4c170079"
        },
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_10"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_10/NetworkConnections/VirtualGateway_10_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_10/BgpRouters/BGP_VirtualGateway_10_b04b21a5-eab4-49e2-9770-d98a63662c17"
        },
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_11"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_11/NetworkConnections/VirtualGateway_11_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_11/BgpRouters/BGP_VirtualGateway_11_6e83f798-f561-4f45-844e-e6a0585930d8"
        },
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_12"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_12/NetworkConnections/VirtualGateway_12_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_12/BgpRouters/BGP_VirtualGateway_12_ef8630d4-8aac-46df-b037-0d93eb8b6a82"
        },
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_13"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_13/NetworkConnections/VirtualGateway_13_IPSEC_1"
            }
        ],
        "bgpRouter": {
            "resourceRef":
"/VirtualGateways/VirtualGateway_13/BgpRouters/BGP_VirtualGateway_13_d6efc0cd-c388-475c-b3ae-45ce38d213c9"
        },
    },
}

```

```

    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_14"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_14/NetworkConnections/VirtualGateway_14_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_14/BgpRouters/BGP_VirtualGateway_14_424d5a1c-654d-4279-ae22-
bd2e61d050ca"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_15"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_15/NetworkConnections/VirtualGateway_15_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_15/BgpRouters/BGP_VirtualGateway_15_8f4ea52f-b2b1-4641-b554-
454ef27ae9e3"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_16"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_16/NetworkConnections/VirtualGateway_16_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_16/BgpRouters/BGP_VirtualGateway_16_42df86d7-6a36-42fc-a558-
9f9110b8288d"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_17"
      },
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_17/NetworkConnections/VirtualGateway_17_IPSEC_1"
        }
      ],
      "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_17/BgpRouters/BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-
aeacfdel8626"
      }
    },
    {
      "virtualGateway": {
        "resourceRef": "/VirtualGateways/VirtualGateway_18"
      },
      "networkConnections": [
        {

```



```

        "resourceRef":
"/VirtualGateways/VirtualGateway_18/NetworkConnections/VirtualGateway_18_IPSEC_1"
    },
    "bgpRouter": {
        "resourceRef":
"/VirtualGateways/VirtualGateway_18/BgpRouters/BGP_VirtualGateway_18_0d2b38e7-79fd-4eb2-a445-8214c0da5d05"
    },
    {
        "virtualGateway": {
            "resourceRef": "/VirtualGateways/VirtualGateway_19"
        },
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_19/NetworkConnections/VirtualGateway_19_IPSEC_1"
            },
            "bgpRouter": {
                "resourceRef":
"/VirtualGateways/VirtualGateway_19/BgpRouters/BGP_VirtualGateway_19_19b87991-6ec7-4e79-8b25-b5bbac60baf6"
            },
            {
                "virtualGateway": {
                    "resourceRef": "/VirtualGateways/VirtualGateway_20"
                },
                "networkConnections": [
                    {
                        "resourceRef":
"/VirtualGateways/VirtualGateway_20/NetworkConnections/VirtualGateway_20_IPSEC_1"
                    },
                    "bgpRouter": {
                        "resourceRef":
"/VirtualGateways/VirtualGateway_20/BgpRouters/BGP_VirtualGateway_20_557cfc53-e621-4559-bcb1-elf2045f56"
                    },
                    }
                ],
                "configurationState": {
                    "status": "Success",
                    "lastUpdatedTime": "2016-06-15T21:34:32.1843967-07:00"
                },
                "virtualServer": {
                    "resourceRef": "/virtualServers/CloudGw1"
                },
                "networkInterfaces": {
                    "externalNetworkInterface": {
                        "resourceRef": "/networkInterfaces/00000000-3333-0000-1111-000000000001"
                    },
                    "internalNetworkInterface": {
                        "resourceRef": "/networkInterfaces/00000000-3333-0000-0000-000000000001"
                    }
                },
                "type": "All",
                "state": "Active",
                "healthState": "Healthy",
                "totalCapacity": 104857600,
                "availableCapacity": 18636800,
                "bgpConfig": {
                    "extASNumber": "0.1",
                    "bgpPeer": [
                        {
                            "peerIP": "11.0.1.100",
                            "peerExtAsNumber": "0.1"
                        }
                    ]
                }
            }
        ]
    }
}

```

```

    ]
  },
  "connections": [],
  "externalIPAddress": [
    {
      "ipAddress": "27.1.1.15",
      "prefixLength": 24
    }
  ],
  "pool": {
    "resourceRef": "/GatewayPools/default"
  }
}
],
"nextLink": ""
}

```

The JSON schema for the **gateways GET ALL** method is located in section 6.4.3.

### 3.1.5.4.1.3.3 Processing Details

Retrieves all **gateways** resources.

### 3.1.5.4.1.4 DELETE

This method deletes a **gateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/gateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.4.1.4.1 Request Body

None.

### 3.1.5.4.1.4.2 Response Body

None.

### 3.1.5.4.1.4.3 Processing Details

Deletes a **gateways** resource.

### 3.1.5.5 (Updated Section) loadBalancers

The **loadBalancers** resource allows fine-grained configuration of the distribution of incoming traffic across VM instances that are hosted in the environment managed by the server. This resource has two main parts: a frontend and a backend configuration.

The frontend configuration exposes the IP address of the load balancer. For example, this address can be a reserved public or private IP address previously provided to the client, or it can be an IP address that is dynamically allocated from a subnet of a virtual network.

The backend configuration identifies the tenant workload VMs to which the traffic will be delivered.

**Probes** define how the loadBalancer determines the health of a specific VM instance or endpoint of that instance. The loadBalancer sends traffic to a VM instance or endpoint only if the VM instance or endpoint was determined to be healthy.

A load balancing rule refers to a frontend configuration, a backend configuration and optionally to a **probes** resource to create a mapping between Virtual IP and a set of workload VMs. Traffic directed to the VIP is then load-balanced onto one of the workload VMs.

The loadBalancer uses a distribution algorithm to map traffic to available servers. The algorithm is a 5-tuple hash based on source IP, source port, destination IP, destination port, and protocol type. It provides stickiness only within a transport session, which is a feature that routes the requests for a specific session to the same physical machine that serviced the first request for that session.

Packets in the same TCP or UDP session will be directed to the same datacenter IP instance behind the load balanced endpoint. When the client closes and re-opens the connection or starts a new session from the same source IP, the source port changes and causes the traffic to go to a different datacenter IP endpoint.

The loadBalancer can be configured to use a 2-tuple (Source IP, Destination IP) or 3-tuple (Source IP, Destination IP, Protocol) to map traffic to the available servers. By using SourceIPProtocol, connections initiated from the same client computer go to the same datacenter IP endpoint.

#### Linkage to Other Resources

When a port of a specific frontend IP address sends traffic to the **loadBalancers** resource, the **loadBalancers** resource distributes the traffic to a specific port of a set of backend IP addresses. The backend IP addresses are associated with network interface cards (NICs) of VMs. Backend IP addresses in the **loadBalancers** resource are specified as references to these private IPs.

A public IP address can be associated with the private frontend IP of the **loadBalancers** resource by setting an ipConfigurationRef on the **publicIPAddresses** resource.

The resources that MUST be unique in the context of the parent **loadBalancers** resource are: **backendAddressPools**, **frontendIPConfigurations**, **inboundNatRules**, **loadBalancingRules**, **outboundNatRules**, **probe**.

The **loadBalancers** resource is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId**: the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1** or **later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.1.4	Create a new <b>loadBalancers</b> resource or update an existing <b>loadBalancers</b> resource.
<b>GET</b>	3.1.5.5.1.2	Get one <b>loadBalancers</b> resource.
<b>GET ALL</b>	3.1.5.5.1.3	List all <b>loadBalancers</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.1.1	Delete a <b>loadBalancers</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>backendAddressPools</b>	Optional	Indicates the backend Address Pool of the load balancer, see section 3.1.5.5.2 for full details on this element.
<b>frontendIPConfigurations</b>	Required	Indicates the frontend IP addresses of the load balancer, see section 3.1.5.5.3 for full details on this element.
<b>loadBalancingRules</b>	Optional	A list of load balancing configurations. Each configuration describes what traffic and how it gets load balanced between backend IPs.
<b>inboundNatRules</b>	Optional	Indicates an array of inbound NAT rules configured for the load balancer, see section 3.1.5.5.4 for full details on this element.
<b>outboundNatRules</b>	Optional	Indicates an array of outbound NAT rules configured for the load balancer, see section 3.1.5.5.6 for full details on this element.
<b>probes</b>	Optional	Indicates an array of <b>probes</b> configured for the load balancer, see section 3.1.5.5.7 for full details on this element.

### 3.1.5.5.1 HTTP Methods

#### 3.1.5.5.1.1 PUT

This method creates a new **loadBalancers** resource or updates an existing **loadBalancers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.5.1.1.1 Request Body

The format for the request body for the **loadBalancers PUT** method is as follows.

```
{
  "resourceRef": "/loadBalancers/",
  "resourceId": "ee396509-27d3-44f9-849c-f6ed28d59f66",
  "instanceId": "00000000-0000-0000-0000-000000000000",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-
f6ed28d59f66/frontendIPConfigurations/30951b82-73dc-4223-9fd6-c11676fdcde0",
        "resourceId": "30951b82-73dc-4223-9fd6-c11676fdcde0",
        "instanceId": "60fff655-907b-41f7-9ea4-623cdb261137",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "10.0.21.22",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/4b14f3a1-ed8d-4647-b370-
2ae3ff227b9a/subnets/6d290ba5-f642-49bc-9cab-1478d76a8565"
          },
          "loadBalancingRules": [],
          "inboundNatRules": [],
          "outboundNatRules": []
        }
      }
    ],
    "backendAddressPools": [
      {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-
f6ed28d59f66/backendAddressPools/ab3e87bd-6d7a-4204-b895-5953cc52edd7",
        "resourceId": "ab3e87bd-6d7a-4204-b895-5953cc52edd7",
        "instanceId": "85ae7f16-8e2d-430c-88f0-5f77e4209098",
        "properties": {
```

```

        "provisioningState": "Succeeded",
        "backendIPConfigurations": [],
        "outboundNatRules": [],
        "loadBalancingRules": []
    }
},
"loadBalancingRules": [
    {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/loadBalancingRules/2ea746ea-968f-41f2-8bfa-71d2391ef752",
        "resourceId": "2ea746ea-968f-41f2-8bfa-71d2391ef752",
        "instanceId": "2844edde-b297-429f-927a-f2de89e0ff3b",
        "properties": {
            "provisioningState": "Succeeded",
            "frontendIPConfigurations": [
                {
                    "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/frontendIPConfigurations/30951b82-73dc-4223-9fd6-c11676fdcde0"
                }
            ],
            "protocol": "Tcp",
            "frontendPort": 2003,
            "backendPort": 2003,
            "enableFloatingIP": false,
            "idleTimeoutInMinutes": 4,
            "backendAddressPool": {
                "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/backendAddressPools/ab3e87bd-6d7a-4204-b895-5953cc52edd7"
            },
            "loadDistribution": "Default"
        }
    }
},
"probes": [
    {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/probes/9a73ea99-99be-4ca6-8f20-f9b070477742",
        "resourceId": "9a73ea99-99be-4ca6-8f20-f9b070477742",
        "instanceId": "0ca5aae2-ec9a-4fdc-9bd1-963f609e5ff7",
        "properties": {
            "provisioningState": "Succeeded",
            "protocol": "Tcp",
            "port": 55555,
            "intervalInSeconds": 30,
            "numberOfProbes": 1,
            "loadBalancingRules": []
        }
    }
},
"outboundNatRules": [
    {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/outboundNatRules/5cf81a74-9922-4f0d-8a05-b3a9d6f0db9d",
        "resourceId": "5cf81a74-9922-4f0d-8a05-b3a9d6f0db9d",
        "instanceId": "429ea927-d1c0-4e10-9ce7-c27fb57302a5",
        "properties": {
            "provisioningState": "Succeeded",
            "frontendIPConfigurations": [
                {
                    "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/frontendIPConfigurations/30951b82-73dc-4223-9fd6-c11676fdcde0"
                }
            ],
            "protocol": "All",
            "backendAddressPool": {
                "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/backendAddressPools/ab3e87bd-6d7a-4204-b895-5953cc52edd7"
            }
        }
    }
}

```

```
}
  ]
}
}
```

The JSON schema for the **loadBalancers PUT** method is located in section 6.5.1.

### 3.1.5.5.1.1.2 Response Body

The format for the PUT **loadBalancers** response body is the same as the format for the **GET loadBalancers** response body (section 3.1.5.5.1.2.2). The JSON schema is located in section 6.5.2.

### 3.1.5.5.1.1.3 Processing Details

Create a new **loadBalancers** resource or update an existing **loadBalancers** resource.

### 3.1.5.5.1.2 GET

This method retrieves a **loadBalancers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.5.1.2.1 Request Body

None.

### 3.1.5.5.1.2.2 Response Body

The format for the response body for the **loadBalancers GET** method is as follows.

```
{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098",
  "resourceId": "0cac5f8a-9d5c-455a-a971-2682d597e098",
  "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
  "instanceId": "d91f4951-faf7-4a15-a84a-8a9f6dffaff8",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57",
```

```

"resourceId": "5187779d-c61c-44d2-87be-fa69ac2d9d57",
"etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
"instanceId": "3902a530-9639-4759-9bbf-9bab6675593a",
"properties": {
  "provisioningState": "Succeeded",
  "privateIPAddress": "22.0.0.22",
  "privateIPAllocationMethod": "Static",
  "subnet": {
    "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
  },
  "loadBalancingRules": [
    {
      "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/loadBalancingRules/2ea746ea-968f-41f2-8bfa-71d2391ef752"
    }
  ],
  "inboundNatRules": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9"
    }
  ],
  "outboundNatRules": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
    }
  ]
}
},
{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018",
  "resourceId": "94c568d8-d839-431a-aed4-a5c178356018",
  "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
  "instanceId": "d896da12-37f2-4e36-b229-7278a672a0ac",
  "properties": {
    "provisioningState": "Succeeded",
    "privateIPAddress": "22.0.0.23",
    "privateIPAllocationMethod": "Static",
    "subnet": {
      "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
    },
    "loadBalancingRules": [],
    "inboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000"
      }
    ],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
      }
    ]
  }
}
],
"backendAddressPools": [
  {
    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71",
    "resourceId": "b32b5ef0-5332-49a8-b383-f91090135f71",
    "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
    "instanceId": "f980604c-258c-4d60-8be4-559edd085384",
    "properties": {
      "provisioningState": "Succeeded",

```



```

    "backendIPConfigurations": [
      {
        "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
      },
      {
        "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
      }
    ],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
      }
    ],
    "loadBalancingRules": [
      {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/loadBalancingRules/2ea746ea-968f-41f2-8bfa-71d2391ef752"
      }
    ]
  },
  "probes": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/probes/9f940e29-1d25-44fc-88d3-c81151a0344e",
      "resourceId": "9f940e29-1d25-44fc-88d3-c81151a0344e",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "0da65588-247b-475b-bd1a-7ead0bala182",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "Tcp",
        "port": 55555,
        "intervalInSeconds": 30,
        "numberOfProbes": 1,
        "loadBalancingRules": []
      }
    }
  ],
  "inboundNatRules": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9",
      "resourceId": "fc44af15-be82-46c5-b75a-3e89ccd792a9",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "a748c5db-e2fd-4335-8c89-280b78d2511c",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendIPConfiguration": {
          "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
        }
      }
    }
  ],
  {

```

```

    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000",
    "resourceId": "0e5ed8cf-60fb-40f4-b02a-90932d4de000",
    "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
    "instanceId": "e8c59538-e641-4796-968d-50c4e11225e7",
    "properties": {
      "provisioningState": "Succeeded",
      "frontendIPConfigurations": [
        {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
        }
      ],
      "protocol": "Tcp",
      "frontendPort": 2003,
      "backendPort": 2003,
      "enableFloatingIP": false,
      "idleTimeoutInMinutes": 4,
      "backendIPConfiguration": {
        "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
      }
    }
  ],
  "outboundNatRules": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160",
      "resourceId": "49053c15-2d0f-45a2-8148-be8615282160",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "c4000c95-7f90-4bb4-b68d-b2bc9c1dfc3e",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          },
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
          }
        ],
        "protocol": "All",
        "backendAddressPool": {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71"
        }
      }
    }
  ],
  "loadBalancingRules": [
    {
      "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/loadBalancingRules/2ea746ea-968f-41f2-8bfa-71d2391ef752",
      "resourceId": "2ea746ea-968f-41f2-8bfa-71d2391ef752",
      "instanceId": "2844edde-b297-429f-927a-f2de89e0ff3b",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,

```

```

        "idleTimeoutInMinutes": 4,
        "backendAddressPool": {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-
2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71"
        },
        "loadDistribution": "Default"
    }
}
]
}
}

```

The JSON schema for the **loadBalancers GET** method is located in section 6.5.2.

### 3.1.5.5.1.2.3 Processing Details

Retrieves a **loadBalancers** resource.

#### 3.1.5.5.1.3 GET ALL

This method retrieves all **loadBalancers** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.5.1.3.1 Request Body

None.

#### 3.1.5.5.1.3.2 Response Body

The format for the response body for the **loadBalancers GET ALL** method is as follows.

```

{
  "value": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098",
      "resourceId": "0cac5f8a-9d5c-455a-a971-2682d597e098",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "d91f4951-faf7-4a15-a84a-8a9f6dffaff8",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {

```

```

        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57",
        "resourceId": "5187779d-c61c-44d2-87be-fa69ac2d9d57",
        "etag": "W/\fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
        "instanceId": "3902a530-9639-4759-9bbf-9bab6675593a",
        "properties": {
            "provisioningState": "Succeeded",
            "privateIPAddress": "22.0.0.22",
            "privateIPAllocationMethod": "Static",
            "subnet": {
                "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
            },
            "loadBalancingRules": [],
            "inboundNatRules": [
                {
                    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9"
                }
            ],
            "outboundNatRules": [
                {
                    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
                }
            ]
        }
    },
    {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018",
        "resourceId": "94c568d8-d839-431a-aed4-a5c178356018",
        "etag": "W/\fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
        "instanceId": "d896da12-37f2-4e36-b229-7278a672a0ac",
        "properties": {
            "provisioningState": "Succeeded",
            "privateIPAddress": "22.0.0.23",
            "privateIPAllocationMethod": "Static",
            "subnet": {
                "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
            },
            "loadBalancingRules": [],
            "inboundNatRules": [
                {
                    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000"
                }
            ],
            "outboundNatRules": [
                {
                    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
                }
            ]
        }
    }
],
"backendAddressPools": [
    {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71",
        "resourceId": "b32b5ef0-5332-49a8-b383-f91090135f71",
        "etag": "W/\fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
        "instanceId": "f980604c-258c-4d60-8be4-559edd085384",
        "properties": {
            "provisioningState": "Succeeded",
            "backendIPConfigurations": [
                {

```

```

        "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
      },
      {
        "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
      }
    ],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
      }
    ],
    "loadBalancingRules": []
  }
},
"probes": [
  {
    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/probes/9f940e29-1d25-44fc-88d3-c81151a0344e",
    "resourceId": "9f940e29-1d25-44fc-88d3-c81151a0344e",
    "etag": "W/\\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\\"",
    "instanceId": "0da65588-247b-475b-bd1a-7ead0bala182",
    "properties": {
      "provisioningState": "Succeeded",
      "protocol": "Tcp",
      "port": 55555,
      "intervalInSeconds": 30,
      "numberOfProbes": 1,
      "loadBalancingRules": []
    }
  }
],
"inboundNatRules": [
  {
    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9",
    "resourceId": "fc44af15-be82-46c5-b75a-3e89ccd792a9",
    "etag": "W/\\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\\"",
    "instanceId": "a748c5db-e2fd-4335-8c89-280b78d2511c",
    "properties": {
      "provisioningState": "Succeeded",
      "frontendIPConfigurations": [
        {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
        }
      ],
      "protocol": "Tcp",
      "frontendPort": 2003,
      "backendPort": 2003,
      "enableFloatingIP": false,
      "idleTimeoutInMinutes": 4,
      "backendIPConfiguration": {
        "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
      }
    }
  },
  {
    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000",
    "resourceId": "0e5ed8cf-60fb-40f4-b02a-90932d4de000",
    "etag": "W/\\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\\"",
    "instanceId": "e8c59538-e641-4796-968d-50c4e11225e7",
    "properties": {
      "provisioningState": "Succeeded",
      "frontendIPConfigurations": [

```

```

        {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
        }
      ],
      "protocol": "Tcp",
      "frontendPort": 2003,
      "backendPort": 2003,
      "enableFloatingIP": false,
      "idleTimeoutInMinutes": 4,
      "backendIPConfiguration": {
        "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
      }
    }
  ],
  "outboundNatRules": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160",
      "resourceId": "49053c15-2d0f-45a2-8148-be8615282160",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "c4000c95-7f90-4bb4-b68d-b2bc9c1dfc3e",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          },
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
          }
        ],
        "protocol": "All",
        "backendAddressPool": {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71"
        }
      }
    }
  ],
  {
    "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-e0fe1f42ccea1",
    "resourceId": "d2251a0d-32d2-457e-b3aa-e0fe1f42ccea1",
    "etag": "W/\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
    "instanceId": "b32d0db3-13db-431a-a265-32185aa5a905",
    "properties": {
      "provisioningState": "Succeeded",
      "frontendIPConfigurations": [
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-e0fe1f42ccea1/frontendIPConfigurations/9f37a479-7d60-489a-aab6-d7eb2200306f",
          "resourceId": "9f37a479-7d60-489a-aab6-d7eb2200306f",
          "etag": "W/\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
          "instanceId": "51b57d2a-80da-464a-988a-4a805bd1d875",
          "properties": {
            "provisioningState": "Succeeded",
            "privateIPAddress": "21.0.0.23",
            "privateIPAllocationMethod": "Static",
            "subnet": {
              "resourceRef": "/logicalNetworks/9c1b2b61-dec2-49e3-b573-c2ecff57893d/subnets/a4f7c90b-6056-4dff-97fb-f46211ecdc10"
            }
          },
          "loadBalancingRules": [],
          "inboundNatRules": [

```

```

        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/inboundNatRules/d076eae7-926a-457a-a60c-0a713a02977d"
        }
      ],
      "outboundNatRules": [
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388"
        }
      ]
    }
  },
  {
    "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/frontendIPConfigurations/ab5ccbe7-2ce9-4cdf-a0da-e4e5d81479d8",
    "resourceId": "ab5ccbe7-2ce9-4cdf-a0da-e4e5d81479d8",
    "etag": "W/\72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\\"",
    "instanceId": "fe6adbed-8b73-4fc2-82cd-191143753c4a",
    "properties": {
      "provisioningState": "Succeeded",
      "privateIPAddress": "21.0.0.24",
      "privateIPAllocationMethod": "Static",
      "subnet": {
        "resourceRef": "/logicalNetworks/9c1b2b61-dec2-49e3-b573-
c2ecff57893d/subnets/a4f7c90b-6056-4dff-97fb-f46211ecdc10"
      },
      "loadBalancingRules": [],
      "inboundNatRules": [
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/inboundNatRules/425eea91-5a9e-4777-b2c3-0442dfc20344"
        }
      ],
      "outboundNatRules": [
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388"
        }
      ]
    }
  }
],
"backendAddressPools": [
  {
    "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/backendAddressPools/db1fa644-bd00-4c05-b11b-f5f07bfed86b",
    "resourceId": "db1fa644-bd00-4c05-b11b-f5f07bfed86b",
    "etag": "W/\72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\\"",
    "instanceId": "b638b320-5569-444f-9adf-78a683072269",
    "properties": {
      "provisioningState": "Succeeded",
      "backendIPConfigurations": [
        {
          "resourceRef": "/networkInterfaces/add9dac6-ddcc-4108-8543-
e167c0a8d9dc/ipConfigurations/2e8a0316-66a6-4a3e-bd86-89b0e43b080f"
        },
        {
          "resourceRef": "/networkInterfaces/b3dc7295-7144-4f6e-8235-
35d88b917482/ipConfigurations/581ab448-8e6f-436c-9dec-43366a9817dd"
        }
      ],
      "outboundNatRules": [
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388"
        }
      ],
      "loadBalancingRules": []
    }
  }
]

```

```

    }
  ],
  "probes": [
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/probes/ddb4dab8-b1eb-4476-90ca-948697240317",
      "resourceId": "ddb4dab8-b1eb-4476-90ca-948697240317",
      "etag": "W/\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
      "instanceId": "18336b2f-8b2e-4bf2-a196-99009ec8feb8",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "Tcp",
        "port": 55555,
        "intervalInSeconds": 30,
        "numberOfProbes": 1,
        "loadBalancingRules": []
      }
    }
  ],
  "inboundNatRules": [
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/inboundNatRules/d076eae7-926a-457a-a60c-0a713a02977d",
      "resourceId": "d076eae7-926a-457a-a60c-0a713a02977d",
      "etag": "W/\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
      "instanceId": "4be2c156-cbcb-466d-a8fe-865bc9f0045d",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/frontendIPConfigurations/9f37a479-7d60-489a-aab6-d7eb2200306f"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendIPConfiguration": {
          "resourceRef": "/networkInterfaces/b3dc7295-7144-4f6e-8235-
35d88b917482/ipConfigurations/581ab448-8e6f-436c-9dec-43366a9817dd"
        }
      }
    },
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/inboundNatRules/425eea91-5a9e-4777-b2c3-0442dfc20344",
      "resourceId": "425eea91-5a9e-4777-b2c3-0442dfc20344",
      "etag": "W/\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
      "instanceId": "ae841775-a3b2-454e-bd69-b78a298ca7bf",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/frontendIPConfigurations/ab5ccbe7-2ce9-4cdf-a0da-e4e5d81479d8"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendIPConfiguration": {
          "resourceRef": "/networkInterfaces/add9dac6-ddcc-4108-8543-
e167c0a8d9dc/ipConfigurations/2e8a0316-66a6-4a3e-bd86-89b0e43b080f"
        }
      }
    }
  ]
}

```



```

    ],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388",
        "resourceId": "f3f3291d-b26c-44d3-8d55-99b644b70388",
        "etag": "W/\\"72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\\"",
        "instanceId": "f5065c75-ab45-4e5b-bb76-fb69667bf5d6",
        "properties": {
          "provisioningState": "Succeeded",
          "frontendIPConfigurations": [
            {
              "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/frontendIPConfigurations/9f37a479-7d60-489a-aab6-d7eb2200306f"
            },
            {
              "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/frontendIPConfigurations/ab5ccbe7-2ce9-4cdf-a0da-e4e5d81479d8"
            }
          ],
          "protocol": "All",
          "backendAddressPool": {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/backendAddressPools/db1fa644-bd00-4c05-b11b-f5f07bfed86b"
          }
        }
      }
    ]
  },
  "nextLink": ""
}

```

The JSON schema for the **loadBalancers GET ALL** method is located in section 6.5.3.

### 3.1.5.5.1.3.3 Processing Details

Retrieves all **loadBalancers** resources.

#### 3.1.5.5.1.4 DELETE

This method deletes a **loadBalancers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
204 (No Content)

Status code
412 (Precondition Failed)

### 3.1.5.5.1.4.1 Request Body

None.

### 3.1.5.5.1.4.2 Response Body

None.

### 3.1.5.5.1.4.3 Processing Details

Deletes a **loadBalancers** resource.

### 3.1.5.5.2 (Updated Section) backendAddressPools

A **backendAddressPools** resource represents the list of IPs that can receive network traffic that comes via the front-end IPs. The load Balancing MUX handles incoming traffic via the front-end IPs and distributes them to backend IPs based on load balancing configuration.

The URI for it is invoked through the ~~resource is as follows~~ following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/backendAddressPools/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides v1~~ or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.2.1.1	Create a new <b>backendAddressPools</b> resource or update an existing <b>backendAddressPools</b> resource.
<b>GET</b>	3.1.5.5.2.1.2	Get one <b>backendAddressPools</b> resource.
<b>GET ALL</b>	3.1.5.5.2.1.3	List all <b>backendAddressPools</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.2.1.4	Delete a <b>backendAddressPools</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.

Element name	Type	Description
<b>backendIPConfigurations</b>	Read-only	Indicates an array of references to <b>ipConfigurations</b> resources. There is no restriction on having the same <b>ipConfigurations</b> in multiple <b>backendAddressPools</b> . An IP configuration can become a part of a backendAddressPool by setting a reference to a <b>backendAddressPools</b> resource in the <b>loadBalancerBackendAddressPools</b> array field on the <b>ipConfigurations</b> resource.
<b>loadBalancingRules</b>	Read-only	Indicates an array of references to the set of <b>loadBalancingRules</b> resources that use this backend address pool.
<b>outboundNatRules</b>	Read-only	Indicates an array of references to the set of <b>outboundNatRules</b> resources that use this backend address pool.

### 3.1.5.5.2.1 HTTP Methods

#### 3.1.5.5.2.1.1 PUT

This method creates a new **backendAddressPools** resource or updates an existing **backendAddressPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/backendAddressPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.5.2.1.1.1 Request Body

The format for the request body for the **backendAddressPools PUT** method is as follows.

```
{
  "resourceId": "b32b5ef0-5332-49a8-b383-f91090135f71",
  "properties": {
    "backendIPConfigurations": [],
    "outboundNatRules": [
      {
```

```

        "resourceRef": "/loadBalancers/6fb51980-ae9f-40c0-a0a0-
bccdea506b0f/outboundNatRules/b056293e-8bf0-4de4-b51c-497422b81433"
    },
    "loadBalancingRules": [
        {
            "resourceRef": "/loadBalancers/6fb51980-ae9f-40c0-a0a0-
bccdea506b0f/loadBalancingRules/36c02dfc-9462-4484-b539-cb2dfd317f86"
        }
    ]
}
}
}

```

The JSON schema for the **backendAddressPools PUT** method is located in section 6.5.4.1.

### 3.1.5.5.2.1.1.2 Response Body

The format for the **backendAddressPools PUT** response body is the same as the format for the **backendAddressPools GET** response body (section 3.1.5.5.2.1.2.2). The JSON schema is located in section 6.5.4.2.

### 3.1.5.5.2.1.1.3 Processing Details

Create a new **backendAddressPools** resource or update an existing **backendAddressPools** resource.

### 3.1.5.5.2.1.2 GET

This method retrieves a **backendAddressPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/backendAddressPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.5.2.1.2.1 Request Body

None.

### 3.1.5.5.2.1.2.2 Response Body

The format for the response body for the **backendAddressPools GET** method is as follows.

```
{
```

```

    "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71",
    "resourceId": "b32b5ef0-5332-49a8-b383-f91090135f71",
    "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
    "instanceId": "f980604c-258c-4d60-8be4-559edd085384",
    "properties": {
      "provisioningState": "Succeeded",
      "backendIPConfigurations": [
        {
          "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
        },
        {
          "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
        }
      ],
      "outboundNatRules": [
        {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
        }
      ],
      "loadBalancingRules": []
    }
  }
}

```

The JSON schema for the **backendAddressPools GET** method is located in section 6.5.4.2.

### 3.1.5.5.2.1.2.3 Processing Details

Retrieves a **backendAddressPools** resource.

#### 3.1.5.5.2.1.3 GET ALL

This method retrieves all **backendAddressPools** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/backendAddressPools
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.5.2.1.3.1 Request Body

None.

#### 3.1.5.5.2.1.3.2 Response Body

The format for the response body for the **backendAddressPools GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71",
      "resourceId": "b32b5ef0-5332-49a8-b383-f91090135f71",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "f980604c-258c-4d60-8be4-559edd085384",
      "properties": {
        "provisioningState": "Succeeded",
        "backendIPConfigurations": [
          {
            "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
          },
          {
            "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
          }
        ],
        "outboundNatRules": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
          }
        ],
        "loadBalancingRules": []
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **backendAddressPools GET ALL** method is located in section 6.5.4.3.

### 3.1.5.5.2.1.3.3 Processing Details

Retrieves all **backendAddressPools** resources.

### 3.1.5.5.2.1.4 DELETE

This method deletes a **backendAddressPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/backendAddressPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

Status code
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.5.2.1.4.1 Request Body

None.

#### 3.1.5.5.2.1.4.2 Response Body

None.

#### 3.1.5.5.2.1.4.3 Processing Details

Deletes a **backendAddressPools** resource.

### 3.1.5.5.3 (Updated Section) frontendIPConfigurations

The **frontendIPConfigurations** resource represents the frontend IP addresses of the load balancer. Either a **publicIPAddress** or a **privateIPAddress** and subnet MUST be configured.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/frontendIPConfigurations/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.3.1.1	Create a new <b>frontendIPConfigurations</b> resource or update an existing <b>frontendIPConfigurations</b> resource.
<b>GET</b>	3.1.5.5.3.1.2	Get one <b>frontendIPConfigurations</b> resource.
<b>GET ALL</b>	3.1.5.5.3.1.3	List all <b>frontendIPConfigurations</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.3.1.4	Deletes a <b>frontendIPConfigurations</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>inboundNatRules</b>	Read-only	Indicates a reference to the <b>inboundNatRules</b> resource used by the <b>frontEndIPConfigurations</b> resource.
<b>loadBalancingRules</b>	Read-only	Indicates a reference to the <b>loadBalancingRules</b> resource used by the <b>frontEndIPConfigurations</b> resource.
<b>outboundNatRules</b>	Read-only	Indicates a reference to the <b>outboundNatRules</b> resource used by the <b>frontEndIPConfigurations</b> resource.
<b>publicIPAddress</b>	Optional	Indicates a reference to the <b>publicIPAddresses</b> resource (section 3.1.5.14) used by the <b>frontEndIPConfigurations</b> resource. If a <b>publicIPAddress</b> is specified, then a <b>privateIPAddress</b> is not specified. When a <b>publicIPAddress</b> is specified, the <b>privateIPAllocationMethod</b> is set to Dynamic. IPv6 addresses are supported with URI version v2 or later.
<b>privateIPAddress</b>	Optional	This is only specified if a specific private IP address identifies an IP address which is statically configured for use with this <b>frontEndIPConfigurations</b> resource. The <b>privateIPAllocationMethod</b> MUST be allocated static for this case. If a <b>privateIPAddress</b> is specified, a reference to a <b>publicIPAddress</b> cannot be specified at the same time. The private IP address can be either from the infrastructure address space or from a tenant address space, in either case they MUST be accompanied with a valid subnet specified in the <b>subnet</b> element reference. IPv6 addresses are supported with URI version v2 or later.
<b>privateIPAllocationMethod</b>	Optional	Static or Dynamic
<b>subnet</b>	Optional	Indicates a reference to the <b>subnet</b> resource used by the <b>frontEndIPConfigurations</b> resource. MUST be specified if a



Element name	Type	Description
		<p><b>privateIPAddress</b> is specified.</p> <p>A subnet reference to a logical network subnet is needed if the <b>privateIPAddress</b> is from the infrastructure address space. A subnet reference to a virtual network subnet is needed if the <b>privateIPAddress</b> is from a tenant address space.</p> <p>The subnet MUST include the IP address specified in <b>privateIPAddress</b>.</p>
<b>configurationState</b>	Read-only	<p>A <b>LoadBalancerVipConfigurationState</b> structure that represents the running state of a VIP endpoint. This structure extends the base <b>configurationState</b> (section 2.2.4) and adds a</p> <p><b>LoadBalancerVipEndPointConfigurationState</b> type array that is a list of <b>VipEndpointStates</b>. More details are given in the section for the <b>GET</b> operation section 3.1.5.5.3.1.2.</p> <p>This property is supported with URI version v2 or later.</p>
<b>configurationState.vipEndpointStates</b>	Read-only	<p>An array that contains the <b>configurationState</b> of the VIP endpoints (<b>privateIPAddress</b>) associated with the <b>frontendIPConfigurations</b> resource in <b>loadBalancers</b> resource or the VIP endpoints (<b>ipAddress</b>) associated with the <b>publicIPAddresses</b> resource.</p>
<b>configurationState.vipEndpointStates.vipEndpoint</b>	Read-only	Virtual IP endpoint.
<b>configurationState.vipEndpointStates.dipEndpointStates</b>	Read-only	<p>An array that contains the <b>configurationState</b> of the DIP endpoints associated with:</p> <ol style="list-style-type: none"> <li>the VIP endpoints (<b>privateIPAddress</b>) associated with the <b>frontendIPConfigurations</b> resource in <b>loadBalancers</b> resource, or</li> <li>the VIP endpoints (<b>ipAddress</b>) associated with the <b>publicIPAddresses</b> resource.</li> </ol>
<b>configurationState.vipEndpointStates.dipEndpointStates.dipEndpoint</b>	Read-only	Contextual information about the load-balanced dip endpoint for which the associated state is presented. Formatted as "IPAddress:Port".
<b>configurationState.vipEndpointStates.dipEndpointStates.hostIPAddress</b>	Read-only	The host server's IP address from which the fault state is being provided. See <b>servers</b> resource section 3.1.5.15

Element name	Type	Description
<b>configurationState.vipEndpointStates.dipEndpointStates.hostId</b>	Read-only	Unique identifier for the server for which the fault state is being provided for, see <b>servers</b> resource.
<b>configurationState.vipEndpointStates.dipEndpointStates.AdapterId</b>	Read-only	Physical address (MAC) of the adapter for which fault state is being provided for.
<b>configurationState.vipEndpointStates.dipEndpointStates.ProbeRule</b>	Read-only	Any associated probe rule which might be offline. Empty ("") if no probe was specified.
<b>counters</b>	Optional Read-only	Array of <b>ResourceCounter</b> structures (section 3.1.1.1). The supported properties are documented in the following table.  This property is supported with URI version v2 or later.

Either a **privateIPAddress** or a reference to a **publicIPAddresses** MUST be specified – both these represent VIPs. A **privateIPAddress** can specify a VIP in either the infrastructure space or in the tenant space (depending on the subnet reference). A public IP reference can only specify a VIP in the infrastructure address space. VIPs in the infrastructure space MUST be contained within a VIP pool configured on the **loadbalancerManager** object.

Properties supported in the **counters** for the **loadBalancers frontendIpConfigurations** resource. The following property elements are valid where **source** is **SoftwareLoadBalancer**, and **category** is Performance.

Name	Unit	Meaning
<b>TotalPackets</b>	Decimal	Total IP packets processed by the MUX.
<b>DroppedPackets</b>	Decimal	Total packets dropped for the VIP.
<b>FlowEntries</b>	Decimal	Total flow entries created for the VIP.
<b>DroppedFlowEntries</b>	Decimal	Total flow entries dropped for the VIP.
<b>SynPackets</b>	Decimal	Total SYN packets processed for the VIP.
<b>AverageBandwidth</b>	Decimal	Average bandwidth in Mbps.
<b>PacketsPerSecond</b>	Decimal	Total packets processed per second for the VIP.

### 3.1.5.5.3.1 HTTP Methods

#### 3.1.5.5.3.1.1 PUT

This method creates a new **frontendIPConfigurations** resource or updates an existing **frontendIPConfigurations** resource.

It is invoked through the following URI.

https://<url>/networking/v1/loadBalancers/{parentResourceId}/frontendIPConfigurations/{resourceId}

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.5.3.1.1.1 Request Body

The format for the request body for the **frontendIPConfigurations PUT** method is as follows.

```
{
  "properties": {
    "privateIPAllocationMethod": "Dynamic",
    "publicIPAddress": {
      "resourceRef": "/publicIPAddresses/c13bf350-858e-4aa5-9b76-97e3f471d5d8"
    },
    "loadBalancingRules": [
      {
        "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-c4388c023e32/loadBalancingRules/de525f1a-8714-4b73-af18-5461703529d2"
      }
    ],
    "inboundNatRules": [],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-c4388c023e32/outboundNatRules/18894e88-0238-4e7b-9680-9af237a18bf0"
      }
    ]
  }
}
```

The JSON schema for the **frontendIPConfigurations PUT** method is located in section 6.5.5.1.

### 3.1.5.5.3.1.1.2 Response Body

The format for the **frontendIPConfigurations PUT** response body is the same as the format for the **frontendIPConfigurations GET** response body (section 3.1.5.5.3.1.2.2). The JSON schema is located in section 6.5.5.3.

### 3.1.5.5.3.1.1.3 (Updated Section) Processing Details

Create a new **frontendIPConfigurations** resource or update an existing **frontendIPConfigurations** resource.

If there are two or more resources of type **frontendIPConfigurations** in the load balancers, then the frontend IPs MUST be either all from a logical network (including public IP) or all from a virtual network.<5>

### 3.1.5.5.3.1.2 GET

This method retrieves a **frontendIPConfigurations** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/frontendIPConfigurations/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.5.3.1.2.1 Request Body

None.

#### 3.1.5.5.3.1.2.2 Response Body

The format for the response body for the **frontendIPConfigurations GET** method is as follows. For a sample that includes v2 properties, see **GET Processing Details** section 3.1.5.5.3.1.2.3.

```
{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018",
  "resourceId": "94c568d8-d839-431a-aed4-a5c178356018",
  "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
  "instanceId": "d896da12-37f2-4e36-b229-7278a672a0ac",
  "properties": {
    "provisioningState": "Succeeded",
    "privateIPAddress": "22.0.0.23",
    "privateIPAllocationMethod": "Static",
    "subnet": {
      "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
    },
    "loadBalancingRules": [],
    "inboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000"
      }
    ]
  }
}
```

```

    ],
    "outboundNatRules": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-
2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
      }
    ]
  }
}

```

The JSON schema for the **frontendIPConfigurations GET** method is located in section 6.5.5.3.

### 3.1.5.5.3.1.2.3 Processing Details

Retrieves a **frontendIPConfigurations** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server returns a configuration state property **configurationState.status** set to Success if there were no errors. The server returns a configuration state property **configurationState.status** set to Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The property **configurationState.vipEndpointStates** contains both virtual IP (VIP) and dynamic IP (DIP) endpoint states with **configurationState** content as defined in section 2.2.4.

The following is an example of failures.

```

{
  "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-c5b16d7f0189",
  "resourceId": "2653279b-159f-43d1-a9bd-c5b16d7f0189",
  "etag": "W/\"0cdcd90c-3ac3-43ab-9430-67619a296ac7\"",
  "instanceId": "ed537d95-338d-4505-ab7e-d4cdea718e0c",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/frontendIPConfigurations/a3f28894-81ed-4311-8078-fcd10a1fdd6e",
        "resourceId": "a3f28894-81ed-4311-8078-fcd10a1fdd6e",
        "etag": "W/\"0cdcd90c-3ac3-43ab-9430-67619a296ac7\"",
        "instanceId": "84861488-29d2-4ae3-80d1-b5a2c4a26520",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "5757:5555::15",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalnetworks/4edaf1bb-7012-43a8-aa59-
522fb544e1da/subnets/23d5e1fd-6a1e-425d-9255-3695cd678120"
          },
          "loadBalancingRules": [
            {
              "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/loadBalancingRules/8c83c104-ba02-4e7f-b671-860362ba5893"
            }
          ],
          "inboundNatRules": [],
          "outboundNatRules": [
            {
              "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/outboundNatRules/5010e7fb-fc61-45ce-9f0e-84c1a5764b56"
            }
          ],
          "counters": [

```

```

    {
      "name": "TotalPackets",
      "currentValue": 13699525,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "DroppedPackets",
      "currentValue": 0,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "FlowEntries",
      "currentValue": 53,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "DroppedFlowEntries",
      "currentValue": 0,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "SynPackets",
      "currentValue": 115,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "AverageBandwidth",
      "currentValue": 0,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    },
    {
      "name": "PacketsPerSecond",
      "currentValue": 0,
      "unit": "Decimal",
      "context": {
        "source": "SoftwareLoadBalancer",
        "category": "Performance"
      }
    }
  ],
  "configurationState": {
    "status": "Failure",
    "lastUpdatedTime": "2018-08-14T14:31:55.1718034-07:00",
    "id": "84861488-29d2-4ae3-80d1-b5a2c4a26520",
    "vipEndpointStates": [
      {

```

```

"status": "Failure",
"lastUpdatedTime": "2018-08-14T14:31:55.1718034-07:00",
"vipEndpoint": "Tcp:[5757:5555::15]:2003",
"dipEndpointStates": [
  {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "SoftwareLoadBalancerManager",
        "message": "Failed to configure the policies on mux pool.",
        "code": "PolicyConfigurationFailureOnMux"
      }
    ],
    "lastUpdatedTime": "2018-08-14T14:31:55.1718034-07:00",
    "dipEndpoint": "[4218:caca::15]:2003",
    "hostIpAddress": "192.153.0.21",
    "hostId": "6e059be9-f546-47de-9db9-f9af11915118",
    "adapterId": "005762000000",
    "probeRule": ""
  },
  {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "SoftwareLoadBalancerManager",
        "message": "Failed to configure the policies on mux pool.",
        "code": "PolicyConfigurationFailureOnMux"
      }
    ],
    "lastUpdatedTime": "2018-08-14T14:31:55.1718034-07:00",
    "dipEndpoint": "[4218:caca::16]:2003",
    "hostIpAddress": "192.153.0.21",
    "hostId": "6e059be9-f546-47de-9db9-f9af11915118",
    "adapterId": "005762000001",
    "probeRule": ""
  }
]
}
}
}
}
}
},
"backendAddressPools": [
  {
    "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-c5b16d7f0189/backendAddressPools/df9ec826-27ae-4184-8e50-01001c50811a",
    "resourceId": "df9ec826-27ae-4184-8e50-01001c50811a",
    "etag": "W/\\"778c40a4-cea4-437e-8d33-ec8f6cc0046e\"",
    "instanceId": "1640b748-97c9-410c-8883-2fb404431f2a",
    "properties": {
      "provisioningState": "Succeeded",
      "backendIPConfigurations": [
        {
          "resourceRef": "/networkInterfaces/8d9930fe-6b71-42a3-b9e1-9612b3e9b0c8/ipConfigurations/f51d3d41-efb2-4070-aa77-c19f9b781a2d"
        },
        {
          "resourceRef": "/networkInterfaces/3c35c29c-543e-4b37-8397-a8ea5ad6b7f5/ipConfigurations/77455994-c49f-4d8c-a839-bd6da52772e6"
        }
      ],
      "outboundNatRules": [
        {
          "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-c5b16d7f0189/outboundNatRules/5010e7fb-fc61-45ce-9f0e-84c1a5764b56"
        }
      ],
      "loadBalancingRules": [
    
```

```

        "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/loadBalancingRules/8c83c104-ba02-4e7f-b671-860362ba5893"
    }
  ]
}
],
"loadBalancingRules": [
  {
    "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/loadBalancingRules/8c83c104-ba02-4e7f-b671-860362ba5893",
    "resourceId": "8c83c104-ba02-4e7f-b671-860362ba5893",
    "etag": "W/\"778c40a4-cea4-437e-8d33-ec8f6cc0046e\"",
    "instanceId": "b43bdd09-4086-4765-941d-ab32741d5cd1",
    "properties": {
      "provisioningState": "Succeeded",
      "frontendIPConfigurations": [
        {
          "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/frontendIPConfigurations/a3f28894-81ed-4311-8078-fcd10a1fdd6e"
        }
      ],
      "protocol": "Tcp",
      "frontendPort": 2003,
      "backendPort": 2003,
      "enableFloatingIP": false,
      "idleTimeoutInMinutes": 4,
      "backendAddressPool": {
        "resourceRef": "/loadBalancers/2653279b-159f-43d1-a9bd-
c5b16d7f0189/backendAddressPools/df9ec826-27ae-4184-8e50-01001c50811a"
      },
      "loadDistribution": "Default"
    }
  }
]
}
}

```

### 3.1.5.5.3.1.3 GET ALL

This method retrieves all **frontendIPConfigurations** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/frontendIPConfigurations
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.5.3.1.3.1 Request Body

None.



### 3.1.5.5.3.1.3.2 Response Body

The format for the response body for the **frontendIPConfigurations GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57",
      "resourceId": "5187779d-c61c-44d2-87be-fa69ac2d9d57",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "3902a530-9639-4759-9bbf-9bab6675593a",
      "properties": {
        "provisioningState": "Succeeded",
        "privateIPAddress": "22.0.0.22",
        "privateIPAllocationMethod": "Static",
        "subnet": {
          "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
        },
        "loadBalancingRules": [],
        "inboundNatRules": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9"
          }
        ],
        "outboundNatRules": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
          }
        ]
      }
    },
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018",
      "resourceId": "94c568d8-d839-431a-aed4-a5c178356018",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "d896dal2-37f2-4e36-b229-7278a672a0ac",
      "properties": {
        "provisioningState": "Succeeded",
        "privateIPAddress": "22.0.0.23",
        "privateIPAllocationMethod": "Static",
        "subnet": {
          "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389"
        },
        "loadBalancingRules": [],
        "inboundNatRules": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000"
          }
        ],
        "outboundNatRules": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160"
          }
        ]
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **frontendIPConfigurations GET ALL** method is located in section 6.5.5.5.

### 3.1.5.5.3.1.3.3 Processing Details

Retrieves all **frontendIPConfigurations** resources.

### 3.1.5.5.3.1.4 DELETE

This method deletes a **frontendIPConfigurations** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/frontendIPConfigurations/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.5.3.1.4.1 Request Body

None.

### 3.1.5.5.3.1.4.2 Response Body

None.

### 3.1.5.5.3.1.4.3 Processing Details

Deletes a **frontendIPConfigurations** resource.

## 3.1.5.5.4 (Updated Section) inboundNatRules

The **inboundNatRules** resource is used to configure the load balancer to apply Network Address Translation (NAT) of inbound traffic.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/inboundNatRules/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.4.1.1	Create a new <b>inboundNatRules</b> resource or update an existing inboundNatRules resource.
<b>GET</b>	3.1.5.5.4.1.2	Get one <b>inboundNatRules</b> resource.
<b>GET ALL</b>	3.1.5.5.4.1.3	List all <b>inboundNatRules</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.4.1.4	Deletes a <b>inboundNatRules</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>frontendIPConfigurations</b>	Required	Indicates an array of references to <b>frontendIPConfigurations</b> resources.
<b>protocol</b>	Required	Indicates the inbound transport protocol for the external endpoint. Valid values include UDP, TCP, GRE, ESP, or ALL. ALL indicates a wildcard.
<b>frontendPort</b>	Optional	The port for the external endpoint. Any port number can be specified, but the port numbers specified for each role in the service MUST be unique. <del>Possible values range between 1 and 65535, inclusive.</del> Possible values range between 0 and 65535, inclusive. <6> This parameter MUST be specified if protocol is TCP or UDP. (see section 3.1.5.5.5.1.1.3).
<b>backendPort</b>	Optional	Indicates a port used for internal connections on the endpoint. The localPort attribute maps the external port on the endpoint to an internal port on a role. This is useful in scenarios where a role has to communicate to an internal component on a port that is different from the one that is exposed externally. Possible values range between 0 and 65535, inclusive. <7> This parameter is required if the protocol is TCP or UDP. (see section 3.1.5.5.5.1.1.3).
<b>enableFloatingIP</b>	Optional	This specifies that a floating IP (VIP) will be used on the available servers behind a loadBalancer. Floating IP will be forwarded by the loadBalancer to the backend server. The back-end server will be configured with that VIP, a datacenter IP and weakhost forwarding. Floating IP configuration is required if you are using the SQL AlwaysOn Availability Group feature. This setting can't be changed after you create the endpoint.

Element name	Type	Description
<b>idleTimeoutInMinutes</b>	Optional	Indicates the timeout for the TCP idle connection in the inbound direction, i.e. a connection initiated by an internet client to a VIP. The value can be set between 4 and 30 minutes. The default value is 4 minutes.
<b>backendIPConfiguration</b>	Optional	Indicates a reference to <b>backendAddressPools</b> resource. Traffic sent to <b>frontendPort</b> of each of the <b>frontendIPConfigurations</b> is forwarded to the backend IP.
<b>enableTcpReset</b>	Optional	Enables TCP connection reset when the flow times out due to inactivity. The default value is false. This property is supported with URI version <b>v4 or v3.2 and later</b> . <8>

### 3.1.5.5.4.1 HTTP Methods

#### 3.1.5.5.4.1.1 PUT

This method creates a new **inboundNatRules** resource or updates an existing **inboundNatRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/inboundNatRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.5.4.1.1.1 Request Body

The format for the request body for the **inboundNatRules PUT** method is as follows.

```
{
  "properties": {
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-
c4388c023e32/frontendIPConfigurations/046e56a4-9dca-422f-b3ad-42d4d1174259"
```

```

    }
  ],
  "protocol": "Tcp",
  "frontendPort": 36921,
  "backendPort": 56921,
  "backendAddressPool": {
    "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-
c4388c023e32/backendAddressPools/0a4e1f96-1a82-497e-8979-38b96bf9344a"
  }
}
}
}

```

The JSON schema for the **inboundNatRules PUT** method is located in section 6.5.6.1.

### 3.1.5.5.4.1.1.2 Response Body

The format for the PUT **inboundNatRules** response body is the same as the format for the **GET inboundNatRules** response body (section 3.1.5.5.4.1.2.2). The JSON schema is located in section 6.5.6.2.

### 3.1.5.5.4.1.1.3 Processing Details

Create a new **inboundNatRules** resource or update an existing inboundNatRules resource.

### 3.1.5.5.4.1.2 GET

This method retrieves an **inboundNatRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/inboundNatRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

### 3.1.5.5.4.1.2.1 Request Body

None.

### 3.1.5.5.4.1.2.2 Response Body

The format for the response body for the **inboundNatRules GET** method is as follows.

```

{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-
2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9",
  "resourceId": "fc44af15-be82-46c5-b75a-3e89ccd792a9",
}

```

```

"etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
"instanceId": "a748c5db-e2fd-4335-8c89-280b78d2511c",
"properties": {
  "provisioningState": "Succeeded",
  "frontendIPConfigurations": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-
2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
    }
  ],
  "protocol": "Tcp",
  "frontendPort": 2003,
  "backendPort": 2003,
  "enableFloatingIP": false,
  "idleTimeoutInMinutes": 4,
  "backendIPConfiguration": {
    "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-
993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
  }
}
}

```

The JSON schema for the **inboundNatRules GET** method is located in section 6.5.6.2.

### 3.1.5.5.4.1.2.3 Processing Details

Retrieves an inboundNatRules resource.

#### 3.1.5.5.4.1.3 GET ALL

This method retrieves all **inboundNatRules** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/inboundNatRules
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.5.4.1.3.1 Request Body

None.

#### 3.1.5.5.4.1.3.2 Response Body

The format for the response body for the **inboundNatRules GET ALL** method is as follows.

```
{
  "value": [
```

```

    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/fc44af15-be82-46c5-b75a-3e89ccd792a9",
      "resourceId": "fc44af15-be82-46c5-b75a-3e89ccd792a9",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "a748c5db-e2fd-4335-8c89-280b78d2511c",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendIPConfiguration": {
          "resourceRef": "/networkInterfaces/e5ea0c14-ce85-4eb7-909a-993f0477f5ac/ipConfigurations/45af7ff3-555f-43b0-ae74-7fcce88c5197"
        }
      }
    },
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/inboundNatRules/0e5ed8cf-60fb-40f4-b02a-90932d4de000",
      "resourceId": "0e5ed8cf-60fb-40f4-b02a-90932d4de000",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "e8c59538-e641-4796-968d-50c4e11225e7",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendIPConfiguration": {
          "resourceRef": "/networkInterfaces/97c69782-f173-4793-a408-64074e601dd1/ipConfigurations/1b94ce74-b012-49a7-8e93-9315252c6ab2"
        }
      }
    }
  ],
  "nextLink": ""
}

```

The JSON schema for the **inboundNatRules GET ALL** method is located in section 6.5.6.3.

### 3.1.5.5.4.1.3.3 Processing Details

Retrieves all **inboundNatRules** resources.

### 3.1.5.5.4.1.4 DELETE

This method deletes an **inboundNatRules** resource.

It is invoked through the following URI.

`https://<url>/networking/v1/loadBalancers/{parentResourceId}/inboundNatRules/{resourceId}`

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### **3.1.5.5.4.1.4.1 Request Body**

None.

#### **3.1.5.5.4.1.4.2 Response Body**

None.

#### **3.1.5.5.4.1.4.3 Processing Details**

Deletes an **inboundNatRules** resource.

### **3.1.5.5.5 (Updated Section) loadBalancingRules**

The **loadBalancingRules** resource is used to configure load balancing policies. The policies dictate the kind of traffic that is load-balanced, and port mapping between frontend IPs and backend IPs.

It is invoked through the following URI.

`https://<url>/networking/v1/loadBalancers/{parentResourceId}/loadBalancingRules/{resourceId}`

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1** **or later**, in the URI.

The following HTTP methods can be performed on this resource.



HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.5.1.1	Create a new <b>loadBalancingRules</b> resource or update an existing <b>loadBalancingRules</b> resource.
<b>GET</b>	3.1.5.5.5.1.2	Get one <b>loadBalancingRules</b> resource.
<b>GET ALL</b>	3.1.5.5.5.1.3	List all <b>loadBalancingRules</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.5.1.4	Deletes a <b>loadBalancingRules</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>backendAddressPool</b>	Optional	Indicates an array of references to a <b>backendAddressPools</b> resource. Inbound traffic is randomly load balanced across IPs in the backend pool.
<b>backendPort</b>	Optional	Indicates the port used for internal connections on the endpoint. The <b>localPort</b> attribute maps the external port on the endpoint to an internal port on a role. This is useful in scenarios where a role has to communicate to an internal component on a port that is different from the one that is exposed externally. If not specified, the value of <b>localPort</b> is the same as the port attribute. Set the value of <b>localPort</b> to asterisk (*) to automatically assign an unallocated port that is discoverable using the runtime API. Possible values range between 1 and 65535, inclusive. This parameter is required if the protocol is TCP or UDP.
<b>frontendIPConfigurations</b>	Required	Indicates an array of references to <b>frontendIpAddress</b> resources.
<b>frontendPort</b>	Optional	Indicates the port for the external endpoint. Possible values range between 1 and 65535, inclusive. This value MUST be unique for the <b>loadBalancers</b> resource. This parameter is required if the protocol is TCP or UDP.
<b>idleTimeoutInMinutes</b>	Optional	Indicates the timeout for the TCP idle connection in the inbound direction, i.e. a connection initiated by an internet client to a VIP. The value can be set between 4 and 30 minutes. The default value is 4 minutes.
<b>protocol</b>	Required	Indicates the inbound transport protocol for the external endpoint. Valid values include UDP, TCP, GRE, ESP, or ALL.
<b>probe</b>	Optional	Indicates a reference to the probe resource used by this <b>loadBalancingRule</b> .
<b>EnableFloatingIP</b>	Optional	This specifies that a floating IP (VIP) will be used on the available servers behind a loadBalancer. Floating IP will be forwarded by the loadBalancer to the backend server. The back-end server will be configured with that VIP, a datacenter IP and weakhost forwarding.  Floating IP configuration is required if you are using the SQL AlwaysOn Availability Group feature. This setting can't be changed after you create the endpoint.
<b>LoadDistribution</b>	Optional	This specifies the load balancing distribution type to be used by the loadBalancer. The loadBalancer uses a distribution algorithm

Element name	Type	Description
		<p>which is a 5-tuple (source IP, source port, destination IP, destination port, protocol type) hash to map traffic to available servers. It provides stickiness only within a transport session, which is a feature that routes the requests for a specific session to the same physical machine that serviced the first request for that session. Packets in the same TCP or UDP session will be directed to the same datacenter IP instance behind the load balanced endpoint. When the client closes and re-opens the connection or starts a new session from the same source IP, the source port changes and causes the traffic to go to a different datacenter IP endpoint.</p> <p>The loadBalancer can be configured to use a 2-tuple (Source IP, Destination IP) or 3-tuple (Source IP, Destination IP, Protocol) to map traffic to the available servers. By using <b>SourceIPProtocol</b>, connections initiated from the same client computer goes to the same datacenter IP endpoint.</p> <p><b>Default</b> – The loadBalancer is configured to use a 5-tuple hash to map traffic to available servers.</p> <p><b>SourceIP</b> – The loadBalancer is configured to use a 2-tuple hash to map traffic to available servers.</p> <p><b>SourceIPProtocol</b> – The loadBalancer is configured to use a 3-tuple hash to map traffic to available servers.</p>
<b>enableTcpReset</b>	Optional	<p>Enables TCP connection reset when the flow times out due to inactivity. The default value is false.</p> <p>This property is supported with URI version <b>v4v3.2</b> or later <b>v.&lt;9&gt;</b></p>

### 3.1.5.5.5.1 HTTP Methods

#### 3.1.5.5.5.1.1 PUT

This method creates a new **loadBalancingRules** resource or updates an existing **loadBalancingRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/loadBalancingRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.5.1.1.1 Request Body

The format for the request body for the **loadBalancingRules PUT** method is as follows.

```
{
  "properties": {
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-c4388c023e32
          /frontendIPConfigurations/046e56a4-9dca-422f-b3ad-42d4d1174259"
      }
    ],
    "protocol": "Tcp",
    "frontendPort": 36920,
    "backendPort": 31267,
    "enableFloatingIP": false,
    "idleTimeoutInMinutes": 4,
    "backendAddressPool": {
      "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-c4388c023e32
        /backendAddressPools/0a4e1f96-1a82-497e-8979-38b96bf9344a"
    },
    "loadDistribution": "Default"
  }
}
```

The JSON schema for the **loadBalancingRules PUT** method is located in section 6.5.7.1.

### 3.1.5.5.1.1.2 Response Body

The format for the **loadBalancingRules PUT** response body is the same as the format for the **loadBalancingRules GET** response body (section 3.1.5.5.1.2.2). The JSON schema is located in section 6.5.7.2.

### 3.1.5.5.1.1.3 (Updated Section) Processing Details

Create a new **loadBalancingRules** resource or update an existing **loadBalancingRules** resource.

Previously, the REST server allowed **frontendPort** and **backendPort** for the resource of type **inboundNatRules** to be 0 and protocol to be ALL, but the REST resource that is created is not usable.

#### **New Rules<10>**

When protocol is ALL, port numbers for **frontendPort** and **backendPort** for the resource of type **inboundNatRules** MUST both be 0.

When protocol is TCP or UDP, port numbers for **frontendPort** and **backendPort** for the resource of type **inboundNatRules** MUST both be non-zero.

A maximum one rule is allowed per resource of type **FrontEndIpConfigurations**, if the **frontendPort** and **backendPort** are both 0. The mentioned resource of type **FrontEndIpConfigurations** cannot have outbound rules.

### 3.1.5.5.1.2 GET

This method retrieves a **loadBalancingRules** resource.

It is invoked through the following URI.

https://<url>/networking/v1/loadBalancers/{parentResourceId}/loadBalancingRules/{resourceId}

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.5.1.2.1 Request Body

None.

### 3.1.5.5.1.2.2 Response Body

The format for the response body for the **loadBalancingRules GET** method is as follows.

```
{
  "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccea1/loadBalancingRules/6339de0b-5730-4057-b2ee-37e90d3e4470",
  "resourceId": "6339de0b-5730-4057-b2ee-37e90d3e4470",
  "etag": "W/\"87c5f43a-3d37-4955-b6ba-bc3037fcfefdf\"",
  "instanceId": "58b176c8-f4d1-4a5f-bfe4-623dcfe3ba2a",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccea1/frontendIPConfigurations/6bad6ea2-eca8-4143-8925-55aa497d3882"
      }
    ],
    "protocol": "Tcp",
    "frontendPort": 2003,
    "backendPort": 2003,
    "enableFloatingIP": false,
    "idleTimeoutInMinutes": 4,
    "backendAddressPool": {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccea1/backendAddressPools/9827f986-4606-4331-b63f-7cc39665e2c9"
    },
    "loadDistribution": "Default"
  }
}
```

The JSON schema for the **loadBalancingRules GET** method is located in section 6.5.7.2.

### 3.1.5.5.1.2.3 Processing Details

Retrieves a **loadBalancingRules** resource.

### 3.1.5.5.1.3 GET ALL

This method retrieves all **loadBalancingRules** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/loadBalancingRules
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.5.1.3.1 Request Body

None.

### 3.1.5.5.1.3.2 Response Body

The format for the response body for the **loadBalancingRules GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/loadBalancingRules/6339de0b-5730-4057-b2ee-37e90d3e4470",
      "resourceId": "6339de0b-5730-4057-b2ee-37e90d3e4470",
      "etag": "W/\"87c5f43a-3d37-4955-b6ba-bc3037fcfe4d\"",
      "instanceId": "58b176c8-f4d1-4a5f-bfe4-623dcfe3ba2a",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/frontendIPConfigurations/6bad6ea2-eca8-4143-8925-55aa497d3882"
          }
        ],
        "protocol": "Tcp",
        "frontendPort": 2003,
        "backendPort": 2003,
        "enableFloatingIP": false,
        "idleTimeoutInMinutes": 4,
        "backendAddressPool": {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/backendAddressPools/9827f986-4606-4331-b63f-7cc39665e2c9"
        },
        "loadDistribution": "Default"
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **loadBalancingRules GET ALL** method is located in section 6.5.7.3.

### 3.1.5.5.1.3.3 Processing Details

Retrieves all loadBalancingRules resources.

### 3.1.5.5.1.4 DELETE

This method deletes a **loadBalancingRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/loadBalancingRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.5.1.4.1 Request Body

None.

### 3.1.5.5.1.4.2 Response Body

None.

### 3.1.5.5.1.4.3 Processing Details

Deletes a loadBalancingRules resource.

### 3.1.5.5.6 (Updated Section) outboundNatRules

The **outboundNatRules** resource is used to configure the load balancer to apply Network Address Translation of outbound traffic.

The URI for **It is invoked through** the **resource is as follows** following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/outboundNatRules/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId**: the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.6.1.1	Create a new <b>outboundNatRules</b> resource or update an existing <b>outboundNatRules</b> resource.
<b>GET</b>	3.1.5.5.6.1.2	Get one <b>outboundNatRules</b> resource.
<b>GET ALL</b>	3.1.5.5.6.1.3	List all <b>outboundNatRules</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.6.1.4	Delete an <b>outboundNatRules</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>frontendIPConfigurations</b>	Required	Indicates an array of <b>frontendIPConfigurations</b> resources. Indicates an array of references to <b>frontendIpAddress</b> resources.
<b>backendAddressPool</b>	Required	Indicates a reference to the <b>backendAddressPools</b> resource. This is the pool of IP addresses where outbound traffic originates.
<b>protocol</b>	Required	Protocol for outbound traffic. For transparent outbound NAT specify All. Valid values include TCP, UDP, GRE, ESP, or All.
<b>enableTcpReset</b>	Optional	Enables TCP connection reset when the flow times out due to inactivity. The default value is false. This property is supported with URI version <b>v4 or v3.2 and later</b> .

### 3.1.5.5.6.1 HTTP Methods

#### 3.1.5.5.6.1.1 PUT

This method creates a new **outboundNatRules** resource or updates an existing **outboundNatRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/outboundNatRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.5.6.1.1.1 Request Body

The format for the request body for the **outboundNatRules PUT** method is as follows.

```
{
  "properties": {
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-
c4388c023e32/frontendIPConfigurations/046e56a4-9dca-422f-b3ad-42d4d1174259"
      }
    ],
    "protocol": "All",
    "backendAddressPool": {
      "resourceRef": "/loadBalancers/0df23cd2-633f-4322-a9e6-
c4388c023e32/backendAddressPools/0a4e1f96-1a82-497e-8979-38b96bf9344a"
    }
  }
}
```

The JSON schema for the **outboundNatRules PUT** method is located in section 6.5.8.1.

### 3.1.5.5.6.1.1.2 Response Body

The format for the **outboundNatRules PUT** response body is the same as the format for the **outboundNatRules GET** response body (section 3.1.5.5.6.1.2.2). The JSON schema is located in section 6.5.8.2.

### 3.1.5.5.6.1.1.3 Processing Details

Create a new **outboundNatRules** resource or update an existing **outboundNatRules** resource.

### 3.1.5.5.6.1.2 GET

This method retrieves an **outboundNatRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/outboundNatRules/{resourceId}
```

The query parameters are specified in section 2.2.3.



The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.5.6.1.2.1 Request Body

None.

### 3.1.5.5.6.1.2.2 Response Body

The format for the response body for the **outboundNatRules GET** method is as follows.

```
{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160",
  "resourceId": "49053c15-2d0f-45a2-8148-be8615282160",
  "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
  "instanceId": "c4000c95-7f90-4bb4-b68d-b2bc9c1dfc3e",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
      },
      {
        "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
      }
    ],
    "protocol": "All",
    "backendAddressPool": {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71"
    }
  }
}
```

The JSON schema for the **outboundNatRules GET** method is located in section 6.5.8.2.

### 3.1.5.5.6.1.2.3 Processing Details

Retrieves an **outboundNatRules** resource.

### 3.1.5.5.6.1.3 GET ALL

This method retrieves all **outboundNatRules** resources.

It is invoked through the following URI.

https://<url>/networking/v1/loadBalancers/{parentResourceId}/outboundNatRules

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.5.6.1.3.1 Request Body

None.

### 3.1.5.5.6.1.3.2 Response Body

The format for the response body for the **outboundNatRules GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/outboundNatRules/49053c15-2d0f-45a2-8148-be8615282160",
      "resourceId": "49053c15-2d0f-45a2-8148-be8615282160",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "c4000c95-7f90-4bb4-b68d-b2bc9c1d3e",
      "properties": {
        "provisioningState": "Succeeded",
        "frontendIPConfigurations": [
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/5187779d-c61c-44d2-87be-fa69ac2d9d57"
          },
          {
            "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/frontendIPConfigurations/94c568d8-d839-431a-aed4-a5c178356018"
          }
        ],
        "protocol": "All",
        "backendAddressPool": {
          "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/backendAddressPools/b32b5ef0-5332-49a8-b383-f91090135f71"
        }
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **outboundNatRules GET ALL** method is located in section 6.5.8.3.

### 3.1.5.5.6.1.3.3 Processing Details

Retrieves all outboundNatRules resources.

### 3.1.5.5.6.1.4 DELETE

This method deletes an **outboundNatRules** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/outboundNatRules/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.5.6.1.4.1 Request Body

None.

#### 3.1.5.5.6.1.4.2 Response Body

None.

#### 3.1.5.5.6.1.4.3 Processing Details

Deletes a outboundNatRules resource.

### 3.1.5.5.7 (Updated Section) probes

The **probes** resources are used to configure the mechanism of detection of connectivity issues with load balanced IPs.

The URI for It is invoked through the resource is as follows following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/probes/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.5.7.1.1	Create a new <b>probes</b> resource or update an existing probes resource.
<b>GET</b>	3.1.5.5.7.1.2	Get one <b>probes</b> resource.
<b>GET ALL</b>	3.1.5.5.7.1.3	List all <b>probes</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.5.7.1.4	Deletes a <b>probes</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>intervalInSeconds</b>	Optional	Indicates the interval, in seconds, for how frequently to probe the endpoint for health status. Typically, the interval SHOULD<12> be slightly less than half the allocated timeout period (in seconds), which allows two full <b>probes</b> before taking the instance out of rotation.
<b>loadBalancingRules</b>	Read-only	Indicates an array of references to <b>loadBalancingRule</b> resources that use this probe.
<b>numberOfProbes</b>	Optional	Indicates the timeout period, in seconds, applied to the probe where no response will result in stopping further traffic from being delivered to the endpoint. This value allows endpoints to be taken out of rotation faster or slower than the typical times (which are the defaults). The default value is 31, the minimum value is 11.
<b>protocol</b>	Required	Indicates the protocol of the endpoint. Valid values are HTTP or TCP. If TCP is specified, a received ACK is required for the probe to be successful. If HTTP is specified, a 200 (OK) response from the specified URI is required for the probe to be successful.
<b>port</b>	Required	Indicates the port for communicating the probe. Possible values range from 1 to 65535, inclusive.
<b>requestPath</b>	Required	Indicates the URI used for requesting health status from the VM. path is required if protocol is set to HTTP. Otherwise, it is not allowed. There is no default value.

### 3.1.5.5.7.1 HTTP Methods

#### 3.1.5.5.7.1.1 PUT

This method creates a new **probes** resource or updates an existing **probes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/probes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.5.7.1.1.1 Request Body

The format for the request body for the **probes PUT** method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata":
  {
    "client": "WAP Network Resource Provider",
    "tenantId": "{subscriptionid}",
    "groupId": "{groupname}",
    "name": "{name}",
    "originalHref": "https://..."
  },
  "properties": {
    <insertProperties>
  }
}
```

The JSON schema for the **probes PUT** method is located in section 6.5.9.1.

### 3.1.5.5.7.1.1.2 Response Body

The format for the **probes PUT** response body is the same as the format for the **probes GET** response body (section 3.1.5.5.7.1.2.2). The JSON schema is located in section 6.5.9.2.

### 3.1.5.5.7.1.1.3 Processing Details

Create a new probes resource or update an existing probes resource.

### 3.1.5.5.7.1.2 GET

This method retrieves a **probes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/probes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.5.7.1.2.1 Request Body

None.

### 3.1.5.5.7.1.2.2 Response Body

The format for the response body for the **probes GET** method is as follows.

```
{
  "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/probes/9f940e29-1d25-44fc-88d3-c81151a0344e",
  "resourceId": "9f940e29-1d25-44fc-88d3-c81151a0344e",
  "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
  "instanceId": "0da65588-247b-475b-bd1a-7ead0bala182",
  "properties": {
    "provisioningState": "Succeeded",
    "protocol": "Tcp",
    "port": 55555,
    "intervalInSeconds": 30,
    "numberOfProbes": 1,
    "loadBalancingRules": [
      {
        "resourceRef": "/loadBalancers/ee396509-27d3-44f9-849c-f6ed28d59f66/loadBalancingRules/2ea746ea-968f-41f2-8bfa-71d2391ef752"
      }
    ]
  }
}
```

The JSON schema for the **probes GET** method is located in section 6.5.9.2.

### 3.1.5.5.7.1.2.3 Processing Details

Retrieves a **probes** resource.

### 3.1.5.5.7.1.3 GET ALL

This method retrieves all **probes** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/probes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.5.7.1.3.1 Request Body

None.

### 3.1.5.5.7.1.3.2 Response Body

The format for the response body for the **probes GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/loadBalancers/0cac5f8a-9d5c-455a-a971-2682d597e098/probes/9f940e29-1d25-44fc-88d3-c81151a0344e",
      "resourceId": "9f940e29-1d25-44fc-88d3-c81151a0344e",
      "etag": "W/\"fb318cf6-9102-4e34-a684-5e25aee8d3f4\"",
      "instanceId": "0da65588-247b-475b-bd1a-7ead0bala182",
      "properties": {
        "provisioningState": "Succeeded",
        "protocol": "Tcp",
        "port": 55555,
        "intervalInSeconds": 30,
        "numberOfProbes": 1,
        "loadBalancingRules": []
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **probes GET ALL** method is located in section 6.5.9.3.

### 3.1.5.5.7.1.3.3 Processing Details

Retrieves all probes resources.

### 3.1.5.5.7.1.4 DELETE

This method deletes a **probes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancers/{parentResourceId}/probes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.5.7.1.4.1 Request Body

None.

#### 3.1.5.5.7.1.4.2 Response Body

None.

#### 3.1.5.5.7.1.4.3 Processing Details

Deletes a probes resource.

### 3.1.5.6 (Updated Section) loadBalancerManager

The **loadBalancerManager** resource is a singleton resource that configures the load balancing service of the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerManager/config
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1** **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.6.1.1	Create a new <b>loadBalancerManager</b> resource or update an existing <b>loadBalancerManager</b> resource.
<b>GET</b>	3.1.5.6.1.2	Get the <b>loadBalancerManager</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.



Element name	Type	Description
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>loadBalancerManagerIPAddress</b>	Required	The IP address of the load balancer service. This is part of one of the <b>vipIpPools</b> as specified in the <b>vipIpPools</b> element in this resource.
<b>outboundNatIPExemptions</b>	Required	An array of v4 or v6 subnets masks with prefixes that will not have the source IP and Port changed by being NAT-ed. This is typically used for datacenter services that will communicated with other services within the same datacenter or cluster. Array of strings in the following format: 0.0.0.0/0. <b>Note</b> There is no validation that these IP addresses are known by the network controller.
<b>vipIpPools</b>	Required	An array of references to <b>ipPool</b> resources that will be used for the frontend IP addresses.

A **loadBalancerManager** is a singleton resource, it cannot be deleted once it is created. However, it can be updated.

The **loadBalancerManager** IP address MUST be part of one of the **vipIpPools** configured on the **loadBalancerManager** resource.

In any update removal of an **ipPool** reference form **vipIpPools** MUST only be attempted when no **loadBalancers** reference IP addresses from that pool in their **frontendIPConfigurations** and no public IPs are allocated from that **ipPool**. Removal of an in use **ipPool** is disallowed and will place the **loadBalancerManager** resource in a failed provisioning state.

Similarly, if an **ipPool** is added for use by the **loadBalancerManager**, it MUST have no IP address usage prior to being added to the **loadBalancerManager**.

### 3.1.5.6.1 HTTP Methods

#### 3.1.5.6.1.1 PUT

This method creates a new **loadBalancerManager** resource or updates the existing **loadBalancerManager** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerManager/config
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)

Status code
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.6.1.1.1 Request Body

The format for the request body for the **loadBalancerManager PUT** method is as follows.

```
{
  "resourceRef": "/loadBalancerManager/",
  "resourceId": "config",
  "instanceId": "00000000-0000-0000-0000-000000000000",
  "properties": {
    "provisioningState": "Succeeded",
    "loadBalancerManagerIPAddress": "10.0.21.21",
    "outboundNatIPExemptions": [],
    "vipIpPools": [
      {
        "resourceRef": "/logicalNetworks/4b14f3a1-ed8d-4647-b370-
2ae3ff227b9a/subnets/6d290ba5-f642-49bc-9cab-1478d76a8565/ipPools/843ef1a8-2b23-4496-8be0-
4317fecf5870"
      }
    ]
  }
}
```

The JSON schema for the **loadBalancerManager PUT** method is located in section 6.6.1.

### 3.1.5.6.1.1.2 Response Body

The format for the **loadBalancerManager PUT** response body is the same as the format for the **loadBalancerManager GET** response body (section 3.1.5.6.1.2.2). The JSON schema is located in section 6.6.2.

### 3.1.5.6.1.1.3 Processing Details

Updates the existing loadBalancerManager resource.

### 3.1.5.6.1.2 GET

This method retrieves a **loadBalancerManager** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerManager/config
```

There are no query parameters.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.6.1.2.1 Request Body

None.

### 3.1.5.6.1.2.2 Response Body

The format for the response body for the **loadBalancerManager GET** method is as follows.

```
{
  "resourceRef": "/loadBalancerManager/config",
  "resourceId": "config",
  "etag": "W/\"ea4ce83a-3b5c-4b92-90b4-f1a69aa5935f\"",
  "instanceId": "6a42e935-92bb-4081-ala7-bac1d772671f",
  "properties": {
    "provisioningState": "Succeeded",
    "loadBalancerManagerIPAddress": "21.0.0.21",
    "outboundNatIPExemptions": [],
    "vipIpPools": [
      {
        "resourceRef": "/logicalNetworks/ccb732ec-a3b5-4755-99ff-fddb91d50884/subnets/262b479f-0952-49b9-ad20-3d6732729389/ipPools/968917ad-8122-447d-90f7-bee2f95828c8"
      },
      {
        "resourceRef": "/logicalNetworks/9c1b2b61-dec2-49e3-b573-c2ecff57893d/subnets/a4f7c90b-6056-4dff-97fb-f46211ecdc10/ipPools/6b7c0255-c68d-4b2f-9870-9757255b55de"
      }
    ]
  }
}
```

The JSON schema for the **loadBalancerManager GET** method is located in section 6.6.2.

### 3.1.5.6.1.2.3 Processing Details

Retrieves one **loadBalancerManager** resource.

### 3.1.5.7 (Updated Section) loadBalancerMuxes

The **loadBalancerMuxes** resource represents a MUX VM deployed in the Network Controller's stamp.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerMuxes/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.6.1.1	Create a new <b>loadBalancerMuxes</b> resource or update an existing <b>loadBalancerMuxes</b> resource.
<b>GET</b>	3.1.5.7.1.2	Get one <b>loadBalancerMuxes</b> resource.
<b>GET ALL</b>	3.1.5.7.1.3	List all <b>loadBalancerMuxes</b> resources.
<b>DELETE</b>	3.1.5.7.1.4	Delete a <b>loadBalancerMuxes</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>connections</b>	Optional	Indicates an array of connections that specifies the information needed to connect to the specific device for the purposes of managing and controlling the device.
<b>connections.credential</b>	Optional	Indicates a reference to a <b>credentials</b> resource that can be used to connect to the device for management purposes.
<b>connections.credentialType</b>	Optional	Indicates the type of credential, e.g., X509Certificate or usernamePassword.
<b>connections.managementAddresses</b>	Optional	Indicates the management address used to connect to the server. This is in the form of an IPv4 IP address, an IPv6 IP address, a DNS name or a flat (NetBIOS) name.
<b>routerConfiguration</b>	Required	Provides the BGP router configuration to the MUX to ensure it peers with the datacenter routing infrastructure and properly advertises routes.
<b>routerConfiguration.localASN</b>	Required	Is the BGP autonomous system number (ASN) of the MUX.
<b>routerConfiguration.peerRouterConfigurations</b>	Required	The BGP settings the MUX uses to establish and maintain BGP peering with one or more peers.
<b>routerConfiguration.peerRouterConfigurations.routerName</b>	Required	The friendly name of the peer router.
<b>routerConfiguration.peerRouterConfigurations.peerAsn</b>	Required	The BGP autonomous system number (ASN) of the peer.
<b>routerConfiguration.peerRouterConfigurations.</b>	Optional	The IPv4 address of the local interface on the MUX from which peering to BGP will

Element name	Type	Description
<b>routerIpAddress</b>		be established. If this is not specified, peering is attempted from the management interface on the MUX. If a <b>localIpAddress</b> is specified on a router configuration, the same <b>localIpAddress</b> MUST be specified for every other router configuration in a given MUX resource.
<b>virtualServer</b>	Required	Indicates a reference to the <b>virtualServer</b> resource that the loadBalancer MUX runs on.
<b>configurationState</b>	Optional Read-only	See <b>configurationState</b> specification in section 2.2.4. Additional details are in the section for the <b>GET</b> operation section 3.1.5.7.1.2.
<b>networkInterfaces</b>	Read/Write Optional	Indicates the external and internal interfaces on which the <b>loadBalancerMuxes</b> resource operates.
<b>networkInterfaces.externalNetworkInterface</b>	Read/Write	A resource reference to a network interface.<13>
<b>networkInterfaces.internalNetworkInterface</b>	Read/Write	A resource reference to a network interface.<14>
<b>counters</b>	Read-only Optional	Array of <b>ResourceCounter</b> structures (section 3.1.1.1). The supported properties are documented in the following table.  This property is supported with URI version v2 or later.

Properties supported in the **counters** for the **loadBalancerMuxes** resource. The following property elements are valid where **source** is **SoftwareLoadBalancer**, and **category** is Performance.

Name	Unit	Meaning
<b>TotalPacketsIPv4</b>	Decimal	Total IPv4 packets processed by the MUX.
<b>TotalPacketsIPv6</b>	Decimal	Total IPv6 packets processed by the MUX.
<b>DroppedPacketsIPv4</b>	Decimal	Total IPv4 packets dropped by the MUX.
<b>DroppedPacketsIPv6</b>	Decimal	Total IPv6 packets dropped by the MUX.
<b>SynPacketsIPv4</b>	Decimal	Total IPv4 SYN packets processed by the MUX.
<b>SynPacketsIPv6</b>	Decimal	Total IPv6 SYN packets processed by the MUX.
<b>FlowEntriesIPv4</b>	Decimal	Total IPv4 Flow entries currently being processed by the MUX.
<b>FlowEntriesIPv6</b>	Decimal	Total IPv6 Flow entries currently being processed by the MUX.
<b>DroppedFlowEntriesIPv4</b>	Decimal	Total number of IPv4 flows that were failed during setup.
<b>DroppedFlowEntriesIPv6</b>	Decimal	Total number of IPv6 flows that were failed during setup.

Name	Unit	Meaning
<b>AverageBandwidthIPv4</b>	Decimal	Average bandwidth for IPv4 in Mbps.
<b>AverageBandwidthIPv6</b>	Decimal	Average bandwidth for IPv6 in Mbps.
<b>PacketsPerSecondIPv4</b>	Decimal	Total IPv4 packets being process per second.
<b>PacketsPerSecondIPv6</b>	Decimal	Total IPv6 packets being process per second.

### 3.1.5.7.1 HTTP Methods

#### 3.1.5.7.1.1 PUT

This method creates a new **loadBalancerMuxes** resource or updates an existing **loadBalancerMuxes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerMuxes/{resourceId}
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.7.1.1.1 Request Body

The format for the request body for the **loadBalancerMuxes PUT** method is as follows.

```
{
  "resourceRef": "/loadBalancerMuxes/Mux-0",
  "resourceId": "Mux-0",
  "etag": "W/\"2c51ddb2-39bb-45f3-8072-2f5437a00b30\"",
  "instanceId": "bf7ab799-0bfc-44c6-acd5-ef320295d57c",
  "properties": {
    "provisioningState": "Succeeded",
    "routerConfiguration": {
      "localASN": 2,
      "peerRouterConfigurations": [
        {
          "routerName": "BGPGateway-0",
          "routerIPAddress": "192.168.0.1",

```

```

        "peerASN": 1,
        "id": "77ee5813-6292-45c8-846f-898c36626ca4"
    }
]
},
"virtualServer": {
    "resourceRef": "/virtualServers/ae2a42ad-659b-4519-bf26-694dce109fc1"
},
"connections": [],
"configurationState": {
    "status": "Success",
    "detailedInfo": [
        {
            "source": "SoftwareLoadBalancerManager",
            "message": "LoadBalancer Mux is healthy.",
            "code": "Success"
        }
    ]
},
"lastUpdatedTime": "2018-01-17T22:31:35.575849-08:00"
},
"networkInterfaces": {}
}
}

```

The JSON schema for the **loadBalancerMuxes PUT** method is located in section 6.7.1.

### 3.1.5.7.1.1.2 Response Body

The format for the **loadBalancerMuxes PUT** response body is the same as the format for the **loadBalancerMuxes GET** response body (section 3.1.5.7.1.2.2). The JSON schema is located in section 6.7.2.

### 3.1.5.7.1.1.3 Processing Details

Create a new **loadBalancerMuxes** resource or update an existing **loadBalancerMuxes** resource.

### 3.1.5.7.1.2 GET

This method retrieves a **loadBalancerMuxes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerMuxes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.7.1.2.1 Request Body

None.

### 3.1.5.7.1.2.2 Response Body

The format for the response body for the **loadBalancerMuxes GET** method is as follows. For a sample that includes v2 properties, see **frontendIPConfiguration GET Processing Details** section 3.1.5.5.3.1.2.3.

```
{
  "resourceRef": "/loadBalancerMuxes/Mux-0",
  "resourceId": "Mux-0",
  "etag": "W/\"fac641b5-304d-4578-878f-cb9fe670bbb5\"",
  "instanceId": "68070a20-8434-4885-ae8c-eda27618d4ce",
  "properties": {
    "provisioningState": "Succeeded",
    "routerConfiguration": {
      "localASN": 2,
      "peerRouterConfigurations": [
        {
          "routerName": "BGPGateway-0",
          "routerIPAddress": "195.171.120.1",
          "peerASN": 1,
          "id": "860ed1e7-b165-4397-a2bf-d78578feb1c9"
        }
      ]
    },
    "virtualServer": {
      "resourceRef": "/virtualServers/8e361faf-e957-4e26-9728-3ab6454543ab"
    },
    "connections": [
      {
        "managementAddresses": [
          "195.171.120.21",
          "hmv-test22"
        ],
        "credential": {
          "resourceRef": "/credentials/hmv-test22-credentials"
        },
        "credentialType": "usernamePassword",
        "protocol": "tcp",
        "port": "2003"
      }
    ],
    "configurationState": {
      "status": "Success",
      "detailedInfo": [
        {
          "source": "SoftwareLoadBalancerManager",
          "message": "loadBalancer Mux is healthy.",
          "code": "Success"
        }
      ]
    },
    "lastUpdatedTime": "2016-06-09T17:21:46.3280587-07:00"
  }
}
```

The JSON schema for the **loadBalancerMuxes GET** method is located in section 6.7.2.

### 3.1.5.7.1.2.3 Processing Details

Retrieves a **loadBalancerMuxes** resource.



The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server returns a configuration state property **configurationState.status** set to Success if there were no errors. The server returns a configuration state property **configurationState.status** set to Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. Acceptable values in the response are as follows.

<b>configurationState.status</b>	<b>Code values in configurationState.detailedInfo</b>	<b>Description</b>
Success	Success	LoadBalancer Mux is healthy.
InProgress	InProgress	LoadBalancer Mux is getting ready to receive Goal States.
Failure	Unknown	LoadBalancer Mux is unHealthy.
Failure	VirtualServerUnreachable	LoadBalancer Mux is not connected to SLBM.
Failure	VirtualServerUnreachable	Host is not connected.
Failure	CertificateNotTrusted	LoadBalancer Mux is not connected to SLBM due to certificate errors.
Failure	CertificateNotAuthorized	LoadBalancer Mux is not connected to SLBM due to certificate errors.
Failure	RoutePublicationFailure	LoadBalancer Mux is not connected to a BGP router.

The following is an example.

```

"configurationState": {
  "status": "Success",
  "detailedInfo": [
    {
      "source": "SoftwareLoadBalancerManager",
      "message": "LoadBalancer Mux is healthy.",
      "code": "Success"
    }
  ]
},
"lastUpdatedTime": "2017-01-05T16:34:45.2662488-08:00"
}
"configurationState": {
  "status": "Failure",
  "detailedInfo": [
    {
      "source": "SoftwareLoadBalancerManager",
      "message": "LoadBalancer Mux is unHealthy.",
      "code": "Unknown"
    }
  ]
},
"lastUpdatedTime": "2017-01-05T13:22:44.8066949-08:00"
}

```

### 3.1.5.7.1.3 GET ALL

This method retrieves all **loadBalancerMuxes** resources.

It is invoked through the following URI.

https://<url>/networkng/v1/loadBalancerMuxes

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.7.1.3.1 Request Body

None.

### 3.1.5.7.1.3.2 Response Body

The format for the response body for the **loadBalancerMuxes GET ALL** method is an array of resources that is similar to what **loadBalancerMuxes GET** returns (section 3.1.5.7.1.2.2).

```
{
  "value": [
    {
      "resourceRef": "/loadBalancerMuxes/Mux-0",
      "resourceId": "Mux-0",
      "etag": "W/\"fac641b5-304d-4578-878f-cb9fe670bbb5\"",
      "instanceId": "68070a20-8434-4885-ae8c-eda27618d4ce",
      "properties": {
        "provisioningState": "Succeeded",
        "routerConfiguration": {
          "localASN": 2,
          "peerRouterConfigurations": [
            {
              "routerName": "BGPGateway-0",
              "routerIPAddress": "195.171.120.1",
              "peerASN": 1,
              "id": "860ed1e7-b165-4397-a2bf-d78578feb1c9"
            }
          ]
        }
      },
      "virtualServer": {
        "resourceRef": "/virtualServers/8e361faf-e957-4e26-9728-3ab6454543ab"
      },
      "connections": [
        {
          "managementAddresses": [
            "195.171.120.21",
            "hnv-test22"
          ],
          "credential": {
            "resourceRef": "/credentials/hnv-test22-credentials"
          },
          "credentialType": "usernamePassword",
          "protocol": "tcp",
          "port": "2003"
        }
      ],
      "configurationState": {
```

```

    "status": "Success",
    "detailedInfo": [
      {
        "source": "SoftwareLoadBalancerManager",
        "message": "LoadBalancer Mux is healthy.",
        "code": "Success"
      }
    ],
    "lastUpdatedTime": "2016-06-09T17:21:46.3280587-07:00"
  }
}
],
"nextLink": ""
}

```

The JSON schema for the **loadBalancerMuxes GET** method is located in section 6.7.4.

### 3.1.5.7.1.3.3 Processing Details

Retrieves all **loadBalancerMuxes** resources.

#### 3.1.5.7.1.4 DELETE

This method deletes a **loadBalancerMuxes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerMuxes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.7.1.4.1 Request Body

None.

#### 3.1.5.7.1.4.2 Response Body

None.

#### 3.1.5.7.1.4.3 Processing Details

Deletes a **loadBalancerMuxes** resource.

### 3.1.5.8 (Updated Section) logicalNetworks

The **logicalNetworks** resource represents a logical partition of physical network that is dedicated for a specific purpose. A logical network comprises of a collection of logical subnets.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.8.1.1	Create a new <b>logicalNetworks</b> resource or update an existing <b>logicalNetworks</b> resource.
GET	3.1.5.8.1.2	Get one <b>logicalNetworks</b> resource.
GET ALL	3.1.5.8.1.3	List all <b>logicalNetworks</b> resources in the Network Controller.
DELETE	3.1.5.8.1.4	Deletes a <b>logicalNetworks</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>subnets</b>	Optional	Indicates the subnets that are contained in the logical network. See <b>subnets</b> resource, section 3.1.5.8.2, for full details on this element.
<b>networkVirtualizationEnabled</b>	Optional	Indicates if the logical network is enabled to be the Provider Address (underlay) network for one or more virtual networks. Valid values are TRUE or FALSE. The default is FALSE.
<b>virtualNetworks</b>	Read-only	Indicates an array of <b>virtualNetworks</b> resources that are using the network.

#### 3.1.5.8.1 HTTP Methods

##### 3.1.5.8.1.1 PUT

This method creates a new **logicalNetworks** resource or updates an existing **logicalNetworks** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.8.1.1.1 Request Body

The format for the request body for the **logicalNetworks PUT** method is as follows.

```
{
  "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
  "properties": {
    "subnets": [
      {
        "resourceId": "lnsubnet1",
        "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
        "instanceId": "d99fad69-d311-4a08-bff2-255265dff8aa",
        "properties": {
          "addressPrefix": "192.168.1.0/24",
          "ipConfigurations": [],
          "networkInterfaces": [],
          "GatewayPools": [],
          "networkConnections": [],
          "vlanId": "1",
          "routes": [
            {
              "resourceId": "lnroute1",
              "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
              "properties": {
                "destination": "192.168.1.252/31",
                "nextHop": "192.168.1.1"
              }
            }
          ]
        },
        "dnsServers": [
          "10.0.0.1",
          "10.0.0.2"
        ],
        "defaultGateways": [
          "192.168.1.1",
          "192.168.1.2"
        ],
        "isPublic": true
      }
    ]
  }
}
```

```

    }
  ],
  "virtualNetworks": [],
  "networkVirtualizationEnabled": "True"
},
"resourceId": "1b0993ad-9690-4f26-9a99-f4ee1d101c52"
}

```

The JSON schema for the **logicalNetworks PUT** method is located in section 6.8.1.

### 3.1.5.8.1.1.2 Response Body

The format for the **logicalNetworks PUT** response body is the same as the format for the **logicalNetworks GET** response body (section 3.1.5.8.1.2.2). The JSON schema is located in section 6.8.2.

### 3.1.5.8.1.1.3 Processing Details

Create a new **logicalNetworks** resource or update an existing **logicalNetworks** resource.

### 3.1.5.8.1.2 GET

This method retrieves a **logicalNetworks** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.8.1.2.1 Request Body

None.

### 3.1.5.8.1.2.2 Response Body

The format for the response body for the **logicalNetworks GET** method is as follows.

```

{
  "resourceRef": "/logicalNetworks/1b0993ad-9690-4f26-9a99-f4ee1d101c52",
  "resourceId": "1b0993ad-9690-4f26-9a99-f4ee1d101c52",
  "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
  "instanceId": "6e383781-d3fe-4925-bfb6-b743f7783674",
  "properties": {

```

```

    "provisioningState": "Succeeded",
    "subnets": [
      {
        "resourceRef": "/logicalNetworks/1b0993ad-9690-4f26-9a99-
f4ee1d101c52/subnets/lsubnet1",
        "resourceId": "lnsubnet1",
        "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
        "instanceId": "d99fad69-d311-4a08-bff2-255265dff8aa",
        "properties": {
          "provisioningState": "Succeeded",
          "addressPrefix": "192.168.1.0/24",
          "ipConfigurations": [],
          "networkInterfaces": [],
          "GatewayPools": [],
          "networkConnections": [],
          "vlanId": "1",
          "ipPools": [
            {
              "resourceRef": "/logicalNetworks/1b0993ad-9690-4f26-9a99-
f4ee1d101c52/subnets/lsubnet1/ipPools/{1DAED41A-1D11-4DA5-8839-99B89C7C1806}",
              "resourceId": "{1DAED41A-1D11-4DA5-8839-99B89C7C1806}",
              "etag": "W/\"57d03dea-0e8a-44af-8883-b0f3403de0b9\"",
              "instanceId": "52bd179d-a747-4f2d-9608-cce85ca4365a",
              "properties": {
                "provisioningState": "Succeeded",
                "startIpAddress": "192.168.1.0",
                "endIpAddress": "192.168.1.99"
              }
            }
          ]
        },
        "routes": [
          {
            "resourceRef": "/logicalNetworks/1b0993ad-9690-4f26-9a99-
f4ee1d101c52/subnets/lsubnet1/routes/lroute1",
            "resourceId": "lnroute1",
            "etag": "W/\"88023c76-85bf-4f3a-82a0-f3385025be23\"",
            "instanceId": "bfb3ddf0-1cb4-413f-bf7d-24649df812ed",
            "properties": {
              "provisioningState": "Succeeded",
              "destination": "192.168.1.252/31",
              "nextHop": "192.168.1.1"
            }
          }
        ],
        "dnsServers": [
          "10.0.0.1"
        ],
        "defaultGateways": [
          "192.168.1.1"
        ],
        "isPublic": true
      }
    ],
    "virtualNetworks": [],
    "networkVirtualizationEnabled": "True"
  }
}

```

The JSON schema for the **logicalNetworks GET** method is located in section 6.8.2.

### 3.1.5.8.1.2.3 Processing Details

Retrieves one **logicalNetworks** resource.

### 3.1.5.8.1.3 GET ALL

This method retrieves all **logicalNetworks** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.8.1.3.1 Request Body

None.

### 3.1.5.8.1.3.2 Response Body

The format for the response body for the **logicalNetworks GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-d7ec3f202c6d",
      "resourceId": "72570539-58a9-43d6-b858-d7ec3f202c6d",
      "etag": "W/\"34b565dc-c69e-4165-97ea-6e8ef6c84420\"",
      "instanceId": "b75b250f-f2d1-4a2f-bb2e-57380523b407",
      "properties": {
        "provisioningState": "Succeeded",
        "subnets": [
          {
            "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-d7ec3f202c6d/subnets/3d46ae72-b1d0-48fa-b4fe-ab183e737493",
            "resourceId": "3d46ae72-b1d0-48fa-b4fe-ab183e737493",
            "etag": "W/\"34b565dc-c69e-4165-97ea-6e8ef6c84420\"",
            "instanceId": "78c262d9-de13-4f33-a564-5f168b38a573",
            "properties": {
              "provisioningState": "Succeeded",
              "addressPrefix": "192.83.0.0/16",
              "ipConfigurations": [],
              "networkInterfaces": [
                {
                  "resourceRef": "/servers/27-3145F0416/networkInterfaces/ab055aa1-27d6-4a2e-a4b7-7916008dd1a4"
                }
              ],
              "GatewayPools": [],
              "networkConnections": [],
              "vlanId": "109",
              "ipPools": [
                {
                  "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-d7ec3f202c6d/subnets/3d46ae72-b1d0-48fa-b4fe-ab183e737493/ipPools/66ce16cb-7c9e-4666-b6b4-41208a497604",
                  "resourceId": "66ce16cb-7c9e-4666-b6b4-41208a497604",
```



```

    "etag": "W/\"34b565dc-c69e-4165-97ea-6e8ef6c84420\"",
    "instanceId": "0d68218b-50dc-4cc9-bb36-66324e93b407",
    "properties": {
      "provisioningState": "Succeeded",
      "startIpAddress": "192.83.0.100",
      "endIpAddress": "192.83.255.255"
    }
  },
  {
    "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-
d7ec3f202c6d/subnets/3d46ae72-b1d0-48fa-b4fe-ab183e737493/ipPools/small",
    "resourceId": "small",
    "etag": "W/\"34b565dc-c69e-4165-97ea-6e8ef6c84420\"",
    "instanceId": "581b56e7-dfb2-4fc1-833c-1aaf970c91e6",
    "properties": {
      "provisioningState": "Succeeded",
      "startIpAddress": "192.83.0.90",
      "endIpAddress": "192.83.0.98"
    }
  }
],
"dnsServers": [],
"defaultGateways": [
  "192.83.0.1"
],
"isPublic": false,
"usage": {
  "numberOfIPAddresses": 65445,
  "numberOfIPAddressesAllocated": 2,
  "numberOfIPAddressesInTransition": 0
}
}
],
"virtualNetworks": [
  {
    "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
  }
],
"networkVirtualizationEnabled": "True"
}
},
"nextLink": ""
}

```

The JSON schema for the **logicalNetworks GET ALL** method is located in section 6.8.3.

### 3.1.5.8.1.3.3 Processing Details

Retrieves all **logicalNetworks** resources.

### 3.1.5.8.1.4 DELETE

This method deletes a **logicalNetworks** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.8.1.4.1 Request Body

None.

#### 3.1.5.8.1.4.2 Response Body

None.

#### 3.1.5.8.1.4.3 Processing Details

Deletes a **logicalNetworks** resource.

#### 3.1.5.8.2 (Updated Section) subnets

The **subnets** resource consists of a subnet/VLAN pair. The **vlanId** resource is required; however, it MAY contain a value of zero if the subnet is not associated with a VLAN.

An IP subnet MUST NOT overlap with any other IP subnet in same logical network. An IP subnet MUST NOT span across multiple VLANs within a logical network. All **nextHops** resources that are associated with the **routes** resource for this **logicalSubnets** resource MUST be contained within the logical subnet.

The URI for it is invoked through the resource is as follows following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/subnets/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.8.2.1.1	Create a new <b>subnets</b> resource or update an existing <b>subnets</b> resource.

HTTP method	Section	Description
<b>GET</b>	3.1.5.8.2.1.2	Get one <b>subnets</b> resource.
<b>GET ALL</b>	3.1.5.8.2.1.3	List all <b>subnets</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.8.2.1.4	Deletes a <b>subnets</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>addressPrefix</b>	Read/write	Identifies the subnet ID in form of ipAddress/prefixlength. The address prefix can be either IPV4 or IPV6.
<b>vlanId</b>	Read/write Required	Indicates the VLAN ID associated with the logical subnet. Valid values range from 0 through 4095. The value can be shared across multiple <b>subnets</b> .
<b>routes</b>	Optional Read/write	Indicates the <b>routes</b> that are contained in the logical subnet. See section 3.1.5.8.2.3 for full details on this element.
<b>ipPools</b>	Optional Read/write	Indicates the <b>ipPools</b> that are contained in the logical subnet. See section 3.1.5.8.2.2 for full details on this element.
<b>dnsServers</b>	Optional Read/write	Indicates one or more DNS servers that are used for resolving DNS queries by devices or host connected to this logical subnet.
<b>networkInterfaces</b>	Read-only	Indicates an array of references to <b>networkInterfaces</b> resources that are attached to the logical subnet.
<b>isPublic</b>	Read/write	Boolean flag specifying whether the logical subnet is a public subnet.
<b>defaultGateways</b>	Read/write	A collection of one or more <b>gateways</b> for the subnet.

### 3.1.5.8.2.1 HTTP Methods

#### 3.1.5.8.2.1.1 PUT

This method creates a new **subnets** resource or updates an existing **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.8.2.1.1.1 Request Body

The format for the request body for the **subnets PUT** method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "tags": { "key": "value" },
  "resourceMetadata":
  {
    "client": "Windows PowerShell",
    "name": "{name}",
    "originalHref": "https://..."
  },
  "properties": {
    "addressPrefix": "192.168.1.0/24",
    "ipConfigurations": [],
    "vlanId": "1",
    "routes": [],
    "dnsServers": [ "10.0.0.1", "10.0.0.2"],
    "defaultGateway": [ "192.168.1.1", "192.168.1.2"],
    "isPublic": true,
    "ipPools": []
  }
}
```

The JSON schema for the **subnets PUT** method is contained within the **logicalNetworks PUT** schema in section 6.8.1.

### 3.1.5.8.2.1.1.2 Response Body

The format for the **subnets PUT** response body is the same as the format for the **subnets GET** response body (section 3.1.5.8.2.1.2.2). The JSON schema is contained within the **logicalNetworks GET** schema in section 6.8.2.

### 3.1.5.8.2.1.1.3 Processing Details

Create a new **subnets** resource or update an existing **subnets** resource.

### 3.1.5.8.2.1.2 GET

This method retrieves a **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.8.2.1.2.1 Request Body

None.

### 3.1.5.8.2.1.2.2 Response Body

The format for the response body for the **subnets GET** method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "etag": "00000000-0000-0000-0000-000000000000",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata":
  {
    "client": "<Insert likely client>",
    "tenantId": "{subscriptionid}",
    "groupId": "{groupname}",
    "name": "{name}",
    "originalHref": "https://..."
  },
  "properties": {
    "provisioningState": "Updating|Deleting|Failed|Succeeded",
    "addressPrefix": "192.168.1.0/24",
    "ipConfigurations": [],
    "networkInterfaces": [],
    "vlanId": "1",
    "routes": [],
    "dnsServers": [ "10.0.0.1", "10.0.0.2"],
    "defaultGateways": [ "192.168.1.1", "192.168.1.2"],
    "isPublic": true,
    "ipPools": []
  }
}
```

The JSON schema for the **subnets GET** method is contained within the **logicalNetworks GET** schema in section 6.8.2.

### 3.1.5.8.2.1.2.3 Processing Details

Retrieves a **subnets** resource.

### 3.1.5.8.2.1.3 GET ALL

This method retrieves all **subnets** resources.

It is invoked through the following URI.

https://<url>/networking/v1/logicalNetworks/{parentResourceId}/subnets

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.8.2.1.3.1 Request Body

None.

### 3.1.5.8.2.1.3.2 Response Body

The format for the response body for the **subnets GET ALL** method is as follows.

```
[
  {
    "resourceId": "{uniqueString}",
    "etag": "00000000-0000-0000-0000-000000000000",
    "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
    "tags": { "key": "value" },
    "resourceMetadata":
      {
        "client": "<Insert likely client>",
        "tenantId": "{subscriptionid}",
        "groupId": "{groupname}",
        "name": "{name}",
        "originalHref": "https://..."
      },
    "properties": {
      "provisioningState": "Updating|Deleting|Failed|Succeeded",
      "ipConfigurations": [],
      "networkInterfaces": [],
      "vlanId": "1",
      "routes": [],
      "dnsServers": [ "10.0.0.1", "10.0.0.2"],
      "defaultGateways": [ "192.168.1.1", "192.168.1.2"],
      "isPublic": true,
      "ipPools": []
    }
  },
  {
    "resourceId": "{uniqueString}",
    "etag": "00000000-0000-0000-0000-000000000000",
    "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
    "tags": { "key": "value" },
    "resourceMetadata":
      {
        "client": "<Insert likely client>",
        "tenantId": "{subscriptionid}",
        "groupId": "{groupname}",
        "name": "{name}",
        "originalHref": "https://..."
      },
  },
]
```

```

"properties":
{
  "provisioningState": "Updating|Deleting|Failed|Succeeded",
  "ipConfigurations": [],
  "networkInterfaces": [],
  "vlanId": "1",
  "routes": [],
  "dnsServers": [ "10.0.0.1", "10.0.0.2"],
  "defaultGateways": [ "192.168.1.1", "192.168.1.2"],
  "isPublic": true,
  "ipPools":[]
}
}
]

```

The JSON schema for the **subnets GET ALL** method is contained within the **logicalNetworks GET ALL** schema in section 6.8.3.

### 3.1.5.8.2.1.3.3 Processing Details

Retrieves all **subnets** resources.

### 3.1.5.8.2.1.4 DELETE

This method deletes a **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.8.2.1.4.1 Request Body

None.

### 3.1.5.8.2.1.4.2 Response Body

None.

### 3.1.5.8.2.1.4.3 Processing Details

Deletes a **subnets** resource.

### 3.1.5.8.2.2 (Updated Section) ipPools

The **ipPools** resource represents the range of IP addresses from which IP addresses will be allocated for nodes within a subnet. The subnet is a logical or physical subnet inside a logical network. The pools can be either IPv4 or IPv6. A logical subnet can reference pools of one single type: IPV4 or IPV6. The address family of the logical subnet MUST match the address family of the IP pool.

The **ipPools** for a virtual subnet are implicit. The start and end IP addresses of the pool of the virtual subnet is based on the IP prefix of the virtual subnet.

The URI for **It is invoked through** the **resource is as follows** following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/ipPools/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**grandParentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.1 for more details.

**parentResourceId:** the identifier for the specific resource that is the descendant of the grandParentResource and the ancestor of the ipPools resource. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific resource within the resource type that is the descendant of the parentResource. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1** or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.8.2.2.1.1	Create a new <b>ipPools</b> resource or update an existing <b>ipPools</b> resource.
GET	3.1.5.8.2.2.1.2	Get one <b>ipPools</b> resource.
GET ALL	3.1.5.8.2.2.1.3	List all <b>ipPools</b> resources in the Network Controller.
DELETE	3.1.5.8.2.2.1.4	Deletes an <b>ipPools</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>startIpAddress</b>	Read/write Required	Start IP address of the pool. <b>Note</b> This is an inclusive value so it is a valid IP address from this pool.
<b>endIpAddress</b>	Read/write Required	End IP address of the pool. <b>Note</b> This is an inclusive value so it is a valid IP address from this pool.
<b>usage</b>	Read-only	Statistics of the usage of the IP pool
<b>usage.numberOfIPAddresses</b>	Read-only	Total number of IP Addresses in the IP pool



Element name	Type	Description
<b>usage.numberOfIPAddresses Allocated</b>	Read-only	Number of allocated IP addresses in the IP pool
<b>usage.numberOfIPAddresses InTransition</b>	Read-only	Number of IP addresses which are in transition state. These IP addresses are freed but are not yet available for allocation because of a hold-off period.

### 3.1.5.8.2.2.1 HTTP Methods

#### 3.1.5.8.2.2.1.1 PUT

This method creates a new **ipPools** resource or updates an existing **ipPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/ipPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.8.2.2.1.1.1 Request Body

The format for the request body for the **ipPools PUT** method is as follows.

```
{
  "resourceId": "{1DAED41A-1D11-4DA5-8839-99B89C7C1806}",
  "properties": {
    "startIpAddress": "192.168.1.0",
    "endIpAddress": "192.168.1.99"
  }
}
```

The JSON schema for the **ipPools PUT** method is located in section 6.8.4.1.1.

#### 3.1.5.8.2.2.1.1.2 Response Body

The format for the **ipPools PUT** response body is the same as the format for the **ipPools GET** response body (section 3.1.5.8.2.2.1.2.2). The JSON schema is located in section 6.8.4.1.2.

### 3.1.5.8.2.2.1.1.3 Processing Details

Create a new **ipPools** resource or update an existing **ipPools** resource.

### 3.1.5.8.2.2.1.2 GET

This method retrieves an **ipPools** resource.

It is invoked through the following URI.

```
https://<url>/logicalnetworking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/ipPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.8.2.2.1.2.1 Request Body

None.

### 3.1.5.8.2.2.1.2.2 Response Body

The format for the response body for the **ipPools GET** method is as follows.

```
{
  "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-d7ec3f202c6d/subnets/3d46ae72-
b1d0-48fa-b4fe-ab183e737493/ipPools/66ce16cb-7c9e-4666-b6b4-41208a497604",
  "resourceId": "66ce16cb-7c9e-4666-b6b4-41208a497604",
  "etag": "W/\"18b36409-81e3-4bc1-8234-cf924de405ce\"",
  "instanceId": "0d68218b-50dc-4cc9-bb36-66324e93b407",
  "properties": {
    "provisioningState": "Succeeded",
    "startIpAddress": "192.83.0.100",
    "endIpAddress": "192.83.255.255",
    "usage": {
      "numberOfIPAddresses": 65436,
      "numberOfIPAddressesAllocated": 2,
      "numberOfIPAddressesInTransition": 0
    }
  }
}
```

The JSON schema for the **ipPools GET** method is located in section 6.8.4.1.2.

### 3.1.5.8.2.2.1.2.3 Processing Details

Retrieves a **ipPools** resource.

#### 3.1.5.8.2.2.1.3 GET ALL

This method retrieves all **ipPools** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/ipPools
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.8.2.2.1.3.1 Request Body

None.

#### 3.1.5.8.2.2.1.3.2 Response Body

The format for the response body for the **ipPools GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/logicalNetworks/a647c7f3-9203-44df-a15e-bfff856c83d7
        /subnets/d1078059-fe58-4c26-bdce-9bf61e0d2be2/ipPools/9176fa09-48ca-4e0e-b953-
        c9c065561e03",
      "resourceId": "9176fa09-48ca-4e0e-b953-c9c065561e03",
      "etag": "W/\"fd2b18a6-f142-494c-adee-fb244cd7245d\"",
      "instanceId": "10080cf6-504d-4e6c-bf22-d2b90bd51090",
      "properties": {
        "provisioningState": "Succeeded",
        "startIpAddress": "15.65.2.100",
        "endIpAddress": "15.65.2.255",
        "usage": {
          "numberOfIPAddresses": 156,
          "numberOfIPAddressesAllocated": 0,
          "numberOfIPAddressesInTransition": 0
        }
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **ipPools GET ALL** method is located in section 6.8.4.1.3.

### 3.1.5.8.2.2.1.3.3 Processing Details

Retrieves all **ipPools** resources.

### 3.1.5.8.2.2.1.4 DELETE

This method deletes an **ipPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/ipPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.8.2.2.1.4.1 Request Body

None.

### 3.1.5.8.2.2.1.4.2 Response Body

None.

### 3.1.5.8.2.2.1.4.3 Processing Details

Deletes an **ipPools** resource.

### 3.1.5.8.2.3 (Updated Section) routes

The **routes** resource represents a provider route. If a host connects to a logical subnet as part of hosting a virtual network, then all routes in that logical subnet are applied to the host. Consequently, the host can route the traffic to the correct destination.

The URI for it is invoked through the resource is as follows following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/routes/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**grandParentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.1 for more details.

**parentResourceId:** the identifier for the specific resource that is the descendant of the grandParentResource and the ancestor of the routes resource. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific resource within the resource type that is the descendant of the parentResource. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.8.2.3.1.1	Create a new <b>routes</b> resource or update an existing <b>routes</b> resource.
<b>GET</b>	3.1.5.8.2.3.1.2	Get one <b>routes</b> resource.
<b>GET ALL</b>	3.1.5.8.2.3.1.3	List all <b>routes</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.8.2.3.1.4	Delete a <b>routes</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>destination</b>	Required	Indicates the destination subnet that this route applies to. It is specified in the form of 0.0.0.0/0. The destination subnet is of the same type as the subnet that it is created in. For example, this has to be an IPv4 destination subnet if its parent subnet is an IPv4 subnet, similarly for IPv6 the destination route is the subnet is IPv6.
<b>nextHop</b>	Required	Indicates the next hop IP address for this <b>routes</b> resource. It is specified in the form of 0.0.0.0. The next hop has to be a valid IP address in the subnet.

### 3.1.5.8.2.3.1 HTTP Methods

#### 3.1.5.8.2.3.1.1 PUT

This method creates a new **routes** resource or updates an existing **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.8.2.3.1.1.1 Request Body

The format for the request body for the **routes PUT** method is as follows.

```
{
  "resourceId": "lnroute2",
  "properties": {
    "destination": "192.168.1.128/31",
    "nextHop": "192.168.1.1"
  }
}
```

The JSON schema for the **routes PUT** method is contained within the **logicalNetworks GET** schema in section 6.8.1.

### 3.1.5.8.2.3.1.1.2 Response Body

The format for the **routes PUT** response body is the same as the format for the **routes GET** response body (section 3.1.5.8.2.3.1.2.2). The JSON schema is contained within the **logicalNetworks GET** schema in section 6.8.2.

### 3.1.5.8.2.3.1.1.3 Processing Details

Create a new **routes** resource or update an existing **routes** resource.

### 3.1.5.8.2.3.1.2 GET

This method retrieves a **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.8.2.3.1.2.1 Request Body

None.

### 3.1.5.8.2.3.1.2.2 Response Body

The format for the response body for the **routes GET** method is as follows.

```
{
  "resourceRef": "/logicalNetworks/testln/subnets/lnsubnet1/routes/lnroute1",
  "resourceId": "lnroute1",
  "etag": "W/\"01f97500-620c-4877-868a-2f07833ed040\"",
  "instanceId": "93229775-761a-448e-a9eb-df2ea3878f8a",
  "properties": {
    "provisioningState": "Succeeded",
    "destination": "192.168.1.252/31",
    "nextHop": "192.168.1.1"
  }
}
```

The JSON schema for the **routes GET** method is contained within the **logicalNetworks GET** schema in section 6.8.2.

### 3.1.5.8.2.3.1.2.3 Processing Details

Retrieves a **routes** resource.

#### 3.1.5.8.2.3.1.3 GET ALL

This method retrieves all **routes** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/routes
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.8.2.3.1.3.1 Request Body

None.

### 3.1.5.8.2.3.1.3.2 Response Body

The format for the response body for the **routes GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/logicalNetworks/testln/subnets/lnsubnet1/routes/lnroute1",
      "resourceId": "lnroute1",
      "etag": "W/\"6b69784b-5bcc-4724-a2ab-4eab0fafdf7e\"",
      "instanceId": "93229775-761a-448e-a9eb-df2ea3878f8a",
      "properties": {
        "provisioningState": "Succeeded",
        "destination": "192.168.1.252/31",
        "nextHop": "192.168.1.1"
      }
    },
    {
      "resourceRef": "/logicalNetworks/testln/subnets/lnsubnet1/routes/lnroute2",
      "resourceId": "lnroute2",
      "etag": "W/\"6b69784b-5bcc-4724-a2ab-4eab0fafdf7e\"",
      "instanceId": "1ae56b5f-5b8d-49dd-8d52-40cc6b02face",
      "properties": {
        "provisioningState": "Succeeded",
        "destination": "192.168.1.128/31",
        "nextHop": "192.168.1.1"
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **routes GET ALL** method is contained within the **logicalNetworks GET** schema in section 6.8.2.

### 3.1.5.8.2.3.1.3.3 Processing Details

Retrieves all **routes** resources.

### 3.1.5.8.2.3.1.4 DELETE

This method deletes a **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{grandParentResourceId}/subnets/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.



Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.8.2.3.1.4.1 Request Body

None.

#### 3.1.5.8.2.3.1.4.2 Response Body

None.

#### 3.1.5.8.2.3.1.4.3 Processing Details

Deletes a **routes** resource.

### 3.1.5.9 (Updated Section) macPools

**macPools** resource specifies one or more ranges of MAC addresses, which are used internally by the Network Controller. The MAC addresses are used for both overlay and underlay needs. If more than one MAC pool is created, the MAC address space management component in the Network Controller MUST determine which pool to allocate the MAC from. After a MAC pool has been created, the pool cannot be extended or shrunk. MACs from the pool will not be reassigned.

It is invoked through the following URI.

```
https://<url>/networking/v1/macPools/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The Network Controller MUST be installed and configured prior to using this resource.

In addition, the admin MUST create a dedicated range of MACs, and make non-overlapping subset of those MACs available to the Network Controller for internal use as defined with this resource.

A **macPools** resource SHOULD be created prior to the creation of any server or **networkInterfaces** resources.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.9.1.1	Create a new <b>macPools</b> resource or update an existing <b>macPools</b> resource.

HTTP method	Section	Description
<b>GET</b>	3.1.5.9.1.2	Get one <b>macPools</b> resource.
<b>GET ALL</b>	3.1.5.9.1.3	List all <b>macPools</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.9.1.4	Deletes a <b>macPools</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>startMacAddress</b>	Required Read/write	This is a string in the form of AA-BB-CC-DD-EE-FF.
<b>endMacAddress</b>	Required Read/write	This is a string in the form of UU-VV-WW-XX-YY-ZZ.
<b>usage</b>	Read-only	Usage statistics of the MAC address pool.
<b>usage.numberOfMacAddresses</b>	Read-only	Number of MAC addresses in the address pool.
<b>usage.numberOfMACAddressesAllocated</b>	Read-only	Number of allocated MAC addresses in the address pool.

### 3.1.5.9.1 HTTP Methods

#### 3.1.5.9.1.1 PUT

This method creates a new **macPools** resource or updates an existing **macPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/macPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)

Status code
500 (Internal Server Error)

### 3.1.5.9.1.1.1 Request Body

The format for the request body for the **macPools PUT** method is as follows.

```
{
  "properties": {
    "startMacAddress": "E0-60-F0-0D-FF-FE",
    "endMacAddress": "E0-60-F0-0D-FF-FF"
  }
}
```

The JSON schema for the **macPools PUT** method is located in section 6.9.1.

### 3.1.5.9.1.1.2 Response Body

The format for the **macPools PUT** response body is the same as the format for the **macPools GET** response body (section 3.1.5.9.1.2.2). The JSON schema is located in section 6.9.2.

### 3.1.5.9.1.1.3 Processing Details

Create a new **macPools** resource or update an existing **macPools** resource.

### 3.1.5.9.1.2 GET

This method retrieves a **macPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/macPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.9.1.2.1 Request Body

None.

### 3.1.5.9.1.2.2 Response Body

The format for the response body for the **macPools GET** method is as follows.

```
{
  "resourceRef": "/macPools/macPool3",
  "resourceId": "macPool3",
  "etag": "W/\"5785aa19-c76b-44d3-99cf-dbe04db06172\"",
  "instanceId": "5b9f4e36-e483-4408-a928-78c8cca26af4",
  "properties": {
    "provisioningState": "Succeeded",
    "startMacAddress": "B0-60-F0-0D-00-00",
    "endMacAddress": "B0-60-F0-0D-FF-FF",
    "usage": {
      "numberOfMacAddresses": 65536,
      "numberOfMacAddressesAllocated": 0
    }
  }
}
```

The JSON schema for the **macPools GET** method is located in section 6.9.2.

### 3.1.5.9.1.2.3 Processing Details

Retrieves a **macPools** resource.

#### 3.1.5.9.1.3 GET ALL

This method retrieves all **macPools** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/macPools
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.9.1.3.1 Request Body

None.

#### 3.1.5.9.1.3.2 Response Body

The format for the response body for the **macPools GET ALL** method is as follows.

```
{
  "value": [
```

```

{
  "resourceRef": "/macPools/macPool1",
  "resourceId": "macPool1",
  "etag": "W/\"2ec6925c-71fe-4698-9342-ec0dcd292d84\"",
  "instanceId": "d48f4896-19a8-4553-889f-835dce11bda0",
  "properties": {
    "provisioningState": "Succeeded",
    "startMacAddress": "D0-60-F0-0D-00-00",
    "endMacAddress": "D0-60-F0-0D-FF-FF",
    "usage": {
      "numberOfMacAddresses": 65536,
      "numberOfMacAddressesAllocated": 0
    }
  }
},
{
  "resourceRef": "/macPools/macPool2",
  "resourceId": "macPool2",
  "etag": "W/\"e6f5a533-51da-434f-b115-3193f7e2393a\"",
  "instanceId": "47a5eae-586a-4953-ad84-916eed92a0c1",
  "properties": {
    "provisioningState": "Succeeded",
    "startMacAddress": "A0-60-F0-0D-00-00",
    "endMacAddress": "A0-60-F0-0D-FF-FF",
    "usage": {
      "numberOfMacAddresses": 65536,
      "numberOfMacAddressesAllocated": 0
    }
  }
},
{
  "resourceRef": "/macPools/macPool3",
  "resourceId": "macPool3",
  "etag": "W/\"5785aa19-c76b-44d3-99cf-dbe04db06172\"",
  "instanceId": "5b9f4e36-e483-4408-a928-78c8cca26af4",
  "properties": {
    "provisioningState": "Succeeded",
    "startMacAddress": "B0-60-F0-0D-00-00",
    "endMacAddress": "B0-60-F0-0D-FF-FF",
    "usage": {
      "numberOfMacAddresses": 65536,
      "numberOfMacAddressesAllocated": 0
    }
  }
}
]
}

```

The JSON schema for the **macPools GET ALL** method is located in section 6.9.3.

### 3.1.5.9.1.3.3 Processing Details

Retrieves all **macPools** resources.

### 3.1.5.9.1.4 DELETE

This method deletes a **macPools** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/macPools/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.9.1.4.1 Request Body

None.

#### 3.1.5.9.1.4.2 Response Body

None.

#### 3.1.5.9.1.4.3 Processing Details

Deletes a **macPools** resource.

### 3.1.5.10 (Updated Section) routeTables

The **routeTables** resource contains a list of **routes**. **routeTables** resources can be applied to **subnets** of a tenant virtual network to control routing within a virtual network. Once **routeTables** has been associated to a virtual subnet, all tenant VMs created within that subnet will inherit the **routeTables** and will have their traffic routed per the routes contained in the table.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides v1~~ **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.10.1.1	Create a new <b>routeTables</b> resource or update an existing <b>routeTables</b> resource.
<b>GET</b>	3.1.5.10.1.2	Get one <b>routeTables</b> resource.
<b>GET ALL</b>	3.1.5.10.1.3	List all <b>routeTables</b> resources in the Network Controller.

HTTP method	Section	Description
DELETE	3.1.5.10.1.4	Deletes a <b>routeTables</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>routes</b>	Optional	Indicates the <b>routes</b> in a route table, see <b>routes</b> resource section 3.1.5.10.2 for full details on this element.<15>
<b>subnets</b>	Read-only	Indicates an array of references to <b>subnets</b> resources this route table is associated with.

### 3.1.5.10.1 HTTP Methods

#### 3.1.5.10.1.1 PUT

This operation creates a new **routeTables** resource or updates an existing **routeTables** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.10.1.1.1 Request Body

The format for the request body for the **routeTables PUT** method is as follows.

```
{
  "properties": {
    "routes": [
      {
```

```

    "resourceId": "4f7b9b29-6744-436d-af0e-779fa7093f29",
    "resourceMetadata": {},
    "properties": {
      "addressPrefix": "11.0.0.0/24",
      "nextHopType": "VirtualAppliance",
      "nextHopIpAddress": "12.0.0.21"
    }
  ]
}

```

The JSON schema for the **routeTables PUT** method is located in section 6.10.1.

### 3.1.5.10.1.1.2 Response Body

The format for the **routeTables PUT** response body is the same as the format for the **routeTables GET** response body. The JSON schema is located in section 6.10.2.

### 3.1.5.10.1.1.3 Processing Details

Creates a new **routeTables** resource or update an existing **routeTables** resource.

#### 3.1.5.10.1.2 GET

This operation retrieves a **routeTables** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.10.1.2.1 Request Body

None.

### 3.1.5.10.1.2.2 Response Body

The format for the response body for the **routeTables GET** is as follows.

```

{
  "resourceRef": "/routeTables/d81c27bd-4be4-438a-8b88-31ca717cfe75",
  "resourceId": "d81c27bd-4be4-438a-8b88-31ca717cfe75",
}

```



```

    "etag": "W/\"7a107f52-a9b3-486e-b8a0-cb85426c1400\"",
    "instanceId": "a6070cef-9db4-439a-a095-1cc5e5b9ed8c",
    "properties": {
      "provisioningState": "Succeeded",
      "routes": [
        {
          "resourceRef": "/routeTables/d81c27bd-4be4-438a-8b88-31ca717cfe75/routes/4f7b9b29-6744-436d-af0e-779fa7093f29",
          "resourceId": "4f7b9b29-6744-436d-af0e-779fa7093f29",
          "etag": "W/\"7a107f52-a9b3-486e-b8a0-cb85426c1400\"",
          "instanceId": "94428b30-47fa-4ba3-b5c5-0fa949eb0ccc",
          "properties": {
            "provisioningState": "Succeeded",
            "addressPrefix": "11.0.0.0/24",
            "nextHopType": "VirtualAppliance",
            "nextHopIpAddress": "12.0.0.21"
          }
        },
        {
          "resourceRef": "/routeTables/d81c27bd-4be4-438a-8b88-31ca717cfe75/routes/4e65fd4c-51bd-4ac5-bbec-c9fad8d66a24",
          "resourceId": "4e65fd4c-51bd-4ac5-bbec-c9fad8d66a24",
          "etag": "W/\"7a107f52-a9b3-486e-b8a0-cb85426c1400\"",
          "instanceId": "1dcd588f-56b9-4807-b818-b1325831684b",
          "properties": {
            "provisioningState": "Succeeded",
            "addressPrefix": "11.0.0.22/32",
            "nextHopType": "VnetLocal",
            "nextHopIpAddress": ""
          }
        }
      ],
      "subnets": [
        {
          "resourceRef": "/virtualNetworks/13b0d711-6db5-4309-b454-595625165034/subnets/4e577d52-e7be-4c45-a369-f0f941f3555a"
        }
      ]
    }
  }
}

```

The JSON schema for the **routeTables GET** method is located in section 6.10.2.

### 3.1.5.10.1.2.3 Processing Details

Retrieves a **routeTables** resource.

### 3.1.5.10.1.3 GET ALL

This operation retrieves a list of all **routeTables** resources in the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables
```

There are no parameters for this query.

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

### 3.1.5.10.1.3.1 Request Body

None.

### 3.1.5.10.1.3.2 Response Body

The format for the response body for the **routeTables GET ALL** is as follows.

```
{
  "value": [
    {
      "resourceRef": "/routeTables/rt",
      "resourceId": "rt",
      "resourceMetadata": {},
      "etag": "W/\"153bce9f-1830-4f13-b90d-a7017119ac24\"",
      "instanceId": "0cbeadb5-6bc8-41b6-9bba-6b96ca010eba",
      "properties": {
        "provisioningState": "Succeeded",
        "routes": [
          {
            "resourceRef": "/routeTables/rt/routes/4f7b9b29-6744-436d-af0e-779fa7093f29",
            "resourceId": "4f7b9b29-6744-436d-af0e-779fa7093f29",
            "resourceMetadata": {},
            "etag": "W/\"153bce9f-1830-4f13-b90d-a7017119ac24\"",
            "instanceId": "cdbf5edf-d288-4d8e-89b9-f45a2ald59ec",
            "properties": {
              "provisioningState": "Succeeded",
              "addressPrefix": "11.0.0.0/24",
              "nextHopType": "VirtualAppliance",
              "nextHopIpAddress": "12.0.0.21"
            }
          }
        ]
      },
      "subnets": []
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **routeTables GET ALL** method is located in section 6.10.3.

### 3.1.5.10.1.3.3 Processing Details

Retrieves all **routeTables** resources.

### 3.1.5.10.1.4 DELETE

This operation deletes a **routeTables** resource. The operation is transported by a HTTP DELETE.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.10.1.4.1 Request Body

None.

#### 3.1.5.10.1.4.2 Response Body

None.

#### 3.1.5.10.1.4.3 Processing Details

Deletes a **routeTables** resource.

### 3.1.5.10.2 (Updated Section) routes

A **routes** resource is used to create routes under a tenant's Route Table. The tenant can specify the **addressPrefix** of the route, the type of next hop, and the next hop customer IP address.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{parentResourceId}/routes/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1** **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.10.2.1.1	Create a new <b>routes</b> resource or update an existing <b>routes</b> resource.
GET	3.1.5.10.2.1.2	Get one <b>routes</b> resource.

HTTP method	Section	Description
<b>GET ALL</b>	3.1.5.10.2.1.3	List all <b>routes</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.10.2.1.4	Deletes a <b>routes</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>addressPrefix</b>	Required	The destination CIDR to which the route applies, such as 10.1.0.0/16
<b>nextHopType</b>	Required	The type of hop to which the packet is sent. Valid values are <b>VirtualAppliance</b> , <b>VnetLocal</b> , <b>VirtualNetworkGateway</b> , <b>Internet</b> , or <b>None</b> . <b>VirtualAppliance</b> - represents a virtual appliance VM within the tenant virtual network. <b>VnetLocal</b> - represents the local virtual network. <b>VirtualNetworkGateway</b> - represents a virtual network gateway. <b>Internet</b> - represents the default internet gateway. <b>None</b> - represents a black hole. Packets forwarded to a black hole will not be forwarded out of it.
<b>nextHopIpAddress</b>	Optional	Indicates the next hop to which IP address packets are forwarded, such as 11.0.0.23. This value can only be specified for <b>routes</b> where the next hop type is <b>VirtualAppliance</b> and this value MUST be specified when the next hop type is <b>VirtualAppliance</b> .

### 3.1.5.10.2.1 HTTP Methods

#### 3.1.5.10.2.1.1 PUT

This method creates a new **routes** resource or updates an existing **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)

Status code
204 (No Content)
412 (Precondition Failed)

### 3.1.5.10.2.1.1.1 Request Body

The format for the request body for the **routes PUT** method is as follows.

```
{
  "resourceId": "4f7b9b29-6744-436d-af0e-779fa7093f29",
  "resourceMetadata": {
  },
  "properties": {
    "addressPrefix": "11.0.0.0/24",
    "nextHopType": "VirtualAppliance",
    "nextHopIpAddress": "12.0.0.21"
  }
}
```

The JSON schema for the **routes PUT** method is located in section 6.10.4.1.

### 3.1.5.10.2.1.1.2 Response Body

The format is the same as in the format for **routes GET** (section 3.1.5.10.2.1.2.2). The JSON schema is located in section 6.10.4.2.

### 3.1.5.10.2.1.1.3 Processing Details

Create a new **routes** resource or update an existing **routes** resource.

### 3.1.5.10.2.1.2 GET

This method retrieves a **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.10.2.1.2.1 Request Body

None.

### 3.1.5.10.2.1.2.2 Response Body

The format for the response body for the **routes GET** method is as follows.

```
{
  "resourceRef": "/routeTables/d81c27bd-4be4-438a-8b88-31ca717cfe75/routes/4f7b9b29-6744-436d-af0e-779fa7093f29",
  "resourceId": "4f7b9b29-6744-436d-af0e-779fa7093f29",
  "etag": "W/\"7a107f52-a9b3-486e-b8a0-cb85426c1400\"",
  "instanceId": "94428b30-47fa-4ba3-b5c5-0fa949eb0ccc",
  "properties": {
    "provisioningState": "Succeeded",
    "addressPrefix": "11.0.0.0/24",
    "nextHopType": "VirtualAppliance",
    "nextHopIpAddress": "12.0.0.21"
  }
}
```

The JSON schema for the **routes GET** method is located in section 6.10.4.2.

### 3.1.5.10.2.1.2.3 Processing Details

Retrieves a **routes** resource.

#### 3.1.5.10.2.1.3 GET ALL

This method retrieves all **routes** resources that belong to a **routeTables** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{parentResourceId}/routes
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.10.2.1.3.1 Request Body

None.

### 3.1.5.10.2.1.3.2 Response Body

The format for the response body for the **routes GET ALL** method is as follows.

```
[
  {
    "resourceId": "{uniqueString}",
    "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
    "tags": { "key": "value" },
    "resourceMetadata": {
      "client": "WAP Network Resource Provider",
      "tenantId": "{subscriptionid}",
      "groupId": "{groupname}",
      "name": "{name}",
      "originalHref": "https://..."
    },
    "properties": {
      "etag": "00000000-0000-0000-0000-000000000000",
      "provisioningState": "Updating|Deleting|Failed|Succeeded",
      "addressPrefix": "10.0.0.0/24",
      "nextHopType": "VirtualAppliance",
      "nextHopIpAddress": "11.0.0.5"
    }
  }
]
[
  {
    "resourceId": "{uniqueString}",
    "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
    "tags": { "key": "value" },
    "resourceMetadata": {
      "client": "WAP Network Resource Provider",
      "tenantId": "{subscriptionid}",
      "groupId": "{groupname}",
      "name": "{name}",
      "originalHref": "https://..."
    },
    "properties": {
      "etag": "00000000-0000-0000-0000-000000000000",
      "provisioningState": "Updating|Deleting|Failed|Succeeded",
      "addressPrefix": "11.11.0.0/16",
      "nextHopType": "VirtualAppliance",
      "nextHopIpAddress": "11.12.5.5"
    }
  }
]
```

The JSON schema for the **routes GET ALL** method is located in section 6.10.4.3.

### 3.1.5.10.2.1.3.3 Processing Details

Retrieves all **routes** resources that belong to a **routeTables** resource.

### 3.1.5.10.2.1.4 DELETE

This method deletes a **routes** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/routeTables/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.10.2.1.4.1 Request Body

None.

#### 3.1.5.10.2.1.4.2 Response Body

None.

#### 3.1.5.10.2.1.4.3 Processing Details

Deletes a **routes** resource.

### 3.1.5.11 (Updated Section) networkInterfaces

The **networkInterfaces** resource specifies the configuration of either a host virtual network interface card (host vNIC) or a virtual server NIC (VMNIC).

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.11.1.1	Create a new <b>networkInterfaces</b> resource or update an existing <b>networkInterfaces</b> resource.
<b>GET</b>	3.1.5.11.1.2	Get one <b>networkInterfaces</b> resource.
<b>GET ALL</b>	3.1.5.11.1.3	List all <b>networkInterfaces</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.11.1.4	Delete a <b>networkInterfaces</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.



Element name	Type	Description
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>dnsSettings</b>	Optional	Indicates the DNS settings of this network interface.
<b>dnsSettings.dnsServers</b>	Optional	Indicates an array of IP Addresses that this network interface resource will use for the DNS servers.
<b>ipConfigurations</b>	Read-only	Indicates an array of IP configurations that are contained in the network interface. See section 3.1.5.11.2 for full details on this element.
<b>isHostVirtualNetworkInterface</b>	Optional	TRUE – this is a host virtual network interface card (host vNIC). FALSE – this is a virtual server NIC (VMNIC) (default). Cannot be changed after creation.
<b>internalDnsNameLabel</b>	Optional	Determines the name that will be registered in the internal Domain Name Service (iDNS) when the <b>iDnsServer</b> resource is configured. The host address record that contains the <b>internalDnsNameLabel</b> string is in addition to that which contains the virtual machine host name string. The names in the two records are the <b>internalDnsNameLabel</b> and the virtual machine hostname, respectively, followed by the virtual network resource ID, which is followed by the global zone name.  The <b>internalDnsNameLabel</b> can be set only for primary interfaces (meaning interfaces for which the <b>isPrimary</b> property is TRUE).  When the iDnsServer is configured and the <b>internalDnsNameLabel</b> is specified, it is guaranteed that the label will be registered.  The virtual machine guest operating system might not provide a host name part of the DHCP negotiation.
<b>isPrimary</b>	Optional	TRUE – this is the primary interface and the default value if the property is not set. FALSE - this is a secondary interface.  The distinction is important if a virtual machine has more than one network interface.  This property cannot be changed after the resource is created.
<b>configurationState</b>	Optional Read-only	The <b>configurationState</b> for network interfaces contains an <b>id</b> field that is set to the <b>instanceId</b> of the network interface. See specification in section 2.2.4.  More details are given in the section for the <b>GET</b> operation section 3.1.5.11.1.2.
<b>isMultitenantStack</b>	Optional	TRUE – Allows the NIC to be part of multiple virtual networks. FALSE – the opposite (default).
<b>server</b>	Read-only	Indicates a reference to the <b>servers</b> resource for the machine that is currently hosting the virtual machine to which this network interface belongs.
<b>portSettings</b>		See following Port Settings table.
<b>privateMacAddress</b>	Optional	Indicates the private MAC address of this network interface.

Element name	Type	Description
		Only set if <b>privateMacAllocationMethod</b> is set to Static.
<b>privateMacAllocationMethod</b>	Required	Indicates the allocation scheme of the MAC for this network interface. Valid values are Static or Dynamic.
<b>serviceInsertionElements</b>	Read-only Optional	Indicates an array of <b>serviceInsertions</b> resources that this <b>networkInterfaces</b> resource is part of.
<b>securityTags</b>	Optional	An array of <b>securityTags</b> resources associated with this network interface. This property is supported in URI version v5 or later.
<b>counters</b>	Read-only Optional	Array of <b>ResourceCounter</b> structures (section 3.1.1.1). The supported properties are documented in the following <b>counters</b> properties table. This property is supported with URI version v2 or later.

### Port Settings

Element name	Type	Description
<b>macSpoofing</b>	Optional	Specifies whether virtual machines can change the source MAC address in outgoing packets to one not assigned to them. Allowed values are Enabled - allows the virtual machine to use a different MAC address, and Disabled - allows the virtual machine to use only the MAC address assigned to it.
<b>arpGuard</b>	Optional	Specifies whether ARP guard is enabled or not. ARP guard when enabled will allow only the IP assigned to the network interface and any addresses specified in <b>arpFilter</b> to pass through the port. Allowed values are Enabled or Disabled.
<b>arpFilter</b>	Optional	A string of comma separated IP addresses. This parameter is ignored and not used.
<b>dhcpGuard</b>	Optional	Specifies whether to drop DHCP messages from a virtual machine claiming to be a DHCP server. Allowed values are Enabled - drops DHCP messages because the virtualized DHCP server is considered untrusted, or Disabled - allows the message to be received because the virtualized DHCP server is considered trustworthy.
<b>stormLimit</b>	Optional	Specifies the number of broadcast, multicast, and unknown unicast packets per second a virtual machine is allowed to send through the specified virtual network adapter. Broadcast, multicast, and unknown unicast packets beyond the limit during that one second interval are dropped. A value of zero means there is no limit.
<b>portFlowLimit</b>	Optional	Specifies the maximum number of flows that can be executed for the port. A value of blank or zero means there is no limit.
<b>vmqWeight</b>	Optional	Specifies whether virtual machine queue (VMQ) is to be enabled on the virtual network adapter. The relative weight describes the affinity of the virtual network adapter to use VMQ. The range of value is typically from 0 through 100. Specify 0 to disable VMQ on the virtual network adapter.
<b>iovWeight</b>	Optional	Specifies whether single-root I/O virtualization (SR-IOV) is to be enabled on this virtual network adapter. The relative weight sets

Element name	Type	Description
		the affinity of the virtual network adapter to the assigned SR-IOV virtual function. The range of the value is typically from 0 through 100. Specify 0 to disable SR-IOV on the virtual network adapter.
<b>iovInterruptModeration</b>	Optional	Specifies the interrupt moderation value for a single-root I/O virtualization (SR-IOV) virtual function assigned to a virtual network adapter. Allowed values are Default, Adaptive, Off, Low, Medium, and High.  Default - the value is determined by the physical network adapter vendor's setting.  Adaptive - the interrupt moderation rate will be based on the runtime traffic pattern.
<b>iovQueuePairsRequested</b>	Optional	Specifies the number of hardware queue pairs to be allocated to an SR-IOV virtual function. If receive-side scaling (RSS) is required, and if the physical network adapter that binds to the virtual switch supports RSS on SR-IOV virtual functions, then more than one queue pair is required. Allowed values range from 1 to 4294967295.
<b>QosSettings</b>	Optional	The following QOS Settings can be configured; all are optional: <b>outboundReservedValue:</b> If <code>outboundReservedMode</code> is Absolute then the value indicates the bandwidth, in Mbps, guaranteed to the virtual port for transmission (egress). If <code>outboundReservedMode</code> is Weight then the value indicates the weighted portion of the bandwidth guaranteed. <b>outboundMaximumMbps:</b> Indicates the maximum permitted send-side bandwidth, in Mbps, for the virtual port (egress). <b>InboundMaximumMbps:</b> Indicates the maximum permitted receive-side bandwidth for the virtual port (ingress) in Mbps. <b>enableHardwareLimits:</b> If this is set to true, hardware QOS limits is enabled. When this property is true, QOS is done in hardware if it supports it. Otherwise, QOS is done in software. This property is supported with URI version v4 or later.
<b>configurationState</b>	Optional Read-only	See specification in section 2.2.4.  More details are given in the section for the <b>GET</b> operation section 3.1.5.11.1.2.

Properties supported in the **counters** for the **networkInterfaces** resource. The following property elements are valid where **source** is **VirtualNetworkManager** and **category** is Performance.

Name	Unit	Meaning
<b>TotalPacketsOut</b>	Decimal	Total Packets outgoing from Network Interface.
<b>TotalPacketsIn</b>	Decimal	Total Packets incoming to Network Interface.
<b>DropPacketsOut</b>	Decimal	Total Packets outgoing that are dropped by Network Interface.
<b>DropPacketsIn</b>	Decimal	Total Packets incoming that are dropped by Network Interface.
<b>DropNoRuleMatchPacketsOut</b>	Decimal	Total outgoing packets dropped by virtual filtering platform on the Network Interface which does not match any configured rules.

Name	Unit	Meaning
<b>DropNoRuleMatchPacketsIn</b>	Decimal	Total incoming packets dropped by virtual filtering platform on the Network Interface which does not match any configured rules.
<b>DropAclPacketsOut</b>	Decimal	Total outgoing packets dropped by virtual filtering platform on the network interface due to Access Control Lists configuration.
<b>DropAclPacketsIn</b>	Decimal	Total incoming packets dropped by virtual filtering platform on the network interface due to Access Control Lists configuration.
<b>DropForwardingPacketsOut</b>	Decimal	Total outgoing forwarding packets dropped by virtual filtering platform.
<b>DropForwardingPacketsIn</b>	Decimal	Total incoming forwarding packets dropped by virtual filtering platform.
<b>TcpSynPacketsOut</b>	Decimal	Total outgoing TCP SYN packets processed by virtual filtering platform on the network interface.
<b>TcpSynPacketsIn</b>	Decimal	Total incoming TCP SYN packets processed by virtual filtering platform on the network interface.
<b>TcpFinPacketsOut</b>	Decimal	Total outgoing TCP FIN packets processed by virtual filtering platform on the network interface.
<b>TcpFinPacketsIn</b>	Decimal	Total incoming TCP FIN packets processed by virtual filtering platform on the network interface.
<b>TcpResetPacketsOut</b>	Decimal	Total outgoing TCP RESET packets processed by virtual filtering platform on the network interface.
<b>TcpResetPacketsIn</b>	Decimal	Total incoming TCP RESET packets processed by virtual filtering platform on the network interface.

### 3.1.5.11.1 HTTP Methods

#### 3.1.5.11.1.1 PUT

This method creates a new **networkInterfaces** resource or updates an existing **networkInterfaces** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

Status code
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.11.1.1.1 Request Body

The format for the request body for the **networkInterfaces PUT** method is as follows.

```
{
  "properties": {
    "ipConfigurations": [
      {
        "resourceId": "c1fe8acf-cf68-45f0-bc70-f9a1cd8d3953",
        "properties": {
          "privateIpAddress": "20.168.0.126",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/virtualNetworks/29d028bc-a244-4bec-b3bb-958ea0c64681/subnets/c0f6d801-ca07-4345-8274-20b13454c51a"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/28f4e1fc-2d3a-41c0-97f2-261be40bda77"
          }
        }
      }
    ],
    "privateMacAddress": "003624000005",
    "privateMacAllocationMethod": "Static",
    "isHostVirtualNetworkInterface": false,
    "internalDnsNameLabel": "VM10-Adapter1"
  },
  "tags": {
    "VirtualMachineId": "a898f3ec-aa8c-49de-bbcf-84f59c5e6a53",
    "VnicId": "7edb10da-bcd1-4d2d-87ca-f17405be5849"
  }
}
```

The JSON schema for the **networkInterfaces PUT** method is located in section 6.11.1.

### 3.1.5.11.1.1.2 Response Body

The format is the same as the format for the **networkInterfaces GET** response body (section 3.1.5.11.1.2.2). The JSON schema is located in section 6.11.3.

### 3.1.5.11.1.1.3 Processing Details

Create a new **networkInterfaces** resource or update an existing **networkInterfaces** resource.

### 3.1.5.11.1.2 GET

This method retrieves a **networkInterfaces** resource.

It is invoked through the following URI.

https://<url>/networking/v1/networkInterfaces/{resourceId}

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.11.1.2.1 Request Body

None.

### 3.1.5.11.1.2.2 (Updated Section) Response Body

The format for the response body for the **networkInterfaces GET** method is as follows.

```
{
  "resourceRef": "/networkInterfaces/81cf4776-e842-421c-9b09-65889177a9ca",
  "resourceId": "81cf4776-e842-421c-9b09-65889177a9ca",
  "etag": "W/\"3146e60f-9760-48fc-a94c-95ed95260504\"",
  "instanceId": "60b36f34-e880-4792-ad0d-df18d4fcfc7",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/81cf4776-e842-421c-9b09-65889177a9ca/ipConfigurations/983ab5d2-fb70-48d8-90cf-a2af145e019e",
        "resourceId": "983ab5d2-fb70-48d8-90cf-a2af145e019e",
        "etag": "W/\"3146e60f-9760-48fc-a94c-95ed95260504\"",
        "instanceId": "3bc913c4-34c1-4e27-8a42-abbf96070bc6",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "13.168.101.23",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/virtualNetworks/f6d4ce32-0c2c-4b1b-bce1-172e7fce955d/subnets/9ff17bd3-dfe1-424c-80c9-claffee9de58"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/454cf89c-c545-43e4-95d1-6a26898cdd02"
          },
          "loadBalancerBackendAddressPools": [],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00155D52E711",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",

```

```

    "arpGuardEnabled": "Disabled",
    "dhcpGuardEnabled": "Disabled",
    "stormLimit": 0,
    "portFlowLimit": 0,
    "iovWeight": 0,
    "iovInterruptModeration": "Off",
    "iovQueuePairsRequested": 0,
    "vmqWeight": 100
  },
  "isHostVirtualNetworkInterface": false,
  "runningState": {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualNetwork",
        "message": "Failed to configure the policies on the host device.",
        "code": "PolicyConfigurationFailure"
      }
    ]
  },
  "lastUpdatedTime": "2016-02-22T20:04:54.109219-08:00",
  "id": "60b36f34-e880-4792-ad0d-df18d4fcfcc7"
},
"isMultitenantStack": false
}
}

```

The JSON schema for the **networkInterfaces GET** method is located in section 6.11.3.

### 3.1.5.11.1.2.3 Processing Details

Retrieves a **networkInterfaces** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific. **configurationState.id** MUST be set to the resource instance ID of the network interface.

The server MUST return a configuration state property **configurationState.status** set to Success if there were no errors. The server MUST return a configuration state property **configurationState.status** set to Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The following table contains acceptable values in the response when **configurationState.status** is Failure.

Code inside <b>configurationState.detailedInfo</b> array	Description
Unknown	An unknown error occurred while configuring policies.
HostUnreachable	The host is unreachable.
PAIpAddressExhausted	Failed to assign an IP address on the host.
PAMacAddressExhausted	Failed to assign a Mac address on the host.
PAAddressConfigurationFailure	Failed to configure IP addresses on the host.
CertificateNotTrusted	The certificate used to establish the connection is not trusted.
CertificateNotAuthorized	The certificate used to establish the connection is not authorized.
PolicyConfigurationFailureOnVfp	Failed to configure the policies on the Virtual Filtering Platform (VFP).

Code inside configurationState.detailedInfo array	Description
PolicyConfigurationFailure	Failed to configure the policies on the host device.
HostNotConnectedToController	The host has not yet established communication with the Network Controller.
MultipleVfpEnabledSwitches	Multiple switches with the VFP enabled exist on the host, which is unsupported.
DhcpAddressAllocationFailure	Failed to assign DHCP address to the Network Interface.
PortBlocked	The Port is blocked on the host.
DistributedRouterConfigurationFailure	Failed to configure isolation settings on the host.
QosConfigurationFailure	Failed to configure QOS policies on the Virtual Filtering Platform (VFP).
InfrastructurePortsBlocked	One or more Infrastructure ports are blocked on this host.
PolicyConfigurationFailureOnVfp	The Firewall Service encountered an error in adding the rules to the Virtual Network Interface.

### 3.1.5.11.1.3 GET ALL

This method retrieves all **networkInterfaces** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.11.1.3.1 Request Body

None.

#### 3.1.5.11.1.3.2 (Updated Section) Response Body

The format for the response body for the **GET ALL** method is similar to the format for the **networkInterfaces GET** method but in an array format.

```
{
  "value": [
```



```

{
  "resourceRef": "/networkInterfaces/00000000-3333-0000-0000-000000000001",
  "resourceId": "00000000-3333-0000-0000-000000000001",
  "etag": "W/\f2bf845b-a81a-4148-9971-501fc017ffb0\"",
  "instanceId": "2c784cfe-47f4-499c-ab27-905cfad0fb22",
  "properties": {
    "provisioningState": "Succeeded",
    "dnsSettings": {},
    "privateMacAddress": "00FFFF009B80",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "The Port is blocked on the host.",
          "code": "PortBlocked"
        }
      ]
    },
    "lastUpdatedTime": "2016-06-10T17:03:38.1131088-07:00",
    "id": "2c784cfe-47f4-499c-ab27-905cfad0fb22"
  },
  "isMultitenantStack": false
},
{
  "resourceRef": "/networkInterfaces/00000000-3333-0000-0000-000000000002",
  "resourceId": "00000000-3333-0000-0000-000000000002",
  "etag": "W/\b69c7e1e-a13e-45e5-a5f5-3b7b7da4427a\"",
  "instanceId": "568a9d72-3790-4b99-a8cb-245caeeeffb",
  "properties": {
    "provisioningState": "Succeeded",
    "dnsSettings": {},
    "privateMacAddress": "00FFFF0045FB",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "The Port is blocked on the host.",
          "code": "PortBlocked"
        }
      ]
    }
  }
}

```

```

    }
  ],
  "lastUpdatedTime": "2016-06-10T17:03:38.1286886-07:00",
  "id": "568a9d72-3790-4b99-a8cb-245caeeeffb"
},
"ismultitenantstack": false
}
},
{
  "resourceRef": "/networkInterfaces/12fc43be-402b-4251-9298-f983fc3f5342",
  "resourceId": "12fc43be-402b-4251-9298-f983fc3f5342",
  "etag": "W/\bc08a698-966b-40e0-924a-47ca7f674a77\"",
  "instanceId": "f54b24e6-4ff8-46f0-88e8-3043087d871a",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/12fc43be-402b-4251-9298-f983fc3f5342/ipConfigurations/5941da25-a39b-43dc-afbe-014b3b105c16",
        "resourceId": "5941da25-a39b-43dc-afbe-014b3b105c16",
        "etag": "W/\bc08a698-966b-40e0-924a-47ca7f674a77\"",
        "instanceId": "2f9e0add-e89a-4a51-8696-7b5c0ed1a1e3",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIpAddress": "10.11.20.28",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec",
            },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-ACS03"
          },
          "loadBalancerBackendAddressPools": [
            {
              "resourceRef": "/loadBalancers/539bd9de-9506-4423-9047-6eb9364c2a84/backendAddressPools/b6fbd9dd-1611-4ab0-ab3a-37176707bb9b"
            }
          ],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF003561",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "Failed to configure the policies on the Virtual Filtering Platform.",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ]
    }
  },
}

```

```

        "lastUpdatedTime": "2016-06-10T17:03:37.7948284-07:00",
        "id": "f54b24e6-4ff8-46f0-88e8-3043087d871a"
    },
    "isMultitenantStack": false
}
},
{
    "resourceRef": "/networkInterfaces/2bebbd8f-e18b-4990-ba88-ed7c9b1892f5",
    "resourceId": "2bebbd8f-e18b-4990-ba88-ed7c9b1892f5",
    "etag": "W/\"e018a8ef-a59c-4dff-9aae-f3f5c8cd24a9\"",
    "instanceId": "38f40abe-9e46-4a00-beb1-3688652d3a4a",
    "properties": {
        "provisioningState": "Succeeded",
        "ipConfigurations": [
            {
                "resourceRef": "/networkInterfaces/2bebbd8f-e18b-4990-ba88-
ed7c9b1892f5/ipConfigurations/f0131475-1920-40c6-a951-789557254a54",
                "resourceId": "f0131475-1920-40c6-a951-789557254a54",
                "etag": "W/\"e018a8ef-a59c-4dff-9aae-f3f5c8cd24a9\"",
                "instanceId": "11f615e6-5527-4659-8c2c-6dc7104011d1",
                "properties": {
                    "provisioningState": "Succeeded",
                    "privateIPAddress": "10.11.20.25",
                    "privateIPAllocationMethod": "Static",
                    "subnet": {
                        "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
                    },
                    "accessControlList": {
                        "resourceRef": "/accessControlLists/R2H06D4-WAS01"
                    },
                    "loadBalancerBackendAddressPools": [
                        {
                            "resourceRef": "/loadBalancers/6e0d8b8d-6b9e-4704-b3a1-
098f41ea0468/backendAddressPools/bf7d6edf-540f-4e3f-8984-06a86e89204a"
                        },
                        {
                            "resourceRef": "/loadBalancers/67e54e56-e5e8-4a53-9a4b-
cc932704b878/backendAddressPools/457cba88-2301-44cc-bc4a-9de74823ec2d"
                        },
                        {
                            "resourceRef": "/loadBalancers/d1a62bf4-b448-40bb-9ebd-
e14507cla935/backendAddressPools/070493a5-3929-4292-80b5-0fdff61f8d39"
                        }
                    ],
                    "loadBalancerInboundNatRules": []
                }
            }
        ],
        "dnsSettings": {},
        "privateMacAddress": "00FFFF0033D3",
        "privateMacAllocationMethod": "Static",
        "serviceInsertionElements": [],
        "securityTags": [],
        "portSettings": {
            "macSpoofingEnabled": "Disabled",
            "arpGuardEnabled": "Disabled",
            "dhcpGuardEnabled": "Disabled",
            "stormLimit": 0,
            "portFlowLimit": 0,
            "iovWeight": 0,
            "iovInterruptModeration": "Off",
            "iovQueuePairsRequested": 0,
            "vmqWeight": 100
        },
        "isHostVirtualNetworkInterface": false,
        "configurationState": {
            "status": "Failure",
            "detailedInfo": [
                {

```

```

        "source": "VirtualSwitch",
        "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
        "code": "PolicyConfigurationFailureOnVfp"
    }
  ],
  "lastUpdatedTime": "2016-06-10T17:03:37.9099622-07:00",
  "id": "38f40abe-9e46-4a00-beb1-3688652d3a4a"
},
"isMultitenantStack": false
}
},
{
  "resourceRef": "/networkInterfaces/5508df81-a766-48d9-a42d-7a9aelf6492d",
  "resourceId": "5508df81-a766-48d9-a42d-7a9aelf6492d",
  "etag": "W/\cda45dd0-9d32-44cf-af5f-deb74a246c62\"",
  "instanceId": "8372e129-0b4f-43f1-96f7-4bd49b3e6192",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/5508df81-a766-48d9-a42d-
7a9aelf6492d/ipConfigurations/e5ae036b-1b35-4529-9291-79522a5563e8",
        "resourceId": "e5ae036b-1b35-4529-9291-79522a5563e8",
        "etag": "W/\cda45dd0-9d32-44cf-af5f-deb74a246c62\"",
        "instanceId": "4e301a29-a3aa-425e-a3b3-e0be0a3d333c",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "10.11.20.29",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-Xrp01"
          },
          "loadBalancerBackendAddressPools": [
            {
              "resourceRef": "/loadBalancers/7c13fef9-2dcd-4561-8b33-
087425c0b519/backendAddressPools/2fd20693-a837-430c-b695-8a1c9323d158"
            },
            {
              "resourceRef": "/loadBalancers/888db9d4-716c-4002-8bee-
f1cb933a1457/backendAddressPools/4374e94e-4aef-4f24-bdfa-bf6b51498da5"
            },
            {
              "resourceRef": "/loadBalancers/99bdd85b-f979-4d3f-931e-
48a80a88a885/backendAddressPools/9bfcf3b2-1c25-4360-88d8-0158cd0859bd"
            },
            {
              "resourceRef": "/loadBalancers/c5d4d9c6-5cdd-401f-a08c-
3ac01315036a/backendAddressPools/39eed82a-28b1-4288-be68-631262788785"
            }
          ],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF008AE5",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,

```

```

        "iovWeight": 0,
        "iovInterruptModeration": "Off",
        "iovQueuePairsRequested": 0,
        "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
        "status": "Failure",
        "detailedInfo": [
            {
                "source": "VirtualSwitch",
                "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
                "code": "PolicyConfigurationFailureOnVfp"
            }
        ],
        "lastUpdatedTime": "2016-06-10T17:03:38.0193353-07:00",
        "id": "8372e129-0b4f-43f1-96f7-4bd49b3e6192"
    },
    "isMultitenantStack": false
}
},
{
    "resourceRef": "/networkInterfaces/5ecfd6cf-0792-45c4-8fce-63a201e3f5d9",
    "resourceId": "5ecfd6cf-0792-45c4-8fce-63a201e3f5d9",
    "etag": "W/\\"2b58427a-8613-4a16-baa4-3fc7450f4a42\\"",
    "instanceId": "c8d172b2-f756-4a25-8bcc-1d54d7d64955",
    "properties": {
        "provisioningState": "Succeeded",
        "ipConfigurations": [
            {
                "resourceRef": "/networkInterfaces/5ecfd6cf-0792-45c4-8fce-
63a201e3f5d9/ipConfigurations/33b79dbc-8632-439d-bd27-2b85d515f8f4",
                "resourceId": "33b79dbc-8632-439d-bd27-2b85d515f8f4",
                "etag": "W/\\"2b58427a-8613-4a16-baa4-3fc7450f4a42\\"",
                "instanceId": "317ce731-a7cb-4ef9-89fa-5e0f63574be9",
                "properties": {
                    "provisioningState": "Succeeded",
                    "privateIPAddress": "10.11.20.22",
                    "privateIPAllocationMethod": "Static",
                    "subnet": {
                        "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
                    },
                    "accessControlList": {
                        "resourceRef": "/accessControlLists/R2H06D4-ASq102"
                    },
                    "loadBalancerBackendAddressPools": [],
                    "loadBalancerInboundNatRules": []
                }
            }
        ],
        "dnsSettings": {},
        "privateMacAddress": "00FFFF003346",
        "privateMacAllocationMethod": "Static",
        "serviceInsertionElements": [],
        "securityTags": [],
        "portSettings": {
            "macSpoofingEnabled": "Disabled",
            "arpGuardEnabled": "Disabled",
            "dhcpGuardEnabled": "Disabled",
            "stormLimit": 0,
            "portFlowLimit": 0,
            "iovWeight": 0,
            "iovInterruptModeration": "Off",
            "iovQueuePairsRequested": 0,
            "vmqWeight": 100
        },
        "isHostVirtualNetworkInterface": false,
        "configurationState": {

```

```

    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualSwitch",
        "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
        "code": "PolicyConfigurationFailureOnVfp"
      }
    ],
    "lastUpdatedTime": "2016-06-10T17:03:37.847415-07:00",
    "id": "c8d172b2-f756-4a25-8bcc-1d54d7d64955"
  },
  "isMultitenantStack": false
},
{
  "resourceRef": "/networkInterfaces/64814d86-8a2e-4a66-b452-f67b5e148a6f",
  "resourceId": "64814d86-8a2e-4a66-b452-f67b5e148a6f",
  "etag": "W/\\"75a9396f-4fc9-47de-8404-eb33e38e0201\\"",
  "instanceId": "35bac936-f071-4644-a6e9-1543054b0e50",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/64814d86-8a2e-4a66-b452-
f67b5e148a6f/ipConfigurations/6d118103-b6b8-4621-8d67-93101a4770a5",
        "resourceId": "6d118103-b6b8-4621-8d67-93101a4770a5",
        "etag": "W/\\"75a9396f-4fc9-47de-8404-eb33e38e0201\\"",
        "instanceId": "c0bec304-d698-4278-8bcb-521bde580ec5",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "10.11.20.31",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-CA01"
          },
          "loadBalancerBackendAddressPools": [],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF0036EE",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ]
    }
  }
}

```

```

    }
  ],
  "lastUpdatedTime": "2016-06-10T17:03:38.0974609-07:00",
  "id": "35bac936-f071-4644-a6e9-1543054b0e50"
},
"ismultitenantstack": false
}
},
{
  "resourceRef": "/networkInterfaces/665d0a8b-00bd-4db8-9a9d-d7a234e58dcd",
  "resourceId": "665d0a8b-00bd-4db8-9a9d-d7a234e58dcd",
  "etag": "W/\\"df409b55-8ba2-4540-b274-69f90c09427f\\"",
  "instanceId": "08062f05-7d88-4e0b-9ee9-5fd36e367a02",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/665d0a8b-00bd-4db8-9a9d-d7a234e58dcd/ipConfigurations/834c1c0a-3880-41b2-a034-58a9143d8853",
        "resourceId": "834c1c0a-3880-41b2-a034-58a9143d8853",
        "etag": "W/\\"df409b55-8ba2-4540-b274-69f90c09427f\\"",
        "instanceId": "bee20f5a-23ea-491a-9da6-041bfd927344",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIpAddress": "10.11.20.30",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-ADFS01"
          },
          "loadBalancerBackendAddressPools": [
            {
              "resourceRef": "/loadBalancers/92b66fb0-c8e4-4f2d-9548-aab8e70dd59a/backendAddressPools/15a0482e-0b94-4102-adf5-f6efb0c04237"
            },
            {
              "resourceRef": "/loadBalancers/c7672d18-8497-4359-85bf-e4e0982bf718/backendAddressPools/8b562e63-5b5a-4598-8953-52fd4c2e2f6e"
            }
          ],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF00DF6A",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",

```

```

Platform.",
    "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
    "code": "PolicyConfigurationFailureOnVfp"
  }
],
  "lastUpdatedTime": "2016-06-10T17:03:38.066241-07:00",
  "id": "08062f05-7d88-4e0b-9ee9-5fd36e367a02"
},
"isMultitenantStack": false
}
},
{
  "resourceRef": "/networkInterfaces/6bfd26f7-c43e-4d25-9d9f-a995faf37e16",
  "resourceId": "6bfd26f7-c43e-4d25-9d9f-a995faf37e16",
  "etag": "W/\a6c0a639-3182-4c64-bd8f-f21149f471f0\"",
  "instanceId": "ff62cf92-b5bb-4bf2-9259-0704e41a9243",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/6bfd26f7-c43e-4d25-9d9f-
a995faf37e16/ipConfigurations/c4bbe7ab-e201-4fdd-9e97-fb6e11072829",
        "resourceId": "c4bbe7ab-e201-4fdd-9e97-fb6e11072829",
        "etag": "W/\a6c0a639-3182-4c64-bd8f-f21149f471f0\"",
        "instanceId": "17735903-d811-4c5e-837e-74363be61be9",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "10.11.20.20",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-Con01"
          },
          "loadBalancerBackendAddressPools": [],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF00873D",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ]
    },
    "lastUpdatedTime": "2016-06-10T17:03:37.8104684-07:00",
    "id": "ff62cf92-b5bb-4bf2-9259-0704e41a9243"
  }
}

```



```

    },
    "isMultitenantStack": false
  }
},
{
  "resourceRef": "/networkInterfaces/c295951a-a495-41f0-b8ef-84d3317150a3",
  "resourceId": "c295951a-a495-41f0-b8ef-84d3317150a3",
  "etag": "W/\\"592569bf-fdfa-4004-b465-5ec46fcdf27b\\"",
  "instanceId": "a362889f-e715-4f71-b798-d9530ec27306",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/c295951a-a495-41f0-b8ef-84d3317150a3/ipConfigurations/e3d8fbc1-a0c2-4583-a3bc-96f59e1a31a3",
        "resourceId": "e3d8fbc1-a0c2-4583-a3bc-96f59e1a31a3",
        "etag": "W/\\"592569bf-fdfa-4004-b465-5ec46fcdf27b\\"",
        "instanceId": "41b6f512-0224-4953-a7af-09757e1fe94d",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIpAddress": "10.11.20.24",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/R2H06D4-WDS01"
          },
          "loadBalancerBackendAddressPools": [],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF00DD4F",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "Failed to configure the policies on the Virtual Filtering Platform.",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ]
    },
    "lastUpdatedTime": "2016-06-10T17:03:37.8787124-07:00",
    "id": "a362889f-e715-4f71-b798-d9530ec27306"
  },
  "isMultitenantStack": false
}
},
{
  "resourceRef": "/networkInterfaces/cb30d461-1921-42b3-b8f1-042c02271aa1",
  "resourceId": "cb30d461-1921-42b3-b8f1-042c02271aa1",

```

```

"etag": "W/\c53edc8f-e195-4dd8-85e2-134c79e3a763\"",
"instanceId": "1dbd4c42-d37b-472c-a4dc-f3f983078515",
"properties": {
  "provisioningState": "Succeeded",
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/cb30d461-1921-42b3-b8f1-
042c02271aa1/ipConfigurations/0d1e86b9-2442-43fc-8fdf-7d12f1f152ca",
      "resourceId": "0d1e86b9-2442-43fc-8fdf-7d12f1f152ca",
      "etag": "W/\c53edc8f-e195-4dd8-85e2-134c79e3a763\"",
      "instanceId": "09f3330e-2fec-41cc-a0f7-47598bbe61a",
      "properties": {
        "provisioningState": "Succeeded",
        "privateIPAddress": "10.11.20.21",
        "privateIPAllocationMethod": "Static",
        "subnet": {
          "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
        },
        "accessControlList": {
          "resourceRef": "/accessControlLists/R2H06D4-ASq101"
        },
        "loadBalancerBackendAddressPools": [],
        "loadBalancerInboundNatRules": []
      }
    }
  ],
  "dnsSettings": {},
  "privateMacAddress": "00FFFF00DDC1",
  "privateMacAllocationMethod": "Static",
  "serviceInsertionElements": [],
  "securityTags": [],
  "portSettings": {
    "macSpoofingEnabled": "Disabled",
    "arpGuardEnabled": "Disabled",
    "dhcpGuardEnabled": "Disabled",
    "stormLimit": 0,
    "portFlowLimit": 0,
    "iovWeight": 0,
    "iovInterruptModeration": "Off",
    "iovQueuePairsRequested": 0,
    "vmqWeight": 100
  },
  "isHostVirtualNetworkInterface": false,
  "configurationState": {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualSwitch",
        "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
        "code": "PolicyConfigurationFailureOnVfp"
      }
    ],
    "lastUpdatedTime": "2016-06-10T17:03:37.8359266-07:00",
    "id": "1dbd4c42-d37b-472c-a4dc-f3f983078515"
  },
  "isMultitenantStack": false
}
},
{
  "resourceRef": "/networkInterfaces/e40e3b34-13fd-42fc-a74e-26fe68999b73",
  "resourceId": "e40e3b34-13fd-42fc-a74e-26fe68999b73",
  "etag": "W/\7481d801-d103-4c30-a6d2-013df0790946\"",
  "instanceId": "cf89bc5d-32d6-4f35-9cbf-66ae94e5c004",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {

```

```

    "resourceRef": "/networkInterfaces/e40e3b34-13fd-42fc-a74e-
26fe68999b73/ipConfigurations/424fb61c-3b12-4c02-82d3-4a36d66d1617",
    "resourceId": "424fb61c-3b12-4c02-82d3-4a36d66d1617",
    "etag": "W/\"7481d801-d103-4c30-a6d2-013df0790946\"",
    "instanceId": "b53ecbbf-b21c-43f1-a606-36b9fe11e80",
    "properties": {
      "provisioningState": "Succeeded",
      "privateIPAddress": "10.11.20.26",
      "privateIPAllocationMethod": "Static",
      "subnet": {
        "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
      },
      "accessControlList": {
        "resourceRef": "/accessControlLists/R2H06D4-ACS01"
      },
      "loadBalancerBackendAddressPools": [
        {
          "resourceRef": "/loadBalancers/539bd9de-9506-4423-9047-
6eb9364c2a84/backendAddressPools/b6fbd9dd-1611-4ab0-ab3a-37176707bb9b"
        }
      ],
      "loadBalancerInboundNatRules": []
    }
  },
  "dnsSettings": {},
  "privateMacAddress": "00FFFF008A58",
  "privateMacAllocationMethod": "Static",
  "serviceInsertionElements": [],
  "securityTags": [],
  "portSettings": {
    "macSpoofingEnabled": "Disabled",
    "arpGuardEnabled": "Disabled",
    "dhcpGuardEnabled": "Disabled",
    "stormLimit": 0,
    "portFlowLimit": 0,
    "iovWeight": 0,
    "iovInterruptModeration": "Off",
    "iovQueuePairsRequested": 0,
    "vmqWeight": 100
  },
  "isHostVirtualNetworkInterface": false,
  "configurationState": {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualSwitch",
        "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
        "code": "PolicyConfigurationFailureOnVfp"
      }
    ]
  },
  "lastUpdatedTime": "2016-06-10T17:03:37.9412444-07:00",
  "id": "cf89bc5d-32d6-4f35-9cbf-66ae94e5c004"
},
"resourceRef": "/networkInterfaces/e9e900f3-8285-4fef-b336-65b4896e09a8",
"resourceId": "e9e900f3-8285-4fef-b336-65b4896e09a8",
"etag": "W/\"e248b728-51a2-4be7-91cf-8d894a33dbaf\"",
"instanceId": "dbd62461-2f1b-434a-aa54-d7fab820cd57",
"properties": {
  "provisioningState": "Succeeded",
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/e9e900f3-8285-4fef-b336-
65b4896e09a8/ipConfigurations/007efd64-1e3e-4104-97c7-039cc1bd3ec3",

```

```

    "resourceId": "007efd64-1e3e-4104-97c7-039cc1bd3ec3",
    "etag": "W/\\"e248b728-51a2-4be7-91cf-8d894a33dbaf\\"",
    "instanceId": "7f9593e7-c92b-4e63-b1d8-c0bfa3119e2e",
    "properties": {
      "provisioningState": "Succeeded",
      "privateIPAddress": "10.11.20.23",
      "privateIPAllocationMethod": "Static",
      "subnet": {
        "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
      },
      "accessControlList": {
        "resourceRef": "/accessControlLists/R2H06D4-SUS01"
      },
      "loadBalancerBackendAddressPools": [],
      "loadBalancerInboundNatRules": []
    }
  },
  "dnsSettings": {},
  "privateMacAddress": "00FFFF0089CA",
  "privateMacAllocationMethod": "Static",
  "serviceInsertionElements": [],
  "securityTags": [],
  "portSettings": {
    "macSpoofingEnabled": "Disabled",
    "arpGuardEnabled": "Disabled",
    "dhcpGuardEnabled": "Disabled",
    "stormLimit": 0,
    "portFlowLimit": 0,
    "iovWeight": 0,
    "iovInterruptModeration": "Off",
    "iovQueuePairsRequested": 0,
    "vmqWeight": 100
  },
  "isHostVirtualNetworkInterface": false,
  "configurationState": {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualSwitch",
        "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
        "code": "PolicyConfigurationFailureOnVfp"
      }
    ],
    "lastUpdatedTime": "2016-06-10T17:03:37.8630807-07:00",
    "id": "dbd62461-2f1b-434a-aa54-d7fab820cd57"
  },
  "isMultitenantStack": false
},
{
  "resourceRef": "/networkInterfaces/f5730847-0879-4eab-89de-ce54b217630c",
  "resourceId": "f5730847-0879-4eab-89de-ce54b217630c",
  "etag": "W/\\"0d7aa01f-dd17-48ad-ba7b-cf20de59563b\\"",
  "instanceId": "d0842ac6-36aa-4fae-93ce-98beedaca3ee",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/f5730847-0879-4eab-89de-
ce54b217630c/ipConfigurations/cf2a6356-c9de-4e63-9abe-d4b7759a7181",
        "resourceId": "cf2a6356-c9de-4e63-9abe-d4b7759a7181",
        "etag": "W/\\"0d7aa01f-dd17-48ad-ba7b-cf20de59563b\\"",
        "instanceId": "efce1627-227b-44a7-8bee-83cb578472a8",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "10.11.20.27",
          "privateIPAllocationMethod": "Static",

```

```

        "subnet": {
          "resourceRef": "/logicalNetworks/47931036-2874-4d45-b1f1-
b69666088968/subnets/d977fe45-c5d0-43b6-8420-acc441cd15ec"
        },
        "accessControlList": {
          "resourceRef": "/accessControlLists/R2H06D4-ACS02"
        },
        "loadBalancerBackendAddressPools": [
          {
            "resourceRef": "/loadBalancers/539bd9de-9506-4423-9047-
6eb9364c2a84/backendAddressPools/b6fbd9dd-1611-4ab0-ab3a-37176707bb9b"
          }
        ],
        "loadBalancerInboundNatRules": []
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00FFFF00DFDC",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "securityTags": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "configurationState": {
      "status": "Failure",
      "detailedInfo": [
        {
          "source": "VirtualSwitch",
          "message": "Failed to configure the policies on the Virtual Filtering
Platform.",
          "code": "PolicyConfigurationFailureOnVfp"
        }
      ],
      "lastUpdatedTime": "2016-06-10T17:03:37.972492-07:00",
      "id": "d0842ac6-36aa-4fae-93ce-98beedaca3ee"
    },
    "isMultitenantStack": false
  }
},
"nextLink": ""
}

```

The JSON schema for the **networkInterfaces GET ALL** method is located in section 6.11.5.

### 3.1.5.11.1.3.3 Processing Details

Retrieves all **networkInterfaces** resources.

### 3.1.5.11.1.4 DELETE

This method deletes a **networkInterfaces** resource.

It is invoked through the following URI.

`https://<url>/networking/v1/networkInterfaces/{resourceId}`

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### **3.1.5.11.1.4.1 Request Body**

None.

#### **3.1.5.11.1.4.2 Response Body**

None.

#### **3.1.5.11.1.4.3 Processing Details**

Deletes a **networkInterfaces** resource.

### **3.1.5.11.2 (Updated Section) ipConfigurations**

The **ipConfigurations** resource represents configuration information for IP addresses: allocation method, actual IP address, membership of a logical or virtual subnet, load balancing and access control information.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides v1~~ **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.11.2.1.1	Create a new <b>ipConfigurations</b> resource or update an existing <b>ipConfigurations</b> resource.
<b>GET</b>	3.1.5.11.2.1.2	Get one <b>ipConfigurations</b> resource.
<b>GET ALL</b>	3.1.5.11.2.1.3	List all <b>ipConfigurations</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.11.2.1.4	Deletes an <b>ipConfigurations</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>accessControlList</b>	Optional	Indicates a reference to an <b>accessControlLists</b> resource that defines the ACLs in and out of the IP configuration.
<b>loadBalancerBackendAddressPool</b>	Optional Read-only	Reference to <b>backendAddressPools</b> child resource of <b>loadBalancers</b> resource.
<b>loadBalancerInboundNatRules</b>	Optional	Reference to <b>inboundNatRules</b> child resource of <b>loadBalancers</b> resource.
<b>privateIPAddress</b>	Optional	Indicates the private IP address of the IP configuration.
<b>privateIPAllocationMethod</b>	Optional	<p>Possible values are: Static, Dynamic, and Unmanged.</p> <p><b>Static allocation</b> The server <b>MUST</b> validate that there is a <b>privateIPAddress</b> property in the input message and that the IP Address falls within the range of the subnet referenced by the IP configuration REST resource, and that the IP address is not already in use. If the IP is not in the subnet range, the server <b>MUST</b> return an error response with the error code set to PrivateIPAddressNotInSubnet. If the IP is already in use, the server <b>MUST</b> return an error response with the error code set to PrivateIPAddressInUse.</p> <p><b>Dynamic allocation</b> The server <b>SHOULD</b> allocate an IP address from the subnet referenced by the IP configuration. The server <b>SHOULD</b> return an error response with code SubnetIsFull if there are no more IP Addresses available. If the server allocates an IP address, then the server <b>MUST</b> return the allocated IP in the <b>privateIPAddress</b> property in GET operations on the resource, see section 3.1.5.11.2.1.2.</p> <p><b>Unmanaged allocation</b> The server <b>MUST</b> support unmanaged allocation only for IP configurations with references to logical network</p>

Element name	Type	Description
		subnets that have the <b>networkVirtualizationEnabled</b> property set to FALSE. The server MUST return an error response with code <b>UnmanagedAllocationMethodNotSupported</b> for references to any other type of subnets. The server MUST apply all applicable policies except IP address to the network interface that contains an IP configuration with unmanaged private IP allocation. Examples of applicable policies are access control lists and QOS.
<b>publicIPAddress</b>	Optional	Indicates the public IP address of the IP configuration.
<b>serviceInsertion</b>	Optional	Indicates a reference to a <b>serviceInsertions</b> resource that defines the service insertion in and out of the IP configuration.
<b>subnet</b>	Read-only	Indicates a reference to the <b>subnets</b> resource that the IP configuration is connected to.
<b>isPrimary</b>	Optional	Indicates the primary IP address when a network interface has more than one IP configuration. Only the primary IP address is registered in DNS. This property is supported on URI version V4 or higher.

### 3.1.5.11.2.1 HTTP Methods

#### 3.1.5.11.2.1.1 PUT

This method creates a new **ipConfigurations** resource or updates an existing **ipConfigurations** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)



### 3.1.5.11.2.1.1.1 Request Body

The format for the request body for the **ipConfigurations PUT** method is as follows.

```
{
  "resourceId": "bb36bb47-b8c7-48a8-b868-bc0d695452f7",
  "properties": {
    "ipConfigurations": [
      {
        "resourceId": "2aaa9fe0-2d74-475b-9ecf-a8ce8ad8c919",
        "properties": {
          "privateIpAddress": "13.168.101.21",
          "privateIPAllocationMethod": "Static",
          "subnet": {
            "resourceRef": "/virtualNetworks/69ec2dd0-510f-4e28-b665-54eee2ed41b5/subnets/2e777dcc-7bbd-427f-8f2b-62ab85853de9"
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/097890d3-b154-46c8-a9ad-c19871e4ecfc",
            "loadBalancerInboundNatRules": [
              {
                "resourceRef": "/loadBalancers/2ea43ab6-cb92-4ad3-854f-bc62092cf4b0/inboundNatRules/inb"
              },
              {
                "resourceRef": "/loadBalancers/2ea43ab6-cb92-4ad3-854f-bc62092cf4b0/inboundNatRules/inb2"
              }
            ]
          }
        }
      }
    ],
    "dnsSettings": {
      "DnsServers": [ "1.2.3.4", "1.2.3.5" ]
    },
    "privateMacAddress": "001F46000004",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "portSettings": {
      "macSpoofingEnabled": "Disabled",
      "arpGuardEnabled": "Disabled",
      "dhcpGuardEnabled": "Disabled",
      "stormLimit": 0,
      "portFlowLimit": 0,
      "iovWeight": 0,
      "iovInterruptModeration": "Off",
      "iovQueuePairsRequested": 0,
      "vmqWeight": 100
    },
    "isHostVirtualNetworkInterface": false,
    "internalDnsNameLabel": "Tenant0-App0-Tier1-DIP-0_VMAdapter-13",
    "isMultitenantStack": false,
  }
}
```

The JSON schema for the **ipConfigurations PUT** method is contained within the schema for its parent resource **networkInterfaces**, in section 6.11.1.

### 3.1.5.11.2.1.1.2 Response Body

The format for the **ipConfigurations PUT** response body is the same as the format for the **ipConfigurations GET** response body (section 3.1.5.11.2.1.2.2). The JSON schema is located in section 6.11.7.1.

### 3.1.5.11.2.1.1.3 Processing Details

Create a new **ipConfigurations** resource or update an existing **ipConfigurations** resource.

### 3.1.5.11.2.1.2 GET

This method retrieves a **ipConfigurations** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.11.2.1.2.1 Request Body

None.

### 3.1.5.11.2.1.2.2 Response Body

The format for the response body for the **ipConfigurations GET** method is as follows.

```
{
  "resourceRef": "/networkInterfaces/ec3ac77e-64be-4bc1-a2e3-7cd6170a4752/ipConfigurations/cbcab016-6c87-4a32-8158-08e0db71635a",
  "resourceId": "cbcab016-6c87-4a32-8158-08e0db71635a",
  "etag": "W/\"5e2e060a-2103-4022-87ee-bf1667bd18eb\"",
  "instanceId": "83283a7e-4885-468a-9a2a-c7c568efd290",
  "properties": {
    "provisioningState": "Succeeded",
    "privateIPAddress": "13.168.101.21",
    "privateIPAllocationMethod": "Static",
    "subnet": {
      "resourceRef": "/virtualNetworks/740f3670-de42-4345-aaa7-6bb8d423c5df/subnets/da459373-42ee-43d3-b094-6e2176406e4a"
    },
    "accessControlList": {
      "resourceRef": "/accessControlLists/4561e835-128c-44cd-b55f-98bca0d34aba"
    },
    "loadBalancerBackendAddressPools": [
      {
        "resourceRef": "/loadBalancers/2ea43ab6-cb92-4ad3-854f-bc62092cf4b0/backendAddressPools/1cd5d838-b574-4bcb-b6ac-9db3fc5e5f4d"
      }
    ],
    "loadBalancerInboundNatRules": []
  }
}
```

```
}  
}
```

The JSON schema for the **ipConfigurations GET** method is located in section 6.11.7.1.

### 3.1.5.11.2.1.2.3 Processing Details

Retrieves an **ipConfigurations** resource.

#### 3.1.5.11.2.1.3 GET ALL

This method retrieves all **ipConfigurations** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.11.2.1.3.1 Request Body

None.

#### 3.1.5.11.2.1.3.2 Response Body

The format for the response body for the **ipConfigurations GET ALL** method is as follows.

```
{  
  "value": [  
    {  
      "resourceRef": "/networkInterfaces/ee9be550-4dd3-43af-9b69-8a45f1ef3569  
/ipConfigurations/clfe8acf-cf68-45f0-bc70-f9a1cd8d3953",  
      "resourceId": "clfe8acf-cf68-45f0-bc70-f9a1cd8d3953",  
      "etag": "W/\"d728c292-9499-497b-a328-0216b50e7f21\"",  
      "instanceId": "2d254540-9c81-4216-8da6-44d498061040",  
      "properties": {  
        "provisioningState": "Succeeded",  
        "privateIPAddress": "20.168.0.26",  
        "privateIPAllocationMethod": "Static",  
        "subnet": {  
          "resourceRef": "/virtualNetworks/29d028bc-a244-4bec-b3bb-958ea0c64681  
/subnets/c0f6d801-ca07-4345-8274-20b13454c51a"  
        },  
        "accessControlList": {  
          "resourceRef": "/accessControlLists/28f4e1fc-2d3a-41c0-97f2-261be40bda77"  
        },  
        "loadBalancerBackendAddressPools": [],  
        "loadBalancerInboundNatRules": []  
      }  
    }  
  ]  
}
```

```

    }
  },
  "nextLink": ""
}

```

The JSON schema for the **ipConfigurations GET ALL** method is located in section 6.11.7.2.

### 3.1.5.11.2.1.3.3 Processing Details

Retrieves all ipConfigurations resources.

### 3.1.5.11.2.1.4 DELETE

This method deletes an **ipConfigurations** resource.

It is invoked through the following URI.

```

https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations/{resourceId}

```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.11.2.1.4.1 Request Body

None.

#### 3.1.5.11.2.1.4.2 Response Body

None.

#### 3.1.5.11.2.1.4.3 Processing Details

Deletes an **ipConfigurations** resource.

### 3.1.5.12 (Updated Section) operations

The **operations** resource provides the status of a specific asynchronous operation. The URL for a specific operations resource is returned in the **Azure-AsyncOperation** header of that operation.

**Note** The system currently stores a history of one million operations. If the system reaches more than a million operations, then the oldest ones will be removed from the Network Controller and are stored in the operational logs of the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/operations/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.12.1	Get an operations resource.

See section 1.3.2 for more details on asynchronous operation usage.

The following property elements are valid.

Element name	Type	Description
<b>Status</b>	Read-only	This is the status of the <b>operations</b> resource. The following are valid values InProgress, Succeeded, Failed, or Canceled.
<b>error</b>	Read-only	Indicates that the request was in error or could not be processed. This element contains the detailed explanation on what the error was and what caused it. It will only be returned when the status element is returned as Failed.
<b>error.code</b>	Read-only	Indicates the string value of the error code associated with the error being returned. This will always be returned in case of an <b>error</b> response.
<b>error.message</b>	Read-only	Indicates the <b>error</b> message provided to the caller. This is used in diagnosing what caused the error. This will always be returned in case of an <b>error</b> response.
<b>error.details</b>	Read-only	Indicates the detailed information of the error. This is used for advanced diagnostics purposes. It is ideal for diagnostics if all these details are returned but they will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.code</b>	Read-only	Indicates the detailed error code of the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.target</b>	Read-only	Indicates the target of the detailed error message in the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.message</b>	Read-only	Indicates the detailed message of the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.

Element name	Type	Description
<b>error.details.innerError</b>	Read-only	Provides the inner error details if any for the error. This can help with more detailed diagnostics of the error.

### 3.1.5.12.1 HTTP Methods

#### 3.1.5.12.1.1 GET

This method retrieves an **operations** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/operations/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.12.1.1.1 Request Body

None.

#### 3.1.5.12.1.1.2 Response Body

The format for the response body for the **operations GET** method is as follows.

```
{
  "status": "Succeeded"
}
```

#### 3.1.5.12.1.1.3 Processing Details

Retrieves an **operations** resource.

### 3.1.5.13 (Updated Section) operationResults

The **operationResults** resource provides the status of a specific asynchronous operation. The URL for a specific operations resource is returned in the **Location** header of that operations.

**Note:** The system currently stores a history of one million **operationResults**. If the system reaches more than a million **operationResults** then the oldest ones will be removed from the Network Controller but are still located in the operational logs of the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/operationResults/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1** or **later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.13.1	Get an <b>operationResults</b> resource.

See Asynchronous Operations, section 1.3.2, for more details on its usage.

The following property elements are valid.

Element name	Type	Description
<b>Status</b>	Read-only	This is the status of the <b>operations</b> . The following are valid values InProgress, Succeeded, Failed, or Canceled.
<b>error</b>	Read-only	Indicates that the request was in error or could not be processed. This element contains the detailed explanation on what the error was and what caused it. It will only be returned when the status element is returned as Failed.
<b>error.code</b>	Read-only	Indicates the string value of the error code associated with the error being returned. This will always be returned in case of an <b>error</b> response.
<b>error.message</b>	Read-only	Indicates the <b>error</b> message provided to the caller. This is used in diagnosing what caused the error. This will always be returned in case of an <b>error</b> response.
<b>error.details</b>	Read-only	Indicates the detailed information of the error. This is used for advanced diagnostics purposes. It is ideal for diagnostics if all these details are returned but they will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.code</b>	Read-only	Indicates the detailed error code of the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.target</b>	Read-only	Indicates the target of the detailed error message in the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.
<b>error.details.message</b>	Read-only	Indicates the detailed message of the <b>error</b> response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the <b>error</b> response content if it is not returned.

Element name	Type	Description
<b>error.details.innerError</b>	Read-only	Provides the inner error details if any for the error. This can help with more detailed diagnostics of the error.

### 3.1.5.13.1 HTTP Methods

#### 3.1.5.13.1.1 GET

This method retrieves an **operationResults** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/operationResults/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.13.1.1.1 Request Body

None.

#### 3.1.5.13.1.1.2 Response Body

The format for the response body for the **operationResults GET** method is as follows.

```
{
  "resourceRef": "/networkInterfaces/VM12interface",
  "resourceId": "VM12interface",
  "etag": "W/\"6cf71bc5-4624-4903-a1d2-89b9c1f0761f\"",
  "instanceId": "75801123-0db8-4927-987a-bbaf6f4b3326",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/VM12interface/ipConfigurations/c1fe8acf-cf68-45f0-
bc70-f9a1cd8d3953",
        "resourceId": "c1fe8acf-cf68-45f0-bc70-f9a1cd8d3953",
        "etag": "W/\"6cf71bc5-4624-4903-a1d2-89b9c1f0761f\"",
        "instanceId": "00802eaf-97bb-4f85-a4f5-dac025d1cf8f",
        "properties": {
          "provisioningState": "Succeeded",
          "privateIPAddress": "20.168.0.126",
          "privateIPAllocationMethod": "Static",
          "subnet": {
```



```

        "resourceRef": "/virtualNetworks/29d028bc-a244-4bec-b3bb-
958ea0c64681/subnets/c0f6d801-ca07-4345-8274-20b13454c51a"
    },
    "accessControlList": {
        "resourceRef": "/accessControlLists/28f4e1fc-2d3a-41c0-97f2-261be40bda77"
    },
    "loadBalancerBackendAddressPools": [],
    "loadBalancerInboundNatRules": []
}
],
"dnsSettings": {},
"privateMacAddress": "003624000005",
"privateMacAllocationMethod": "Static",
"serviceInsertionElements": [],
"portSettings": {
    "macSpoofingEnabled": "Disabled",
    "arpGuardEnabled": "Disabled",
    "dhcpGuardEnabled": "Disabled",
    "stormLimit": 0,
    "portFlowLimit": 0,
    "iovWeight": 0,
    "iovInterruptModeration": "Off",
    "iovQueuePairsRequested": 0,
    "vmqWeight": 100
},
"isHostVirtualNetworkInterface": false,
"internalDnsNameLabel": "VM10-Adapter1",
"configurationState": {
    "status": "Failure",
    "detailedInfo": [
        {
            "source": "VirtualSwitch",
            "message": "The host has not yet established communication with the Network
Controller.",
            "code": "HostNotConnectedToController"
        }
    ],
    "lastUpdatedTime": "2016-06-23T17:39:16.8945892-07:00",
    "id": "75801123-0db8-4927-987a-bbaf6f4b3326"
},
"isMultitenantStack": false
},
"tags": {
    "VirtualMachineId": "a898f3ec-aa8c-49de-bbcf-84f59c5e6a53",
    "VnicId": "7edb10da-bcd1-4d2d-87ca-f17405be5849"
}
}
}

```

### 3.1.5.13.1.1.3 Processing Details

Retrieves an **operationResults** resource.

### 3.1.5.14 (Updated Section) publicIPAddresses

The **publicIPAddresses** resource specifies an IP Address which is publically available. This **publicIPAddresses** resource is used by the **VirtualGateways** (section 3.1.5.17) resource and the **loadBalancers** resource (section 3.1.5.5) to indicate the IP Address that can be used to communicate with the virtual network from outside it.

It is invoked through the following URI.

```
https://<url>/networking/v1/publicIPAddresses/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.14.1.1	Create a new <b>publicIPAddresses</b> resource or update an existing <b>publicIPAddresses</b> resource.
<b>GET</b>	3.1.5.14.1.2	Get one <b>publicIPAddresses</b> resource.
<b>GET ALL</b>	3.1.5.14.1.3	List all <b>publicIPAddresses</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.14.1.4	Delete a <b>publicIPAddresses</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>ipAddress</b>	Optional	IP address which is allocated. The caller can pass in a specific public IP address to be allocated or leave it empty. IPv6 is supported.
<b>publicIPAllocationMethod</b>	Optional	Dynamic or Static In case of Static <b>publicIPAllocationMethod</b> , <b>ipAddress</b> property needs to be passed indicating the specific public IP address which needs to be allocated. In case of Dynamic <b>publicIPAllocationMethod</b> , the <b>ipAddress</b> property is not meaningful in a <b>PUT</b> (allocation request). In case of Dynamic, any free public IP address will be allocated to the caller.
<b>dnsSettings</b>		Indicates the DNS settings of this network interface.
<b>IdleTimeoutInMinutes</b>	Optional	Specifies the timeout for the TCP idle connection. The value can be set between 4 and 30 minutes. The default is 4 minutes. If public IP is used as a frontend IP of a load Balancer this value is ignored.
<b>ipConfiguration</b>	Read-only	Reference to an <b>ipConfigurations</b> resource. Relative URI of the private IP address with which this public IP is associated. Private IP can be defined on NIC, <b>loadBalancers</b> , or <b>gateways</b> .
<b>publicIPAddressVersion</b>	Option on PUT	If present it, MUST be one of the following values: IPv6 or IPv4. The default is IPv4. This property is supported with URI version v2 or later.
<b>configurationState</b>	Read-only	A <b>LoadBalancerVipConfigurationState</b> structure that represents the running state of a VIP endpoint. This structure extends the base <b>configurationState</b> (section 2.2.4) and adds a <b>LoadBalancerVipEndPointConfigurationState</b> type array that is a list of <b>VipEndpointStates</b> . See <b>frontendIPConfigurations</b> section 3.1.5.5.3. More details are given in the section for the <b>GET</b>

Element name	Type	Description
		operation section 3.1.5.14.1.2. This property is supported with URI version v2 or later.
<b>counters</b>	Optional	Array of <b>ResourceCounter</b> structures (section 3.1.1.1). The supported properties are documented in the following table. This property is supported with URI version v2 or later.

Properties supported in the **counters** for the **publicIPAddresses**. The following property elements are valid where **source** is **SoftwareLoadBalancer** and **category** is Performance.

Name	Unit	Meaning
<b>TotalPackets</b>	Decimal	Total IP packets processed for this public IP address.
<b>DroppedPackets</b>	Decimal	Total packets dropped for this public IP address.
<b>FlowEntries</b>	Decimal	Total flow entries created for this public ip address. A flow is a 5-Tuple created for Load balancing.
<b>DroppedFlowEntries</b>	Decimal	Total flow entries dropped for this public ip address.
<b>SynPackets</b>	Decimal	Total TCP SYN packets created for this public IP address. The SYN packet is sent to indicate that a new connection is to be established.
<b>AverageBandwidth</b>	Decimal	Average bandwidth in Mbps.
<b>PacketsPerSecond</b>	Decimal	Total packets per second processed for this public IP address.

### 3.1.5.14.1 HTTP Methods

#### 3.1.5.14.1.1 PUT

This method creates a new **publicIPAddresses** resource or updates an existing **publicIPAddresses** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/publicIPAddresses/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)

Status code
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.14.1.1.1 Request Body

The format for the request body for the **publicIPAddresses PUT** method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "etag": "generated-guid",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata": {
    "client": "WAP Network Resource Provider",
    "tenantId": "{subscriptionid}",
    "groupId": "{groupname}",
    "name": "{name}",
    "originalHref": "https://..."
  },
  "properties": {
    "provisioningState": "Updating|Deleting|Failed|Succeeded|Cancelled",
    "ipAddress": "203.0.113.1", // the given IP address
    "publicIPAllocationMethod": "Static|Dynamic",
    "idleTimeoutInMinutes": 4,
    "dnsSettings":
      {
        "domainNameLabel": "test",
        "fqdn": "my-cloud-service.cloudapp.net"
      }
  }
}
```

The JSON schema for the **publicIPAddresses PUT** method is located in section 6.12.1.

### 3.1.5.14.1.1.2 Response Body

The format is the same as the format for the **publicIPAddresses GET** response body (section 3.1.5.14.1.2.2). The JSON schema is located in section 6.12.3.

### 3.1.5.14.1.1.3 Processing Details

Create a new **publicIPAddresses** resource or update an existing **publicIPAddresses** resource.

### 3.1.5.14.1.2 GET

This method retrieves a **publicIPAddresses** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/publicIPAddresses/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.14.1.2.1 Request Body

None.

### 3.1.5.14.1.2.2 Response Body

The format for the **publicIPAddresses GET** response body is as follows.

```
{
  "resourceRef": "/publicIPAddresses/pip2",
  "resourceId": "pip2",
  "resourceMetadata": {
    "resourceName": "outbound1"
  },
  "etag": "W/\"90a799f7-549d-44ac-baa9-f7ccf69b1dda\"",
  "instanceId": "018a7e31-cf8e-4292-899d-2f3f4b9b96c5",
  "properties": {
    "provisioningState": "Updating",
    "ipAddress": "12.21.4.51",
    "publicIPAllocationMethod": "Static",
    "idleTimeoutInMinutes": 1
  }
}
```

The JSON schema for the **publicIPAddresses GET** method is located in section 6.12.3.

### 3.1.5.14.1.2.3 Processing Details

Retrieves a **publicIPAddresses** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server returns a configuration state property **configurationState.status** set to Success if there were no errors. The server returns a configuration state property **configurationState.status** set to Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The property **configurationState.vipEndpointStates** contains both virtual IP (VIP) and dynamic IP (DIP) endpoint states with **configurationState** content as defined in section 2.2.4.

The following is an example of **configurationState** failures. The next example shows **counters**.

```
{
  "resourceRef": "/publicIPAddresses/2c8f4adc-c0df-42d6-8045-efe0cd40f253",
  "resourceId": "2c8f4adc-c0df-42d6-8045-efe0cd40f253",
  "etag": "W/\"0ac8a579-8d85-4569-a8db-464037b4cd71\"",
  "instanceId": "e21e01a7-c8c8-4a32-b5ce-ad3c70055dce",

```

```

"properties": {
  "provisioningState": "Succeeded",
  "counters": [],
  "configurationState": {
    "status": "Failure",
    "lastUpdatedTime": "2018-08-14T14:38:55.2804744-07:00",
    "id": "e21e01a7-c8c8-4a32-b5ce-ad3c70055dce",
    "vipEndpointStates": [
      {
        "status": "Failure",
        "lastUpdatedTime": "2018-08-14T14:38:55.2804744-07:00",
        "vipEndpoint": "All:22.0.0.6:0",
        "dipEndpointStates": [
          {
            "status": "Failure",
            "detailedInfo": [
              {
                "source": "SoftwareLoadBalancerManager",
                "message": "Failed to configure the policies on mux pool.",
                "code": "PolicyConfigurationFailureOnMux"
              }
            ],
            "lastUpdatedTime": "2018-08-14T14:38:55.2804744-07:00",
            "dipEndpoint": "13.168.100.22:0",
            "hostIpAddress": "192.153.0.21",
            "hostId": "6e059be9-f546-47de-9db9-f9af11915118",
            "adapterId": "005762000001",
            "probeRule": ""
          }
        ]
      }
    ]
  },
  "ipAddress": "22.0.0.6",
  "publicIpAddressVersion": "IPv4",
  "publicIPAllocationMethod": "Dynamic",
  "idleTimeoutInMinutes": 4,
  "ipConfiguration": {
    "resourceRef": "/networkInterfaces/3c35c29c-543e-4b37-8397-
a8ea5ad6b7f5/ipConfigurations/eba25962-268b-42e8-a8fd-82ceab53d06b"
  }
}
}

```

The following example shows **publicIPAddresses** counters.

```

{
  "resourceRef": "/publicIPAddresses/3ab403d5-0c85-423a-ac74-637d47a2127f",
  "resourceId": "3ab403d5-0c85-423a-ac74-637d47a2127f",
  "etag": "W/\c4ed744d-a809-4a8b-b0e1-64f447c98f14\"",
  "instanceId": "ac65782e-7cbb-49db-ac20-989cd1d563b2",
  "properties": {
    "provisioningState": "Succeeded",
    "counters": [
      {
        "name": "TotalPackets",
        "currentValue": 2700966,
        "unit": "Decimal",
        "context": {
          "source": "SoftwareLoadBalancer",
          "category": "Performance"
        }
      }
    ]
  }
}

```

### 3.1.5.14.1.3 GET ALL

This method retrieves all **publicIPAddresses** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/publicIPAddresses
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.14.1.3.1 Request Body

None.

#### 3.1.5.14.1.3.2 Response Body

The format for the **publicIPAddresses GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/publicIPAddresses/pip1",
      "resourceId": "pip1",
      "etag": "W/\"2b2feb9e-9830-42ed-9923-01d6693fb240\"",
      "instanceId": "b34f7a07-4637-40f2-abc5-075ddfc9b785",
      "properties": {
        "provisioningState": "Succeeded",
        "ipAddress": "12.21.4.5",
        "publicIPAllocationMethod": "Dynamic",
        "idleTimeoutInMinutes": 4
      }
    },
    {
      "resourceRef": "/publicIPAddresses/pip2",
      "resourceId": "pip2",
      "etag": "W/\"c7a95773-8ad3-44a6-b89c-f4a305569e1d\"",
      "instanceId": "018a7e31-cf8e-4292-899d-2f3f4b9b96c5",
      "properties": {
        "provisioningState": "Succeeded",
        "ipAddress": "12.21.4.51",
        "publicIPAllocationMethod": "Static",
        "idleTimeoutInMinutes": 4
      },
      "tags": {
        "a": "b"
      }
    }
  ],
  "nextLink": ""
}
```

}

The JSON schema for the **publicIPAddresses GET ALL** method is located in section 6.12.5.

### 3.1.5.14.1.3.3 Processing Details

Retrieves all **publicIPAddresses** resources.

### 3.1.5.14.1.4 DELETE

This method deletes a **publicIPAddress** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/publicIPAddresses/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.14.1.4.1 Request Body

None.

### 3.1.5.14.1.4.2 Response Body

None.

### 3.1.5.14.1.4.3 Processing Details

Deletes a **publicIPAddress** resource.

## 3.1.5.15 (Updated Section) servers

The **servers** resource represents a physical server that is being controlled by the Network Controller. The network controller controls all the physical servers that the client adds to the network.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{resourceId}
```



**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.15.1.1	Create a new <b>servers</b> resource or update an existing <b>servers</b> resource.
GET	3.1.5.15.1.2	Get one <b>servers</b> resource.
GET ALL	3.1.5.15.1.3	List all <b>servers</b> resources in the Network Controller.
DELETE	3.1.5.15.1.4	Deletes a <b>servers</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>connections</b>		Indicates an array of <b>connections</b> that specifies the information needed to connect to the specific device for the purposes of managing and controlling the device.
<b>connections.credential</b>		Reference to a <b>credentials</b> resource that can be used to connect to the device for management purposes.
<b>connections.credentialType</b>		See <b>credentials</b> resource, section 3.1.5.2.
<b>connections.managementAddresses</b>		The management address used to connect to the server. This can be in the form of an IPv4 IP address, an IPv6 IP address, or a DNS name.
<b>model</b>	Optional	Model number of the server.
<b>networkInterfaces</b>	Optional	An array of network interfaces this server has. See <b>networkInterfaces</b> resource, section 3.1.5.15.2, for more details. These <b>networkInterfaces</b> resources will be automatically created based on the physical network interface cards the server has. They cannot be created or deleted but can have their properties updated.
<b>os</b>	Optional	Identifies the operating system running on the server.
<b>rackSlot</b>	Optional	Indicates the slot in the rack in which the server has been plugged.
<b>serial</b>	Optional	Indicates the serial number of the server.
<b>vendor</b>	Optional	Indicates the name of the server's vendor.
<b>certificate</b>		The encoded representation of the certificate that the Network Controller accepts when the server (host)

Element name	Type	Description
		represented by this REST resource connects to the controller.
<b>configurationState</b>	Optional Read-only	Indicates the configuration state for the server (host). See definition in section 2.2.4. The values are the same as for network interfaces and load Balancer MUX.
<b>VirtualNetworkInterfaces</b>	Optional Read-only	Indicates an array of references to the virtual network interfaces that are hosted on this server. This property supported with URI version v2 and later.
<b>auditingEnabled</b>	Optional	A string array that is a list of a combination of the following strings: Disabled, or Firewall. If both Firewall and Disabled are present, the state is disabled. Firewall is the only kind of auditing currently supported. This property is supported with URI version v3 and later.

### 3.1.5.15.1 HTTP Methods

#### 3.1.5.15.1.1 PUT

This method creates a new **servers** resource or updates an existing **servers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.15.1.1.1 Request Body

The format for the request body for the **servers PUT** method is as follows.

```

{
  "resourceId": "server1",
  "properties": {
    "connections": [
      {
        "managementAddresses": [
          "servername"
        ],
        "credential": {
          "resourceRef": "/credentials/sn-credentials"
        },
        "credentialType": "usernamePassword"
      },
      {
        "managementAddresses": [
          "servername",
          "altservername"
        ],
        "credential": {
          "resourceRef": "/credentials/9321c52a-3bb5-4553-89a5-4d453b7bcb05"
        },
        "credentialType": "X509Certificate"
      }
    ],
    "certificate": "MIIC",
    "networkInterfaces": [
      {
        "resourceId": "ab055aa1-27d6-4a2e-a4b7-7916008dd1a4",
        "properties": {
          "interfaceIndex": "0",
          "isBMC": "false",
          "logicalSubnets": [
            {
              "resourceRef": "/logicalNetworks/72570539-58a9-43d6-b858-
d7ec3f202c6d/subnets/3d46ae72-b1d0-48fa-b4fe-ab183e737493"
            }
          ]
        }
      }
    ]
  }
}

```

The JSON schema for the **servers PUT** method is located in section 6.13.1.

### 3.1.5.15.1.1.2 Response Body

The format is the same as the format for the **servers GET** response body (section 3.1.5.15.1.2.2). The JSON schema is located in section 6.13.3.

### 3.1.5.15.1.1.3 Processing Details

Create a new **servers** resource or update an existing **servers** resource.

### 3.1.5.15.1.2 GET

This method retrieves a **servers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.15.1.2.1 Request Body

None.

### 3.1.5.15.1.2.2 Response Body

The format for the response body for the **servers GET** method is as follows.

```
{
  "resourceRef": "/servers/Server501",
  "resourceId": "Server501",
  "resourceMetadata": {
    "client": "Test",
    "groupId": "",
    "resourceName": "Server501"
  },
  "etag": "W/\"61c878ca-fa0b-4509-b736-24d67bb2086c\"",
  "instanceId": "64313570-3232-4b5e-914e-8b3b7895e550",
  "properties": {
    "provisioningState": "Succeeded",
    "connections": [
      {
        "managementAddresses": [
          "10.1.1.1"
        ],
        "credential": {
          "resourceRef": "/credentials/Administrator"
        },
        "credentialType": "usernamePassword"
      }
    ],
    "certificate": "",
    "rackSlot": "1",
    "os": "Windows",
    "model": "Minitower",
    "vendor": "Dell",
    "serial": "101010",
    "configurationState": {
      "status": "Warning",
      "detailedInfo": [
        {
          "source": "SoftwareLoadBalancerManager",
          "message": "Host is not Connected.",
          "code": "HostNotConnectedToController"
        }
      ]
    },
    "lastUpdatedTime": "2016-06-15T07:44:00.4342843-07:00"
  },
  "networkInterfaces": [
```

```

{
  "resourceRef": "/servers/Server501/networkInterfaces/NetworkInterface501",
  "resourceId": "NetworkInterface501",
  "resourceMetadata": {
    "client": "Test",
    "groupId": "",
    "resourceName": "NetworkInterface501"
  },
  "etag": "W/\"61c878ca-fa0b-4509-b736-24d67bb2086c\"",
  "instanceId": "80cb7d15-9a9d-4f17-b3a7-c7d862469a93",
  "properties": {
    "provisioningState": "Succeeded",
    "interfaceName": "NetworkInterface501",
    "mac": "18-03-73-B3-C2-4B",
    "ipConfiguration": [
      {
        "ipAddress": "1.1.1.1",
        "networkPrefix": "23",
        "isDhcpEnabled": "true"
      },
      {
        "ipAddress": "2.2.2.2",
        "networkPrefix": "24",
        "isDhcpEnabled": "false"
      }
    ],
    "vlanIds": [
      "1",
      "2"
    ],
    "adminStatus": "1",
    "operationalStatus": "1",
    "interfaceIndex": "1",
    "interfaceSpeed": "300",
    "isBMC": "false",
    "logicalSubnets": []
  }
}
]
},
"tags": {
  "abc": "abc"
}
}

```

The JSON schema for the **servers GET** method is located in section 6.13.3.

### 3.1.5.15.1.2.3 Processing Details

Retrieves a **servers** resource.

### 3.1.5.15.1.3 GET ALL

This method retrieves all **servers** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

### 3.1.5.15.1.3.1 Request Body

None.

### 3.1.5.15.1.3.2 Response Body

The format for the **servers GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/servers/Server501",
      "resourceId": "Server501",
      "resourceMetadata": {
        "client": "Test",
        "groupId": "",
        "resourceName": "Server501"
      },
      "etag": "W/\\"37ac6989-a791-4bc1-bf80-7b3ccb598d5c\\\"",
      "instanceId": "64313570-3232-4b5e-914e-8b3b7895e550",
      "properties": {
        "provisioningState": "Succeeded",
        "connections": [
          {
            "managementAddresses": [
              "10.1.1.1"
            ],
            "credential": {
              "resourceRef": "/credentials/Administrator"
            },
            "credentialType": "usernamePassword"
          }
        ],
        "certificate": "",
        "rackSlot": "1",
        "os": "Windows",
        "model": "Minitower",
        "vendor": "Dell",
        "serial": "101010",
        "configurationState": {
          "status": "Warning",
          "detailedInfo": [
            {
              "source": "SoftwareLoadBalancerManager",
              "message": "Host is not Connected.",
              "code": "HostNotConnectedToController"
            }
          ]
        },
        "lastUpdatedTime": "2016-06-15T08:08:32.4020758-07:00"
      },
      "networkInterfaces": [
        {
          "resourceRef": "/servers/Server501/networkInterfaces/NetworkInterface501",
          "resourceId": "NetworkInterface501",
          "resourceMetadata": {
            "client": "Test",
            "groupId": "",
            "resourceName": "NetworkInterface501"
          }
        }
      ]
    }
  ]
}
```

```

    },
    "etag": "W/\"37ac6989-a791-4bc1-bf80-7b3ccb598d5c\"",
    "instanceId": "80cb7d15-9a9d-4f17-b3a7-c7d862469a93",
    "properties": {
      "provisioningState": "Succeeded",
      "interfaceName": "NetworkInterface501",
      "mac": "18-03-73-B3-C2-4B",
      "ipConfiguration": [
        {
          "ipAddress": "1.1.1.1",
          "networkPrefix": "23",
          "isDhcpEnabled": "true"
        },
        {
          "ipAddress": "2.2.2.2",
          "networkPrefix": "24",
          "isDhcpEnabled": "false"
        }
      ],
      "vlanIds": [
        "1",
        "2"
      ],
      "adminStatus": "1",
      "operationalStatus": "1",
      "interfaceIndex": "1",
      "interfaceSpeed": "300",
      "isBMC": "false",
      "logicalSubnets": []
    }
  }
],
"tags": {
  "abc": "abc"
}
},
"nextLink": ""
}

```

The JSON schema for the **servers GET ALL** method is located in section 6.13.6.

### 3.1.5.15.1.3.3 Processing Details

Retrieves all **servers** resources.

### 3.1.5.15.1.4 DELETE

This method deletes a **servers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.15.1.4.1 Request Body

None.

#### 3.1.5.15.1.4.2 Response Body

None.

#### 3.1.5.15.1.4.3 Processing Details

Deletes a **servers** resource.

### 3.1.5.15.2 (Updated Section) networkInterfaces

The **networkInterfaces** resource represents a physical NIC on the host device.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.15.2.1.1	Create a new <b>networkInterfaces</b> resource or update an existing <b>networkInterfaces</b> resource.
<b>GET</b>	3.1.5.15.2.1.2	Get one <b>networkInterfaces</b> resource.
<b>GET ALL</b>	3.1.5.15.2.1.3	List all <b>networkInterfaces</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.15.2.1.4	Deletes a <b>networkInterfaces</b> resource.

The following property elements are valid.



Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>adminStatus</b>	Optional	Indicates the administrator status of the network interface.
<b>interfaceIndex</b>	Optional	Indicates the interface index of the network interface.
<b>interfaceName</b>	Optional	Indicates the name of the network interface.
<b>interfaceSpeed</b>	Optional	Indicates the speed of the network interface.
<b>ipConfiguration</b>	Optional	Indicates an array of IP configurations.
<b>ipConfiguration.ipAddress</b>	Optional	IP address of the interface.
<b>ipConfiguration.networkPrefix</b>	Optional	Network prefix associated with the interface IP address.
<b>ipConfiguration.defaultGateway</b>	Optional	Default gateway associated with the interface.
<b>ipConfiguration.isDhcpEnabled</b>	Optional	Boolean flag indicating whether the IP address has been obtained using DHCP. TRUE means the IP address has been obtained using DHCP; otherwise the default is FALSE.
<b>logicalSubnets</b>	Read-only	Indicates an array of <b>subnets</b> resources that the network interface is connected to. The array MAY contain both IPv6 and IPv6 subnets.
<b>mac</b>	Optional	Indicates the MAC address of the network interface.
<b>operationalStatus</b>	Optional	Indicates the operational status of the network interface.
<b>vlanIds</b>	Optional	Indicates the ID of the VLANs that the network interface is connected to.
<b>isBMC</b>	Optional	Boolean flag to indicate whether the interface is a BMC interface. TRUE if the interface is a BMC interface, FALSE otherwise.

### 3.1.5.15.2.1 HTTP Methods

#### 3.1.5.15.2.1.1 PUT

This method creates a new **networkInterfaces** resource or updates an existing **networkInterfaces** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.15.2.1.1.1 Request Body

The format for the request body for the **networkInterfaces PUT** method is as follows.

```
{
  "properties": {
    "interfaceIndex": "0",
    "isBMC": "false",
    "logicalSubnets": [
      {
        "resourceRef": "/logicalNetworks/7d14191e-5b55-4e99-9059-
a42d120da0ce/subnets/33a30080-b71d-4c64-8385-750525216905"
      }
    ]
  }
}
```

The JSON schema for the **networkInterfaces PUT** method is contained within the **servers PUT** method schema in section 6.13.1.

### 3.1.5.15.2.1.1.2 Response Body

The format is the same as the format for the **networkInterfaces GET** response body (section 3.1.5.15.2.1.2.2). The JSON schema for the **networkInterfaces GET** method is contained within the **servers GET** method schema in section 6.13.3.

### 3.1.5.15.2.1.1.3 Processing Details

Create or update a **networkInterfaces** resource.

### 3.1.5.15.2.1.2 GET

This method retrieves a **networkInterfaces** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.15.2.1.2.1 Request Body

None.

### 3.1.5.15.2.1.2.2 Response Body

The format for the **networkInterfaces GET** response body is as follows.

```
{
  "resourceRef": "/servers/s27/networkInterfaces/2bd6b8e5-d173-4474-a7ab-cc1f60cba579",
  "resourceId": "2bd6b8e5-d173-4474-a7ab-cc1f60cba579",
  "etag": "W/\"a05b0a83-8051-4379-a1f8-e365c57284f5\"",
  "instanceId": "137a1ebe-9ffc-473a-be69-2f6ed84c0463",
  "properties": {
    "provisioningState": "Succeeded",
    "interfaceIndex": "0",
    "isBMC": "false",
    "logicalSubnets": [
      {
        "resourceRef": "/logicalNetworks/7d14191e-5b55-4e99-9059-
a42d120da0ce/subnets/33a30080-b71d-4c64-8385-750525216905"
      }
    ]
  }
}
```

The JSON schema for the **networkInterfaces GET** method is contained within the **servers GET** method schema in section 6.13.3.

### 3.1.5.15.2.1.2.3 Processing Details

Retrieves a **networkInterfaces** resource.

### 3.1.5.15.2.1.3 GET ALL

This method retrieves all **networkInterfaces** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

### 3.1.5.15.2.1.3.1 Request Body

None.

### 3.1.5.15.2.1.3.2 Response Body

The format for the **networkInterfaces GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/servers/s27/networkInterfaces/2bd6b8e5-d173-4474-a7ab-cc1f60cba579",
      "resourceId": "2bd6b8e5-d173-4474-a7ab-cc1f60cba579",
      "etag": "W/\"a05b0a83-8051-4379-a1f8-e365c57284f5\"",
      "instanceId": "137alebe-9ffc-473a-be69-2f6ed84c0463",
      "properties": {
        "provisioningState": "Succeeded",
        "interfaceIndex": "0",
        "isBMC": "false",
        "logicalSubnets": [
          {
            "resourceRef": "/logicalNetworks/7d14191e-5b55-4e99-9059-a42d120da0ce/subnets/33a30080-b71d-4c64-8385-750525216905"
          }
        ]
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **networkInterfaces GET ALL** method is contained within the **servers GET ALL** method schema in section 6.13.6.

### 3.1.5.15.2.1.3.3 Processing Details

Retrieves all **networkInterfaces** resources.

### 3.1.5.15.2.1.4 DELETE

This method deletes a **networkInterfaces** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.15.2.1.4.1 Request Body

None.

#### 3.1.5.15.2.1.4.2 Response Body

None.

#### 3.1.5.15.2.1.4.3 Processing Details

Deletes a **networkInterfaces** resource.

### 3.1.5.16 (Updated Section) serviceInsertions

The **serviceInsertions** resource specifies the relationship between the service insertion and the service insertion rule.

It is invoked through the following URI.

```
https://<url>/networking/v1/serviceInsertions/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.16.1.1	Create a new <b>serviceInsertions</b> resource or update an existing <b>serviceInsertions</b> resource.
<b>GET</b>	3.1.5.16.1.2	Get one <b>serviceInsertions</b> resource.
<b>GET ALL</b>	3.1.5.16.1.3	List all <b>serviceInsertions</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.16.1.4	Deletes a <b>serviceInsertions</b> resource

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section

Element name	Type	Description
		2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>ipConfiguration</b>	Read-only	Indicate references to <b>ipConfigurations</b> resources this access control list is associated with.
<b>priority</b>	Required	Indicates the relative order in which the policies are processed. Priorities MUST be unique, and a <b>PUT</b> will fail if policies with duplicate priorities are specified.
<b>type</b>	Required	Indicate the type of service insertion. Valid value is PortMirror.
<b>rules</b>	Optional	Indicates an array of rules used to define what traffic will go through the service insertion.
<b>rules.protocol</b>	Optional	Indicates the protocol to match for this rule. Valid values are <b>FCP, UDP, Tcp, Udp, Http</b> , or <b>*.All</b> . The <b>asterisk (*)</b> value "All" indicates the rule will match for all protocols.
<b>rules.sourcePortStart</b>	Required	Indicates the starting source port to match. This value MUST be between 0 and 65535. Specify 0 to indicate any port.
<b>rules.sourcePortEnd</b>	Optional	Indicates the end of range of source ports to match. This value MUST be greater than the <b>sourcePortStart</b> element. If not specified, then only the start port is matched.
<b>rules.destinationPortStart</b>	Required	Indicates the starting destination port to match. This value MUST be between 0 and 65535. Specify 0 to indicate any port.
<b>rules.destinationPortEnd</b>	Optional	Indicates the end of range of destination ports to match. This value MUST be greater than the <b>destinationPortStart</b> element. If not specified, then only the start destination port is matched.
<b>rules.sourceSubnets</b>	Optional	Indicates an array of subnets to match as source subnet. For a single source IP address match specify as a /32 subnet.
<b>rules.destinationSubnets</b>	Optional	Indicates an array of subnets to match as the destination subnet. For a single source IP address match specify as a /32 subnet.
<b>serviceInsertionElements</b>	Optional	Indicates an array of elements in the list of network interfaces to send packets matching rules through. If type is PortMirror then the array MUST contain 1 element.
<b>serviceInsertionElements.description</b>	Optional	Indicates the description of the element in the service insertion.
<b>serviceInsertionElements.order</b>	Required	Indicates the position in the service insertion that the element is located. This value MUST

Element name	Type	Description
		be unique in the <b>serviceInsertions</b> resource. The lowest value element will be the first element in the insertion.
<b>serviceInsertionElements.name</b>	Optional	User friendly name of the appliance/element.
<b>serviceInsertionElements.networkInterface</b>	Required	Indicates a <b>networkInterfaces</b> resource that is an element in the service insertion.
<b>subnets</b>	Read-only	Indicates an array of references to <b>subnets</b> resources with which this <b>serviceInsertions</b> resource is associated.

### 3.1.5.16.1 HTTP Methods

#### 3.1.5.16.1.1 PUT

This method creates a new **serviceInsertions** resource or updates an existing **serviceInsertions** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/serviceInsertions/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.16.1.1.1 Request Body

The format for the request body for the **serviceInsertions PUT** method is as follows.

```
{
  "resourceId": "80a29b25-0216-4f02-bc9a-ce41fab1b1b9",
  "resourceMetadata": {
  },
  "properties": {
    "serviceInsertionRules": [
      {
        "resourceId": "3b11aaf2-de79-44a3-8f5e-f14f009d3216",
```

```

    "resourceMetadata": {
    },
    "properties": {
      "description": "Http Traffic Rule",
      "protocol": "Tcp",
      "sourcePortRangeStart": 0,
      "sourcePortRangeEnd": 65535,
      "destinationPortRangeStart": 80,
      "destinationPortRangeEnd": 80,
      "sourceSubnets": [
        "*"
      ],
      "destinationSubnets": [
        "11.0.0.0/8"
      ]
    }
  ],
  "serviceInsertionElements": [
    {
      "resourceId": "4a9ee40b-aa42-4b31-b8d3-d7fe3508bbb1",
      "resourceMetadata": {
      },
      "properties": {
        "description": "My Appliance",
        "order": 1,
        "networkInterface": {
          "resourceRef": "/networkInterfaces/05e4ff39-ala2-4913-8197-0fe9eaa61eb9"
        }
      }
    }
  ],
  "priority": 1
}

```

The JSON schema for the **serviceInsertions PUT** method is located in section 6.14.1.

### 3.1.5.16.1.1.2 Response Body

The format is the same as the format for the **serviceInsertions GET** response body (section 3.1.5.16.1.2.2). The JSON schema is located in section 6.14.2.

### 3.1.5.16.1.1.3 Processing Details

Create a new **serviceInsertions** resource or update an existing **serviceInsertions** resource.

### 3.1.5.16.1.2 GET

This method retrieves a **serviceInsertions** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/serviceInsertions/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.



Status code
200 (OK)
404 (Not Found)

### 3.1.5.16.1.2.1 Request Body

None.

### 3.1.5.16.1.2.2 Response Body

The format for the **serviceInsertions GET** response body is as follows.

```
{
  "resourceRef": "/serviceInsertions/PortMirror200345",
  "resourceId": "PortMirror200345",
  "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
  "instanceId": "76d78690-9250-4b81-8110-51b71d646759",
  "properties": {
    "provisioningState": "Succeeded",
    "serviceInsertionRules": [
      {
        "resourceRef": "/serviceInsertions/PortMirror200345/serviceInsertionRules/Rule1",
        "resourceId": "Rule1",
        "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
        "instanceId": "7a87d61b-61d4-4a90-8bc3-7d83d4d33d40",
        "properties": {
          "provisioningState": "Succeeded",
          "description": "Port Mirror Rule Port 2003 2004",
          "protocol": "Tcp",
          "sourcePortRangeStart": 0,
          "sourcePortRangeEnd": 65535,
          "destinationPortRangeStart": 2003,
          "destinationPortRangeEnd": 2004,
          "sourceSubnets": [
            "*"
          ],
          "destinationSubnets": [
            "*"
          ]
        }
      },
      {
        "resourceRef": "/serviceInsertions/PortMirror200345/serviceInsertionRules/Rule2",
        "resourceId": "Rule2",
        "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
        "instanceId": "456870d3-79a2-45f9-aa8e-266ee52c2b3c",
        "properties": {
          "provisioningState": "Succeeded",
          "description": "Port Mirror Rule Port 2005",
          "protocol": "Tcp",
          "sourcePortRangeStart": 0,
          "sourcePortRangeEnd": 65535,
          "destinationPortRangeStart": 2005,
          "destinationPortRangeEnd": 2005,
          "sourceSubnets": [
            "*"
          ],
          "destinationSubnets": [
            "*"
          ]
        }
      }
    ]
  }
}
```

```

    ],
    "serviceInsertionElements": [
      {
        "resourceRef":
"/serviceInsertions/PortMirror200345/serviceInsertionElements/Element1",
        "resourceId": "Element1",
        "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
        "instanceId": "866af805-15d6-4171-a9c2-64079da33457",
        "properties": {
          "provisioningState": "Succeeded",
          "description": "Port Mirror Element",
          "order": 1,
          "networkInterface": {
            "resourceRef": "/networkInterfaces/appliance"
          }
        }
      }
    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/1f2f2b5c-6af3-47fb-97bf-
73df9828233f/ipConfigurations/60012030-5989-45d3-9946-d2ae1b891ffc"
      }
    ],
    "subnets": [],
    "priority": 1
  }
}

```

The JSON schema for the **serviceInsertions GET** method is located in section 6.14.2.

### 3.1.5.16.1.2.3 Processing Details

Retrieves a **serviceInsertions** resource.

#### 3.1.5.16.1.3 GET ALL

This method retrieves all **serviceInsertions** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/serviceInsertions
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

#### 3.1.5.16.1.3.1 Request Body

None.

### 3.1.5.16.1.3.2 Response Body

The format for the **serviceInsertions GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/serviceInsertions/PortMirror200345",
      "resourceId": "PortMirror200345",
      "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
      "instanceId": "76d78690-9250-4b81-8110-51b71d646759",
      "properties": {
        "provisioningState": "Succeeded",
        "serviceInsertionRules": [
          {
            "resourceRef": "/serviceInsertions/PortMirror200345/serviceInsertionRules/Rule1",
            "resourceId": "Rule1",
            "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
            "instanceId": "7a87d61b-61d4-4a90-8bc3-7d83d4d33d40",
            "properties": {
              "provisioningState": "Succeeded",
              "description": "Port Mirror Rule Port 2003 2004",
              "protocol": "Tcp",
              "sourcePortRangeStart": 0,
              "sourcePortRangeEnd": 65535,
              "destinationPortRangeStart": 2003,
              "destinationPortRangeEnd": 2004,
              "sourceSubnets": [
                "*"
              ],
              "destinationSubnets": [
                "*"
              ]
            }
          },
          {
            "resourceRef": "/serviceInsertions/PortMirror200345/serviceInsertionRules/Rule2",
            "resourceId": "Rule2",
            "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
            "instanceId": "456870d3-79a2-45f9-aa8e-266ee52c2b3c",
            "properties": {
              "provisioningState": "Succeeded",
              "description": "Port Mirror Rule Port 2005",
              "protocol": "Tcp",
              "sourcePortRangeStart": 0,
              "sourcePortRangeEnd": 65535,
              "destinationPortRangeStart": 2005,
              "destinationPortRangeEnd": 2005,
              "sourceSubnets": [
                "*"
              ],
              "destinationSubnets": [
                "*"
              ]
            }
          }
        ]
      },
      "serviceInsertionElements": [
        {
          "resourceRef":
            "/serviceInsertions/PortMirror200345/serviceInsertionElements/Element1",
          "resourceId": "Element1",
          "etag": "W/\"8b7ae5bf-7e7d-4159-b964-56ef8c94275e\"",
          "instanceId": "866af805-15d6-4171-a9c2-64079da33457",
          "properties": {
            "provisioningState": "Succeeded",
            "description": "Port Mirror Element",
            "order": 1,
            "networkInterface": {
```

```

        "resourceRef": "/networkInterfaces/appliance"
    }
}
},
"ipConfigurations": [
    {
        "resourceRef": "/networkInterfaces/1f2f2b5c-6af3-47fb-97bf-73df9828233f/ipConfigurations/60012030-5989-45d3-9946-d2aelb891ffc"
    }
],
"subnets": [],
"priority": 1
}
},
{
    "resourceRef": "/serviceInsertions/PortMirrorALL",
    "resourceId": "PortMirrorALL",
    "etag": "W/\\"3d304162-ba3b-47cd-90db-88e5cc26f51c\"",
    "instanceId": "dedb4574-3574-47cd-9050-f5d5c7c39c37",
    "properties": {
        "provisioningState": "Succeeded",
        "serviceInsertionRules": [
            {
                "resourceRef": "/serviceInsertions/PortMirrorALL/serviceInsertionRules/Rule1",
                "resourceId": "Rule1",
                "etag": "W/\\"3d304162-ba3b-47cd-90db-88e5cc26f51c\"",
                "instanceId": "d78f1d35-7f6f-4d88-a60e-006174b886c7",
                "properties": {
                    "provisioningState": "Succeeded",
                    "description": "Port Mirror Rule For ALL Ports",
                    "protocol": "All",
                    "sourcePortRangeStart": 0,
                    "sourcePortRangeEnd": 65535,
                    "destinationPortRangeStart": 2003,
                    "destinationPortRangeEnd": 2004,
                    "sourceSubnets": [
                        "*"
                    ],
                    "destinationSubnets": [
                        "*"
                    ]
                }
            }
        ],
        "serviceInsertionElements": [
            {
                "resourceRef":
"/serviceInsertions/PortMirrorALL/serviceInsertionElements/Element1",
                "resourceId": "Element1",
                "etag": "W/\\"3d304162-ba3b-47cd-90db-88e5cc26f51c\"",
                "instanceId": "78293494-d09b-43fb-bc1e-57ba8d2ec3d5",
                "properties": {
                    "provisioningState": "Succeeded",
                    "description": "Port Mirror Element",
                    "order": 1,
                    "networkInterface": {
                        "resourceRef": "/networkInterfaces/appliance"
                    }
                }
            }
        ],
        "ipConfigurations": [],
        "subnets": [],
        "priority": 1
    }
}
},
"nextLink": ""

```

}

The JSON schema for the **serviceInsertions GET ALL** method is located in section 6.14.3.

### 3.1.5.16.1.3.3 Processing Details

Retrieves all serviceInsertions resources.

### 3.1.5.16.1.4 DELETE

This method deletes a **serviceInsertions** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/serviceInsertions/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

### 3.1.5.16.1.4.1 Request Body

None.

### 3.1.5.16.1.4.2 Response Body

None.

### 3.1.5.16.1.4.3 Processing Details

Deletes a **serviceInsertions** resource.

## 3.1.5.17 (Updated Section) VirtualGateways

The **VirtualGateways** resource describes the gateway used for cross-premises connectivity from the virtual network. The virtualGateway is a logical entity that runs on multiple gateways in the **GatewayPools** resource.

The Network Controller can create only one instance of the **VirtualGateways** resource per subscription. Clients or client tenants can then connect to it.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.17.1.1	Create a new <b>VirtualGateways</b> resource or update an existing <b>VirtualGateways</b> resource.
<b>GET</b>	3.1.5.17.1.2	Get one <b>VirtualGateways</b> resource.
<b>GET ALL</b>	3.1.5.17.1.3	List all <b>VirtualGateways</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.17.1.4	Delete a <b>VirtualGateways</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>gatewaySubnets</b>	Required Read/write	Indicates collection of references to IPv4/IPv6 subnet of the VSID/gateway subnet that includes the gateway.
<b>networkConnections</b>	Optional Read/write	Indicates list of network connections that are configured for this <b>VirtualGateways</b> resource. See section 3.1.5.17.4 for full details on this element.
<b>vpnConfiguration.IPv4AddressPrefixes</b>	Read/write	Indicates collection of IPv4 address pools from which VPN clients are assigned addresses.
<b>vpnConfiguration.IPv4AddressPrefixes</b>	Read/write	Indicates IPv4 prefix of the pool.
<b>vpnConfiguration.IPv4AddressPrefixes.start</b>	Read/write	Starting IPv4 address of the pool. This is required if the start and end addresses do not form a subnet.
<b>vpnConfiguration.IPv4AddressPrefixes.end</b>	Read/write	Ending IPv4 address of the pool. This is not required if the start and end addresses form a subnet.
<b>vpnConfiguration.IPv6AddressPrefixes</b>	Read/write	Indicates IPv6 prefix advertised to remote access VPN clients.
<b>vpnConfiguration.capacity</b>	Read/write	Aggregate bandwidth capacity of VPN Clients

Element name	Type	Description
		in Kbps.
<b>vpnConfiguration.Realm</b>	Read/write	<b>Realm</b> used to identify tenants. E.g. contoso, Woodgrove.
<b>bgpRouters</b>	Optional Read/write	Indicates the BGP peering information. See section 3.1.5.17.2 for full details on this element.
<b>policyMaps</b>	Optional Read/write	Indicates BGP policy maps. See section 3.1.5.17.3 for details.
<b>GatewayPools</b>	Required Read/write	Indicates a collection of references to <b>GatewayPools</b> resources in which connections can be created. This information is populated at the time of subscription and can be changed only via the Service administrator portal.
<b>routingType</b>	Read-only	Dynamic is the only support value for this field.
<b>configurationState</b>	Optional Read-only	Indicates the last known running state of this virtual gateway. See specification in section 2.2.4. More details are given in the section for the <b>GET</b> operation section 3.1.5.17.1.2.

### 3.1.5.17.1 HTTP Methods

#### 3.1.5.17.1.1 PUT

This method creates a new **VirtualGateways** resource or updates an existing **VirtualGateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.17.1.1.1 Request Body

The format for the request body for the **VirtualGateways PUT** method is as follows.

```
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1",
  "resourceId": "VirtualGateway_1",
  "properties": {
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_IPSEC_1",
        "resourceId": "VirtualGateway_1_IPSEC_1",
        "properties": {
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 1000,
          "inboundKiloBitsPerSecond": 1000,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "PFS2048",
              "cipherTransformationConstant": "DES3",
              "authenticationTransformationConstant": "SHA256128",
              "idleDisconnectSeconds": 500,
              "saLifetimeSeconds": 1233,
              "saLifetimeKiloBytes": 2000
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "AES256",
              "integrityAlgorithm": "SHA256",
              "saLifetimeSeconds": 1234,
              "saLifetimeKiloBytes": 2000
            }
          },
          "localVpnTrafficSelector": [],
          "remoteVpnTrafficSelector": []
        },
        "l3Configuration": {},
        "ipAddresses": [],
        "peerIPAddresses": [],
        "routes": [
          {
            "destinationPrefix": "50.1.1.0/24",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          },
          {
            "destinationPrefix": "40.1.1.4/32",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          }
        ],
        "connectionStatus": "Enabled",
        "destinationIPAddress": "11.1.0.1",
      }
    ],
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_Gre_1",
      "resourceId": "VirtualGateway_1_Gre_1",
      "properties": {
        "connectionType": "GRE",
        "outboundKiloBitsPerSecond": 1000,
        "inboundKiloBitsPerSecond": 1000,
      }
    }
  }
}
```



```

    "greConfiguration": {
      "greKey": "1234"
    },
    "l3Configuration": {},
    "ipAddresses": [],
    "peerIPAddresses": [],
    "routes": [
      {
        "destinationPrefix": "50.1.2.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
      },
      {
        "destinationPrefix": "40.1.2.4/32",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
      }
    ],
    "connectionStatus": "Enabled",
    "destinationIPAddress": "11.1.0.2",
  }
},
{
  "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_L3_1",
  "resourceId": "VirtualGateway_1_L3_1",
  "properties": {
    "connectionType": "L3",
    "outboundKiloBitsPerSecond": 1000,
    "inboundKiloBitsPerSecond": 1000,
    "l3Configuration": {
      "vlanSubnet": {
        "resourceRef":
"/logicalNetworks/LogicalNetwork_VG_1/subnets/LogicalNetwork_VG_1_Subnet_1"
      }
    },
    "ipAddresses": [
      {
        "ipAddress": "31.1.1.4",
        "prefixLength": 24
      }
    ],
    "peerIPAddresses": [
      "31.1.1.5"
    ],
    "routes": [
      {
        "destinationPrefix": "50.1.3.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
      },
      {
        "destinationPrefix": "40.1.3.4/32",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
      }
    ],
    "connectionStatus": "Enabled",
  }
}
],
"bgpRouters": [
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1",
    "resourceId": "router1",
    "properties": {

```

```

        "isEnabled": true,
        "requireIgpSync": true,
        "extAsNumber": "0.3458",
        "routerId": "10.1.1.1",
        "routerIP": [
            "10.1.1.1"
        ],
        "isGenerated": false,
        "bgpPeers": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
                "resourceId": "Peer1",
                "etag": "W/\\"8d23a02c-3465-41b5-afdb-644272787bae\\"",
                "instanceId": "f7d8724b-7be9-46f4-882f-5c37ef4143e8",
                "properties": {
                    "provisioningState": "Succeeded",
                    "asNumber": "1236",
                    "extAsNumber": "0.1236",
                    "peerIpAddress": "40.1.1.4",
                    "addressFamily": "IPv4",
                    "policyMapIn": {
                        "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1"
                    },
                    "policyMapOut": {
                        "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1"
                    },
                    "isGenerated": false
                }
            },
        ],
    },
}
],
}
],
"policyMaps": [
    {
        "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1",
        "resourceId": "MAP1",
        "etag": "W/\\"e4b527be-c107-4de2-bc83-9985de964168\\"",
        "instanceId": "c8b34df3-cc7b-4eab-9ccf-97512e6014a9",
        "properties": {
            "provisioningState": "Succeeded",
            "bgpPeersWithPolicyMapIn": [
                {
                    "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1"
                }
            ],
            "bgpPeersWithPolicyMapOut": [
                {
                    "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1"
                }
            ],
            "policyMapEntryList": [
                {
                    "action": "Deny",
                    "matchCriteria": [
                        {
                            "property": "MatchPrefix",
                            "value": [
                                "5.4.3.2/32",
                                "5.4.3.1/32"
                            ]
                        },
                        {
                            "property": "NextHop",
                            "value": [
                                "4.3.2.1",
                                "6.4.3.1"
                            ]
                        }
                    ]
                }
            ]
        }
    }
]
}

```

```

        ]
      },
      "setActions": []
    },
    {
      "action": "Permit",
      "matchCriteria": [
        {
          "property": "AsnRange",
          "value": [
            "123",
            "345"
          ]
        },
        {
          "property": "Community",
          "value": [
            "1:1",
            "2:2"
          ]
        }
      ],
      "setActions": []
    }
  ]
}
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"gatewaySubnets": [
  {
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0001-000000000000/subnets/00000000-1111-1111-0001-000000000001"
  }
]
}
}

```

The JSON schema for the **VirtualGateways PUT** method is located in section 6.15.1.

### 3.1.5.17.1.1.2 Response Body

The format is the same as the format for the **VirtualGateways GET** response body (section 3.1.5.17.1.2.2). The JSON schema is located in section 6.15.2.

### 3.1.5.17.1.1.3 Processing Details

Create a new **VirtualGateways** resource or update an existing **VirtualGateways** resource.

### 3.1.5.17.1.2 GET

This method retrieves a **VirtualGateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.17.1.2.1 Request Body

None.

### 3.1.5.17.1.2.2 Response Body

The format for the **VirtualGateways GET** response body is as follows.

```
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1",
  "resourceId": "VirtualGateway_1",
  "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
  "instanceId": "cc7de412-f5d0-4f0c-83f2-1cabb2e6a3a9",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_IPSEC_1",
        "resourceId": "VirtualGateway_1_IPSEC_1",
        "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
        "instanceId": "21974569-b8b3-4bde-a517-c8f5bb7ae13e",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            },
            "localVpnTrafficSelector": [],
            "remoteVpnTrafficSelector": []
          },
          "l3Configuration": {},
          "ipAddresses": [],

```

```

"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.1.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  },
  {
    "destinationPrefix": "40.1.1.4/32",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "809",
"unreachabilityReason": "ConnectionFailure",
"statistics": {
  "outboundBytes": 7608457281,
  "inboundBytes": 91940776693,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdateTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.1.0.1",
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
},
{
  "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_Gre_1",
"resourceId": "VirtualGateway_1_Gre_1",
"etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
"instanceId": "b8102aff-71ae-40ef-a8f6-4d1d2aad7521",
"properties": {
  "provisioningState": "Succeeded",
  "connectionType": "GRE",
  "outboundKiloBitsPerSecond": 307200,
  "inboundKiloBitsPerSecond": 307200,
  "greConfiguration": {
    "greKey": "101"
  },
  "l3Configuration": {},
  "ipAddresses": [],
  "peerIPAddresses": [],
  "routes": [
    {
      "destinationPrefix": "50.2.1.0/24",
      "nextHop": "0.0.0.0",
      "metric": 10,
      "protocol": "Static"
    },
    {
      "destinationPrefix": "40.1.2.4/32",
      "nextHop": "0.0.0.0",
      "metric": 10,

```

```

        "protocol": "Static"
    }
},
"connectionStatus": "Enabled",
"connectionState": "Connected",
"connectionUpTime": "01:43:04",
"connectionErrorReason": "",
"unreachabilityReason": "",
"statistics": {
    "outboundBytes": 29356,
    "inboundBytes": 0,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "22.1.1.2",
"destinationIPAddress": "11.1.0.2",
"gateway": {
    "resourceRef": "/Gateways/CloudGw1"
}
},
},
{
    "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_L3_1",
    "resourceId": "VirtualGateway_1_L3_1",
    "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
    "instanceId": "92db503f-fa02-445e-96ec-eaefb02bb459",
    "properties": {
        "provisioningState": "Succeeded",
        "connectionType": "L3",
        "outboundKiloBitsPerSecond": 307200,
        "inboundKiloBitsPerSecond": 307200,
        "l3Configuration": {
            "vlanSubnet": {
                "resourceRef":
"/logicalNetworks/LogicalNetwork_VG_1/subnets/LogicalNetwork_VG_1_Subnet_1"
            }
        },
        "ipAddresses": [
            {
                "ipAddress": "31.1.1.4",
                "prefixLength": 24
            }
        ],
        "peerIPAddresses": [
            "31.1.1.5"
        ],
        "routes": [
            {
                "destinationPrefix": "50.3.1.0/24",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
            },
            {
                "destinationPrefix": "40.1.3.4/32",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
            }
        ]
    }
},
],

```

```

"connectionStatus": "Enabled",
"connectionState": "Connected",
"connectionUpTime": "00:00:00",
"statistics": {
  "outboundBytes": 0,
  "inboundBytes": 0,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "0001-01-01T00:00:00"
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
}
],
"bgpRouters": [
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1",
    "resourceId": "router1",
    "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
    "instanceId": "be8fe6b1-302f-4bbc-97f7-e727b2f533df",
    "properties": {
      "provisioningState": "Succeeded",
      "isEnabled": true,
      "requireIgpSync": true,
      "extAsNumber": "0.3458",
      "routerId": "10.2.2.2",
      "routerIP": [
        "10.2.2.2"
      ],
      "isGenerated": false,
      "bgpPeers": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer2",
          "resourceId": "Peer2",
          "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
          "instanceId": "6dfc12fb-484a-4771-98f9-6c1d4ffbaala",
          "properties": {
            "provisioningState": "Succeeded",
            "asNumber": "1236",
            "extAsNumber": "0.1236",
            "peerIpAddress": "40.1.2.4",
            "connectionState": "Disconnected",
            "statistics": {
              "tcpConnectionClosed": "2016-06-15T23:17:02.419-07:00",
              "openMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
              },
              "notificationMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
              },
              "keepAliveMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
              },
              "routeRefreshMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
              }
            }
          }
        }
      ]
    }
  }
]

```

```

    },
    "updateMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "ipv4Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T06:17:26.4229961Z"
  },
  "isGenerated": false
}
},
{
  "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer3",
  "resourceId": "Peer3",
  "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
  "instanceId": "d6bc7e33-4ac9-4f74-a3f2-81c39eb2a85d",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.3.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T23:17:07.293-07:00",
      "openMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "lastUpdated": "2016-06-16T06:17:26.4229961Z"
    }
  },
}

```



```

        "isGenerated": false
    }
},
{
    "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
    "resourceId": "Peer1",
    "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
    "instanceId": "b9e57199-f352-4121-9842-24c0ba23f3f1",
    "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.1.4",
        "connectionState": "Disconnected",
        "statistics": {
            "tcpConnectionClosed": "2016-06-15T23:17:22.498-07:00",
            "openMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "notificationMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "keepAliveMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "routeRefreshMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "updateMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "ipv4Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "ipv6Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "lastUpdated": "2016-06-16T06:17:26.4229961Z"
        },
        "isGenerated": false
    }
}
},
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
}
}
],
"policyMaps": [
{
    "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1",
    "resourceId": "MAP1",
    "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
    "instanceId": "b52840f9-91a9-4a3e-91b3-0383ae1ea607",
    "properties": {
        "provisioningState": "Succeeded",

```

```

"bgpPeersWithPolicyMapIn": [],
"bgpPeersWithPolicyMapOut": [],
"policyMapEntryList": [
  {
    "action": "Deny",
    "matchCriteria": [
      {
        "property": "MatchPrefix",
        "value": [
          "5.4.3.2/32",
          "5.4.3.1/32"
        ]
      },
      {
        "property": "NextHop",
        "value": [
          "4.3.2.1",
          "6.4.3.1"
        ]
      }
    ],
    "setActions": []
  }
]
},
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
  {
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0001-000000000000/subnets/00000000-1111-1111-0001-000000000002"
  }
]
}
}

```

The JSON schema for the **VirtualGateways GET** method is located in section 6.15.2.

### 3.1.5.17.1.2.3 Processing Details

Retrieves a **VirtualGateways** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server MUST return a configuration state property **configurationState.status** set to Success if there were no errors. The server MUST return a configuration state property **configurationState.status** set to a value other than Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The following table contains acceptable values in the response when status is not Success.

<b>configurationState.status</b>	<b>Code inside configurationState.detailedInfo array</b>	<b>Description</b>
Failure	Failure	Unknown error has occurred.
InProgress	HostUnreachable	Unable to allocate resources.
Failure	HostUnreachable	Could not configure virtual gateway settings.
Warning	HostUnreachable	Stale connection for the <b>VirtualGateways</b> resource is present on the gateway.

### 3.1.5.17.1.3 GET ALL

This method retrieves all **VirtualGateways** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

<b>Status code</b>
200 (OK)

If no resources, the result is returned as an empty array.

#### 3.1.5.17.1.3.1 Request Body

None.

#### 3.1.5.17.1.3.2 Response Body

The format for the **VirtualGateways GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/VirtualGateways/VirtualGateway_1",
      "resourceId": "VirtualGateway_1",
      "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
      "instanceId": "cc7de412-f5d0-4f0c-83f2-1cabb2e6a3a9",
      "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
          {
            "resourceRef":
              "/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_IPSEC_1",
            "resourceId": "VirtualGateway_1_IPSEC_1",
```

```

"etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
"instanceId": "21974569-b8b3-4bde-a517-c8f5bb7ae13e",
"properties": {
  "provisioningState": "Succeeded",
  "connectionType": "IPSec",
  "outboundKiloBitsPerSecond": 307200,
  "inboundKiloBitsPerSecond": 307200,
  "ipSecConfiguration": {
    "authenticationMethod": "PSK",
    "quickMode": {
      "perfectForwardSecrecy": "None",
      "cipherTransformationConstant": "AES128",
      "authenticationTransformationConstant": "SHA196",
      "idleDisconnectSeconds": 500,
      "saLifeTimeSeconds": 3600,
      "saLifeTimeKiloBytes": 33552408
    },
    "mainMode": {
      "diffieHellmanGroup": "Group2",
      "encryptionAlgorithm": "DES3",
      "integrityAlgorithm": "SHA1",
      "saLifeTimeSeconds": 28800,
      "saLifeTimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
  },
  "l3Configuration": {},
  "ipAddresses": [],
  "peerIPAddresses": [],
  "routes": [
    {
      "destinationPrefix": "50.1.1.0/24",
      "nextHop": "0.0.0.0",
      "metric": 10,
      "protocol": "Static"
    },
    {
      "destinationPrefix": "40.1.1.4/32",
      "nextHop": "0.0.0.0",
      "metric": 10,
      "protocol": "Static"
    }
  ],
  "connectionStatus": "Enabled",
  "connectionState": "Disconnected",
  "connectionUpTime": "00:00:00",
  "connectionErrorReason": "809",
  "unreachabilityReason": "ConnectionFailure",
  "statistics": {
    "outboundBytes": 7608457281,
    "inboundBytes": 91940776693,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
  },
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "sourceIPAddress": "91.1.1.4",
  "destinationIPAddress": "11.1.0.1",
  "gateway": {
    "resourceRef": "/Gateways/CloudGw1"
  }
}

```

```

    },
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_Gre_1",
      "resourceId": "VirtualGateway_1_Gre_1",
      "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
      "instanceId": "b8102aff-71ae-40ef-a8f6-4d1d2aad7521",
      "properties": {
        "provisioningState": "Succeeded",
        "connectionType": "GRE",
        "outboundKiloBitsPerSecond": 307200,
        "inboundKiloBitsPerSecond": 307200,
        "greConfiguration": {
          "greKey": "101"
        },
        "l3Configuration": {},
        "ipAddresses": [],
        "peerIPAddresses": [],
        "routes": [
          {
            "destinationPrefix": "50.2.1.0/24",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          },
          {
            "destinationPrefix": "40.1.2.4/32",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          }
        ],
        "connectionStatus": "Enabled",
        "connectionState": "Connected",
        "connectionUpTime": "01:43:04",
        "connectionErrorReason": "",
        "unreachabilityReason": "",
        "statistics": {
          "outboundBytes": 29356,
          "inboundBytes": 0,
          "rxTotalPacketsDropped": 0,
          "txTotalPacketsDropped": 0,
          "txRateKbps": 0,
          "rxRateKbps": 0,
          "txRateLimitedPacketsDropped": 0,
          "rxRateLimitedPacketsDropped": 0,
          "lastUpdated": "2016-06-16T06:17:26.5237938Z"
        },
        "configurationState": {
          "status": "Success",
          "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "sourceIPAddress": "22.1.1.2",
        "destinationIPAddress": "11.1.0.2",
        "gateway": {
          "resourceRef": "/Gateways/CloudGw1"
        }
      }
    },
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_1/NetworkConnections/VirtualGateway_1_L3_1",
      "resourceId": "VirtualGateway_1_L3_1",
      "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
      "instanceId": "92db503f-fa02-445e-96ec-eaefb02bb459",
      "properties": {
        "provisioningState": "Succeeded",
        "connectionType": "L3",
        "outboundKiloBitsPerSecond": 307200,
        "inboundKiloBitsPerSecond": 307200,

```

```

        "l3Configuration": {
            "vlanSubnet": {
                "resourceRef":
"/logicalNetworks/LogicalNetwork_VG_1/subnets/LogicalNetwork_VG_1_Subnet_1"
            }
        },
        "ipAddresses": [
            {
                "ipAddress": "31.1.1.4",
                "prefixLength": 24
            }
        ],
        "peerIPAddresses": [
            "31.1.1.5"
        ],
        "routes": [
            {
                "destinationPrefix": "50.3.1.0/24",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
            },
            {
                "destinationPrefix": "40.1.3.4/32",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
            }
        ],
        "connectionStatus": "Enabled",
        "connectionState": "Connected",
        "connectionUpTime": "00:00:00",
        "statistics": {
            "outboundBytes": 0,
            "inboundBytes": 0,
            "rxTotalPacketsDropped": 0,
            "txTotalPacketsDropped": 0,
            "txRateKbps": 0,
            "rxRateKbps": 0,
            "txRateLimitedPacketsDropped": 0,
            "rxRateLimitedPacketsDropped": 0,
            "lastUpdated": "0001-01-01T00:00:00"
        },
        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "gateway": {
            "resourceRef": "/Gateways/CloudGw1"
        }
    }
},
"bgpRouters": [
    {
        "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1",
        "resourceId": "router1",
        "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
        "instanceId": "be8fe6b1-302f-4bbc-97f7-e727b2f533df",
        "properties": {
            "provisioningState": "Succeeded",
            "isEnabled": true,
            "requireIgpSync": true,
            "extAsNumber": "0.3458",
            "routerId": "10.2.2.2",
            "routerIP": [
                "10.2.2.2"
            ],
            "isGenerated": false,
            "bgpPeers": [

```

```

    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer2",
      "resourceId": "Peer2",
      "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
      "instanceId": "6dfc12fb-484a-4771-98f9-6c1d4ffbaala",
      "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.2.4",
        "connectionState": "Disconnected",
        "statistics": {
          "tcpConnectionClosed": "2016-06-15T23:17:02.419-07:00",
          "openMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "notificationMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "keepAliveMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "routeRefreshMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "updateMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "ipv4Route": {
            "updateSentCount": 0,
            "updateReceivedCount": 0,
            "withdrawlSentCount": 0,
            "withdrawlReceivedCount": 0
          },
          "ipv6Route": {
            "updateSentCount": 0,
            "updateReceivedCount": 0,
            "withdrawlSentCount": 0,
            "withdrawlReceivedCount": 0
          },
          "lastUpdated": "2016-06-16T06:17:26.4229961Z"
        },
        "isGenerated": false
      }
    },
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer3",
      "resourceId": "Peer3",
      "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
      "instanceId": "d6bc7e33-4ac9-4f74-a3f2-81c39eb2a85d",
      "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.3.4",
        "connectionState": "Disconnected",
        "statistics": {
          "tcpConnectionClosed": "2016-06-15T23:17:07.293-07:00",
          "openMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "notificationMessageStats": {

```

```

        "sentCount": 0,
        "receivedCount": 0
    },
    "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T06:17:26.4229961Z"
},
"isGenerated": false
}
},
{
    "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
    "resourceId": "Peer1",
    "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
    "instanceId": "b9e57199-f352-4121-9842-24c0ba23f3f1",
    "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.1.4",
        "connectionState": "Disconnected",
        "statistics": {
            "tcpConnectionClosed": "2016-06-15T23:17:22.498-07:00",
            "openMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "notificationMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "keepAliveMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "routeRefreshMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "updateMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "ipv4Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,

```



```

        "withdrawlReceivedCount": 0
      },
      "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "lastUpdated": "2016-06-16T06:17:26.4229961Z"
    },
    "isGenerated": false
  }
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
}
}
],
"policyMaps": [
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1",
    "resourceId": "MAP1",
    "etag": "W/\\"681f2608-6588-49d2-ba50-85db700a4300\\"",
    "instanceId": "b52840f9-91a9-4a3e-91b3-0383ae1ea607",
    "properties": {
      "provisioningState": "Succeeded",
      "bgpPeersWithPolicyMapIn": [],
      "bgpPeersWithPolicyMapOut": [],
      "policyMapEntryList": [
        {
          "action": "Deny",
          "matchCriteria": [
            {
              "property": "MatchPrefix",
              "value": [
                "5.4.3.2/32",
                "5.4.3.1/32"
              ]
            },
            {
              "property": "NextHop",
              "value": [
                "4.3.2.1",
                "6.4.3.1"
              ]
            }
          ],
          "setActions": []
        }
      ]
    }
  }
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
  {
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0001-000000000000/subnets/00000000-1111-1111-0001-000000000002"
  }
]

```

```

    }
  ]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_10",
  "resourceId": "VirtualGateway_10",
  "etag": "W/\"b185a9f7-abc6-40ec-8800-751f88777d34\"",
  "instanceId": "5e8cb561-ddcd-475f-87c5-ec182fbd6b53",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_10/NetworkConnections/VirtualGateway_10_IPSEC_1",
        "resourceId": "VirtualGateway_10_IPSEC_1",
        "etag": "W/\"b185a9f7-abc6-40ec-8800-751f88777d34\"",
        "instanceId": "4c2ec16e-d110-4dd6-9ab4-69c7d82feb50",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            },
            "localVpnTrafficSelector": [],
            "remoteVpnTrafficSelector": []
          },
          "l3Configuration": {},
          "ipAddresses": [],
          "peerIPAddresses": [],
          "routes": [
            {
              "destinationPrefix": "50.10.1.0/24",
              "nextHop": "0.0.0.0",
              "metric": 10,
              "protocol": "Static"
            }
          ],
          "connectionStatus": "Enabled",
          "connectionState": "Disconnected",
          "connectionUpTime": "00:00:00",
          "connectionErrorReason": "0",
          "unreachabilityReason": "",
          "statistics": {
            "outboundBytes": 985135812,
            "inboundBytes": 48811304059,
            "rxTotalPacketsDropped": 0,
            "txTotalPacketsDropped": 0,
            "txRateKbps": 0,
            "rxRateKbps": 0,
            "txRateLimitedPacketsDropped": 0,
            "rxRateLimitedPacketsDropped": 0,
            "lastUpdated": "2016-06-16T06:17:26.5237938Z"
          }
        }
      }
    ]
  },
}

```

```

        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "sourceIPAddress": "91.1.1.4",
        "destinationIPAddress": "11.10.0.1",
        "gateway": {
            "resourceRef": "/Gateways/CloudGw1"
        }
    }
},
],
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_10/BgpRouters/BGP_VirtualGateway_10_b04b21a5-eab4-49e2-9770-d98a63662c17",
        "resourceId": "BGP_VirtualGateway_10_b04b21a5-eab4-49e2-9770-d98a63662c17",
        "instanceId": "b04b21a5-eab4-49e2-9770-d98a63662c17",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.11.2",
            "routerIP": [
                "10.2.11.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0010-000000000000/subnets/00000000-1111-1111-0010-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_11",
    "resourceId": "VirtualGateway_11",
    "etag": "W/\\"37c3b8ec-c329-4383-b1fd-4df96aba70b0\\"",
    "instanceId": "a80b5015-f71f-467f-8c2e-747863d5275a",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_11/NetworkConnections/VirtualGateway_11_IPSEC_1",
                "resourceId": "VirtualGateway_11_IPSEC_1",
                "etag": "W/\\"37c3b8ec-c329-4383-b1fd-4df96aba70b0\\"",
                "instanceId": "0f4a568e-e910-4f97-ad05-eff8b57c94da",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,

```

```

"inboundKiloBitsPerSecond": 307200,
"ipSecConfiguration": {
  "authenticationMethod": "PSK",
  "quickMode": {
    "perfectForwardSecrecy": "None",
    "cipherTransformationConstant": "AES128",
    "authenticationTransformationConstant": "SHA196",
    "idleDisconnectSeconds": 500,
    "saLifetimeSeconds": 3600,
    "saLifetimeKiloBytes": 33552408
  },
  "mainMode": {
    "diffieHellmanGroup": "Group2",
    "encryptionAlgorithm": "DES3",
    "integrityAlgorithm": "SHA1",
    "saLifetimeSeconds": 28800,
    "saLifetimeKiloBytes": 33552408
  },
  "localVpnTrafficSelector": [],
  "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.11.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
  "outboundBytes": 1444062644,
  "inboundBytes": 72530686817,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.11.0.1",
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_11/BgpRouters/BGP_VirtualGateway_11_6e83f798-f561-4f45-844e-e6a0585930d8",
    "resourceId": "BGP_VirtualGateway_11_6e83f798-f561-4f45-844e-e6a0585930d8",
    "instanceId": "6e83f798-f561-4f45-844e-e6a0585930d8",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",

```

```

        "routerId": "10.2.12.2",
        "routerIP": [
            "10.2.12.2"
        ],
        "isGenerated": true,
        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
    }
},
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0011-000000000000/subnets/00000000-1111-1111-0011-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_12",
    "resourceId": "VirtualGateway_12",
    "etag": "W/\"70007e68-6534-48c3-b01d-cca0ae32dbbd\"",
    "instanceId": "11748d24-b2ef-4e97-8c97-d5bb3bd53109",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_12/NetworkConnections/VirtualGateway_12_IPSEC_1",
                "resourceId": "VirtualGateway_12_IPSEC_1",
                "etag": "W/\"70007e68-6534-48c3-b01d-cca0ae32dbbd\"",
                "instanceId": "6296e4dc-ae3c-42ff-a5fa-4b6f2e1b0e8f",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,
                    "inboundKiloBitsPerSecond": 307200,
                    "ipSecConfiguration": {
                        "authenticationMethod": "PSK",
                        "quickMode": {
                            "perfectForwardSecrecy": "None",
                            "cipherTransformationConstant": "AES128",
                            "authenticationTransformationConstant": "SHA196",
                            "idleDisconnectSeconds": 500,
                            "saLifetimeSeconds": 3600,
                            "saLifetimeKiloBytes": 33552408
                        },
                        "mainMode": {
                            "diffieHellmanGroup": "Group2",
                            "encryptionAlgorithm": "DES3",
                            "integrityAlgorithm": "SHA1",
                            "saLifetimeSeconds": 28800,
                            "saLifetimeKiloBytes": 33552408
                        },
                        "localVpnTrafficSelector": [],
                        "remoteVpnTrafficSelector": []
                    },
                    "l3Configuration": {}
                }
            }
        ]
    }
},

```

```

    "ipAddresses": [],
    "peerIPAddresses": [],
    "routes": [
      {
        "destinationPrefix": "50.12.1.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
      }
    ],
    "connectionStatus": "Enabled",
    "connectionState": "Disconnected",
    "connectionUpTime": "00:00:00",
    "connectionErrorReason": "0",
    "unreachabilityReason": "",
    "statistics": {
      "outboundBytes": 1446425432,
      "inboundBytes": 71394354914,
      "rxTotalPacketsDropped": 0,
      "txTotalPacketsDropped": 0,
      "txRateKbps": 0,
      "rxRateKbps": 0,
      "txRateLimitedPacketsDropped": 0,
      "rxRateLimitedPacketsDropped": 0,
      "lastUpdated": "2016-06-16T06:17:26.5237938Z"
    },
    "configurationState": {
      "status": "Success",
      "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.12.0.1",
    "gateway": {
      "resourceRef": "/Gateways/CloudGw1"
    }
  }
},
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_12/BgpRouters/BGP_VirtualGateway_12_ef8630d4-8aac-46df-b037-0d93eb8b6a82",
    "resourceId": "BGP_VirtualGateway_12_ef8630d4-8aac-46df-b037-0d93eb8b6a82",
    "instanceId": "ef8630d4-8aac-46df-b037-0d93eb8b6a82",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",
      "routerId": "10.2.13.2",
      "routerIP": [
        "10.2.13.2"
      ],
      "isGenerated": true,
      "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
      }
    }
  }
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},

```

```

    "gatewaySubnets": [
      {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0012-000000000000/subnets/00000000-1111-1111-0012-000000000002"
      }
    ]
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_13",
    "resourceId": "VirtualGateway_13",
    "etag": "W/\\"ea80c5b6-8cd5-4925-84b8-4d51f60e68fc\"",
    "instanceId": "cec7ff21-0c58-45cf-afe2-480465abe062",
    "properties": {
      "provisioningState": "Succeeded",
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_13/NetworkConnections/VirtualGateway_13_IPSEC_1",
          "resourceId": "VirtualGateway_13_IPSEC_1",
          "etag": "W/\\"ea80c5b6-8cd5-4925-84b8-4d51f60e68fc\"",
          "instanceId": "1ab3c12b-4591-4d69-8a13-163ccl1f8ae2e",
          "properties": {
            "provisioningState": "Succeeded",
            "connectionType": "IPSec",
            "outboundKiloBitsPerSecond": 307200,
            "inboundKiloBitsPerSecond": 307200,
            "ipSecConfiguration": {
              "authenticationMethod": "PSK",
              "quickMode": {
                "perfectForwardSecrecy": "None",
                "cipherTransformationConstant": "AES128",
                "authenticationTransformationConstant": "SHA196",
                "idleDisconnectSeconds": 500,
                "saLifeTimeSeconds": 3600,
                "saLifeTimeKiloBytes": 33552408
              },
              "mainMode": {
                "diffieHellmanGroup": "Group2",
                "encryptionAlgorithm": "DES3",
                "integrityAlgorithm": "SHA1",
                "saLifeTimeSeconds": 28800,
                "saLifeTimeKiloBytes": 33552408
              },
              "localVpnTrafficSelector": [],
              "remoteVpnTrafficSelector": []
            },
            "l3Configuration": {},
            "ipAddresses": [],
            "peerIPAddresses": [],
            "routes": [
              {
                "destinationPrefix": "50.13.1.0/24",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
              }
            ]
          },
          "connectionStatus": "Enabled",
          "connectionState": "Disconnected",
          "connectionUpTime": "00:00:00",
          "connectionErrorReason": "0",
          "unreachabilityReason": "",
          "statistics": {
            "outboundBytes": 1791277084,
            "inboundBytes": 94221208682,
            "rxTotalPacketsDropped": 0,
            "txTotalPacketsDropped": 0,
            "txRateKbps": 0,
            "rxRateKbps": 0,

```

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        "txRateLimitedPacketsDropped": 0,
        "rxRateLimitedPacketsDropped": 0,
        "lastUpdated": "2016-06-16T06:17:26.5237938Z"
    },
    "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.13.0.1",
    "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
    }
}
],
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_13/BgpRouters/BGP_VirtualGateway_13_d6efc0cd-c388-475c-b3ae-45ce38d213c9",
        "resourceId": "BGP_VirtualGateway_13_d6efc0cd-c388-475c-b3ae-45ce38d213c9",
        "instanceId": "d6efc0cd-c388-475c-b3ae-45ce38d213c9",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.14.2",
            "routerIP": [
                "10.2.14.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0013-000000000000/subnets/00000000-1111-1111-0013-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_14",
    "resourceId": "VirtualGateway_14",
    "etag": "W/\"f5560e3b-0aaa-4780-8235-7c89c66cab36\"",
    "instanceId": "81db5245-cfb7-4324-a2c0-d669ebd55c1a",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_14/NetworkConnections/VirtualGateway_14_IPSEC_1",
                "resourceId": "VirtualGateway_14_IPSEC_1",
                "etag": "W/\"f5560e3b-0aaa-4780-8235-7c89c66cab36\"",
                "instanceId": "c41c2b7a-7d09-45e6-aae0-1ed709da63d9",

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```

"properties": {
  "provisioningState": "Succeeded",
  "connectionType": "IPSec",
  "outboundKiloBitsPerSecond": 307200,
  "inboundKiloBitsPerSecond": 307200,
  "ipSecConfiguration": {
    "authenticationMethod": "PSK",
    "quickMode": {
      "perfectForwardSecrecy": "None",
      "cipherTransformationConstant": "AES128",
      "authenticationTransformationConstant": "SHA196",
      "idleDisconnectSeconds": 500,
      "saLifeTimeSeconds": 3600,
      "saLifeTimeKiloBytes": 33552408
    },
    "mainMode": {
      "diffieHellmanGroup": "Group2",
      "encryptionAlgorithm": "DES3",
      "integrityAlgorithm": "SHA1",
      "saLifeTimeSeconds": 28800,
      "saLifeTimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
  },
  "l3Configuration": {},
  "ipAddresses": [],
  "peerIPAddresses": [],
  "routes": [
    {
      "destinationPrefix": "50.14.1.0/24",
      "nextHop": "0.0.0.0",
      "metric": 10,
      "protocol": "Static"
    }
  ],
  "connectionStatus": "Enabled",
  "connectionState": "Disconnected",
  "connectionUpTime": "00:00:00",
  "connectionErrorReason": "0",
  "unreachabilityReason": "",
  "statistics": {
    "outboundBytes": 1199806611,
    "inboundBytes": 60091390974,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
  },
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "sourceIPAddress": "91.1.1.4",
  "destinationIPAddress": "11.14.0.1",
  "gateway": {
    "resourceRef": "/Gateways/CloudGw1"
  }
}
},
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_14/BgpRouters/BGP_VirtualGateway_14_424d5a1c-654d-4279-ae22-
bd2e61d050ca",
    "resourceId": "BGP_VirtualGateway_14_424d5a1c-654d-4279-ae22-bd2e61d050ca",

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    "instanceId": "424d5a1c-654d-4279-ae22-bd2e61d050ca",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",
      "routerId": "10.2.15.2",
      "routerIP": [
        "10.2.15.2"
      ],
      "isGenerated": true,
      "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
      }
    }
  },
  "routingType": "Dynamic",
  "GatewayPools": [
    {
      "resourceRef": "/GatewayPools/default"
    }
  ],
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "gatewaySubnets": [
    {
      "resourceRef": "/virtualNetworks/00000000-1111-0000-0014-000000000000/subnets/00000000-1111-1111-0014-000000000002"
    }
  ]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_15",
  "resourceId": "VirtualGateway_15",
  "etag": "W/\"5e4a60e8-1dbb-4737-8743-3f60338a220d\"",
  "instanceId": "43106c7c-5f04-4a47-a2ab-3eaa90dddf40",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_15/NetworkConnections/VirtualGateway_15_IPSEC_1",
        "resourceId": "VirtualGateway_15_IPSEC_1",
        "etag": "W/\"5e4a60e8-1dbb-4737-8743-3f60338a220d\"",
        "instanceId": "c296a3c8-f038-4afe-8206-689e2a870378",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            }
          }
        }
      }
    ]
  }
},

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        "localVpnTrafficSelector": [],
        "remoteVpnTrafficSelector": []
    },
    "l3Configuration": {},
    "ipAddresses": [],
    "peerIPAddresses": [],
    "routes": [
        {
            "destinationPrefix": "50.15.1.0/24",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
        }
    ],
    "connectionStatus": "Enabled",
    "connectionState": "Disconnected",
    "connectionUpTime": "00:00:00",
    "connectionErrorReason": "0",
    "unreachabilityReason": "",
    "statistics": {
        "outboundBytes": 2171444318,
        "inboundBytes": 116700933274,
        "rxTotalPacketsDropped": 0,
        "txTotalPacketsDropped": 0,
        "txRateKbps": 0,
        "rxRateKbps": 0,
        "txRateLimitedPacketsDropped": 0,
        "rxRateLimitedPacketsDropped": 0,
        "lastUpdated": "2016-06-16T06:17:26.5237938Z"
    },
    "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.15.0.1",
    "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
    }
}
],
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_15/BgpRouters/BGP_VirtualGateway_15_8f4ea52f-b2b1-4641-b554-454ef27ae9e3",
        "resourceId": "BGP_VirtualGateway_15_8f4ea52f-b2b1-4641-b554-454ef27ae9e3",
        "instanceId": "8f4ea52f-b2b1-4641-b554-454ef27ae9e3",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.16.2",
            "routerIP": [
                "10.2.16.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],

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```

"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
  {
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0015-000000000000/subnets/00000000-1111-1111-0015-000000000002"
  }
]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_16",
  "resourceId": "VirtualGateway_16",
  "etag": "W/\\"835a7333-af3f-46d6-a9bf-59395c3d8143\\"",
  "instanceId": "46fd95d9-ff1d-49c2-ae3e-48dbeda29aaf",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_16/NetworkConnections/VirtualGateway_16_IPSEC_1",
        "resourceId": "VirtualGateway_16_IPSEC_1",
        "etag": "W/\\"835a7333-af3f-46d6-a9bf-59395c3d8143\\"",
        "instanceId": "aa52df50-0123-4c58-b3b8-d470ac10b18f",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            },
            "localVpnTrafficSelector": [],
            "remoteVpnTrafficSelector": []
          },
          "l3Configuration": {},
          "ipAddresses": [],
          "peerIPAddresses": [],
          "routes": [
            {
              "destinationPrefix": "50.16.1.0/24",
              "nextHop": "0.0.0.0",
              "metric": 10,
              "protocol": "Static"
            }
          ],
          "connectionStatus": "Enabled",
          "connectionState": "Disconnected",
          "connectionUpTime": "00:00:00",
          "connectionErrorReason": "0",
          "unreachabilityReason": "",
          "statistics": {
            "outboundBytes": 1942546566,
            "inboundBytes": 92567236069,

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        "rxTotalPacketsDropped": 0,
        "txTotalPacketsDropped": 0,
        "txRateKbps": 0,
        "rxRateKbps": 0,
        "txRateLimitedPacketsDropped": 0,
        "rxRateLimitedPacketsDropped": 0,
        "lastUpdated": "2016-06-16T06:17:26.5237938Z"
    },
    "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.16.0.1",
    "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
    }
}
},
],
"bgpRouters": [
{
    "resourceRef":
"/VirtualGateways/VirtualGateway_16/BgpRouters/BGP_VirtualGateway_16_42df86d7-6a36-42fc-a558-9f9110b8288d",
    "resourceId": "BGP_VirtualGateway_16_42df86d7-6a36-42fc-a558-9f9110b8288d",
    "instanceId": "42df86d7-6a36-42fc-a558-9f9110b8288d",
    "properties": {
        "provisioningState": "Succeeded",
        "extAsNumber": "0.65001",
        "routerId": "10.2.17.2",
        "routerIP": [
            "10.2.17.2"
        ],
        "isGenerated": true,
        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
    }
}
],
"routingType": "Dynamic",
"GatewayPools": [
{
    "resourceRef": "/GatewayPools/default"
}
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
{
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0016-000000000000/subnets/00000000-1111-1111-0016-000000000002"
}
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_17",
    "resourceId": "VirtualGateway_17",
    "etag": "W/\"4cc6d29e-faee-47a8-8fd1-53e14a78a0d8\"",
    "instanceId": "7d773cd9-9e9a-4d49-806c-8c2082f5349a",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {

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```

    "resourceRef":
"/VirtualGateways/VirtualGateway_17/NetworkConnections/VirtualGateway_17_IPSEC_1",
    "resourceId": "VirtualGateway_17_IPSEC_1",
    "etag": "W/\\"4cc6d29e-faee-47a8-8fd1-53e14a78a0d8\\"",
    "instanceId": "a3e73063-b6e2-42ea-8510-40b5b47fb462",
    "properties": {
      "provisioningState": "Succeeded",
      "connectionType": "IPSec",
      "outboundKiloBitsPerSecond": 307200,
      "inboundKiloBitsPerSecond": 307200,
      "ipSecConfiguration": {
        "authenticationMethod": "PSK",
        "quickMode": {
          "perfectForwardSecrecy": "None",
          "cipherTransformationConstant": "AES128",
          "authenticationTransformationConstant": "SHA196",
          "idleDisconnectSeconds": 500,
          "saLifeTimeSeconds": 3600,
          "saLifeTimeKiloBytes": 33552408
        },
        "mainMode": {
          "diffieHellmanGroup": "Group2",
          "encryptionAlgorithm": "DES3",
          "integrityAlgorithm": "SHA1",
          "saLifeTimeSeconds": 28800,
          "saLifeTimeKiloBytes": 33552408
        },
        "localVpnTrafficSelector": [],
        "remoteVpnTrafficSelector": []
      },
      "l3Configuration": {},
      "ipAddresses": [],
      "peerIPAddresses": [],
      "routes": [
        {
          "destinationPrefix": "50.17.1.0/24",
          "nextHop": "0.0.0.0",
          "metric": 10,
          "protocol": "Static"
        }
      ],
      "connectionStatus": "Enabled",
      "connectionState": "Disconnected",
      "connectionUpTime": "00:00:00",
      "connectionErrorReason": "0",
      "unreachabilityReason": "",
      "statistics": {
        "outboundBytes": 1043475124,
        "inboundBytes": 51078178327,
        "rxTotalPacketsDropped": 0,
        "txTotalPacketsDropped": 0,
        "txRateKbps": 0,
        "rxRateKbps": 0,
        "txRateLimitedPacketsDropped": 0,
        "rxRateLimitedPacketsDropped": 0,
        "lastUpdated": "2016-06-16T06:17:26.5237938Z"
      },
      "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
      },
      "sourceIPAddress": "91.1.1.4",
      "destinationIPAddress": "11.17.0.1",
      "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
      }
    }
  },
  "bgpRouters": [

```

```

    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_17/BgpRouters/BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-aeacfde18626",
      "resourceId": "BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-aeacfde18626",
      "instanceId": "6ec56965-4f32-4146-9413-aeacfde18626",
      "properties": {
        "provisioningState": "Succeeded",
        "extAsNumber": "0.65001",
        "routerId": "10.2.18.2",
        "routerIP": [
          "10.2.18.2"
        ],
        "isGenerated": true,
        "configurationState": {
          "status": "Success",
          "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
      }
    }
  ],
  "routingType": "Dynamic",
  "GatewayPools": [
    {
      "resourceRef": "/GatewayPools/default"
    }
  ],
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "gatewaySubnets": [
    {
      "resourceRef": "/virtualNetworks/00000000-1111-0000-0017-000000000000/subnets/00000000-1111-1111-0017-000000000002"
    }
  ]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_18",
  "resourceId": "VirtualGateway_18",
  "etag": "W/\\"9db2adb7-7aed-4179-9ef2-086850ca45b6\"",
  "instanceId": "0b0d4416-6189-480e-9e98-3c3e8994dff5",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_18/NetworkConnections/VirtualGateway_18_IPSEC_1",
        "resourceId": "VirtualGateway_18_IPSEC_1",
        "etag": "W/\\"9db2adb7-7aed-4179-9ef2-086850ca45b6\"",
        "instanceId": "38fd724b-05a8-464d-8e8e-69290261bbeF",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifetimeSeconds": 3600,
              "saLifetimeKiloBytes": 33552408
            }
          },
          "mainMode": {
            "diffieHellmanGroup": "Group2",

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        "encryptionAlgorithm": "DES3",
        "integrityAlgorithm": "SHA1",
        "saLifetimeSeconds": 28800,
        "saLifetimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
    {
        "destinationPrefix": "50.18.1.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
    "outboundBytes": 1421356117,
    "inboundBytes": 69812308550,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.18.0.1",
"gateway": {
    "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_18/BgpRouters/BGP_VirtualGateway_18_0d2b38e7-79fd-4eb2-a445-8214c0da5d05",
        "resourceId": "BGP_VirtualGateway_18_0d2b38e7-79fd-4eb2-a445-8214c0da5d05",
        "instanceId": "0d2b38e7-79fd-4eb2-a445-8214c0da5d05",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.19.2",
            "routerIP": [
                "10.2.19.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",

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```

    "GatewayPools": [
      {
        "resourceRef": "/GatewayPools/default"
      }
    ],
    "configurationState": {
      "status": "Success",
      "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "gatewaySubnets": [
      {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0018-000000000000/subnets/00000000-1111-1111-0018-000000000002"
      }
    ]
  }
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_19",
  "resourceId": "VirtualGateway_19",
  "etag": "W/\"36077b7b-36cc-404e-b776-6c52eaa581a1\"",
  "instanceId": "26ff4542-a4bf-4b51-a241-59d295f39815",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_19/NetworkConnections/VirtualGateway_19_IPSEC_1",
        "resourceId": "VirtualGateway_19_IPSEC_1",
        "etag": "W/\"36077b7b-36cc-404e-b776-6c52eaa581a1\"",
        "instanceId": "c4bdef1b-9afc-4084-9b07-22a8ab800317",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            },
            "localVpnTrafficSelector": [],
            "remoteVpnTrafficSelector": []
          },
          "l3Configuration": {},
          "ipAddresses": [],
          "peerIPAddresses": [],
          "routes": [
            {
              "destinationPrefix": "50.19.1.0/24",
              "nextHop": "0.0.0.0",
              "metric": 10,
              "protocol": "Static"
            }
          ],
          "connectionStatus": "Enabled",
          "connectionState": "Disconnected",
          "connectionUpTime": "00:00:00",

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        "connectionErrorReason": "0",
        "unreachabilityReason": "",
        "statistics": {
            "outboundBytes": 1505920243,
            "inboundBytes": 74271334779,
            "rxTotalPacketsDropped": 0,
            "txTotalPacketsDropped": 0,
            "txRateKbps": 0,
            "rxRateKbps": 0,
            "txRateLimitedPacketsDropped": 0,
            "rxRateLimitedPacketsDropped": 0,
            "lastUpdated": "2016-06-16T06:17:26.5237938Z"
        },
        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "sourceIPAddress": "91.1.1.4",
        "destinationIPAddress": "11.19.0.1",
        "gateway": {
            "resourceRef": "/Gateways/CloudGw1"
        }
    }
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_19/BgpRouters/BGP_VirtualGateway_19_19b87991-6ec7-4e79-8b25-
b5bbac60baf6",
        "resourceId": "BGP_VirtualGateway_19_19b87991-6ec7-4e79-8b25-b5bbac60baf6",
        "instanceId": "19b87991-6ec7-4e79-8b25-b5bbac60baf6",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.20.2",
            "routerIP": [
                "10.2.20.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0019-
000000000000/subnets/00000000-1111-1111-0019-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_2",
    "resourceId": "VirtualGateway_2",
    "etag": "W/\\"17d90b70-e0f4-4153-a1b0-f4910bdb46e5\"",
    "instanceId": "b04ee085-fd0d-4267-8b35-35ae504a715f",

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"properties": {
  "provisioningState": "Succeeded",
  "networkConnections": [
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_2/NetworkConnections/VirtualGateway_2_IPSEC_1",
      "resourceId": "VirtualGateway_2_IPSEC_1",
      "etag": "W/\\"17d90b70-e0f4-4153-a1b0-f4910bdb46e5\\"",
      "instanceId": "7aff20cc-d426-4ff0-aaa8-0d6fc5979286",
      "properties": {
        "provisioningState": "Succeeded",
        "connectionType": "IPSec",
        "outboundKiloBitsPerSecond": 307200,
        "inboundKiloBitsPerSecond": 307200,
        "ipSecConfiguration": {
          "authenticationMethod": "PSK",
          "quickMode": {
            "perfectForwardSecrecy": "None",
            "cipherTransformationConstant": "AES128",
            "authenticationTransformationConstant": "SHA196",
            "idleDisconnectSeconds": 500,
            "saLifeTimeSeconds": 3600,
            "saLifeTimeKiloBytes": 33552408
          },
          "mainMode": {
            "diffieHellmanGroup": "Group2",
            "encryptionAlgorithm": "DES3",
            "integrityAlgorithm": "SHA1",
            "saLifeTimeSeconds": 28800,
            "saLifeTimeKiloBytes": 33552408
          },
          "localVpnTrafficSelector": [],
          "remoteVpnTrafficSelector": []
        },
        "l3Configuration": {},
        "ipAddresses": [],
        "peerIPAddresses": [],
        "routes": [
          {
            "destinationPrefix": "50.2.1.0/24",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          }
        ],
        "connectionStatus": "Enabled",
        "connectionState": "Disconnected",
        "connectionUpTime": "00:00:00",
        "connectionErrorReason": "0",
        "unreachabilityReason": "",
        "statistics": {
          "outboundBytes": 1104506155,
          "inboundBytes": 54005992110,
          "rxTotalPacketsDropped": 0,
          "txTotalPacketsDropped": 0,
          "txRateKbps": 0,
          "rxRateKbps": 0,
          "txRateLimitedPacketsDropped": 0,
          "rxRateLimitedPacketsDropped": 0,
          "lastUpdated": "2016-06-16T06:17:26.5237938Z"
        },
        "configurationState": {
          "status": "Success",
          "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "sourceIPAddress": "91.1.1.4",
        "destinationIPAddress": "11.2.0.1",
        "gateway": {
          "resourceRef": "/Gateways/CloudGw1"
        }
      }
    }
  ]
}

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    }
  ],
  "bgpRouters": [
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_2/BgpRouters/BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9c1f665",
      "resourceId": "BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9c1f665",
      "instanceId": "83e43f34-c516-46ac-ad48-755ee9c1f665",
      "properties": {
        "provisioningState": "Succeeded",
        "extAsNumber": "0.65001",
        "routerId": "10.2.3.2",
        "routerIP": [
          "10.2.3.2"
        ],
        "isGenerated": true,
        "configurationState": {
          "status": "Success",
          "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
      }
    }
  ],
  "routingType": "Dynamic",
  "GatewayPools": [
    {
      "resourceRef": "/GatewayPools/default"
    }
  ],
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "gatewaySubnets": [
    {
      "resourceRef": "/virtualNetworks/00000000-1111-0000-0002-000000000000/subnets/00000000-1111-1111-0002-000000000002"
    }
  ]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_20",
  "resourceId": "VirtualGateway_20",
  "etag": "W/\"2de7077e-d755-4529-8982-6a8baa0cf6ca\"",
  "instanceId": "5a994f0c-b738-43d9-9364-5f19c0ef746e",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_20/NetworkConnections/VirtualGateway_20_IPSEC_1",
        "resourceId": "VirtualGateway_20_IPSEC_1",
        "etag": "W/\"2de7077e-d755-4529-8982-6a8baa0cf6ca\"",
        "instanceId": "8d562ef8-3fd5-412b-98e1-8ccbb2e6adf1",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
            }
          }
        }
      }
    ]
  }
}

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        "saLifeTimeKiloBytes": 33552408
    },
    "mainMode": {
        "diffieHellmanGroup": "Group2",
        "encryptionAlgorithm": "DES3",
        "integrityAlgorithm": "SHA1",
        "saLifeTimeSeconds": 28800,
        "saLifeTimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
    {
        "destinationPrefix": "50.20.1.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
    "outboundBytes": 1150643261,
    "inboundBytes": 57801964901,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.20.0.1",
"gateway": {
    "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_20/BgpRouters/BGP_VirtualGateway_20_557cfc53-e621-4559-bcb1-
elf2045fbe56",
        "resourceId": "BGP_VirtualGateway_20_557cfc53-e621-4559-bcb1-elf2045fbe56",
        "instanceId": "557cfc53-e621-4559-bcb1-elf2045fbe56",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.21.2",
            "routerIP": [
                "10.2.21.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
]

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    }
  ],
  "routingType": "Dynamic",
  "GatewayPools": [
    {
      "resourceRef": "/GatewayPools/default"
    }
  ],
  "configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "gatewaySubnets": [
    {
      "resourceRef": "/virtualNetworks/00000000-1111-0000-0020-000000000000/subnets/00000000-1111-1111-0020-000000000002"
    }
  ]
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_3",
  "resourceId": "VirtualGateway_3",
  "etag": "W/\"db876b1d-1121-4e57-bf8a-0f7981b00cc1\"",
  "instanceId": "aeff9881-caba-4620-8c11-89d9e0ceaeed",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_3/NetworkConnections/VirtualGateway_3_IPSEC_1",
        "resourceId": "VirtualGateway_3_IPSEC_1",
        "etag": "W/\"db876b1d-1121-4e57-bf8a-0f7981b00cc1\"",
        "instanceId": "ea6df5fc-ce09-47ad-9447-8ac6b45397a3",
        "properties": {
          "provisioningState": "Succeeded",
          "connectionType": "IPSec",
          "outboundKiloBitsPerSecond": 307200,
          "inboundKiloBitsPerSecond": 307200,
          "ipSecConfiguration": {
            "authenticationMethod": "PSK",
            "quickMode": {
              "perfectForwardSecrecy": "None",
              "cipherTransformationConstant": "AES128",
              "authenticationTransformationConstant": "SHA196",
              "idleDisconnectSeconds": 500,
              "saLifeTimeSeconds": 3600,
              "saLifeTimeKiloBytes": 33552408
            },
            "mainMode": {
              "diffieHellmanGroup": "Group2",
              "encryptionAlgorithm": "DES3",
              "integrityAlgorithm": "SHA1",
              "saLifeTimeSeconds": 28800,
              "saLifeTimeKiloBytes": 33552408
            },
            "localVpnTrafficSelector": [],
            "remoteVpnTrafficSelector": []
          },
          "l3Configuration": {},
          "ipAddresses": [],
          "peerIPAddresses": [],
          "routes": [
            {
              "destinationPrefix": "50.3.1.0/24",
              "nextHop": "0.0.0.0",
              "metric": 10,
              "protocol": "Static"
            }
          ]
        }
      }
    ]
  }
}

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    ],
    "connectionStatus": "Enabled",
    "connectionState": "Disconnected",
    "connectionUpTime": "00:00:00",
    "connectionErrorReason": "0",
    "unreachabilityReason": "",
    "statistics": {
      "outboundBytes": 1239147857,
      "inboundBytes": 63220805197,
      "rxTotalPacketsDropped": 0,
      "txTotalPacketsDropped": 0,
      "txRateKbps": 0,
      "rxRateKbps": 0,
      "txRateLimitedPacketsDropped": 0,
      "rxRateLimitedPacketsDropped": 0,
      "lastUpdated": "2016-06-16T06:17:26.5237938Z"
    },
    "configurationState": {
      "status": "Success",
      "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.3.0.1",
    "gateway": {
      "resourceRef": "/Gateways/CloudGw1"
    }
  }
}
],
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_3/BgpRouters/BGP_VirtualGateway_3_366d5a41-19c9-4ec8-bd82-01a2fb9fef37",
    "resourceId": "BGP_VirtualGateway_3_366d5a41-19c9-4ec8-bd82-01a2fb9fef37",
    "instanceId": "366d5a41-19c9-4ec8-bd82-01a2fb9fef37",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",
      "routerId": "10.2.4.2",
      "routerIP": [
        "10.2.4.2"
      ],
    },
    "isGenerated": true,
    "configurationState": {
      "status": "Success",
      "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    }
  }
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
  {
    "resourceRef": "/virtualNetworks/00000000-1111-0000-0003-000000000000/subnets/00000000-1111-1111-0003-000000000002"
  }
]
},
{

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"resourceRef": "/VirtualGateways/VirtualGateway_4",
"resourceId": "VirtualGateway_4",
"etag": "W/\"28708f02-8b93-4a31-b265-98c6ba91e95e\"",
"instanceId": "b3bd4bfb-129b-4a3a-9c4d-120b91c8b82b",
"properties": {
  "provisioningState": "Succeeded",
  "networkConnections": [
    {
      "resourceRef":
"/VirtualGateways/VirtualGateway_4/NetworkConnections/VirtualGateway_4_IPSEC_1",
      "resourceId": "VirtualGateway_4_IPSEC_1",
      "etag": "W/\"28708f02-8b93-4a31-b265-98c6ba91e95e\"",
      "instanceId": "afb4b00e-23f3-421b-a524-04f108ffe54e",
      "properties": {
        "provisioningState": "Succeeded",
        "connectionType": "IPSec",
        "outboundKiloBitsPerSecond": 307200,
        "inboundKiloBitsPerSecond": 307200,
        "ipSecConfiguration": {
          "authenticationMethod": "PSK",
          "quickMode": {
            "perfectForwardSecrecy": "None",
            "cipherTransformationConstant": "AES128",
            "authenticationTransformationConstant": "SHA196",
            "idleDisconnectSeconds": 500,
            "saLifeTimeSeconds": 3600,
            "saLifeTimeKiloBytes": 33552408
          },
          "mainMode": {
            "diffieHellmanGroup": "Group2",
            "encryptionAlgorithm": "DES3",
            "integrityAlgorithm": "SHA1",
            "saLifeTimeSeconds": 28800,
            "saLifeTimeKiloBytes": 33552408
          },
          "localVpnTrafficSelector": [],
          "remoteVpnTrafficSelector": []
        },
        "l3Configuration": {},
        "ipAddresses": [],
        "peerIPAddresses": [],
        "routes": [
          {
            "destinationPrefix": "50.4.1.0/24",
            "nextHop": "0.0.0.0",
            "metric": 10,
            "protocol": "Static"
          }
        ],
        "connectionStatus": "Enabled",
        "connectionState": "Disconnected",
        "connectionUpTime": "00:00:00",
        "connectionErrorReason": "0",
        "unreachabilityReason": "",
        "statistics": {
          "outboundBytes": 1231011513,
          "inboundBytes": 59974878997,
          "rxTotalPacketsDropped": 0,
          "txTotalPacketsDropped": 0,
          "txRateKbps": 0,
          "rxRateKbps": 0,
          "txRateLimitedPacketsDropped": 0,
          "rxRateLimitedPacketsDropped": 0,
          "lastUpdated": "2016-06-16T06:17:26.5237938Z"
        },
        "configurationState": {
          "status": "Success",
          "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "sourceIPAddress": "91.1.1.4",

```



```

        "destinationIPAddress": "11.4.0.1",
        "gateway": {
            "resourceRef": "/Gateways/CloudGw1"
        }
    }
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_4/BgpRouters/BGP_VirtualGateway_4_b73ef149-6db2-4d60-abfc-1fc7bf6c2271",
        "resourceId": "BGP_VirtualGateway_4_b73ef149-6db2-4d60-abfc-1fc7bf6c2271",
        "instanceId": "b73ef149-6db2-4d60-abfc-1fc7bf6c2271",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.5.2",
            "routerIP": [
                "10.2.5.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0004-000000000000/subnets/00000000-1111-1111-0004-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_5",
    "resourceId": "VirtualGateway_5",
    "etag": "W/\\"bb807699-0fdc-4e80-ac95-c673eaad0329\\\"",
    "instanceId": "a2ff56a2-5755-46f1-a5c9-28c4b88bf0d3",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_5/NetworkConnections/VirtualGateway_5_IPSEC_1",
                "resourceId": "VirtualGateway_5_IPSEC_1",
                "etag": "W/\\"bb807699-0fdc-4e80-ac95-c673eaad0329\\\"",
                "instanceId": "c9740314-d444-404c-b057-666b3f97bac9",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,
                    "inboundKiloBitsPerSecond": 307200,
                    "ipSecConfiguration": {
                        "authenticationMethod": "PSK",
                        "quickMode": {
                            "perfectForwardSecrecy": "None",

```

```

        "cipherTransformationConstant": "AES128",
        "authenticationTransformationConstant": "SHA196",
        "idleDisconnectSeconds": 500,
        "saLifeTimeSeconds": 3600,
        "saLifeTimeKiloBytes": 33552408
    },
    "mainMode": {
        "diffieHellmanGroup": "Group2",
        "encryptionAlgorithm": "DES3",
        "integrityAlgorithm": "SHA1",
        "saLifeTimeSeconds": 28800,
        "saLifeTimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
    {
        "destinationPrefix": "50.5.1.0/24",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
    "outboundBytes": 2063901411,
    "inboundBytes": 97287921459,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.5.0.1",
"gateway": {
    "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_5/BgpRouters/BGP_VirtualGateway_5_7d561f64-09e0-4338-be20-49d5e812c94d",
        "resourceId": "BGP_VirtualGateway_5_7d561f64-09e0-4338-be20-49d5e812c94d",
        "instanceId": "7d561f64-09e0-4338-be20-49d5e812c94d",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.6.2",
            "routerIP": [
                "10.2.6.2"
            ],
            "isGenerated": true,

```

```

        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
    }
},
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0005-000000000000/subnets/00000000-1111-1111-0005-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_6",
    "resourceId": "VirtualGateway_6",
    "etag": "W/\"f89cd8c8-5f5e-4ae4-8154-56f3bd7cc19f\"",
    "instanceId": "bda4dd1d-d1b9-4d49-87aa-0aac445a3a40",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_6/NetworkConnections/VirtualGateway_6_IPSEC_1",
                "resourceId": "VirtualGateway_6_IPSEC_1",
                "etag": "W/\"f89cd8c8-5f5e-4ae4-8154-56f3bd7cc19f\"",
                "instanceId": "355c2da0-07c9-484f-90e0-3a88cdd9598b",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,
                    "inboundKiloBitsPerSecond": 307200,
                    "ipSecConfiguration": {
                        "authenticationMethod": "PSK",
                        "quickMode": {
                            "perfectForwardSecrecy": "None",
                            "cipherTransformationConstant": "AES128",
                            "authenticationTransformationConstant": "SHA196",
                            "idleDisconnectSeconds": 500,
                            "saLifeTimeSeconds": 3600,
                            "saLifeTimeKiloBytes": 33552408
                        },
                        "mainMode": {
                            "diffieHellmanGroup": "Group2",
                            "encryptionAlgorithm": "DES3",
                            "integrityAlgorithm": "SHA1",
                            "saLifeTimeSeconds": 28800,
                            "saLifeTimeKiloBytes": 33552408
                        },
                        "localVpnTrafficSelector": [],
                        "remoteVpnTrafficSelector": []
                    },
                    "l3Configuration": {},
                    "ipAddresses": [],
                    "peerIPAddresses": [],
                    "routes": [
                        {
                            "destinationPrefix": "50.6.1.0/24",

```

```
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
    "outboundBytes": 1204267121,
    "inboundBytes": 56474135188,
    "rxTotalPacketsDropped": 0,
    "txTotalPacketsDropped": 0,
    "txRateKbps": 0,
    "rxRateKbps": 0,
    "txRateLimitedPacketsDropped": 0,
    "rxRateLimitedPacketsDropped": 0,
    "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
    "status": "Success",
    "lastUpdateTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.6.0.1",
"gateway": {
    "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_6/BgpRouters/BGP_VirtualGateway_6_78c53fcf-ac05-4e8b-ae03-775d4875fad4",
        "resourceId": "BGP_VirtualGateway_6_78c53fcf-ac05-4e8b-ae03-775d4875fad4",
        "instanceId": "78c53fcf-ac05-4e8b-ae03-775d4875fad4",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.7.2",
            "routerIP": [
                "10.2.7.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdateTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    },
    {
        "routingType": "Dynamic",
        "GatewayPools": [
            {
                "resourceRef": "/GatewayPools/default"
            }
        ],
        "configurationState": {
            "status": "Success",
            "lastUpdateTime": "2016-06-15T23:13:41.1459839-07:00"
        },
        "gatewaySubnets": [
            {
                "resourceRef": "/virtualNetworks/00000000-1111-0000-0006-000000000000/subnets/00000000-1111-1111-0006-000000000002"
            }
        ]
    }
]
```

```

    ]
  },
  {
    "resourceRef": "/VirtualGateways/VirtualGateway_7",
    "resourceId": "VirtualGateway_7",
    "etag": "W/\"f651cd2f-fd67-40b9-8a4d-7709043a2794\"",
    "instanceId": "075d12f6-bc57-4586-80f5-8703e094fb80",
    "properties": {
      "provisioningState": "Succeeded",
      "networkConnections": [
        {
          "resourceRef":
"/VirtualGateways/VirtualGateway_7/NetworkConnections/VirtualGateway_7_IPSEC_1",
          "resourceId": "VirtualGateway_7_IPSEC_1",
          "etag": "W/\"f651cd2f-fd67-40b9-8a4d-7709043a2794\"",
          "instanceId": "aed01446-a80f-456e-a111-a828fb56ae88",
          "properties": {
            "provisioningState": "Succeeded",
            "connectionType": "IPSec",
            "outboundKiloBitsPerSecond": 307200,
            "inboundKiloBitsPerSecond": 307200,
            "ipSecConfiguration": {
              "authenticationMethod": "PSK",
              "quickMode": {
                "perfectForwardSecrecy": "None",
                "cipherTransformationConstant": "AES128",
                "authenticationTransformationConstant": "SHA196",
                "idleDisconnectSeconds": 500,
                "saLifetimeSeconds": 3600,
                "saLifetimeKiloBytes": 33552408
              },
              "mainMode": {
                "diffieHellmanGroup": "Group2",
                "encryptionAlgorithm": "DES3",
                "integrityAlgorithm": "SHA1",
                "saLifetimeSeconds": 28800,
                "saLifetimeKiloBytes": 33552408
              },
              "localVpnTrafficSelector": [],
              "remoteVpnTrafficSelector": []
            },
            "l3Configuration": {},
            "ipAddresses": [],
            "peerIPAddresses": [],
            "routes": [
              {
                "destinationPrefix": "50.7.1.0/24",
                "nextHop": "0.0.0.0",
                "metric": 10,
                "protocol": "Static"
              }
            ],
            "connectionStatus": "Enabled",
            "connectionState": "Disconnected",
            "connectionUpTime": "00:00:00",
            "connectionErrorReason": "0",
            "unreachabilityReason": "",
            "statistics": {
              "outboundBytes": 1331091986,
              "inboundBytes": 64440380975,
              "rxTotalPacketsDropped": 0,
              "txTotalPacketsDropped": 0,
              "txRateKbps": 0,
              "rxRateKbps": 0,
              "txRateLimitedPacketsDropped": 0,
              "rxRateLimitedPacketsDropped": 0,
              "lastUpdated": "2016-06-16T06:17:26.5237938Z"
            },
            "configurationState": {

```

```

        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
    },
    "sourceIPAddress": "91.1.1.4",
    "destinationIPAddress": "11.7.0.1",
    "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
    }
}
},
"bgpRouters": [
    {
        "resourceRef":
"/VirtualGateways/VirtualGateway_7/BgpRouters/BGP_VirtualGateway_7_351ddc6d-d68c-40b1-94db-
d2a5939c4eb0",
        "resourceId": "BGP_VirtualGateway_7_351ddc6d-d68c-40b1-94db-d2a5939c4eb0",
        "instanceId": "351ddc6d-d68c-40b1-94db-d2a5939c4eb0",
        "properties": {
            "provisioningState": "Succeeded",
            "extAsNumber": "0.65001",
            "routerId": "10.2.8.2",
            "routerIP": [
                "10.2.8.2"
            ],
            "isGenerated": true,
            "configurationState": {
                "status": "Success",
                "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
            }
        }
    }
],
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0007-
000000000000/subnets/00000000-1111-1111-0007-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_8",
    "resourceId": "VirtualGateway_8",
    "etag": "W/\"7be191c6-7a9f-43e0-aa04-b5d8c916d815\"",
    "instanceId": "4dad330a-8d7a-42d6-8ab1-8b6d5e85f6bd",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_8/NetworkConnections/VirtualGateway_8_IPSEC_1",
                "resourceId": "VirtualGateway_8_IPSEC_1",
                "etag": "W/\"7be191c6-7a9f-43e0-aa04-b5d8c916d815\"",
                "instanceId": "c9781dac-b4b0-4cf3-bd85-951222b669a4",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,
                    "inboundKiloBitsPerSecond": 307200,

```

```

"ipSecConfiguration": {
  "authenticationMethod": "PSK",
  "quickMode": {
    "perfectForwardSecrecy": "None",
    "cipherTransformationConstant": "AES128",
    "authenticationTransformationConstant": "SHA196",
    "idleDisconnectSeconds": 500,
    "saLifeTimeSeconds": 3600,
    "saLifeTimeKiloBytes": 33552408
  },
  "mainMode": {
    "diffieHellmanGroup": "Group2",
    "encryptionAlgorithm": "DES3",
    "integrityAlgorithm": "SHA1",
    "saLifeTimeSeconds": 28800,
    "saLifeTimeKiloBytes": 33552408
  },
  "localVpnTrafficSelector": [],
  "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.8.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
  "outboundBytes": 1813010299,
  "inboundBytes": 87629965539,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdateTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.8.0.1",
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
}
},
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_8/BgpRouters/BGP_VirtualGateway_8_f4c1d9a5-b3b8-4aa0-8b7e-c7cec321a0de",
    "resourceId": "BGP_VirtualGateway_8_f4c1d9a5-b3b8-4aa0-8b7e-c7cec321a0de",
    "instanceId": "f4c1d9a5-b3b8-4aa0-8b7e-c7cec321a0de",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",
      "routerId": "10.2.9.2",

```

```

        "routerIP": [
            "10.2.9.2"
        ],
        "isGenerated": true,
        "configurationState": {
            "status": "Success",
            "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
        }
    }
},
"routingType": "Dynamic",
"GatewayPools": [
    {
        "resourceRef": "/GatewayPools/default"
    }
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [
    {
        "resourceRef": "/virtualNetworks/00000000-1111-0000-0008-000000000000/subnets/00000000-1111-1111-0008-000000000002"
    }
]
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_9",
    "resourceId": "VirtualGateway_9",
    "etag": "W/\"754364d9-2932-4430-bd0c-b0cb7c2560ba\"",
    "instanceId": "1d681158-0e80-40d5-9842-a8fdad35063b",
    "properties": {
        "provisioningState": "Succeeded",
        "networkConnections": [
            {
                "resourceRef":
"/VirtualGateways/VirtualGateway_9/NetworkConnections/VirtualGateway_9_IPSEC_1",
                "resourceId": "VirtualGateway_9_IPSEC_1",
                "etag": "W/\"754364d9-2932-4430-bd0c-b0cb7c2560ba\"",
                "instanceId": "caf7c894-a658-47de-a4b4-68f61ef2db12",
                "properties": {
                    "provisioningState": "Succeeded",
                    "connectionType": "IPSec",
                    "outboundKiloBitsPerSecond": 307200,
                    "inboundKiloBitsPerSecond": 307200,
                    "ipSecConfiguration": {
                        "authenticationMethod": "PSK",
                        "quickMode": {
                            "perfectForwardSecrecy": "None",
                            "cipherTransformationConstant": "AES128",
                            "authenticationTransformationConstant": "SHA196",
                            "idleDisconnectSeconds": 500,
                            "saLifeTimeSeconds": 3600,
                            "saLifeTimeKiloBytes": 33552408
                        },
                        "mainMode": {
                            "diffieHellmanGroup": "Group2",
                            "encryptionAlgorithm": "DES3",
                            "integrityAlgorithm": "SHA1",
                            "saLifeTimeSeconds": 28800,
                            "saLifeTimeKiloBytes": 33552408
                        },
                        "localVpnTrafficSelector": [],
                        "remoteVpnTrafficSelector": []
                    },
                    "l3Configuration": {},
                    "ipAddresses": [],

```



```

"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.9.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
  "outboundBytes": 1188774461,
  "inboundBytes": 57971114251,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-06-16T06:17:26.5237938Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.9.0.1",
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
}
],
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_9/BgpRouters/BGP_VirtualGateway_9_6c2433ae-410f-4eb2-bd38-3c6a4c170079",
    "resourceId": "BGP_VirtualGateway_9_6c2433ae-410f-4eb2-bd38-3c6a4c170079",
    "instanceId": "6c2433ae-410f-4eb2-bd38-3c6a4c170079",
    "properties": {
      "provisioningState": "Succeeded",
      "extAsNumber": "0.65001",
      "routerId": "10.2.10.2",
      "routerIP": [
        "10.2.10.2"
      ],
      "isGenerated": true,
      "configurationState": {
        "status": "Success",
        "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
      }
    }
  }
],
"routingType": "Dynamic",
"GatewayPools": [
  {
    "resourceRef": "/GatewayPools/default"
  }
],
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
},
"gatewaySubnets": [

```

```

    {
      "resourceRef": "/virtualNetworks/00000000-1111-0000-0009-
000000000000/subnets/00000000-1111-1111-0009-000000000002"
    }
  ]
}
],
"nextLink": ""
}

```

The JSON schema for the **VirtualGateways GET ALL** method is located in section 6.15.3.

### 3.1.5.17.1.3.3 Processing Details

Retrieves all **VirtualGateways** resources.

### 3.1.5.17.1.4 DELETE

This method deletes a **VirtualGateways** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.17.1.4.1 Request Body

None.

#### 3.1.5.17.1.4.2 Response Body

None.

#### 3.1.5.17.1.4.3 Processing Details

Deletes a **VirtualGateways** resource.

### 3.1.5.17.2 (Updated Section) bgpRouters

The **bgpRouters** resource contains the configuration needed for the BGP router in the virtual gateway to connect to BGP routers outside the virtual network in order to exchange routing information.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/bgpRouters/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides v1~~ or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.17.2.1.1	Create or update a <b>bgpRouters</b> resource.
<b>GET</b>	3.1.5.17.2.1.2	Get a <b>bgpRouters</b> resource.
<b>GET ALL</b>	3.1.5.17.2.1.3	List all <b>bgpRouters</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.17.2.1.4	Deletes a <b>bgpRouters</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>isEnabled</b>		Reserved for future use.
<b>requireIGPSync</b>	Read/write	If this is set to TRUE, BGP will not advertise a route before all routers in an Autonomous System (AS) learn about the route via IGP. BGP waits until IGP propagates the route within the AS and then advertises it to external peers.
<b>extAsNumber</b>	Read/write	Extended (4-byte) ASN of the local BGP Router in XX.YY format.
<b>routerId</b>	Read/write	Indicates Router ID.
<b>routerIP</b>	Read/write	Indicates an array of IP addresses to which BGP peering can be established.
<b>isGenerated</b>	Read-only	If this BGP router is automatically enabled, without making any REST calls then <b>isGenerated</b> is set to TRUE.
<b>bgpPeers</b>	Read/write	Collection array of BGP peers associated with the <b>bgpRouters</b> resource. See section 3.1.5.17.2.2 for details.
<b>configurationState</b>	Optional Read-only	Indicates the last known running state of this router. See specification in section 2.2.4. More details are given in the section for the <b>GET</b> operation

Element name	Type	Description
		section 3.1.5.17.2.1.2.

### 3.1.5.17.2.1 HTTP Methods

#### 3.1.5.17.2.1.1 PUT

Creates or updates a **bgpRouters** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/bgpRouters/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.17.2.1.1.1 Request Body

The format for the request body for the **bgpRouters PUT** method is as follows.

```
{
  "resourceId": "router1",
  "etag": "W/\"fe4cd15f-f117-449a-b819-9fd007a1abdf\"",
  "instanceId": "6638f081-a838-43f8-90f9-18bc662c130f",
  "properties": {
    "provisioningState": "Succeeded",
    "isEnabled": "true",
    "requireIGPSync": "true",
    "extASNumber": "0.3458",
    "routerIP": [
    ],
  },
  "isGenerated": false,
  "bgpPeers": [
    {
      "resourceId": "Peer1",
      "properties": {
        "peerIpAddress": "40.1.1.4",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "policyMapIn": null,
      }
    }
  ]
}
```

```

        "policyMapOut": null
    }
},
{
    "resourceId": "Peer2",
    "properties": {
        "peerIpAddress": "40.1.2.4",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "policyMapIn": null,
        "policyMapOut": null
    }
},
{
    "resourceId": "Peer3",
    "properties": {
        "peerIpAddress": "40.1.3.4",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "policyMapIn": null,
        "policyMapOut": null
    }
}
]
}
}

```

The JSON schema for the **PUT bgpRouters** method is located in section 6.15.4.1.

### 3.1.5.17.2.1.1.2 Response Body

The format is the same as the format for the **bgpRouters GET** response body (section 3.1.5.17.2.1.2.2). The JSON schema is located in section 6.15.4.2.

### 3.1.5.17.2.1.1.3 Processing Details

Create a new **bgpRouters** resource or update an existing **bgpRouters** resource.

### 3.1.5.17.2.1.2 GET

This method retrieves a **bgpRouters** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/bgpRouters/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.17.2.1.2.1 Request Body

None.

### 3.1.5.17.2.1.2.2 Response Body

The format for the **bgpRouters GET** response body is as follows.

```
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1",
  "resourceId": "router1",
  "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
  "instanceId": "dc972df1-cce2-44b7-a0e4-df6f882b101a",
  "properties": {
    "provisioningState": "Succeeded",
    "isEnabled": true,
    "requireIgpSync": true,
    "extAsNumber": "0.3458",
    "routerId": "10.2.2.2",
    "routerIP": [
      "10.2.2.2"
    ],
  },
  "isGenerated": false,
  "bgpPeers": [
    {
      "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
      "resourceId": "Peer1",
      "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
      "instanceId": "cb4a4eba-9716-4d22-bd51-50998181e3a8",
      "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.1.4",
        "connectionState": "Disconnected",
        "statistics": {
          "tcpConnectionClosed": "2016-06-15T21:56:27.063-07:00",
          "openMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "notificationMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "keepAliveMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "routeRefreshMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "updateMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "ipv4Route": {
            "updateSentCount": 0,
            "updateReceivedCount": 0,
            "withdrawlSentCount": 0,
            "withdrawlReceivedCount": 0
          },
          "ipv6Route": {
            "updateSentCount": 0,
            "updateReceivedCount": 0,
            "withdrawlSentCount": 0,
            "withdrawlReceivedCount": 0
          }
        }
      }
    }
  ]
}
```

```

    },
    "lastUpdated": "2016-06-16T04:56:29.6397721Z"
  },
  "isGenerated": false
}
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer2",
  "resourceId": "Peer2",
  "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
  "instanceId": "d85b9574-8d53-4b70-8b4b-4053eaeeba60",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.2.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T21:56:12.053-07:00",
      "openMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      }
    },
    "lastUpdated": "2016-06-16T04:56:29.6397721Z"
  },
  "isGenerated": false
}
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer3",
  "resourceId": "Peer3",
  "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
  "instanceId": "3b7e4db3-c415-4b06-8d0a-b2138142a8ff",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.3.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T21:56:14.232-07:00",
      "openMessageStats": {

```

```

        "sentCount": 0,
        "receivedCount": 0
    },
    "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T04:56:29.6397721Z"
    },
    "isGenerated": false
}
}
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T21:34:32.1843967-07:00"
}
}
}

```

The JSON schema for the **GET bgpRouters** method is located in section 6.15.4.2.

### 3.1.5.17.2.1.2.3 Processing Details

Retrieves a **bgpRouters** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server **MUST** return a configuration state property **configurationState.status** set to Success if there were no errors. The server **MUST** return a configuration state property **configurationState.status** set to a value other than Failure if there were errors during the configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The following table contains acceptable values in the response when status is not Success.



<b>configurationState.status</b>	<b>Code inside configurationState.detailedInfo array</b>	<b>Description</b>
Failure	HostUnreachable	Unable to configure the <b>bgpRouters</b> resource settings on the gateway.

### 3.1.5.17.2.1.3 GET ALL

This method retrieves all **bgpRouters** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/bgpRouters
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

<b>Status code</b>
200 (OK)

If no resources exist, the result is returned as an empty array.

#### 3.1.5.17.2.1.3.1 Request Body

None.

#### 3.1.5.17.2.1.3.2 Response Body

The format for the **bgpRouters GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1",
      "resourceId": "router1",
      "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
      "instanceId": "dc972df1-cce2-44b7-a0e4-df6f882b101a",
      "properties": {
        "provisioningState": "Succeeded",
        "isEnabled": true,
        "requireIgpSync": true,
        "extAsNumber": "0.3458",
        "routerId": "10.2.2.2",
        "routerIP": [
          "10.2.2.2"
        ],
        "isGenerated": false,
        "bgpPeers": [
          {
            "resourceRef":
              "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
```

```

"resourceId": "Peer1",
"etag": "W/\\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\\"",
"instanceId": "cb4a4eba-9716-4d22-bd51-50998181e3a8",
"properties": {
  "provisioningState": "Succeeded",
  "asNumber": "1236",
  "extAsNumber": "0.1236",
  "peerIpAddress": "40.1.1.4",
  "connectionState": "Disconnected",
  "statistics": {
    "tcpConnectionClosed": "2016-06-15T22:01:03.186-07:00",
    "openMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "notificationMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "keepAliveMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "routeRefreshMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "updateMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "ipv4Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T05:01:33.2899007Z"
  },
  "isGenerated": false
}
},
{
  "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer2",
  "resourceId": "Peer2",
  "etag": "W/\\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\\"",
  "instanceId": "d85b9574-8d53-4b70-8b4b-4053eaeeba60",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.2.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T22:01:21.091-07:00",
      "openMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      }
    },
  },
}

```

```

    "keepAliveMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "routeRefreshMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "updateMessageStats": {
      "sentCount": 0,
      "receivedCount": 0
    },
    "ipv4Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
      "updateSentCount": 0,
      "updateReceivedCount": 0,
      "withdrawlSentCount": 0,
      "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T05:01:33.2899007Z"
  },
  "isGenerated": false
}
},
{
  "resourceRef":
"/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer3",
  "resourceId": "Peer3",
  "etag": "W/\"5fb62acf-04c7-4071-9f06-c89ea8b0b1b0\"",
  "instanceId": "3b7e4db3-c415-4b06-8d0a-b2138142a8ff",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.3.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T22:01:27.67-07:00",
      "openMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "ipv6Route": {

```

```

        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T05:01:33.2899007Z"
},
"isGenerated": false
}
}
],
"configurationState": {
    "status": "Success",
    "lastUpdatedTime": "2016-06-15T21:34:32.1843967-07:00"
}
}
}
],
"nextLink": ""
}

```

The JSON schema for the **GET ALL bgpRouters** method is located in section 6.15.4.3.

### 3.1.5.17.2.1.3.3 Processing Details

Retrieves all **bgpRouters** resources.

### 3.1.5.17.2.1.4 DELETE

This method deletes a **bgpRouters** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/bgpRouters/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.17.2.1.4.1 Request Body

None.

#### 3.1.5.17.2.1.4.2 Response Body

None.

### 3.1.5.17.2.1.4.3 Processing Details

Deletes a **bgpRouters** resource.

### 3.1.5.17.2.2 (Updated Section) bgpPeers

The **bgpPeers** resource configures BGP peers of the **VirtualGateways** resource.

The peer is identified by **resourceId** and **asNumber**.

A Virtual Routing and Forwarding (VRF) context can be specified on devices that support VRF. The **routeMapIn** and **routeMapOut** properties can specify a policy map that controls the route updates that are associated with the BGP peer.

The URI for it is invoked through the ~~resource is as follows~~ following URI.

```
https://<url>/networking/v1/VirtualGateways/{grandParentResourceId}/bgpRouters/  
{parentResourceId}/bgpPeers/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**grandParentResourceId:** the identifier for the specific ancestor of the ancestor resource within the resource type. See section 2.2.3.1 for more details.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 ~~or later~~, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.17.2.2.1.1	Create or update a <b>bgpPeers</b> resource.
<b>GET</b>	3.1.5.17.2.2.1.2	Get a <b>bgpPeers</b> resource.
<b>GET ALL</b>	3.1.5.17.2.2.1.3	List all <b>bgpPeers</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.17.2.2.1.4	Deletes a <b>bgpPeers</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>resourceId</b>	Read-only	Indicates identifier of BGP peer.
<b>asNumber</b>	Read-only	Indicates the ASN number of the BGP

Element name	Type	Description
		Peer.
<b>extAsNumber</b>	Read/write	Indicates extended ASN number of the BGP Peer in XX.YY format.
<b>peerIpAddress</b>	Read/write	IP address of the peer.
<b>connectionState</b>	Read-only	Status of BGP peering for this peer. Possible values are Connected and Disconnected.
<b>statistics</b>	Read-only	Provides statistics for this peer.
<b>statistics.tcpConnectionEstablished</b>	Read-only	Timestamp of TCP connection establishment for BGP.
<b>statistics.tcpConnectionClosed</b>	Read-only	Timestamp when the TCP connection was closed.
<b>statistics.openMessageStats</b>	Read-only	Stats for open messages.
<b>statistics.openMessageStats.lastSent</b>	Read-only	Last sent timestamp.
<b>statistics.openMessageStats.lastReceived</b>	Read-only	Last received timestamp.
<b>statistics.openMessageStats.sentCount</b>	Read-only	Sent count.
<b>statistics.openMessageStats.receivedCount</b>	Read-only	Received count.
<b>statistics.notificationMessageStats</b>	Read-only	Stats for notification messages.
<b>statistics.notificationMessageStats.sentCount</b>	Read-only	Sent count.
<b>statistics.notificationMessageStats.receivedCount</b>	Read-only	Received count.
<b>statistics.keepAliveMessageStats</b>	Read-only	Stats for keepalive messages.
<b>statistics.keepAliveMessageStats.lastSent</b>	Read-only	Last sent timestamp.
<b>statistics.keepAliveMessageStats.lastReceived</b>	Read-only	Last received timestamp.
<b>statistics.keepAliveMessageStats.sentCount</b>	Read-only	Sent count.
<b>statistics.keepAliveMessageStats.receivedCount</b>	Read-only	Received count.
<b>statistics.routeRefreshMessageStats</b>	Read-only	Stats for route refresh messages.
<b>statistics.routeRefreshMessageStats.sentCount</b>	Read-only	Sent count.
<b>statistics.routeRefreshMessageStats.receivedCount</b>	Read-only	Received count.
<b>statistics.updateMessageStats</b>	Read-only	Stats for update messages.
<b>statistics.updateMessageStats.lastReceived</b>	Read-only	Last received timestamp.
<b>statistics.updateMessageStats.sentCount</b>	Read-only	Sent count.
<b>statistics.updateMessageStats.receivedCount</b>	Read-only	Received count.
<b>statistics.ipv4Route</b>	Read-only	Stats for IPv4 routes.
<b>statistics.ipv4Route.updateSentCount</b>	Read-only	Route update sent count.

Element name	Type	Description
<b>statistics.ipv4Route.updateReceivedCount</b>	Read-only	Route update received count.
<b>statistics.ipv4Route.withdrawlSentCount</b>	Read-only	Route withdrawal sent count.
<b>statistics.ipv4Route.withdrawlReceivedCount</b>	Read-only	Route withdrawal received count.
<b>statistics.ipv6Route</b>	Read-only	Stats for IPv6 routes.
<b>statistics.ipv6Route.updateSentCount</b>	Read-only	Route update sent count.
<b>statistics.ipv6Route.updateReceivedCount</b>	Read-only	Route update received count.
<b>statistics.ipv6Route.withdrawlSentCount</b>	Read-only	Route withdrawal sent count.
<b>statistics.ipv6Route.withdrawlReceivedCount</b>	Read-only	Route withdrawal received count.
<b>Statistics.lastUpdated</b>	Read-only	Time stamp when the stats were last updated.
<b>policyMapOut</b>	Read/write	Reference to the policy map object that is used to filter the routing updates sent to the peer.
<b>policyMapIn</b>	Read/write	Reference to the policy map object that is used to filter routing updates received from the peer.
<b>isGenerated</b>	Read-only	This flag is set to TRUE for internal BGP (iBGP) peers.
<b>configurationState</b>	Optional Read-only	See <b>configurationState</b> in section 2.2.4. More details are given in the section for the GET operation section 3.1.5.17.2.2.1.2.

### 3.1.5.17.2.2.1 HTTP Methods

#### 3.1.5.17.2.2.1.1 PUT

This method creates a new **bgpPeers** resource or updates an existing **bgpPeers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{grandParentResourceId}/bgpRouters/{parentResourceId}/bgpPeers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

Status code
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.17.2.2.1.1.1 Request Body

The format for the request body for the **bgpPeers PUT** method is as follows.

```
{
  "resourceId": "Peer1",
  "properties": {
    "peerIpAddress": "40.1.1.4",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "policyMapIn": null,
    "policyMapOut": null
  }
}
```

The JSON schema for the **bgpPeers PUT** method is located in section 6.15.4.4.1.

### 3.1.5.17.2.2.1.1.2 Response Body

The format is the same as the format for the **bgpPeers GET** response body (section 3.1.5.17.2.2.1.2.2). The JSON schema is located in section 6.15.4.4.2.

### 3.1.5.17.2.2.1.1.3 Processing Details

Create a new **bgpPeers** resource or update an existing **bgpPeers** resource.

### 3.1.5.17.2.2.1.2 GET

This method retrieves a **bgpPeers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{grandParentResourceId}/bgpRouters/{parentResourceId}/bgpPeers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)



### 3.1.5.17.2.2.1.2.1 Request Body

None.

### 3.1.5.17.2.2.1.2.2 Response Body

The format for the response body for the **bgpPeers GET** method is as follows.

```
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
  "resourceId": "Peer1",
  "etag": "W/\"6b3cec3d-d04b-4e4b-828b-355cd29d7ece\"",
  "instanceId": "6f6a0c77-3830-4884-9b22-833f58f13e02",
  "properties": {
    "provisioningState": "Succeeded",
    "asNumber": "1236",
    "extAsNumber": "0.1236",
    "peerIpAddress": "40.1.1.4",
    "connectionState": "Disconnected",
    "statistics": {
      "tcpConnectionClosed": "2016-06-15T22:11:33.395-07:00",
      "openMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "notificationMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "keepAliveMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "routeRefreshMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
      },
      "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
      },
      "lastUpdated": "2016-06-16T05:11:39.7306466Z"
    },
    "isGenerated": false
  }
}
```

The JSON schema for the **bgpPeers GET** method is located in section 6.15.4.4.2.

### 3.1.5.17.2.2.1.2.3 Processing Details

Retrieves a **bgpPeers** resource.

### 3.1.5.17.2.2.1.3 GET ALL

This method retrieves all **bgpPeers** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{grandParentResourceId}/bgpRouters/{parentResourceId}/bgpPeers
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

#### 3.1.5.17.2.2.1.3.1 Request Body

None.

#### 3.1.5.17.2.2.1.3.2 Response Body

The format for the response body for the **bgpPeers GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer1",
      "resourceId": "Peer1",
      "etag": "W/\"6b3cec3d-d04b-4e4b-828b-355cd29d7ece\"",
      "instanceId": "6f6a0c77-3830-4884-9b22-833f58f13e02",
      "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.1.4",
        "connectionState": "Disconnected",
        "statistics": {
          "tcpConnectionClosed": "2016-06-15T22:11:33.395-07:00",
          "openMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "notificationMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "keepAliveMessageStats": {
            "sentCount": 0,
            "receivedCount": 0
          },
          "routeRefreshMessageStats": {
            "sentCount": 0,

```

```

        "receivedCount": 0
    },
    "updateMessageStats": {
        "sentCount": 0,
        "receivedCount": 0
    },
    "ipv4Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "ipv6Route": {
        "updateSentCount": 0,
        "updateReceivedCount": 0,
        "withdrawlSentCount": 0,
        "withdrawlReceivedCount": 0
    },
    "lastUpdated": "2016-06-16T05:11:39.7306466Z"
},
"isGenerated": false
}
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer2",
    "resourceId": "Peer2",
    "etag": "W/\"6b3cec3d-d04b-4e4b-828b-355cd29d7ece\"",
    "instanceId": "6dfc12fb-484a-4771-98f9-6c1d4ffbaala",
    "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.2.4",
        "connectionState": "Disconnected",
        "statistics": {
            "tcpConnectionClosed": "2016-06-15T22:11:33.41-07:00",
            "openMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "notificationMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "keepAliveMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "routeRefreshMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "updateMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "ipv4Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "ipv6Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "lastUpdated": "2016-06-16T05:11:39.7306466Z"
        },
    }
},

```

```

        "isGenerated": false
    }
},
{
    "resourceRef": "/VirtualGateways/VirtualGateway_1/BgpRouters/router1/BgpPeers/Peer3",
    "resourceId": "Peer3",
    "etag": "W/\"6b3cec3d-d04b-4e4b-828b-355cd29d7ece\"",
    "instanceId": "d6bc7e33-4ac9-4f74-a3f2-81c39eb2a85d",
    "properties": {
        "provisioningState": "Succeeded",
        "asNumber": "1236",
        "extAsNumber": "0.1236",
        "peerIpAddress": "40.1.3.4",
        "connectionState": "Disconnected",
        "statistics": {
            "tcpConnectionClosed": "2016-06-15T22:11:33.425-07:00",
            "openMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "notificationMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "keepAliveMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "routeRefreshMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "updateMessageStats": {
                "sentCount": 0,
                "receivedCount": 0
            },
            "ipv4Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "ipv6Route": {
                "updateSentCount": 0,
                "updateReceivedCount": 0,
                "withdrawlSentCount": 0,
                "withdrawlReceivedCount": 0
            },
            "lastUpdated": "2016-06-16T05:11:39.7306466Z"
        },
        "isGenerated": false
    }
}
],
"nextLink": ""
}

```

The JSON schema for the **bgpPeers GET ALL** method is located in section 6.15.4.4.3.

### 3.1.5.17.2.2.1.3.3 Processing Details

Retrieves all **bgpPeers** resources.

### 3.1.5.17.2.2.1.4 DELETE

This method deletes a **bgpPeers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{grandParentResourceId}/bgpRouters/{parentResourceId}/bgpPeers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.17.2.2.1.4.1 Request Body

None.

#### 3.1.5.17.2.2.1.4.2 Response Body

None.

#### 3.1.5.17.2.2.1.4.3 Processing Details

This method deletes a **bgpPeers** resource.

### 3.1.5.17.3 (Updated Section) policyMaps

The **policyMaps** resource contains the configuration needed for the routing policies for the BGP router in the virtual gateway to be able to exchange routing information with peers.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/policyMaps/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1** or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.17.3.1.1	Create or update a <b>policyMaps</b> .
GET	3.1.5.17.3.1.2	Get a <b>policyMaps</b> resource.
GET ALL	3.1.5.17.3.1.3	List all <b>policyMaps</b> resources in the Network Controller.
DELETE	3.1.5.17.3.1.4	Delete a <b>policyMaps</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>policyMapEntryList</b>		Indicates a list of policies, an array of <b>policyMapEntry</b> type objects.
<b>policyMapEntry.policyName</b>	Read/write	Indicates the name of the policy.
<b>policyMapEntry.action</b>	Read/write	Indicates type of policy action to take: Deny, Allow, or ModifyAttribute.
<b>policyMapEntry.matchCriteria</b>	Read/write	Indicates criteria to be matched, an array of <b>policyMapEntryMatchCriteria</b> type objects.
<b>policyMapEntry.matchCriteria.property</b>	Read/write	Indicates the clause to be matched: MatchPrefix, NextHop, IgnorePrefix, AsnRange, or Community.
<b>policyMapEntry.matchCriteria.value</b>	Read/write	Indicates an array of values for the property to be matched with the ingress/egress packet.
<b>policyMapEntry.setActions</b>	Read/write	Indicates values of policy <b>action</b> to be taken once there is match in criteria, an array of <b>policyMapEntrySetAction</b> type objects.
<b>policyMapEntry.setActions.property</b>	Read/write	Enum that indicates the property of the egress/ingress data packet to update when the <b>if-match</b> criteria specified in the entry are successfully matched with the data packet. Values are: As-Path, Add-Community, Remove-Community, Remove-All-Community, MED, Clear-MED, Weight, Local-Pref, or Next-Hop.
<b>policyMapEntry.setActions.value</b>	Read/write	New value of the property specified in <b>policyMapEntry.setActions.property</b> to update in the ingress/egress data packet.
<b>bgpPeersWithPolicyMapIn</b>	Read/write	Collection of back references to BGP peers on which this policy map has been set as a route map to filter incoming routes.
<b>bgpPeersWithPolicyMapOut</b>	Read/write	Collection of back references to BGP peers on which this policy map has been set as a route map to filter outgoing routes.

### 3.1.5.17.3.1 HTTP Methods

### 3.1.5.17.3.1.1 PUT

This method creates a new policy Map resource or update an existing policy Map resource for a switch. It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/policyMaps/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.17.3.1.1.1 Request Body

The format for the request body for the **policyMaps PUT** method is as follows.

```
{
  "resourceId": "MAP1",
  "etag": "W/\"fe4cd15f-f117-449a-b819-9fd007alabdf\"",
  "instanceId": "c8b34df3-cc7b-4eab-9ccf-97512e6014a9",
  "properties": {
    "provisioningState": "Succeeded",
    "policyMapEntryList": [
      {
        "policyName": "INPOLICY1",
        "action": "Deny",
        "matchCriteria": [
          {
            "property": "MatchPrefix",
            "value": [
              "5.4.3.2/32",
              "5.4.3.1/32"
            ]
          },
          {
            "property": "NextHop",
            "value": [
              "4.3.2.1",
              "6.4.3.1"
            ]
          }
        ]
      },
      {
        "setActions": []
      }
    ]
  }
}
```

}

The JSON schema for the **policyMaps PUT** method is located in section 6.15.5.1.

### 3.1.5.17.3.1.1.2 Response Body

The format is the same as the format for the **GET policyMaps** response body (section 3.1.5.17.3.1.2.2). The JSON schema is located in section 6.15.5.2.

### 3.1.5.17.3.1.1.3 Processing Details

Create a new **policyMaps** resource or update an existing **policyMaps** resource.

### 3.1.5.17.3.1.2 GET

This method retrieves a **policyMap** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/portChannels/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.17.3.1.2.1 Request Body

None.

### 3.1.5.17.3.1.2.2 Response Body

The format for the **policyMaps GET** response body is as follows.

```
{
  "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1",
  "resourceId": "MAP1",
  "etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
  "instanceId": "b52840f9-91a9-4a3e-91b3-0383ae1ea607",
  "properties": {
    "provisioningState": "Succeeded",
    "bgpPeersWithPolicyMapIn": [],
    "bgpPeersWithPolicyMapOut": [],
    "policyMapEntryList": [
      {
        "action": "Deny",
        "matchCriteria": [
          {
```



```

        "property": "MatchPrefix",
        "value": [
            "5.4.3.2/32",
            "5.4.3.1/32"
        ]
    },
    {
        "property": "NextHop",
        "value": [
            "4.3.2.1",
            "6.4.3.1"
        ]
    }
],
"setActions": []
}
]
}
}

```

The JSON schema for the **policyMaps GET** method is located in section 6.15.5.2.

### 3.1.5.17.3.1.2.3 Processing Details

Retrieves a **policyMap** resource.

#### 3.1.5.17.3.1.3 GET ALL

This method retrieves all **policyMap** resources defined for a switch.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/policyMaps/
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

#### 3.1.5.17.3.1.3.1 Request Body

None.

#### 3.1.5.17.3.1.3.2 Response Body

The format for the **policyMaps GET ALL** method response body is as follows.

```

{
  "value": [
    {
      "resourceRef": "/VirtualGateways/VirtualGateway_1/PolicyMaps/MAP1",

```

```

"resourceId": "MAP1",
"etag": "W/\"681f2608-6588-49d2-ba50-85db700a4300\"",
"instanceId": "b52840f9-91a9-4a3e-91b3-0383ae1ea607",
"properties": {
  "provisioningState": "Succeeded",
  "bgpPeersWithPolicyMapIn": [],
  "bgpPeersWithPolicyMapOut": [],
  "policyMapEntryList": [
    {
      "action": "Deny",
      "matchCriteria": [
        {
          "property": "MatchPrefix",
          "value": [
            "5.4.3.2/32",
            "5.4.3.1/32"
          ]
        },
        {
          "property": "NextHop",
          "value": [
            "4.3.2.1",
            "6.4.3.1"
          ]
        }
      ],
      "setActions": []
    }
  ]
}
],
"nextLink": ""
}

```

The JSON schema for the **policyMaps GET ALL** method is located in section 6.15.5.3.

### 3.1.5.17.3.1.3.3 Processing Details

List all **policyMaps** resources in the Network Controller.

### 3.1.5.17.3.1.4 DELETE

This method deletes a **policyMap** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/policyMaps/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)

Status code
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.17.3.1.4.1 Request Body

None.

#### 3.1.5.17.3.1.4.2 Response Body

None.

#### 3.1.5.17.3.1.4.3 Processing Details

Deletes a **policyMap** resource.

### 3.1.5.17.4 (Updated Section) networkConnections

The **networkConnections** resource specifies a connection from virtual network to external networks. Multiple connections can exist for a given virtual network and there are different types of connections.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/networkConnections/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.17.4.1.1	Create or update a <b>networkConnections</b> resource.
<b>GET</b>	3.1.5.17.4.1.2	Get a <b>networkConnections</b> resource.
<b>GET ALL</b>	3.1.5.17.4.1.3	List all <b>networkConnections</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.17.4.1.4	Delete a <b>networkConnections</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.

Element name	Type	Description
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>resourceId</b>	Required	Friendly name of the connection.
<b>connectionType</b>	Read/write	Indicates type of connection. Valid values are IPsec, GRE, or L3 (Forwarding).
<b>outboundKiloBitsPerSecond</b>	Read/write	Indicates maximum allowed outbound bandwidth in Kbps.
<b>inboundKiloBitsPerSecond</b>	Read/write	Indicates maximum allowed inbound bandwidth in Kbps.
<b>ipsecConfiguration</b>	Read/write	Details of IPsec configuration.
<b>ipsecConfiguration.authenticationMethod</b>	Read/write	Indicates authentication method. PSK is the only valid value.
<b>ipsecConfiguration.sharedsecret</b>	Write	The shared secret used for this NetworkConnection. Note this is write-only property and the value of this field is not shown in the <b>GET</b> of <b>networkConnections</b> .
<b>ipsecConfiguration.mainMode</b>	Read/write	Main mode IPsec configuration details, as specified in [RFC2409].
<b>ipsecConfiguration.mainMode.diffieHellmanGroup</b>	Read/write	Indicates Diffie Hellman group used during main mode IKE negotiation, as specified in [RFC5996]. Values: Group1, Group2, Group14, ECP256, ECP384, or Group24.
<b>ipsecConfiguration.mainMode.integrityAlgorithm</b>	Read/write	Indicates Integrity algorithm used during main mode IKE negotiation, as specified in [RFC4306]. Values: MD5, SHA196, SHA256, or SHA384.
<b>ipsecConfiguration.mainMode.encryptionAlgorithm</b>	Read/write	Indicates cipher algorithm used during main mode IKE negotiation. Values: DES, DES3, AES128, AES192, or AES256.
<b>ipsecConfiguration.mainMode.saLifeTimeSeconds</b>	Read/write	Indicates life time of security association (SA) in seconds, as specified in [RFC4301].
<b>ipsecConfiguration.mainMode.saLifeTimeKilobytes</b>	Read/write	Indicates life time of SA in Kilobytes. Ignored by IPsec.
<b>ipsecConfiguration.quickMode</b>	Read/write	Quick mode IPsec configuration.
<b>ipsecConfiguration.quickMode.perfectForwardSecrecy</b>	Read/write	Indicates whether Perfect Forward Secrecy is enabled or not. If enabled specifies the algorithm. Values: None, PFS1, PFS2, PFS2048, PFS14, ECP256, ECP384, PFSMM, or PFS24.
<b>ipsecConfiguration.quickMode.cipherTransformationConstant</b>	Read/write	Indicates the encryption algorithm used for data traffic. Values: None, DES, CBCDES, DES3, CBCDES3, AES128, AES192, AES256, AES128CBC,

Element name	Type	Description
		AES192CBC, AES256, GCM AES128, GCM AES192, or GCM AES256.
<b>ipsecConfiguration.quickMode.authenticationTransformationConstant</b>	Read/write	Indicates the authentication transform used for data traffic. Values: None, MD596, SHA196, SHA256, GCM AES128, GCM AES192, GCM AES256.
<b>ipsecConfiguration.quickMode.saLifeTimeSeconds</b>	Read/write	Indicates life time of SA in seconds.
<b>ipsecConfiguration.quickMode.saLifeTimeKilobytes</b>	Read/write	Indicates life time of SA in Kilobytes.
<b>ipsecConfiguration.quickMode.idleDisconnectSeconds</b>	Read/write	Indicates idle time after which SA is disconnected.
<b>ipsecConfiguration.localVpnTrafficSelector</b>	Read/write	Indicates collection of IPsec <b>TrafficSelectors</b> on the host side.
<b>ipsecConfiguration.localVpnTrafficSelector.Type</b>	Read/write	Indicates whether traffic is IPv4 or IPv6.
<b>ipsecConfiguration.localVpnTrafficSelector.ProtocolId</b>	Read/write	Indicates IP protocol ID (UDP, TCP, or ICMP).
<b>ipsecConfiguration.localVpnTrafficSelector.PortStart</b>	Read/write	Indicates start of port range.
<b>ipsecConfiguration.localVpnTrafficSelector.PortEnd</b>	Read/write	Indicates end of port range.
<b>ipsecConfiguration.localVpnTrafficSelector.IpAddressStart</b>	Read/write	Indicates start of IP addresses.
<b>ipsecConfiguration.localVpnTrafficSelector.IpAddressEnd</b>	Read/write	Indicates end of IP addresses.
<b>ipsecConfiguration.localVpnTrafficSelector.tsPayloadId</b>	Read/write	Indicates the ID of theTrafficSelector payload.
<b>ipsecConfiguration.remoteVpnTrafficSelector</b>	Read/write	Indicates collection of IPsec <b>TrafficSelectors</b> on the tenant side.
<b>ipsecConfiguration.remoteVpnTrafficSelector.Type</b>	Read/write	Indicates whether traffic is IPv4 or IPv6.
<b>ipsecConfiguration.remoteVpnTrafficSelector.ProtocolId</b>	Read/write	Indicates IP protocol ID (UDP, TCP, or ICMP).
<b>ipsecConfiguration.remoteVpnTrafficSelector.PortStart</b>	Read/write	Indicates start of port range.
<b>ipsecConfiguration.remoteVpnTrafficSelector.PortEnd</b>	Read/write	Indicates end of port range.
<b>ipsecConfiguration.remoteVpnTrafficSelector.IpAddressStart</b>	Read/write	Indicates start of IP addresses.
<b>ipsecConfiguration.remoteVpnTrafficSelector.IpAddressEnd</b>	Read/write	Indicates end of IP addresses.
<b>IpAddress</b>	Read/write	Indicates <b>ConnectTo</b> Address to which peers

Element name	Type	Description
		connect to and which is the source IP address in egress direction. This would be the VIP.
<b>ipAddresses</b>	Read/write	IP assigned in the tenant compartment for L3 interface.
<b>ipAddresses.ipAddress</b>	Read/write	IP address for L3 interface in tenant compartment.
<b>ipAddress.prefixLength</b>	Read/write	Prefix length of the IP address.
<b>PeerIpAddress</b>	Read/write	Indicates peer IP address to which connection is made. Used by L3 interface.
<b>SourceIpAddress</b>	Read/write	Indicates sourceIpAddress used by the tunnel. Applicable to IKEv2 and GRE.
<b>destinationIpAddress</b>	Read/write	Indicates destination ip address of the tunnel. Applicable to IKEv2 and GRE.
<b>routes</b>	Read/write	An array that lists of all the routes (static and those learned via BGP) on the network Interface. Traffic matching the routes is transmitted on the network Interface.
<b>routes.destinationPrefix</b>	Required	Prefix with subnet of the routes.
<b>routes.nextHop</b>	Optional	Next Hop of the routes. Is significant only for L3 connections. Has no significance for point to point connections such as IPsec and GRE.
<b>routes.metric</b>	Optional	Indicates Metric of the route.
<b>routes.protocol</b>	Read-only	Indicates how the route is learnt/added (static or BGP).
<b>ConnectionStatus</b>	Read/write	Indicates administrative status of connection. Values: Enabled or Disabled.
<b>ConnectionState</b>	Read/write	Indicates operational status of connection. Values: Connected or Disconnected.
<b>statistics</b>	Read-only	Statistics of the connection.
<b>statistics.outboundBytes</b>	Read-only	Indicates number of bytes transmitted.
<b>statistics.inboundBytes</b>	Read-only	Indicates number of bytes received.
<b>statistics.rxTotalPacketsDropped</b>	Read-only	Indicates number of packets dropped in ingress (receiving (Rx)) direction.
<b>statistics.txTotalPacketsDropped</b>	Read-only	Indicates number of packets dropped in egress (transmitting (Tx)) direction.
<b>statistics.txRateKbps</b>	Read-only	Indicates rate at which traffic is going out in Kbps.
<b>statistics.rxRateKbps</b>	Read-only	Indicates rate at which traffic is coming in Kbps.
<b>statistics.txRateLimitedPacketsDropped</b>	Read-only	Indicates number of packets dropped in egress direction due to rate limiting.
<b>statistics.rxRateLimitedPacketsDropped</b>	Read-only	Indicates number of packets dropped in ingress

Element name	Type	Description
		direction due to rate limiting.
<b>statistics.lastUpdated</b>	Read-only	Indicates the time the statistics were last updated.
<b>ConnectionUpTime</b>	Read-only	Indicates operations up time of the connection in seconds.
<b>ConnectionErrorReason</b>	Read-only	Indicates the reason for not being able to connect after dialling in the previous attempt.
<b>unreachabilityReason</b>	Read-only	Indicates the reason for not being able to connect/dial in the previous attempt.
<b>greConfiguration</b>	Read/write	Indicates details of GRE configuration.
<b>greConfiguration.greKey</b>	Read/write	Indicates GRE key.
<b>l3Configuration</b>	Read/write	Indicates details of L3 configuration.
<b>l3Configuration.vlanSubnet</b>	Read/write	Reference to a logical subnet of L3 connection.
<b>gateway</b>	ResourceRef	Reference of the gateway on which the connection exists.
<b>configurationState</b>	Optional Read-only	Indicates the last known running state of this connection. See specification in section 2.2.4. More details are given in the section for the <b>GET</b> operation section 3.1.5.17.4.1.2.

### 3.1.5.17.4.1 HTTP Methods

#### 3.1.5.17.4.1.1 PUT

This method creates a new **networkConnections** resource or updates an existing **networkConnections** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/networkConnections/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)

Status code
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.17.4.1.1.1 Request Body

The format for the request body for the **networkConnections PUT** method is as follows.

```
{
  "resourceRef":
  "/VirtualGateways/VirtualGatewayTenant_1/NetworkConnections/VirtualGatewayTenant_1_IPSEC_1",
  "resourceId": "VirtualGatewayTenant_1_IPSEC_1",
  "properties": {
    "connectionType": "IPSec",
    "outboundKiloBitsPerSecond": 1000700000,
    "inboundKiloBitsPerSecond": 1000700000,
    "ipSecConfiguration": {
      "authenticationMethod": "PSK",
      "SharedSecret": "123abc",
      "quickMode": {
        "perfectForwardSecrecy": "PFS2048",
        "cipherTransformationConstant": "DES3",
        "authenticationTransformationConstant": "SHA256128",
        "idleDisconnectSeconds": 500,
        "saLifeTimeSeconds": 1233,
        "saLifeTimeKiloBytes": 2000
      },
      "mainMode": {
        "diffieHellmanGroup": "Group2",
        "encryptionAlgorithm": "AES256",
        "integrityAlgorithm": "SHA256",
        "saLifeTimeSeconds": 1234,
        "saLifeTimeKiloBytes": 2000
      },
      "localVpnTrafficSelector": [
        {
          "type": "IPv4",
          "protocolId": 0,
          "portStart": 0,
          "portEnd": 65535,
          "ipAddressStart": "0.0.0.0",
          "ipAddressEnd": "255.255.255.255",
          "tsPayloadId": 0
        }
      ],
      "remoteVpnTrafficSelector": [
        {
          "type": "IPv4",
          "protocolId": 0,
          "portStart": 0,
          "portEnd": 65535,
          "ipAddressStart": "0.0.0.0",
          "ipAddressEnd": "255.255.255.255",
          "tsPayloadId": 0
        }
      ]
    },
    "l3Configuration": {},
    "ipAddresses": [],
    "peerIPAddresses": [],
    "routes": [
      {
        "destinationPrefix": "50.1.110.2.3.0/24",
```



```

        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    },
    {
        "destinationPrefix": "40.1.1.4/32",
        "nextHop": "0.0.0.0",
        "metric": 10,
        "protocol": "Static"
    }
],
"connectionStatus": "Enabled",
"destinationIPAddress": "11.1.0.1",
}
}

```

The JSON schema for the **networkConnections PUT** method is contained within the **VirtualGateways PUT** method schema in section 6.15.1.

### 3.1.5.17.4.1.1.2 Response Body

The format is the same as the format for the **networkConnections GET** response body (section 3.1.5.17.4.1.2.2). The JSON schema for the **networkConnections GET** method is contained within the **VirtualGateways GET** method schema in section 6.15.2.

### 3.1.5.17.4.1.1.3 Processing Details

Create a new **networkConnections** resource or update an existing **networkConnections** resource.

### 3.1.5.17.4.1.2 GET

This method retrieves a **networkConnections** resource.

It is invoked through the following URI.

```

https://<url>/networking/v1/VirtualGateways/{parentResourceId}/networkConnections/{resourceId}

```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.17.4.1.2.1 Request Body

None.

### 3.1.5.17.4.1.2.2 Response Body

The format for the **networkConnections GET** response body is as follows.

```
{
  "resourceRef":
  "/VirtualGateways/VirtualGatewayTenant_1/NetworkConnections/VirtualGatewayTenant_1_IPSEC_1",
  "resourceId": "VirtualGatewayTenant_1_IPSEC_1",
  "etag": "W/\"8559fe48-df3e-4765-8515-e43151d93cfe\"",
  ae62ald6-alea-48a7-a122-56db52d5e7ee\",
  "instanceId": "a192d851-0849-4d88-a0d5-86647f1b9efc",
  827c5920-ce65-4175-a18f-6dfd84538a14",
  "properties": {
    "provisioningState": "Succeeded",
    "connectionType": "IPSec",
    "outboundKiloBitsPerSecond": 1000, 700000,
    "inboundKiloBitsPerSecond": 1000, 700000,
    "ipSecConfiguration": {
      "authenticationMethod": "PSK",
      "quickMode": {
        "perfectForwardSecrecy": "PFS2048",
        "cipherTransformationConstant": "DES3",
        "authenticationTransformationConstant": "SHA256128",
        "idleDisconnectSeconds": 500,
        "saLifetimeSeconds": 1233,
        "saLifetimeKiloBytes": 2000
      },
    },
    "mainMode": {
      "diffieHellmanGroup": "Group2",
      "encryptionAlgorithm": "AES256",
      "integrityAlgorithm": "SHA256",
      "saLifetimeSeconds": 1234,
      "saLifetimeKiloBytes": 2000
    },
  },
  "localVpnTrafficSelector": [
    {
      "type": "IPv4",
      "protocolId": 0,
      "portStart": 0,
      "portEnd": 65535,
      "ipAddressStart": "0.0.0.0",
      "ipAddressEnd": "255.255.255.255",
      "tsPayloadId": 0
    }
  ],
  "remoteVpnTrafficSelector": [
    {
      "type": "IPv4",
      "protocolId": 0,
      "portStart": 0,
      "portEnd": 65535,
      "ipAddressStart": "0.0.0.0",
      "ipAddressEnd": "255.255.255.255",
      "tsPayloadId": 0
    }
  ]
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.1.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  },
  {
    "destinationPrefix": "40.1.1.4/32",
```

```

    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
  "outboundBytes": 0,
  "inboundBytes": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-02-19T10:48:49.9938698Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-02-19T02:48:49.3532316-08:00"
},
"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.1.0.1",
"routes": [
  {
    "destinationPrefix": "10.2.3.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "809",
"unreachabilityReason": "ConnectionFailure",
"statistics": {
  "outboundBytes": 0,
  "inboundBytes": 0,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-01-14T08:26:37.8964269Z"
},
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"CloudGW2"
}
}
}
}
}

```

The JSON schema for the **networkConnections GET** method is contained within the **VirtualGateways GET** method schema in section 6.15.2.

### 3.1.5.17.4.1.2.3 Processing Details

Get one **networkConnections** resource.

The server returns a configuration state only if it has already attempted to configure settings according to the REST resource properties that were created or updated by using the **PUT** method. **configurationState.lastUpdatedTime** is set to a value that is implementation-specific.

The server MUST return a configuration state property **configurationState.status** set to Success if there were no errors. The server MUST return a configuration state property **configurationState.status** set to a value other than Failure if there were errors during configuration of settings. **configurationState.detailedInfo** contains an array of objects per the specification in section 2.2.4. The following table contains acceptable values in the response when status is not Success.

<b>configurationState.status</b>	<b>Code inside configurationState.detailedInfo array</b>	<b>Description</b>
Failure	HostUnreachable	Unable to configure settings related to connections on gateways.

### 3.1.5.17.4.1.3 GET ALL

This method retrieves all **networkConnections** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/VirtualGateways/{parentResourceId}/networkConnections
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

<b>Status code</b>
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.17.4.1.3.1 Request Body

None.

#### 3.1.5.17.4.1.3.2 Response Body

The format for the **networkConnections GET ALL** response body is as follows.

```
{
  "resourceRef":
  "/VirtualGateways/VirtualGatewayTenant_1/NetworkConnections/VirtualGatewayTenant_1_IPSEC_1",
  "resourceId": "VirtualGatewayTenant_1_IPSEC_1",
  "etag": "W/\"8559fe48-df3e-4765-8515-e43151d93cfe\"",
  ae62ald6-alea-48a7-a122-56db52d5e7ee\"",
  "instanceId": "a192d851-0849-4d88-a0d5-86647f1b9efc",
  827c5920-ce65-4175-a18f-6dfd84538a14",
  "properties": {
    "provisioningState": "Succeeded",
    "connectionType": "IPSec",
    "outboundKiloBitsPerSecond": 1000,700000,
    "inboundKiloBitsPerSecond": 1000,700000,
  }
}
```

```

"ipSecConfiguration": {
  "authenticationMethod": "PSK",
  "quickMode": {
    "perfectForwardSecrecy": "PFS2048",
    "cipherTransformationConstant": "DES3",
    "authenticationTransformationConstant": "SHA256128",
    "idleDisconnectSeconds": 500,
    "saLifetimeSeconds": 1233,
    "saLifetimeKiloBytes": 2000
  },
  },
  "mainMode": {
    "diffieHellmanGroup": "Group2",
    "encryptionAlgorithm": "AES256",
    "integrityAlgorithm": "SHA256",
    "saLifetimeSeconds": 1234,
    "saLifetimeKiloBytes": 2000
  },
  },
  "localVpnTrafficSelector": [
    {
      "type": "IPv4",
      "protocolId": 0,
      "portStart": 0,
      "portEnd": 65535,
      "ipAddressStart": "0.0.0.0",
      "ipAddressEnd": "255.255.255.255",
      "tsPayloadId": 0
    }
  ],
  "remoteVpnTrafficSelector": [
    {
      "type": "IPv4",
      "protocolId": 0,
      "portStart": 0,
      "portEnd": 65535,
      "ipAddressStart": "0.0.0.0",
      "ipAddressEnd": "255.255.255.255",
      "tsPayloadId": 0
    }
  ]
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
  {
    "destinationPrefix": "50.1.1.0/24",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  },
  {
    "destinationPrefix": "40.1.1.4/32",
    "nextHop": "0.0.0.0",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionErrorReason": "0",
"unreachabilityReason": "",
"statistics": {
  "outboundBytes": 0,
  "lastUpdated": "2016-02-19T10:48:49.9938698Z"
},
"configurationState": {
  "status": "Success",
  "lastUpdatedTime": "2016-02-19T02:48:49.3532316-08:00"
},
},

```

```

"sourceIPAddress": "91.1.1.4",
"destinationIPAddress": "11.1.0.1",
"routes": [
  {
    "destinationPrefix": "10.2.3.0/24",
    "metric": 10,
    "protocol": "Static"
  }
],
"connectionStatus": "Enabled",
"connectionState": "Disconnected",
"connectionUpTime": "00:00:00",
"connectionErrorReason": "809",
"unreachabilityReason": "ConnectionFailure",
"statistics": {
  "outboundBytes": 0,
  "inboundBytes": 0,
  "rxTotalPacketsDropped": 0,
  "txTotalPacketsDropped": 0,
  "txRateKbps": 0,
  "rxRateKbps": 0,
  "txRateLimitedPacketsDropped": 0,
  "rxRateLimitedPacketsDropped": 0,
  "lastUpdated": "2016-01-14T08:26:37.8964269Z"
},
"gateway": {
  "resourceRef": "/Gateways/CloudGw1"
}
}CloudGW2"
}
}

```

The JSON schema for the **networkConnections GET ALL** method is contained within the **VirtualGateways GET ALL** method schema in section 6.15.3.

### 3.1.5.17.4.1.3.3 Processing Details

Retrieves all **networkConnections** resources.

### 3.1.5.17.4.1.4 DELETE

This method deletes a **networkConnections** resource.

It is invoked through the following URI.

```

https://<url>/networking/v1/VirtualGateways/{parentResourceId}/networkConnections/{resourceId}

```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)

Status code
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.17.4.1.4.1 Request Body

None.

#### 3.1.5.17.4.1.4.2 Response Body

None.

#### 3.1.5.17.4.1.4.3 Processing Details

Deletes a **networkConnections** resource.

### 3.1.5.18 (Updated Section) virtualNetworks

The **virtualNetworks** resource is used to create a virtual network using Hyper-v network virtualization (HNV) for tenant overlays. The default encapsulation for **virtualNetworks** is Virtual Extensible LAN (VXLAN) but this can be changed by updating the **virtualNetworkManager** resource. Similarly, the HNV Distributed Router is enabled by default but this can be overridden using the **virtualNetworkManager** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.18.1.1	Create a new or update an existing <b>virtualNetworks</b> resource.
<b>GET</b>	3.1.5.18.1.2	Get one <b>virtualNetworks</b> resource.
<b>GET ALL</b>	3.1.5.18.1.3	List all <b>virtualNetworks</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.18.1.4	Deletes a <b>virtualNetworks</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.

Element name	Type	Description
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>logicalNetwork</b>	Required	Indicates a reference to the <b>networks</b> resource that is the underlay network which the virtual network runs on.
<b>subnets</b>	Optional	Indicates an array of the subnets that are on the virtual network. For more details see section 3.1.5.18.2.
<b>addressSpace</b>	Required	Indicates the address space of the virtual network.
<b>addressSpace.addressPrefixes</b>	Required	Indicates an array of the valid list of address prefixes that can make up this virtual network. The value is an array of address prefixes in the IPv4 or IPv6 format. The space cannot be shrunk if addresses are in use in a subnet belonging to the virtual network.
<b>dhcpOptions</b>	Optional	Indicates the DHCP options used by servers in the virtual network.
<b>dhcpOptions.dnsServers</b>	Optional	Indicates an array of DNS servers that are being used by the virtual network.<16> IPv6 addresses are supported.
<b>configurationState</b>	Optional Read-only	See <b>configurationState</b> in section 2.2.4. More details are given in the section for the GET operation section 3.1.5.18.1.2.
<b>configurationState.id</b>		This is the instance ID of the virtual network resource.
<b>configurationState.hostErrors</b>		An array of <b>configurationState</b> objects as specified in section 2.2.4. The values for the various fields are the same as for the network interface configuration state specified in section 3.1.5.11.
<b>UnbilledAddressRanges</b>	Optional	Comma separated values of IP ranges for which egress traffic is not billed (not tallied towards billing). This property is supported in URI version v2 or later.
<b>encryptionCredential</b>	Optional	Reference to a credential resource of type X509 certificate. The certificate will be used to encrypt virtualized traffic for this virtual network. The certificate MUST be installed on all the hosts (servers) in both the Root and the MY stores of the local machine. This property is supported in URI version v2 or later.
<b>virtualNetworkPeerings</b>	Optional	Indicates virtual networks that are peered in order to enable network traffic to flow between the virtual networks without the use of a gateway. For more details see section 3.1.5.18.3. This property is supported in URI version v3 or later.

### 3.1.5.18.1 HTTP Methods

#### 3.1.5.18.1.1 PUT

Create a new **virtualNetworks** resource or update an existing virtualNetwork resource.



It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.18.1.1.1 Request Body

The format for the request body for the **virtualNetworks PUT** method is as follows.

```
{
  "properties": {
    "addressSpace": {
      "addressPrefixes": [
        "20.169.0.0/16"
      ]
    },
    "subnets": [
      {
        "resourceId": "919a1273-fb13-4810-b85b-f6474df694a9",
        "properties": {
          "addressPrefix": "20.169.0.0/16",
          "accessControlList": {
            "resourceRef": "/accessControlLists/7165e618-7957-43e9-9727-644b0021da7f"
          }
        }
      }
    ],
    "logicalNetwork": {
      "resourceRef": "/logicalNetworks/7d14191e-5b55-4e99-9059-a42d120da0ce"
    }
  }
}
```

The JSON schema for the **virtualNetworks PUT** method is located in section 6.16.1.

### 3.1.5.18.1.1.2 Response Body

The format is the same as the format for the **virtualNetworks GET** response body (section 3.1.5.18.1.2.2). The JSON schema is located in section 6.16.4.

### 3.1.5.18.1.1.3 (Updated Section) Processing Details

Create a new virtualNetwork resource or update an existing virtualNetwork resource.

The server fails PUT operations if the **portDefaultState** property of the **virtualSwitchManager** resource is equal to AllowTraffic.

### 3.1.5.18.1.2 GET

This method retrieves a **virtualNetwork** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.18.1.2.1 Request Body

None.

#### 3.1.5.18.1.2.2 Response Body

The format for the **virtualNetworks GET** response body is as follows.

```
{
  "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508",
  "resourceId": "88e38f44-a55b-4604-af5b-83d44bb32508",
  "etag": "W/\"f940af0b-194b-4264-b581-cf9ecd02417d\"",
  "instanceId": "77ccbb79-a7a2-432d-af08-cde9b6fbf89c",
  "properties": {
    "provisioningState": "Succeeded",
    "addressSpace": {
      "addressPrefixes": [
        "13.168.100.0/24",
        "13.168.101.0/24"
      ]
    },
    "dhcpOptions": { "DnsServers": [ "2.4.5.6" ] },
    "configurationState": {
      "status": "Failure",
      "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
      "id": "368ebe7d-38de-48f8-a0d8-b3b816a4b1ea",
      "virtualNetworkInterfaceErrors": [
        {
          "status": "Failure",
          "detailedInfo": [
            {
              "source": "VirtualNetwork",

```

```

        "message": "Failed to configure the policies on the host device.",
        "code": "PolicyConfigurationFailure"
    },
    {
        "source": "VirtualNetwork2",
        "message": "Failed to configure the policies on the host device2.",
        "code": "PolicyConfigurationFailure2"
    }
],
"lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
"id": "c7ab848f-e522-47cd-b9f6-5a2c7749a73f"
},
{
    "status": "Failure",
    "detailedInfo": [
        {
            "source": "VirtualNetwork",
            "message": "Failed to configure the policies on the host device.",
            "code": "PolicyConfigurationFailure"
        }
    ],
    "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
    "id": "5ef191d3-6ec6-4246-984c-8d6a19da301f"
},
{
    "status": "Failure",
    "detailedInfo": [
        {
            "source": "VirtualNetwork",
            "message": "Failed to configure the policies on the host device.",
            "code": "PolicyConfigurationFailure"
        }
    ],
    "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
    "id": "4058b793-6c28-43d4-a957-937d453075d7"
},
{
    "status": "Failure",
    "detailedInfo": [
        {
            "source": "VirtualNetwork",
            "message": "Failed to configure the policies on the host device.",
            "code": "PolicyConfigurationFailure"
        }
    ],
    "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
    "id": "2a9e39e6-8258-42b8-9db2-31bb2e3932c4"
}
],
"hostErrors": [
    {
        "status": "Failure",
        "detailedInfo": [
            {
                "source": "VirtualNetwork",
                "message": "Failed to configure the policies on the host device.",
                "code": "PolicyConfigurationFailure"
            }
        ],
        "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
        "id": "6af6ddf0-cd09-44d8-917f-97de215f7c9d"
    }
]
},
"subnets": [
    {
        "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508/subnets/32e2069d-b05c-4090-9f2a-dd1d9e076c18",
        "resourceId": "32e2069d-b05c-4090-9f2a-dd1d9e076c18",
        "etag": "W/\f940af0b-194b-4264-b581-cf9ecd02417d\"",

```

```

    "instanceId": "30acab53-f9ef-4a8b-b349-5152d4ca0847",
    "properties": {
      "provisioningState": "Succeeded",
      "addressPrefix": "13.168.100.0/24",
      "accessControlList": {
        "resourceRef": "/accessControlLists/00000000-0000-BAAD-F00D-000000000000"
      },
      "ipConfigurations": [
        {
          "resourceRef": "/networkInterfaces/35cd19a9-a47b-457c-a616-b19dfb80a284/ipConfigurations/36bb234c-3594-486f-bfd8-84aee4f15c55"
        },
        {
          "resourceRef": "/networkInterfaces/6065ddd9-9574-422a-8ff7-cfb51275ebd5/ipConfigurations/60ce029d-d7ff-482d-88f7-7baca89f6d47"
        },
        {
          "resourceRef": "/networkInterfaces/4f937e27-dbbc-401f-8acf-60eb1b7f42f2/ipConfigurations/90db0417-9067-449a-bc19-776f07707497"
        },
        {
          "resourceRef": "/networkInterfaces/dda65508-b384-4215-b6cc-23c442d0b185/ipConfigurations/7bda1749-a1ed-4489-b871-c1378bae5f33"
        }
      ]
    },
    {
      "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508/subnets/45819314-35b0-47ff-8447-3c78ed3ad8eb",
      "resourceId": "45819314-35b0-47ff-8447-3c78ed3ad8eb",
      "etag": "W/\"f940af0b-194b-4264-b581-cf9ecd02417d\"",
      "instanceId": "ba555875-c564-4987-94a5-a0e260d7e2af",
      "properties": {
        "provisioningState": "Succeeded",
        "addressPrefix": "13.168.101.0/24",
        "accessControlList": {
          "resourceRef": "/accessControlLists/949fc25d-0675-4af4-b989-2bf653b795eb"
        },
        "ipConfigurations": [
          {
            "resourceRef": "/networkInterfaces/e8a7fea7-e4f9-4742-9e89-aced72ee5a57/ipConfigurations/a9fbf102-6646-442b-8631-6c0c2c193b35"
          },
          {
            "resourceRef": "/networkInterfaces/f94421e8-3efb-42dc-b7dd-aaa61f1f32e5/ipConfigurations/ea5d80da-70da-4592-8d07-ce31b3880e4"
          },
          {
            "resourceRef": "/networkInterfaces/d9259a46-b685-4b40-ad0d-2afd74fbf6b3/ipConfigurations/34f81b26-ad6b-4dbf-b5d7-2ca3c5bbf9cf"
          },
          {
            "resourceRef": "/networkInterfaces/9be77260-a529-4162-b2a2-f04495a200da/ipConfigurations/fff40242-ca47-4e91-a206-3d11f2c49c7e"
          }
        ]
      }
    },
    "logicalNetwork": {
      "resourceRef": "/logicalNetworks/dbbd37e2-031e-43b3-a16a-d167caca0067"
    }
  }
}

```

The JSON schema for the **virtualNetworks GET** method is located in section 6.16.4.

### 3.1.5.18.1.2.3 Processing Details

Retrieves a **virtualNetwork** resource.

#### 3.1.5.18.1.3 GET ALL

This method retrieves all **virtualNetworks** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

#### 3.1.5.18.1.3.1 Request Body

None.

#### 3.1.5.18.1.3.2 Response Body

The format for the **virtualNetworks GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/virtualNetworks/2c40fb79-6488-4804-980a-a178a8e123f4",
      "resourceId": "2c40fb79-6488-4804-980a-a178a8e123f4",
      "etag": "W/\"f183dbae-3908-4a08-b2d3-7f73bae97cab\"",
      "instanceId": "e5a0bb17-f781-4dc2-9f11-f472d61f8470",
      "properties": {
        "provisioningState": "Succeeded",
        "addressSpace": {
          "addressPrefixes": [
            "13.168.100.0/24",
            "13.168.101.0/24"
          ]
        },
        "dhcpOptions": {},
        "configurationState": {
          "status": "Failure",
          "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
          "id": "368ebe7d-38de-48f8-a0d8-b3b816a4b1ea",
          "virtualNetworkInterfaceErrors": [
            {
              "status": "Failure",
              "detailedInfo": [
                {
                  "source": "VirtualNetwork",
                  "message": "Failed to configure the policies on the host device."
                }
              ]
            }
          ]
        }
      }
    }
  ]
}
```

```

        "code": "PolicyConfigurationFailure"
      },
      {
        "source": "VirtualNetwork2",
        "message": "Failed to configure the policies on the host device2.",
        "code": "PolicyConfigurationFailure2"
      }
    ],
    "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
    "id": "c7ab848f-e522-47cd-b9f6-5a2c7749a73f"
  },
  {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualNetwork",
        "message": "Failed to configure the policies on the host device.",
        "code": "PolicyConfigurationFailure"
      }
    ]
  },
  "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
  "id": "5ef191d3-6ec6-4246-984c-8d6a19da301f"
},
{
  "status": "Failure",
  "detailedInfo": [
    {
      "source": "VirtualNetwork",
      "message": "Failed to configure the policies on the host device.",
      "code": "PolicyConfigurationFailure"
    }
  ]
},
"lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
"id": "4058b793-6c28-43d4-a957-937d453075d7"
},
{
  "status": "Failure",
  "detailedInfo": [
    {
      "source": "VirtualNetwork",
      "message": "Failed to configure the policies on the host device.",
      "code": "PolicyConfigurationFailure"
    }
  ]
},
"lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
"id": "2a9e39e6-8258-42b8-9db2-31bb2e3932c4"
}
],
"hostErrors": [
  {
    "status": "Failure",
    "detailedInfo": [
      {
        "source": "VirtualNetwork",
        "message": "Failed to configure the policies on the host device.",
        "code": "PolicyConfigurationFailure"
      }
    ]
  },
  "lastUpdatedTime": "2016-06-14T19:12:06.400512-07:00",
  "id": "6af6ddf0-cd09-44d8-917f-97de215f7c9d"
}
],
},
"subnets": [
  {
    "resourceRef": "/virtualNetworks/2c40fb79-6488-4804-980a-a178a8e123f4/subnets/1b466669-3c06-4e34-b0c9-d737591ecc2c",
    "resourceId": "1b466669-3c06-4e34-b0c9-d737591ecc2c",
    "etag": "W/\\"f183dbae-3908-4a08-b2d3-7f73bae97cab\\"",
    "instanceId": "9db21d13-63ce-4571-9674-930663dafa90",

```

```

    "properties": {
      "provisioningState": "Succeeded",
      "addressPrefix": "13.168.100.0/24",
      "accessControlList": {
        "resourceRef": "/accessControlLists/0879bb16-0cdc-435a-88ff-ef24813201d9"
      },
      "ipConfigurations": [
        {
          "resourceRef": "/networkInterfaces/7cc631c8-ca6b-4d21-b1f8-5b0373d32301/ipConfigurations/18e3af43-be4a-4116-882c-d7257a8bc72b"
        },
        {
          "resourceRef": "/networkInterfaces/6ebf2132-2871-4535-b412-b6e255bcafa2/ipConfigurations/74fe0850-09a0-4526-9d43-906cd4e6f52a"
        },
        {
          "resourceRef": "/networkInterfaces/c55a70de-34a7-4260-be7b-76e4b65f32c6/ipConfigurations/486734ba-5521-4348-81a9-3158e2b7fa6e"
        },
        {
          "resourceRef": "/networkInterfaces/d9a8a624-9356-4f4e-bd88-fcde1574dba3/ipConfigurations/11aa8ca8-b684-4ca0-b35d-4e7db62e7b6f"
        }
      ]
    },
    {
      "resourceRef": "/virtualNetworks/2c40fb79-6488-4804-980a-a178a8e123f4/subnets/9c01100a-2bbc-4388-adb2-6cbcdee3447f",
      "resourceId": "9c01100a-2bbc-4388-adb2-6cbcdee3447f",
      "etag": "W/\"f183dbae-3908-4a08-b2d3-7f73bae97cab\"",
      "instanceId": "0ef3bac9-3496-40ec-aeff-3403ea6541eF",
      "properties": {
        "provisioningState": "Succeeded",
        "addressPrefix": "13.168.101.0/24",
        "accessControlList": {
          "resourceRef": "/accessControlLists/0879bb16-0cdc-435a-88ff-ef24813201d9"
        },
        "ipConfigurations": [
          {
            "resourceRef": "/networkInterfaces/447843e7-3fe4-4337-aac5-72e38258d6a4/ipConfigurations/31bb0476-a4d4-4a9a-8d98-3a47dea56f59"
          },
          {
            "resourceRef": "/networkInterfaces/7a4ba9a1-7542-42f9-b718-80de763001cb/ipConfigurations/833540aa-5037-490f-96b9-6a7d78faa762"
          },
          {
            "resourceRef": "/networkInterfaces/3157a320-6a05-463f-8c32-5af4759fbf88/ipConfigurations/fe4536ec-8443-4393-b534-2e035bbe6aaf"
          },
          {
            "resourceRef": "/networkInterfaces/125f3909-8fc9-4ab4-b46c-3e8d39b52de2/ipConfigurations/7cca0ee7-dbcd-4d25-a211-8c26708093ca"
          }
        ]
      }
    },
    "logicalNetwork": {
      "resourceRef": "/logicalNetworks/dbbd37e2-031e-43b3-a16a-d167caca0067"
    }
  },
  {
    "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508",
    "resourceId": "88e38f44-a55b-4604-af5b-83d44bb32508",
    "etag": "W/\"f940af0b-194b-4264-b581-cf9ecd02417d\"",
    "instanceId": "77ccbb79-a7a2-432d-af08-cde9b6fbf89c",
    "properties": {

```

```

"provisioningState": "Succeeded",
"addressSpace": {
  "addressPrefixes": [
    "13.168.100.0/24",
    "13.168.101.0/24"
  ]
},
"dhcpOptions": {},
"subnets": [
  {
    "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508/subnets/32e2069d-b05c-4090-9f2a-dd1d9e076c18",
    "resourceId": "32e2069d-b05c-4090-9f2a-dd1d9e076c18",
    "etag": "W/\f940af0b-194b-4264-b581-cf9ecd02417d\"",
    "instanceId": "30acab53-f9ef-4a8b-b349-5152d4ca0847",
    "properties": {
      "provisioningState": "Succeeded",
      "addressPrefix": "13.168.100.0/24",
      "accessControlList": {
        "resourceRef": "/accessControlLists/00000000-0000-BAAD-F00D-000000000000"
      },
      "ipConfigurations": [
        {
          "resourceRef": "/networkInterfaces/35cd19a9-a47b-457c-a616-b19dfb80a284/ipConfigurations/36bb234c-3594-486f-bfd8-84aee4f15c55"
        },
        {
          "resourceRef": "/networkInterfaces/6065ddd9-9574-422a-8ff7-cfb51275ebd5/ipConfigurations/60ce029d-d7ff-482d-88f7-7baca89f6d47"
        },
        {
          "resourceRef": "/networkInterfaces/4f937e27-dbbc-401f-8acf-60eb1b7f42f2/ipConfigurations/90db0417-9067-449a-bc19-776f07707497"
        },
        {
          "resourceRef": "/networkInterfaces/dda65508-b384-4215-b6cc-23c442d0b185/ipConfigurations/7bda1749-a1ed-4489-b871-c1378bae5f33"
        }
      ]
    }
  },
  {
    "resourceRef": "/virtualNetworks/88e38f44-a55b-4604-af5b-83d44bb32508/subnets/45819314-35b0-47ff-8447-3c78ed3ad8eb",
    "resourceId": "45819314-35b0-47ff-8447-3c78ed3ad8eb",
    "etag": "W/\f940af0b-194b-4264-b581-cf9ecd02417d\"",
    "instanceId": "ba555875-c564-4987-94a5-a0e260d7e2af",
    "properties": {
      "provisioningState": "Succeeded",
      "addressPrefix": "13.168.101.0/24",
      "accessControlList": {
        "resourceRef": "/accessControlLists/949fc25d-0675-4af4-b989-2bf653b795eb"
      },
      "ipConfigurations": [
        {
          "resourceRef": "/networkInterfaces/e8a7fea7-e4f9-4742-9e89-aced72ee5a57/ipConfigurations/a9fbf102-6646-442b-8631-6c0c2c193b35"
        },
        {
          "resourceRef": "/networkInterfaces/f94421e8-3efb-42dc-b7dd-aaa61f1f32e5/ipConfigurations/ea5d80da-70da-4592-8d07-ce31b38808e4"
        },
        {
          "resourceRef": "/networkInterfaces/d9259a46-b685-4b40-ad0d-2afd74fbf6b3/ipConfigurations/34f81b26-ad6b-4dbf-b5d7-2ca3c5bbf9cf"
        },
        {
          "resourceRef": "/networkInterfaces/9be77260-a529-4162-b2a2-f04495a200da/ipConfigurations/fff40242-ca47-4e91-a206-3d11f2c49c7e"
        }
      ]
    }
  }
]

```



```

    ]
  }
}
],
"logicalNetwork": {
  "resourceRef": "/logicalNetworks/dbbd37e2-031e-43b3-a16a-d167caca0067"
}
}
}
],
"nextLink": ""
}

```

The JSON schema for the **virtualNetworks GET ALL** method is located in section 6.16.7.

### 3.1.5.18.1.3.3 Processing Details

Retrieves all **virtualNetwork** resources.

### 3.1.5.18.1.4 DELETE

This method deletes a **virtualNetwork** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.18.1.4.1 Request Body

None.

#### 3.1.5.18.1.4.2 Response Body

None.

#### 3.1.5.18.1.4.3 Processing Details

Deletes a **virtualNetwork** resource.

### 3.1.5.18.2 (Updated Section) subnets

The **subnets** resource is used to create virtual subnets IDs (VSIDs) under a tenant's virtual network routing domain ID (RDID). The user can specify the **addressPrefix** to use for the **subnets**, the **accessControlLists** to protect the **subnets**, the **routeTable** to be applied to the subnet, and optionally the service insertion to use within the subnet.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{parentResourceId}/subnets/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section 2.2.3.3 for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.18.1.1	Create a new <b>subnets</b> resource or update an existing <b>subnets</b> resource.
GET	3.1.5.18.1.2	Get one <b>subnets</b> resource.
GET ALL	3.1.5.18.1.3	List all <b>subnets</b> resources for a parent virtual network resource.
DELETE	3.1.5.18.1.4	Delete a subnets resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>addressPrefix</b>	Required	Indicates the address prefix that defines the subnet. The prefix MUST be either IPv4 or IPv6. This value MUST NOT overlap with other subnets in the virtual network and MUST fall in the addressPrefix defined in the virtual network.
<b>accessControlList</b>	Optional	Indicates a reference to an <b>accessControlLists</b> resource that defines the ACLs in and out of the subnet.
<b>dualStackSubnet</b>	Optional	Indicates a reference to another virtual network subnet part of the same virtual network resources. The two subnets that reference each other MUST be of different address family: one IPV4, the other IPV6. The relationship MUST be at most one to one. The relationship enables a network interface to support dual stack, meaning both an IPv4 and an IPv6 at the same time. This property is supported with URI version v3 or later.
<b>serviceInsertion</b>	Optional	Indicates a reference to a <b>serviceInsertions</b> resource that defines the service insertion to be applied to the subnet.

Element name	Type	Description
<b>routeTable</b>	Optional	Indicates a reference to a <b>routeTable</b> resource that defines the tenant routes to be applied to the subnet.
<b>ipConfigurations</b>	Read-only	Indicates an array of references of <b>networkInterfaces</b> resources that are connected to the subnet.
<b>VirtualSubnetId</b>	Read-only	String representation of the unique virtual subnet identified allocated by the network controller for this subnet. This property is supported with URI version v2 or later.
<b>UnbilledEgressBytes</b>	Optional	Number of unbilled bytes sent by virtual machines with network interfaces with IP configurations from this virtual subnet. Unbilled bytes are bytes sent to address ranges that are part of the <b>UnbilledAddressRanges</b> property of the parent virtual network. This property is supported with URI version v2 or later.
<b>BilledEgressBytes</b>	Optional	Number of billed bytes sent by virtual machines with network interfaces with IP configurations from this virtual subnet. Billed bytes are bytes sent to address ranges that are not part of the <b>UnbilledAddressRanges</b> property of the parent virtual network. This property is supported with URI version v2 or later.
<b>encryptionEnabled</b>	Optional	Boolean. TRUE indicates encryption is enabled. FALSE by default encryption is disabled. If this property is set to TRUE, then the parent virtual network resource MUST have the <b>encryptionCredential</b> property set to a valid credential of type X509 certificate. This property is supported with URI version v2 or later.

### 3.1.5.18.2.1 HTTP Methods

#### 3.1.5.18.2.1.1 PUT

This method creates a new **subnets** resource or updates an existing **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)

Status code
-------------

500 (Internal Server Error)
-----------------------------

### 3.1.5.18.2.1.1.1 Request Body

The format for the request body for the **subnets PUT** method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata":
  {
    "client": "WAP Network Resource Provider",
    "tenantId": "{subscriptionid}",
    "groupId": "{groupname}",
    "name": "{name}",
    "originalHref": "https://..."
  },
  "properties": {
    "addressSpace": {
      "addressPrefixes": ["13.0.0.0/24", "11.1.1.0/24"]
    },
    "logicalNetwork": {
      "resourceRef": "/networks/00000000-0000-0000-0000-001000000000"
    },
    "subnets": [
      {
        "resourceId": "00000000-0000-0000-0001-000000000010",
        "resourceMetadata": {
          "resourceName": "subnet1"
        },
        "properties": {
          "addressPrefix": "13.0.0.0/24",
          "accessControlList": {
            "resourceRef": "/accessControlLists/00000000-0000-0000-0000-000000000001"
          },
          "ipConfigurations": []
        }
      },
      {
        "resourceId": "00000000-0000-0000-0002-000000000010",
        "resourceMetadata": {
          "resourceName": "subnet2"
        },
        "properties": {
          "addressPrefix": "11.1.1.0/24",
          "accessControlList": {
            "resourceRef": "/accessControlLists/00000000-0000-0000-0000-000000000001"
          },
          "ipConfigurations": []
        }
      }
    ]
  }
}
```

The JSON schema for the **subnets PUT** method is located in section 6.16.10.1.

### 3.1.5.18.2.1.1.2 Response Body

The format is the same as the format for the **GET subnets** response body (section 3.1.5.18.2.1.2.2). The JSON schema is located in section 6.16.10.3.

### 3.1.5.18.2.1.1.3 Processing Details

Create a new **subnets** resource or update an existing **subnets** resource.

### 3.1.5.18.2.1.2 GET

This method retrieves a **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.18.2.1.2.1 Request Body

None.

### 3.1.5.18.2.1.2.2 Response Body

The format for the **subnets GET** response body is as follows.

```
{
  "resourceRef": "/virtualNetworks/740f3670-de42-4345-aaa7-6bb8d423c5df/subnets/da459373-42ee-43d3-b094-6e2176406e4a",
  "resourceId": "da459373-42ee-43d3-b094-6e2176406e4a",
  "etag": "W/\"63e97aed-2900-46d3-8667-ef183d773655\"",
  "instanceId": "b526c5e7-927c-4d74-be86-cd2933ac286d",
  "properties": {
    "provisioningState": "Succeeded",
    "addressPrefix": "13.168.101.0/24",
    "accessControlList": {
      "resourceRef": "/accessControlLists/b79fe2f0-8f27-4521-9c8c-4c02be8c62eb"
    }
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/178480e8-cb41-4105-9ce9-d3c4051b1e16/ipConfigurations/5d24f2a5-557c-4692-86d7-dce921ef7e57"
    },
    {
      "resourceRef": "/networkInterfaces/f7957eeb-55b0-46dd-8ef8-0bb0127c55d1/ipConfigurations/8dd5a2e6-5d83-43b5-ad5b-c08a2fa26935"
    }
  ]
}
```

```

        "resourceRef": "/networkInterfaces/ec3ac77e-64be-4bc1-a2e3-7cd6170a4752/ipConfigurations/cbcab016-6c87-4a32-8158-08e0db71635a"
    },
    {
        "resourceRef": "/networkInterfaces/caa5e37a-30ce-4c0a-877c-d21b7c732bce/ipConfigurations/aa0eff2d-00f6-413b-9650-7e13e3d31ead"
    }
]
}
}
}

```

The JSON schema for the **subnets GET** method is located in section 6.16.10.3.

### 3.1.5.18.2.1.2.3 Processing Details

Retrieves a **subnets** resource.

#### 3.1.5.18.2.1.3 GET ALL

This method retrieves all **subnets** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{parentResourceId}/subnets
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources of this type exist, the result is returned as an empty array.

#### 3.1.5.18.2.1.3.1 Request Body

None.

#### 3.1.5.18.2.1.3.2 Response Body

The format for the response body for the **subnets GET ALL** method is as follows.

```

{
  "value": [
    {
      "resourceRef": "/virtualNetworks/740f3670-de42-4345-aaa7-6bb8d423c5df/subnets/f144bb56-9868-48f7-af38-73d331e780cc",
      "resourceId": "f144bb56-9868-48f7-af38-73d331e780cc",
      "etag": "W/\"63e97aed-2900-46d3-8667-ef183d773655\"",
      "instanceId": "bd2a55ed-47ad-478a-b7ee-c0ed3e14ca69",
      "properties": {
        "provisioningState": "Succeeded",
        "addressPrefix": "13.168.100.0/24",
        "accessControlList": {
          "resourceRef": "/accessControlLists/b79fe2f0-8f27-4521-9c8c-4c02be8c62eb"
        }
      }
    }
  ]
}

```

```

    },
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/350ab978-a032-402e-96cb-
ad48fbdce219/ipConfigurations/340229d1-fb10-46a6-bf83-e752d76871cd"
      },
      {
        "resourceRef": "/networkInterfaces/519d1b64-f99d-430b-b626-
347ef7690ee1/ipConfigurations/8420d069-6414-43f7-bbaf-5c1f5cc9b434"
      },
      {
        "resourceRef": "/networkInterfaces/bc0b4ec5-8d40-4b62-bb1c-
09181bb1ca57/ipConfigurations/bbda3955-5c56-454b-956c-ab576fealc8d"
      },
      {
        "resourceRef": "/networkInterfaces/1e03dd1d-c4c4-4153-alc8-
d692d8e340ab/ipConfigurations/a6d79d5e-b266-47a1-83e1-e61f8784f882"
      }
    ]
  }
},
{
  "resourceRef": "/virtualNetworks/740f3670-de42-4345-aaa7-6bb8d423c5df/subnets/da459373-
42ee-43d3-b094-6e2176406e4a",
  "resourceId": "da459373-42ee-43d3-b094-6e2176406e4a",
  "etag": "W/\\"63e97aed-2900-46d3-8667-ef183d773655\"",
  "instanceId": "b526c5e7-927c-4d74-be86-cd2933ac286d",
  "properties": {
    "provisioningState": "Succeeded",
    "addressPrefix": "13.168.101.0/24",
    "accessControlList": {
      "resourceRef": "/accessControlLists/b79fe2f0-8f27-4521-9c8c-4c02be8c62eb"
    }
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/178480e8-cb41-4105-9ce9-
d3c4051b1e16/ipConfigurations/5d24f2a5-557c-4692-86d7-dce921ef7e57"
    },
    {
      "resourceRef": "/networkInterfaces/f7957eeb-55b0-46dd-8ef8-
0bb0127c55d1/ipConfigurations/8dd5a2e6-5d83-43b5-ad5b-c08a2fa26935"
    },
    {
      "resourceRef": "/networkInterfaces/ec3ac77e-64be-4bc1-a2e3-
7cd6170a4752/ipConfigurations/cbcab016-6c87-4a32-8158-08e0db71635a"
    },
    {
      "resourceRef": "/networkInterfaces/caa5e37a-30ce-4c0a-877c-
d21b7c732bce/ipConfigurations/aa0eff2d-00f6-413b-9650-7e13e3d3lead"
    }
  ]
}
],
"nextLink": ""
}

```

The JSON schema for the **subnets GET ALL** method is located in section 6.16.10.5.

### 3.1.5.18.2.1.3.3 Processing Details

Retrieves all **subnet** resources.

### 3.1.5.18.2.1.4 DELETE

This method deletes a **subnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworks/{parentResourceId}/subnets/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.18.2.1.4.1 Request Body

None.

#### 3.1.5.18.2.1.4.2 Response Body

None.

#### 3.1.5.18.2.1.4.3 Processing Details

Deletes a **subnets** resource.

### 3.1.5.18.3 (Updated Section) virtualNetworkPeerings

The **virtualNetworkPeerings** resource SHOULD<17> be used to create peered networks. Peered networks can share network traffic without the need to use a gateway. The address spaces in any peered networks MUST not overlap.

A **virtualNetworkPeerings** resource is used through the following v3 URI.

```
https://<url>/networking/v3/virtualNetworks/{parentResourceId}/virtualNetworkPeerings/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**parentResourceId:** the identifier for the specific ancestor resource within the resource type. See section [\(REDOREF 2.2.3.3\)](#) for more details.

**resourceId:** the identifier for the specific descendant resource within the resource type. See section [\(REDOREF 2.2.3.4\)](#) for more details.

The following HTTP methods can be performed on this resource.



HTTP method	Section	Description
<b>PUT</b>	3.1.5.18.3.1.1	Create a new <b>virtualNetworkPeerings</b> resource or update an existing <b>virtualNetworkPeerings</b> resource.
<b>GET</b>	3.1.5.18.3.1.2	Get one <b>virtualNetworkPeerings</b> resource.
<b>GET ALL</b>	3.1.5.18.3.1.3	List all <b>virtualNetworkPeerings</b> resources for a parent virtual network.
<b>DELETE</b>	3.1.5.18.3.1.4	Delete a <b>virtualNetworkPeerings</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>peeringState</b>	Read-only	Values are Initiated, Connected, Disconnected, or Disconnecting. Initiated - Peering is created in Initiated state if the remote virtual network does not have a matching peering. Connected - Two virtual networks have peerings each referencing the other virtual network Disconnected - When remote peering or virtual network is deleted, local peering state is Disconnected
<b>remoteVirtualNetwork</b>		Indicates a reference to a <b>virtualNetworks</b> resource that defines the other peer. The current virtual network and the specified virtual network are going to be peered.
<b>allowVirtualNetworkAccess</b>	Optional	True or False, default is TRUE. A knob that enables or disables traffic between the peered networks.
<b>allowForwardedTraffic</b>	Optional	True or False, default is FALSE. Indicates whether traffic not originated from the peered virtual networks is accepted or dropped.
<b>allowGatewayTransit</b>	Optional	True or False, default is FALSE. Indicates whether the remote (peered) virtual networks can use gateways configured for this virtual network.
<b>useRemoteGateways</b>	Optional	Indicates whether this virtual networks should use gateways configured for the remote (peered) virtual networks.
<b>remoteAddressSpace</b>	Read-only	This is the <b>addressSpace</b> property (section 3.1.5.18) of the peered virtual network.

### 3.1.5.18.3.1 HTTP Methods

#### 3.1.5.18.3.1.1 PUT

This method creates a new **virtualNetworkPeerings** resource or updates an existing **virtualNetworkPeerings** resource.

It is invoked through the following v3 URI.

https://<url>/networking/v3/virtualNetworks/{parentResourceId}/virtualNetworkPeerings/{resourceId}

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.18.3.1.1.1 Request Body

The format for the request body for the **virtualNetworkPeerings PUT** method is as follows.

```
{
  "resourceId": "toVnetC",
  "properties": {
    "remoteVirtualNetwork": {
      "resourceRef": "/virtualNetworks/vnetC"
    },
    "allowVirtualNetworkAccess": true,
    "allowForwardedTraffic": false,
    "allowGatewayTransit": false,
    "useRemoteGateways": false
  }
}
```

The JSON schema for the **virtualNetworkPeerings PUT** method is located in section 6.16.11.1.

### 3.1.5.18.3.1.1.2 Response Body

The format is the same as the format for the **virtualNetworkPeerings GET** response body (section 3.1.5.18.3.1.2.2). The JSON schema is located in section 6.16.11.2.

### 3.1.5.18.3.1.1.3 Processing Details

Create a new **virtualNetworkPeerings** resource or update an existing **virtualNetworkPeerings** resource. A virtual network can be peered to multiple other virtual networks. In order for two virtual networks to be peered, a **virtualNetworkPeerings** resource MUST be created in each one of the virtual networks and the **remoteVirtualNetwork** reference MUST point to the other virtual network.

### 3.1.5.18.3.1.2 GET

This method retrieves a **virtualNetworkPeerings** resource.

It is invoked through the following v3 URI.

https://<url>/networking/v3/virtualNetworks/{parentResourceId}/virtualNetworkPeerings/{resourceId}

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.18.3.1.2.1 Request Body

None.

### 3.1.5.18.3.1.2.2 Response Body

The format for the **virtualNetworkPeerings GET** response body is as follows.

```
{
  "resourceRef": "/virtualNetworks/vnetA/virtualNetworkPeerings/toVnetB",
  "resourceId": "toVnetB",
  "etag": "W/\"194a680c-4cc2-4ded-b3ed-fbc28e2ba68a\"",
  "instanceId": "d92f56f9-9b89-46b1-9883-2819354455b8",
  "properties": {
    "provisioningState": "Succeeded",
    "peeringState": "Initiated",
    "remoteVirtualNetwork": {
      "resourceRef": "/virtualNetworks/vnetB"
    },
    "allowVirtualNetworkAccess": true,
    "allowForwardedTraffic": false,
    "allowGatewayTransit": false,
    "useRemoteGateways": false,
    "remoteAddressSpace": {
      "addressPrefixes": [
        "192.168.102.0/24"
      ]
    }
  }
}
```

The JSON schema for the **virtualNetworkPeerings GET** method is located in section 6.16.11.2.

### 3.1.5.18.3.1.2.3 Processing Details

Retrieves a **virtualNetworkPeerings** resource.

### 3.1.5.18.3.1.3 GET ALL

This method retrieves all **virtualNetworkPeerings** resources.

It is invoked through the following v3 URI.

```
https://<url>/networking/v3/virtualNetworks/{parentResourceId}/virtualNetworkPeerings
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

### 3.1.5.18.3.1.3.1 Request Body

None.

### 3.1.5.18.3.1.3.2 Response Body

The format for the response body for the **virtualNetworkPeerings GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/virtualNetworks/vnetA/virtualNetworkPeerings/toVnetB",
      "resourceId": "toVnetB",
      "etag": "W/\"194a680c-4cc2-4ded-b3ed-fbc28e2ba68a\"",
      "instanceId": "d92f56f9-9b89-46b1-9883-2819354455b8",
      "properties": {
        "provisioningState": "Succeeded",
        "peeringState": "Initiated",
        "remoteVirtualNetwork": {
          "resourceRef": "/virtualNetworks/vnetB"
        },
        "allowVirtualNetworkAccess": true,
        "allowForwardedTraffic": false,
        "allowGatewayTransit": false,
        "useRemoteGateways": false,
        "remoteAddressSpace": {
          "addressPrefixes": [
            "192.168.102.0/24"
          ]
        }
      }
    },
    {
      "resourceRef": "/virtualNetworks/vnetA/virtualNetworkPeerings/toVnetC",
      "resourceId": "toVnetC",
      "etag": "W/\"9c27a43b-9b7c-41cc-a34c-dcea4a753b06\"",
      "instanceId": "b02c0819-b7fb-4c14-8ba1-9e4351808c04",
      "properties": {
        "provisioningState": "Succeeded",
        "peeringState": "Initiated",
        "remoteVirtualNetwork": {
          "resourceRef": "/virtualNetworks/vnetC"
        },
        "allowVirtualNetworkAccess": true,
        "allowForwardedTraffic": false,

```

```

        "allowGatewayTransit": false,
        "useRemoteGateways": false,
        "remoteAddressSpace": {
            "addressPrefixes": [
                "192.168.101.0/24"
            ]
        }
    }
},
"nextLink": ""
}

```

The JSON schema for the **virtualNetworkPeerings GET ALL** method is located in section 6.16.11.3.

### 3.1.5.18.3.1.3.3 Processing Details

Retrieves all **virtualNetworkPeerings** resources.

### 3.1.5.18.3.1.4 DELETE

This method deletes a **virtualNetworkPeerings** resource.

It is invoked through the following v3 URI.

```

https://<url>/networking/v3/virtualNetworks/{parentResourceId}/virtualNetworkPeerings/{resourceId}

```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.18.3.1.4.1 Request Body

None.

#### 3.1.5.18.3.1.4.2 Response Body

None.

#### 3.1.5.18.3.1.4.3 Processing Details

Deletes a **virtualNetworkPeerings** resource.

### 3.1.5.19 (Updated Section) virtualNetworkManager

The **virtualNetworkManager** resource is a singleton resource that configures the virtual network service of the Network Controller. The properties in this resource are global for all virtual networks managed by the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworkManager/configuration
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1 or later,** in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.19.1.1	Create a new <b>virtualNetworkManager</b> resource or update an existing <b>virtualNetworkManager</b> resource.
GET	3.1.5.19.1.2	Get the <b>virtualNetworkManager</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>distributedRouterState</b>	Optional	Indicates the state of the built-in distributed router of the virtual network. Values can be Enable or Disable. The default value is Enable.
<b>networkVirtualizationProtocol</b>	Optional	Indicates the encapsulation format String values which can be Network Virtualization using Generic Routing Encapsulation (NVGRE) ([RFC7637]) or Virtual Extensible LAN (VXLAN)([RFC7348]). The default value is VXLAN.
<b>VirtualSubnetIdRange</b>	Optional	A structure of type <b>VirtualSubnetIdRange</b> , has the following two properties <b>StartId</b> and <b>EndId</b> . It allows configuration of the server to use a desired range of identifiers for virtual subnets. This property is supported with URI version v2 or later.
<b>StartId</b>	Optional	Indicates the minimum identifier that the server MUST use for virtual subnets. This value cannot be less than 4096. This property is supported with URI version v2 or later.
<b>EndId</b>	Optional	Indicates the maximum identifier that the server MUST use for virtual subnets. This value cannot be greater than 16777215. This property is supported with URI version v2 or later.

#### 3.1.5.19.1 HTTP Methods

### 3.1.5.19.1.1 PUT

This method creates or updates the **virtualNetworkManager** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualNetworkManager/configuration
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.19.1.1.1 Request Body

The format for the request body for the **virtualNetworkManager PUT** method is as follows.

```
{
  "resourceRef": "/virtualNetworkManager/configuration",
  "properties": {
    "distributedRouterState": "Enabled",
    "networkVirtualizationProtocol": "NVGRE"
  }
}
```

The JSON schema for the **virtualNetworkManager PUT** method is located in section 6.17.1.

#### 3.1.5.19.1.1.2 Response Body

The format is the same as the format for the **GET virtualNetworkManager** response body (section 3.1.5.19.1.2.2). The JSON schema is located in section 6.17.3.

#### 3.1.5.19.1.1.3 Processing Details

Create a new **virtualNetworkManager** resource or update an existing **virtualNetworkManager** resource.

### 3.1.5.19.1.2 GET

Retrieves the **virtualNetworkManager** configuration.

It is invoked through the following URI.

`https://<url>/networking/v1/virtualNetworkManager/configuration`

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.19.1.2.1 Request Body

None.

### 3.1.5.19.1.2.2 Response Body

The format for the response body for the **virtualNetworkManager GET** method is as follows.

```
{
  "resourceRef": "/virtualNetworkManager/configuration",
  "resourceId": "configuration",
  "etag": "W/\"5794dfc2-194d-4b07-910f-5eb373c0569a\"",
  "instanceId": "2bb4802e-f894-4337-b048-1abeb8153778",
  "properties": {
    "provisioningState": "Succeeded",
    "distributedRouterState": "Enabled",
    "networkVirtualizationProtocol": "VXLAN"
  }
}
```

The JSON schema for the **virtualNetworkManager GET** method is located in section 6.17.3.

### 3.1.5.19.1.2.3 Processing Details

Retrieves the **virtualNetworkManager** configuration.

### 3.1.5.20 auditingSettings

The **auditingSettings** resource SHOULD<18> be used as a singleton resource that configures the directory where servers log firewall auditing information. Servers are the machines managed by the product, and they correspond to the **servers** resource.

It is invoked through the following v3 URI.

`https://<url>/networking/v3/auditingSettings/configuration`

**url:** The address or name of the REST server of the Network Controller.



The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.20.1.1	Creates or updates an <b>auditingSettings</b> resource.
GET	3.1.5.20.1.2	Gets an <b>auditingSettings</b> resource configuration.

The following property elements are valid.

Element name	Type	Description
etag	Read-only	Specified in Common JSON Elements, section 2.2.2.
provisioningState	Read-only	Specified in Common JSON Elements, section 2.2.2.
outputDirectory	Required	Indicates the local directory on each machine where the firewall audit data is saved.
encryptionCredential	Optional	Credential MUST have X509Certificate type.

### 3.1.5.20.1 HTTP Methods

#### 3.1.5.20.1.1 PUT

This method creates or updates the **auditingSettings** resource.

It is invoked through the following v3 URI.

```
https://<url>/networking/v3/auditingSettings/configuration
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.20.1.1.1 Request Body

The format for the request body for the **auditingSettings PUT** method is as follows.

```
{
```

```

    "properties": {
      "outputDirectory": "c:\\FirewallAudit"
    }
  }
}

```

The JSON schema for the **auditingSettings PUT** method is located in section 6.18.1.

### 3.1.5.20.1.1.2 Response Body

The format is the same as the format for the **auditingSettings GET** response body (section 3.1.5.20.1.2.2). The JSON schema is located in section 6.18.2.

### 3.1.5.20.1.1.3 Processing Details

Creates or updates an existing **auditingSettings** resource.

Auditing won't be enabled until the "auditingEnabled" property of the **servers** resource is updated via a **PUT** call.

### 3.1.5.20.1.2 GET

Retrieves the **auditingSettings** configuration.

It is invoked through the following v3 URI.

```
https://<url>/networking/v3/auditingSettings/configuration
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.20.1.2.1 Request Body

None.

### 3.1.5.20.1.2.2 (Updated Section) Response Body

The format for the response body for the **auditingSettings GET** method is as follows.

```

{
  "resourceRef": "/auditingSettings/configuration",
  "resourceId": "configuration",
  "etag": "W/\"9ea822c9-28a3-4cd0-b3a0-01e937c59d5e\"",
  "instanceId": "d0436eee-3580-4551-8ca4-73512343bd0d",
  "properties": {
    "provisioningState": "Succeeded",

```

```

    "outputDirectory": "c:\\FirewallAudit\\logs",
    "encryptionCredential": {
      "resourceRef": "/credentials/8e6e30ac-4853-42e2-9909-3c222c197bc1"
    }
  }
}

```

The JSON schema for the **auditingSettings GET** method is located in [\(REDOREF 6.18.2\)](#) section [6.18.2](#).

### 3.1.5.20.1.2.3 Processing Details

Retrieves the **auditingSettings** configuration. The value of the **outputDirectory** property is empty string ("") if GET is called before a PUT is ever made.

### 3.1.5.21 (Updated Section) virtualServers

The **virtualServers** resource corresponds to a virtual machine (VM). Such resources MUST be created for VMs that correspond to gateway resources (section 3.1.5.4) and MUX resources (section 3.1.5.7).

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualServers/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1** or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.21.1.1	Create a new <b>virtualServers</b> resource or update an existing <b>virtualServers</b> resource.
<b>GET</b>	3.1.5.21.1.2	Get one <b>virtualServers</b> resource.
<b>GET ALL</b>	3.1.5.21.1.3	List all <b>virtualServers</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.21.1.4	Deletes a <b>virtualServers</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>connections</b>	Optional	Indicates an array of connections that specifies the information needed to connect to the specific device for the purposes of managing and controlling the device.
<b>connections.credential</b>	Optional	Indicates a reference to a credential resource that can be used to connect to the device for management purposes.

Element name	Type	Description
<b>connections.credentialType</b>	Optional	Indicates a reference to a <b>credentials</b> resource that specifies the type of credential.
<b>connections.managementAddresses</b>	Optional	Indicates the management address used to connect to the server. This is in the form of an IPv4 IP address, an IPv6 IP address, a DNS name or a flat (NetBIOS) name.
<b>gateway</b>	Read-only	Indicates a reference to the gateway resource representing the gateway running on this virtualServer. This element will not be returned if there is not a gateway running on the virtual server.
<b>loadBalancerMuxes</b>	Read-only	Indicates a reference to the <b>loadBalancerMuxes</b> resource representing the loadBalancer MUX running on this virtualServer. This element will not be returned if there is not a loadBalancer MUX running on the virtual server.
<b>server</b>	Read-only	Indicates a reference to the <b>servers</b> resource this virtualServer is located on. The server reference is automatically created when a corresponding NIC arrival notification from the south bound is handled.
<b>vmGuid</b>	Required	Indicates the GUID of the VM object as found in the Hyper-V Windows Management Instrumentation (WMI).

### 3.1.5.21.1 HTTP Methods

#### 3.1.5.21.1.1 PUT

This method creates a new **virtualServers** resource or updates an existing **virtualServers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualServers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.21.1.1.1 Request Body

The format for the request body for the **virtualServers PUT** method is as follows.

```
{
  "properties": {
    "connections": [
      {
        "managementAddresses": [
          "192.126.0.39"
        ],
        "credential": {
          "resourceRef": "/credentials/70a57404-967f-41fe-93a5-c309f601b068"
        },
        "credentialType": "X509Certificate"
      }
    ],
    "certificate": "this string must be replaced with valid certificate data",
    "vmGuid": "43613f44-ba4d-4540-8d60-d02d25464478"
  }
}
```

The JSON schema for the **virtualServers PUT** method is located in section 6.19.1.

### 3.1.5.21.1.1.2 Response Body

The format is the same as the format for the **GET virtualServers** response body (section 3.1.5.21.1.2.2). The JSON schema is located in section 6.19.2.

### 3.1.5.21.1.1.3 Processing Details

Creates a new **virtualServers** resource or updates an existing **virtualServers** resource.

### 3.1.5.21.1.2 GET

This method retrieves a **virtualServers** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualServers/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.21.1.2.1 Request Body



The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

If no resources exist, the result is returned as an empty array.

### 3.1.5.21.1.3.1 Request Body

None.

### 3.1.5.21.1.3.2 Response Body

The format for the response body for the **virtualServers GET ALL** is as follows.

```
{
  "value": [
    {
      "resourceRef": "/virtualServers/0dc92d03-5642-420c-8c9a-09df9bf85909",
      "resourceId": "0dc92d03-5642-420c-8c9a-09df9bf85909",
      "etag": "W/\"d5710775-4394-4746-9d38-f8047812aa93\"",
      "instanceId": "5c6146da-97e7-48ce-8484-da3add066acb",
      "properties": {
        "provisioningState": "Succeeded",
        "connections": [
          {
            "managementAddresses": [
              "190.218.0.47"
            ],
            "credential": {
              "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894"
            },
            "credentialType": "X509Certificate"
          }
        ],
        "certificate":
          "MIICFjCCAYOgAwIBAgIQQkEUCk8XN7tDJNjwqcDYQjAJBgUrDgMCHQUAMBCxFTATBgNVBAMTDDE5MC4yMTguMC40NzAe
          Fw0xMjAlMTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NzCBnzANBgkqhkiG9w0BA
          QEFAAOBjQAwgYkCgYEAwSbVTki5HaelHMDef9ugNfqSGr5ZKcUA3nwh6SQV/pJBe41jfWcVUyNhh7SVYv8TPQlB4tNmxf
          nYbKkWHlSRDkOXJ+8DFJDODF9aFfuPuebi8U9gZhbxtfurWkflhNukAx7vpmi9+mta+POB0F27wsmuFNXwlv/JjIz6SKt
          uv2cCAwEAAANrMGkwHQYDVR0lBBYwFAYIKwYBBQUHAWEGCCsGAQUFBwMCMCEgGA1UdAQRBMD+AEELm0o2+hOxw9qeVual9O
          muehGTAXMRUwEwYDVQQDEwxxOTAuMjE4LjQ1LjAuNDUuMDEyMjIwNzAwMDA1MDEyMjIwNzAwMDA1MDEyMjIwNzAwMDA1
          7UqkuOK9Ocli7q99kgolonOv96pUBctKMaNaTPVKNXERii7cedvihGMwSWQCBJlJorpfZrfz09D+tDok50EYSugx/O6ni
          VcXah4qN+TAFzGsc/N4FpX+Nge0QsLj4YX9uKUKiCjsmjfljTsX1TBwRtDOWiHkCWnLg==",
          "vmGuid": "44c1b231-b505-41b6-ac3d-5a3cddb28a5d"
        },
        "markServerReadOnly": true
      },
      {
        "resourceRef": "/virtualServers/1801d562-54ad-43b4-957f-ce739b955c4b",
        "resourceId": "1801d562-54ad-43b4-957f-ce739b955c4b",
        "etag": "W/\"ec2e137a-4cd3-4ec7-ac94-39527249ea13\"",
        "instanceId": "e5331a63-8af1-43dc-bdc0-e60edf36dfa0",
        "properties": {
          "provisioningState": "Succeeded",
          "connections": [
            {
              "managementAddresses": [
                "190.218.0.45"
              ],
              "credential": {
                "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894"
              }
            }
          ]
        }
      }
    ]
  }
}
```

```

    },
    "credentialType": "X509Certificate"
  }
},
"certificate":
"MIICFjCCAYOgAwIBAgIQNdW6IC0WzLROqrW5yBYYNjAJBgUrDgMCHQUAMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NTAe
Fw0xMjA1MTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NTCBnzANBjkqhkIG9w0BA
QEFAAOBjQAwgYkCgYEArsGtIbPMq9dWg2hUYBDQfKMuv3MBOCfvm2WH0e2c0WRexdLR0Q0etIJrv9Gxbo5RW/U53y10ZA
bgFB58NstEHf1o+8UUAJVU+tH/g2/L5K0ucYa4YzG0gftJKxkPJ85U1rtdxdfd+MU9K91oQWgHYElmftdg2LdQ33tfl1YFu
T40MCAwEAAANrMGkwhQYDVR01BBYwFAYIKwYBBQUHAWEGCCsGAQUFBwMCMEgGAlUdAQRBMD+AENepbWjRjtRvYGX3OTZ8
/lShGTAXMRUwEwYDVQQDEwxxOTAuMjE4LjAuNDWCEDXVuiAtFsy0Tqq1ucgWGDYwCQYFKw4DAh0FAAObgQCFR7J+lxZkf
pLEh6lmWXTquizJiI2av9zR6M31EKdHYM20gia1UsMEFnxbuFamJ4TTXSM4juHfE9kxJ+K5JAhQl3eRA+z6VQwrWAUKU
Jmg+PVuIAaatIGe+tpvRpzAEUMIxyPGIC/fTwmqUPDWIBOc0eYKnYDnQ0DvGGBdHCYwA==",
  "vmGuid": "4d258e6b-d058-4b51-ab94-d38af22f9592"
},
"markServerReadOnly": true
},
{
  "resourceRef": "/virtualServers/ffbf0739-7de9-4175-8333-83687fc39653",
  "resourceId": "ffbf0739-7de9-4175-8333-83687fc39653",
  "etag": "W/\\"87b4alb5-ccdc-42e1-b7bd-897c83340890\\\"",
  "instanceId": "46306786-f927-42dc-8d12-9ea869497b26",
  "properties": {
    "provisioningState": "Succeeded",
    "connections": [
      {
        "managementAddresses": [
          "190.218.0.46"
        ],
        "credential": {
          "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894"
        },
        "credentialType": "X509Certificate"
      }
    ]
  },
  "certificate":
"MIICFjCCAYOgAwIBAgIQNHec33eFI59BpfQhRM5E5jAJBgUrDgMCHQUAMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NjAe
Fw0xMjA1MTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NjCBnzANBjkqhkIG9w0BA
QEFAAOBjQAwgYkCgYEAq1XZZ2AakK1/qpxnh6mZjGrza5KpoilcIkDjNHfD61bs7t0DrfZa3PPuWkMAA9p9bMMbUn9QFev
e3jh0mLnpeAAAX49sNyY1cxtVKtBYaDd2fG1vJQMMce0WQvEDj+yCN/ND0HXtJ8Icr1thqmx1HerMHOrP/PcA2SJZhWh7
tzC0CAwEAAANrMGkwhQYDVR01BBYwFAYIKwYBBQUHAWEGCCsGAQUFBwMCMEgGAlUdAQRBMD+AEMprq6gkkM6zsBHNK13n
JK+hGTAXMRUwEwYDVQQDEwxxOTAuMjE4LjAuNDWCEDR3nN93hSofQaX0IUTOROYwCQYFKw4DAh0FAAObgQBW6Nj/tzmBW
+KzmI2+YWiFex1PEVrM7ue7yVwLnelc+uH+5Eu9y1qg4DcgeIwxMYRk4AMXBqG6BBtTE9sID7seG2c0lyHyn5ZH0SPkPi
I6cnMuDLCC9YuUFEh7HN+9VolBjQJ7cHMrqkeOnlpSuPLYSYQYSyPNE+jQPawypuDY2A==",
  "vmGuid": "051e441c-bd92-4c81-9e3d-167b2e357e60"
},
"markServerReadOnly": true
}
],
"nextLink": ""
}

```

The JSON schema for the **virtualServers GET ALL** method is located in section 6.19.3.

### 3.1.5.21.1.3.3 Processing Details

Retrieves all **virtualServers** resources.

### 3.1.5.21.1.4 DELETE

This method deletes a **virtualServer** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualServer/{resourceId}
```



The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.21.1.4.1 Request Body

None.

#### 3.1.5.21.1.4.2 Response Body

None.

#### 3.1.5.21.1.4.3 Processing Details

Deletes a **virtualServers** resource.

### 3.1.5.22 Diagnostics

#### 3.1.5.22.1 (Updated Section) Diagnostics ConnectivityCheck

The **ConnectivityCheck** resource initiates a **diagnostics Action** to check data path connectivity between two endpoints.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/ConnectivityCheck
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.22.1.1.1	Initiates a <b>diagnostics Action</b> to check data path connectivity between two endpoints.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>senderIpAddress</b>	Required	IP Address of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverIpAddress</b>	Required	IP Address of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>senderVirtualNetwork</b>	Optional	Virtual Network reference of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverVirtualNetwork</b>	Optional	Virtual Network reference of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>senderLogicalNetwork</b>	Optional	Logical Network reference of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverLogicalNetwork</b>	Optional	Logical Network reference of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>protocol</b>	Required	Protocol to be used for diagnostics.
<b>IcmpProtocolConfig</b>	Optional	ICMP Protocol specific configuration.
<b>IcmpProtocolConfig.Length</b>	Optional	Length of the ICMP packet.
<b>IcmpProtocolConfig.SequenceNumber</b>	Optional	Sequence Number of the ICMP packet.
<b>operationId</b>	Read-only	Operation ID for this diagnostics operation.
<b>ConnectivityCheckResult</b>	Read-only	Resource Reference of the result resource.
<b>submitTime</b>	Read-only	Submit Time of this diagnostics operation.

### 3.1.5.22.1.1 HTTP Methods

#### 3.1.5.22.1.1.1 PUT

Initiates a **diagnostics Action** to check data path connectivity between two endpoints.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/ConnectivityCheck
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)

Status code
500 (Internal Server Error)

### 3.1.5.22.1.1.1.1 Request Body

The format for the **ConnectivityCheck PUT** request body is as follows.

```
{
  "properties": {
    "senderVirtualNetwork": {
      "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
    },
    "receiverVirtualNetwork": {
      "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
    },
    "senderIpAddress": "13.168.100.21",
    "receiverIpAddress": "13.168.100.22",
    "disableTracing": false,
    "protocol": "Icmp"
  }
}
```

The JSON schema for the **ConnectivityCheck PUT** method request body is located in section 6.20.1.1.

### 3.1.5.22.1.1.1.2 Response Body

The format for the **ConnectivityCheck PUT** response body is as follows.

```
{
  "resourceRef": "/diagnostics/ConnectivityCheck/Action",
  "resourceId": "Action",
  "etag": "W/\\"66a5e77a-3c60-46e6-a9d2-4df34c2636fd\\"",
  "instanceId": "178fe70f-c00d-4784-82ac-266e9758d345",
  "properties": {
    "provisioningState": "Updating",
    "senderVirtualNetwork": {
      "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
    },
    "receiverVirtualNetwork": {
      "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
    },
    "senderIpAddress": "13.168.100.21",
    "receiverIpAddress": "13.168.100.22",
    "protocol": "Icmp",
    "operationId": "e5c6e548-9a81-4493-9cad-47e06f830b69",
    "connectivityCheckResult": {
      "resourceRef": "/diagnostics/connectivityCheckResults/e5c6e548-9a81-4493-9cad-47e06f830b69"
    },
    "submitTime": "2016-06-21T03:05:34.2067482Z"
  }
}
```

The JSON schema for the **ConnectivityCheck PUT** method response body is located in section 6.20.1.2

### 3.1.5.22.1.1.1.3 Processing Details

Initiates a **diagnostics Action** to check data path connectivity between two endpoints and returns the **operationId** to query the status using the **GET** operation on **Diagnostics ConnectivityCheckResults** in section 3.1.5.22.2.1.1.

### 3.1.5.22.2 (Updated Section) Diagnostics ConnectivityCheckResults

The **ConnectivityCheckResults** resource queries the result of a previously initiated **diagnostics Action** between two endpoints.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/ConnectivityCheckResults/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.22.2.1.1	Retrieves the result of the previously initiated diagnostics operation.
GET ALL	3.1.5.22.2.1.2	Lists the result of previously initiated diagnostics operation.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>senderIpAddress</b>	Read-only	IP Address of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverIpAddress</b>	Read-only	IP Address of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>senderVirtualNetwork</b>	Read-only	Virtual Network reference of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverVirtualNetwork</b>	Read-only	Virtual Network reference of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>senderLogicalNetwork</b>	Read-only	Logical Network reference of the Sender endpoint from which the diagnostics needs to be initiated.
<b>receiverLogicalNetwork</b>	Read-only	Logical Network reference of the Receiver endpoint to which the diagnostics needs to be initiated.
<b>protocol</b>	Read-only	Protocol to be used for diagnostics.
<b>IcmpProtocolConfig</b>	Read-only	ICMP Protocol specific configuration.
<b>IcmpProtocolConfig.Length</b>	Read-only	Length of the ICMP packet.
<b>IcmpProtocolConfig.SequenceNumber</b>	Read-only	Sequence Number of the ICMP packet.

Element name	Type	Description
<b>operationId</b>	Read-only	Operation ID for this diagnostics operation.
<b>submitTime</b>	Read-only	Submit Time of this diagnostics operation.
<b>result</b>	Read-only	Result output of this diagnostics operation.
<b>result.status</b>	Read-only	Status of the diagnostics operation.
<b>result.roundTripTimeMSec</b>	Read-only	Round trip time in msec.
<b>result.errorMessage</b>	Read-only	Error occurred while executing the operation, if any.
<b>result.nodeOutput</b>	Read-only	Diagnostics Trace Output.
<b>result.nodeOutput.nodeType</b>	Read-only	Type of the node: sender, receiver, or transit.
<b>result.nodeOutput.nodeSequenceNumber</b>	Read-only	Sequence number of the node in the data path.
<b>result.nodeOutput.traceOutput</b>	Read-only	Trace Output from the node.

### 3.1.5.22.2.1 HTTP Methods

#### 3.1.5.22.2.1.1 GET

Retrieves the status of **diagnostics ConnectivityCheck Action**.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/ConnectivityCheckResults/{operationId}
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.22.2.1.1.1 Request Body

None.

#### 3.1.5.22.2.1.1.2 Response Body

The format for the response body for the **Diagnostics ConnectivityCheckResults GET** method is as follows.

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",

```

```

"title": "PUT JSON Schema for ConnectivityCheck",

"definitions": {
  "networkReference": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},

"properties": {
  "properties": {
    "type": "object",
    "properties": {
      "senderLogicalNetwork": { "$ref": "#/definitions/networkReference" },
      "receiverLogicalNetwork": { "$ref": "#/definitions/networkReference" },
      "senderVirtualNetwork": { "$ref": "#/definitions/networkReference" },
      "receiverVirtualNetwork": { "$ref": "#/definitions/networkReference" },
      "senderIpAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "receiverIpAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "disableTracing": {
        "type": "boolean",
        "default": false
      },
      "protocol": {
        "type": "string",
        "enum": [ "Icmp", "Tcp", "Udp" ],
        "default": "Icmp"
      }
    },
    "required": [
      "senderIpAddress",
      "receiverIpAddress"
    ]
  }
},
"required": [
  "properties"
]
}

```

The JSON schema for the **Diagnostics ConnectivityCheckResults GET** method is located in section 6.20.2.1.

### 3.1.5.22.2.1.1.3 Processing Details

None.

### 3.1.5.22.2.1.2 GET ALL

Retrieves the status of all available **diagnostics ConnectivityCheck Action**.

The URI for this resource is as follows.

<https://<url>/networking/v1/diagnostics/ConnectivityCheckResults>

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

### 3.1.5.22.2.1.2.1 Request Body

None.

### 3.1.5.22.2.1.2.2 Response Body

The format for the response body for the **Diagnostics ConnectivityCheckResults GET ALL** resource is as follows.

```
{
  "value": [
    {
      "resourceRef": "/diagnostics/connectivityCheckResults/6f637294-e71c-4f61-b563-d002dadb5111",
      "resourceId": "6f637294-e71c-4f61-b563-d002dadb5111",
      "etag": "W/\"d8364719-f6cf-4f5a-af45-7eb7b5088316\"",
      "instanceId": "fd06886f-1659-409d-8f48-82020cf9a6fe",
      "properties": {
        "provisioningState": "Succeeded",
        "senderVirtualNetwork": {
          "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
        },
        "receiverVirtualNetwork": {
          "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
        },
        "senderIpAddress": "13.168.100.21",
        "receiverIpAddress": "13.168.100.22",
        "protocol": "Icmp",
        "operationId": "6f637294-e71c-4f61-b563-d002dadb5111",
        "submitTime": "2016-06-21T05:10:58.7674039Z",
        "result": {
          "status": "Pending",
          "roundTripTimeMsec": 0
        }
      }
    },
    {
      "resourceRef": "/diagnostics/connectivityCheckResults/7ba38ad6-19a2-4f11-b1ec-5c7fc03ba6a8",
      "resourceId": "7ba38ad6-19a2-4f11-b1ec-5c7fc03ba6a8",
      "etag": "W/\"2b815690-115e-4a8f-b257-38fa87e3eb0f\"",
      "instanceId": "ca18a390-42a0-4298-a4dc-72b5440f59da",
      "properties": {
        "provisioningState": "Succeeded",
        "senderVirtualNetwork": {
          "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
        },
      }
    }
  ]
}
```

```

    "receiverVirtualNetwork": {
      "resourceRef": "/virtualNetworks/fcfc99f9-50ce-4644-8a47-a23711c3b704"
    },
    "senderIpAddress": "13.168.100.21",
    "receiverIpAddress": "13.168.100.22",
    "protocol": "Icmp",
    "operationId": "7ba38ad6-19a2-4f11-b1ec-5c7fc03ba6a8",
    "submitTime": "2016-06-21T05:10:42.7213297Z",
    "result": {
      "status": "InProgress",
      "roundTripTimeMsec": 0
    }
  }
},
"nextLink": ""
}

```

The JSON schema for the **Diagnostics connectivityCheckResults GET ALL** method is located in section 6.20.2.2.

### 3.1.5.22.2.1.2.3 Processing Details

None.

### 3.1.5.22.3 (Updated Section) Diagnostics SlbState

The **SlbState** resource initiates a **diagnostics Action** to collect internal state for the software load-balancer.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/SlbState
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.22.3.1.1	Initiates a <b>diagnostics Action</b> to check data path connectivity between two endpoints.

The following property elements are valid.

Element name	Type	Description
etag	Read-only	Specified in Common JSON Elements, section 2.2.2.
operationId	Read-only	Operation ID for this diagnostics operation.
ConnectivityCheckResult	Read-only	Resource reference of the result resource.
SubmitTime	Read-only	Submit Time of this diagnostics operation.

### 3.1.5.22.3.1 HTTP Methods



### 3.1.5.22.3.1.1 PUT

Initiates a **diagnostics Action** to collect internal state for the software load-balancer.

The URI for this resource is as follows.

```
https://<url>/networking/v1/diagnostics/SlbState
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3 .

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.22.3.1.1.1 Request Body

The **slbState PUT** request body is empty JSON {}.

#### 3.1.5.22.3.1.1.2 Response Body

The **slbState PUT** response body is as follows.

```
{
  "resourceRef": "/diagnostics/slbState/Action",
  "resourceId": "Action",
  "etag": "W/\"0ed77291-6ae3-473d-8761-c1bb71369210\"",
  "instanceId": "0e85c90a-2f1f-49e9-9b0c-c24f721846fe",
  "properties": {
    "provisioningState": "Updating",
    "operationId": "f6b8c92c-fd23-4d3e-bdaf-a8375d78a1b4",
    "slbStateResult": {
      "resourceRef": "/diagnostics/slbStateResults/f6b8c92c-fd23-4d3e-bdaf-a8375d78a1b4"
    },
    "submitTime": "2016-06-21T05:00:46.5387407Z"
  }
}
```

The JSON schema for the **slbState PUT** method is located in section 6.20.3.1.

#### 3.1.5.22.3.1.1.3 Processing Details

Initiates a **diagnostics Action** to collect internal state for the software load-balancer and returns the **operationId** to query the status using the **GET** operation on **Diagnostics SlbStateResults** in section 3.1.5.22.4.1.1.

### 3.1.5.22.4 (Updated Section) Diagnostics SlbStateResults

The **SlbStateResults** resource queries the result of a previously initiated diagnostics **slbState** action. It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/SlbStateResults/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.22.4.1.1.1	Retrieves the result of the previously initiated diagnostics operation.
GET ALL	3.1.5.22.4.1.1.2	Lists the result of previously initiated diagnostics operation.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>operationId</b>	Read-only	Operation ID for this diagnostics operation.
<b>submitTime</b>	Read-only	Submit Time of this diagnostics operation.
<b>status</b>	Read-only	Status of the diagnostics operation.
<b>output</b>	Read-only	Result output of this diagnostics operation. The output is hierarchical with data group as level 1, data section as level 2 and data unit as level 3.
<b>output.dataGroups</b>	Read-only	Result output group.
<b>output.dataGroups.name</b>	Read-only	Result output group name.
<b>output.dataGroups.description</b>	Read-only	Result output group description.
<b>output.dataGroups.dataSections</b>	Read-only	Result output section (level 2).
<b>output.dataGroups.dataSections.name</b>	Read-only	Result output section name.
<b>output.dataGroups.dataSections.description</b>	Read-only	Result output section description.
<b>output.dataGroups.dataSections.dataRetrievalFailed</b>	Read-only	Flag to indicate if the data section retrieval failed.
<b>output.dataGroups.dataSections.dataUnits</b>	Read-only	Result output data unit (level 3).
<b>output.dataGroups.dataSections.dataUnits.value</b>	Read-only	Result output data unit value.

### 3.1.5.22.4.1 HTTP Methods

#### 3.1.5.22.4.1.1 GET

Retrieves the status of the **diagnostics slbState** action.

The URI for this resource is as follows.

```
https://<url>/networking/v1/diagnostics/SlbStateResults/{operationId}
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.22.4.1.1.1 Request Body

None.

#### 3.1.5.22.4.1.1.2 Response Body

The format for the response body for the **Diagnostics SlbStateResults GET** method is as follows.

```
{
  "resourceRef": "/diagnostics/slbStateResults/1e40106e-61e9-40ca-892d-6fdefd369249",
  "resourceId": "1e40106e-61e9-40ca-892d-6fdefd369249",
  "etag": "W/\"38d22344-97f3-4284-bf01-e6b13ce121de\"",
  "instanceId": "25c6fa83-e890-4cd4-a808-9cblaab94d8d",
  "properties": {
    "provisioningState": "Succeeded",
    "submitTime": "2016-06-22T00:01:31.2015235Z",
    "status": "Success",
    "output": {
      "dataGroups": [
        {
          "name": "Fabric",
          "description": "Fabric Slb State",
          "dataSections": [
            {
              "name": "SlbmVips",
              "description": "Slbm Vips",
              "dataRetrievalFailed": false,
              "dataUnits": [
                {
                  "value": [
                    "\"21.0.0.21\""
                  ]
                }
              ]
            }
          ]
        }
      ]
    }
  }
}
```

```

    "name": "RouterConfiguration",
    "description": "Router Configuration",
    "dataRetrievalFailed": false,
    "dataUnits": [
      {
        "value": [
          "{\r\n  \"goalStateId\": \"\", \r\n  \"routerID\": \"BGPGateway-0\", \r\n
\r\n \"routerIP\": \"192.216.0.1\", \r\n  \"routerAS\": 1, \r\n  \"bgpSharpAS\": 2\r\n}"
        ]
      }
    ]
  },
  {
    "name": "Tenant",
    "description": "Tenant Slb State",
    "dataSections": [
      {
        "name": "VipConsolidatedState",
        "description": "Vip Consolidated State",
        "dataRetrievalFailed": false,
        "dataUnits": [
          {
            "name": "21.0.0.21",
            "value": [
              "\r\nProgramming and Connectivity state for VipAddress:
21.0.0.21\r\n===== \r\nSTATE ON
SLBM:\r\n\r\nCurrentStatus                : Achieved\r\nEndpointStateAchieved
: True\r\nSnatStateAchieved                : True\r\nRoutingStateAchieved
: True\r\nNumPendingVipEndpoints           : 0\r\nCurrentStateId
: 90dc2516-0b52-4ada-a75c-832ede7c3257\r\nCurrentOwner
: 192.216.0.23\r\nGoalStateId              : 90dc2516-0b52-4ada-a75c-
832ede7c3257\r\nGoalStateReceivedTimeStamp : 6/21/2016 8:29:12
PM\r\nLastStateChangeTimeStamp           : 6/21/2016 10:20:25 PM\r\nErrorMessage
: \r\n\r\nProgrammingTime                :
01:51:12.8335361\r\nEndpointStateProgrammingTime
: 00:00:00\r\nSnatStateProgrammingTime
: 00:00:00.0468756\r\nRoutingStateProgrammingTime : 00:00:00.0156269\r\n\r\nVip
Route States                : \r\n\r\nPrefixRouteStateInfo
: \r\n\r\nPrefix                        : 21.0.0.21-21.0.0.21\r\nCidr
: 21.0.0.21/32\r\nIsEmpty                : False\r\nIsRoutingEnabled
: True\r\nIsRouteReady                    : True\r\nIsRoutePending
: False\r\nIsRouteAchieved               : True\r\nIsDripEnabled
: False\r\nDripNextHop                    : \r\n\r\nAnnouncedPrefixes
: 1\r\n\r\nAnnouncedPrefixesAggregatedRanges : \r\n\r\n
: 21.0.0.21-21.0.0.21\r\nNotYetAnnouncedPrefixesAggregatedRanges : \r\n\r\n\r\nVipEndpoints:
: \r\n\r\nVipEndpoint                    : Tcp:21.0.0.21:8570\r\nCurrentStatus
: Achieved\r\nLastStateChangeTimeStamp     : 6/21/2016 10:20:25
PM\r\nErrorMessage                       : \r\n\r\n\r\nDipEndpoints:
: \r\n\r\nDipEndpoint                    : [DipEndpoint =
192.216.0.23:8570@Host=1.1.1.1, AdapterId=A29EBC4BBFD0, (not VNet), InService, NA, ,
Type=IPinIP, Info=0|192.216.0.23|A29EBC4BBFD0]\r\nGoalState
: ConfiguredOnHostAndMuxPool\r\nAchieved
: True\r\n\r\nAchievedOnHost                : True\r\n\r\nAchievedOnMux
: True\r\n\r\nDipHealthProbeEnabled        : False\r\n\r\nDipMonitoredState
: NA\r\n\r\nErrorMessage                   : \r\n\r\n\r\n\r\nVipEndpoint
: Tcp:21.0.0.21:49001\r\nCurrentStatus
: Achieved\r\nLastStateChangeTimeStamp     : 6/21/2016 10:20:25 PM\r\nErrorMessage
: \r\n\r\n\r\nDipEndpoints:                : \r\n\r\nDipEndpoint
: [DipEndpoint = 192.216.0.23:49001@Host=1.1.1.1, AdapterId=A29EBC4BBFD0, (not VNet),
InService, NA, , Type=IPinIP, Info=0|192.216.0.23|A29EBC4BBFD0]\r\nGoalState
: ConfiguredOnHostAndMuxPool\r\nAchieved
: True\r\n\r\nAchievedOnHost                : True\r\n\r\nAchievedOnMux
: True\r\n\r\nDipHealthProbeEnabled        : False\r\n\r\nDipMonitoredState
: NA\r\n\r\nErrorMessage                   : \r\n\r\n\r\n\r\nSTATE ON MUXs:\r\n\r\n\r\nMUX
info:\r\n\r\nMuxId                        : b639057c-9027-445a-8e34-
9d503cf6a344\r\nMux IPAddress              : 192.216.0.34\r\nMuxCurrentState
: Up\r\n\r\nIsMuxAlive                      : True\r\n\r\nCurrentStateOfMuxInSlbm
: Healthy\r\n\r\nLastIncubationTime        : 6/21/2016 8:36:04

```



None.

### 3.1.5.22.4.1.2.2 Response Body

The format for the response body for the **Diagnostics SlbStateResults GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/diagnostics/slbStateResults/f6b8c92c-fd23-4d3e-bdaf-a8375d78a1b4",
      "resourceId": "f6b8c92c-fd23-4d3e-bdaf-a8375d78a1b4",
      "etag": "W/\"68cb7d72-a116-4872-b3b0-a82826a25e54\"",
      "instanceId": "ddce237d-2434-47ca-90cc-39c5dae5a135",
      "properties": {
        "provisioningState": "Succeeded",
        "submitTime": "2016-06-21T05:00:46.4918153Z",
        "status": "Success",
        "output": {
          "dataGroups": [
            {
              "name": "Fabric",
              "description": "Fabric Slb State",
              "dataSections": [
                {
                  "name": "SlbmVips",
                  "description": "Slbm Vips",
                  "dataRetrievalFailed": false,
                  "dataUnits": [
                    {
                      "value": []
                    }
                  ]
                },
                {
                  "name": "MuxState",
                  "description": "Mux State",
                  "dataRetrievalFailed": false,
                  "dataUnits": [
                    {
                      "value": []
                    }
                  ]
                },
                {
                  "name": "RouterConfiguration",
                  "description": "Router Configuration",
                  "dataRetrievalFailed": false,
                  "dataUnits": [
                    {
                      "value": []
                    }
                  ]
                },
                {
                  "name": "ConnectedHostInfo",
                  "description": "Connected Host Info",
                  "dataRetrievalFailed": false,
                  "dataUnits": [
                    {
                      "value": []
                    }
                  ]
                },
                {
                  "name": "VipRanges",
                  "description": "Vip Ranges",
                  "dataRetrievalFailed": false,

```

```

        "dataUnits": [
            {
                "value": []
            },
            {
                "value": []
            }
        ]
    },
    {
        "name": "MuxRoutes",
        "description": "Mux Routes",
        "dataRetrievalFailed": false,
        "dataUnits": []
    }
]
},
{
    "name": "Tenant",
    "description": "Tenant Slb State",
    "dataSections": [
        {
            "name": "VipConsolidatedState",
            "description": "Vip Consolidated State",
            "dataRetrievalFailed": false,
            "dataUnits": []
        }
    ]
}
]
}
},
],
"nextLink": ""
}

```

The JSON schema for the **Diagnostics SlbStateResults GET ALL** method is located in section 6.20.4.2.

### 3.1.5.22.4.1.2.3 Processing Details

None.

### 3.1.5.22.5 (Updated Section) Diagnostics NetworkControllerState

The **NetworkControllerState** resource is used to create a dump of internal server data that can be useful for troubleshooting. The format and location of the saved data is implementation-specific.

It is invoked through the following URI.

```
https://<url>/networking/v1/diagnostics/networkcontrollerstate
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, ~~besides~~ v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.22.5.1.1	The server will generate a dump of internal data.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>resourceRef</b>	Read-only	MUST be /networkControllerState/NetworkControllerState.
<b>resourceId</b>	Read-only	MUST be NetworkControllerState.
<b>instanceId</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>Properties.provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>properties.lastQueryTimeStamp</b>	Read-only	Timestamp of the last query operation in format MMdyyyHHmmssfff.

### 3.1.5.22.5.1 HTTP Methods

#### 3.1.5.22.5.1.1 PUT

The URI for this resource is as follows.

```
https://<url>/networking/v1/diagnostics/diagnostics/networkcontrollerstate
```

There are no parameters for this operation.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.22.5.1.1.1 Request Body

The body MUST be {"properties": {}}.

#### 3.1.5.22.5.1.1.2 Response Body

The format for the response body for the **Diagnostics NetworkControllerState PUT** method is as follows.

```
{
  "resourceRef": "/networkControllerState/NetworkControllerState",
  "resourceId": "NetworkControllerState",
  "etag": "W/\"bc673415-9256-429d-869c-15dc55614616\"",
  "instanceId": "87dabccd-c2db-472e-af07-af92d7ce0283",
  "properties": {
    "provisioningState": "Updating",
    "lastQueryTimeStamp": "06152016163859310"
  }
}
```



}  
}

The JSON schema for the **Diagnostics NetworkControllerState PUT** method is located in section 6.20.5.1.

### 3.1.5.22.5.1.1.3 Processing Details

None.

### 3.1.5.23 (Updated Section) networkControllerStatistics

The **networkControllerStatistics** resource provides a means to get usage and health information for a few resources:

- Health for **virtualNetworks**, **gateways**, and **loadBalancerMuxes**.
- Usage for **publicIPAddresses**, **loadBalancer** backend IPs and **macPools**.

It is invoked through the following URI.

`https://<url>/networking/v1/monitoring/networkControllerStatistics`

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.24.1.1	Map one instance ID to resource ID.

The following property elements are valid.

Element name	Type	Description
<b>resourceRef</b>	Read-only	Specified in Common JSON Elements, section 2.2.2. Must be /monitoring/networkControllerStatistics.
<b>instanceId</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>Properties.provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>Properties.healthStatistics</b>	Read-only	Array of <b>healthStatisticsItem</b> , properties table follows.
<b>Properties.usageStatistics</b>	Read-only	Array of <b>usageStatisticsItem</b> , properties table follows.
<b>counters</b>	Read-only Optional	Array of <b>ResourceCounter</b> structures, section 3.1.1.1. This property is supported with URI version v2 or later.

#### **healthStatisticsItem**

Element name	Type	Description
<b>resourceType</b>	Read-only	Can be VirtualNetwork, Gateway or LoadBalancerMux These correspond to the top-level resources <b>virtualNetworks</b> ,

Element name	Type	Description
		<b>gateways</b> , or <b>loadBalancerMuxes</b> .
<b>totalResourceCount</b>	Read-only	Total count of REST resources of the type of resource specified by <b>resourceType</b> .
<b>healthyResourceCount</b>	Read-only	Count of such resources in healthy state.
<b>errorResourceCount</b>	Read-only	Count of such resources in an error state.
<b>warningResourceCount</b>	Read-only	Count of such resources in a warning state.
<b>healthUnknownCount</b>	Read-only	Count of such resources for which the health cannot be assessed.

### **usageStatisticsItem**

Element name	Type	Description
<b>resourceType</b>	Read-only	Can be <b>PublicIPUtilization</b> , <b>BackendIPUtilization</b> or <b>MacPoolUtilization</b> corresponding to <b>publicIPAddresses</b> resource, IPs in <b>backendAddressPools</b> , or <b>macPools</b> resource.
<b>totalResourceCount</b>	Read-only	Total count of REST resources of the type of resource specified by <b>resourceType</b> .
<b>inUseResourceCount</b>	Read-only	Count of such resources that are in use.

## **3.1.5.23.1 HTTP Methods**

### **3.1.5.23.1.1 GET**

This method retrieves health and usage information.

It is invoked through the following URI.

`https://<url>/networking/v1/monitoring/networkControllerStatistics`

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### **3.1.5.23.1.1.1 Request Body**

None.

### 3.1.5.23.1.1.2 Response Body

The format for the response body for the **monitoring/networkControllerStatistics GET** method is as follows:

```
{
  "resourceRef": "/monitoring/networkControllerStatistics/",
  "instanceId": "00000000-0000-0000-0000-000000000000",
  "properties": {
    "provisioningState": "Succeeded",
    "healthStatistics": [
      {
        "resourceType": "VirtualNetwork",
        "totalResourceCount": 1,
        "healthyResourceCount": 0,
        "errorResourceCount": 0,
        "warningResourceCount": 0,
        "healthUnknownCount": 1
      },
      {
        "resourceType": "Gateway",
        "totalResourceCount": 0,
        "healthyResourceCount": 0,
        "errorResourceCount": 0,
        "warningResourceCount": 0,
        "healthUnknownCount": 0
      },
      {
        "resourceType": "LoadBalancerMux",
        "totalResourceCount": 0,
        "healthyResourceCount": 0,
        "errorResourceCount": 0,
        "warningResourceCount": 0,
        "healthUnknownCount": 0
      }
    ],
    "usageStatistics": [
      {
        "resourceType": "PublicIPUtilization",
        "totalResourceCount": 0,
        "inUseResourceCount": 0
      },
      {
        "resourceType": "BackendIPUtilization",
        "totalResourceCount": 65436,
        "inUseResourceCount": 2
      },
      {
        "resourceType": "MacPoolUtilization",
        "totalResourceCount": 65536,
        "inUseResourceCount": 4
      }
    ]
  }
}
```

The JSON schema for the **monitoring/networkControllerStatistics GET** method is located in section 6.21.1.

### 3.1.5.23.1.1.3 Processing Details

This method retrieves a health and usage statistics.

### 3.1.5.24 (Updated Section) internalResourceInstances

The **internalResourceInstances** resource provides a means to map instance IDs to resource IDs or to get all the mappings.

It is invoked through the following URI.

```
https://<url>/networking/v1/internalResourceInstances/{instanceId}
```

**url:** The address or name of the REST server of the Network Controller.

**instanceId:** the identifier for the specific resource within the resource type. See section 2.2.2 common JSON Elements.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.24.1.1	Map one instance ID to resource ID.
GET ALL	3.1.5.24.1.2	List all the mappings.

The following property elements are valid.

Element name	Type	Description
resourceRef	Read-only	Specified in Common JSON Elements, section 2.2.2. Reference relative to <b>internalResourceInstances</b> resource.
resourceId	Read-only	Specified in Common JSON Elements, section 2.2.2.
instanceId	Read-only	Specified in Common JSON Elements, section 2.2.2.
Properties.provisioningState	Read-only	Specified in Common JSON Elements, section 2.2.2.
Properties.resourceReference	Read-only	Actual resource reference.

#### 3.1.5.24.1 HTTP Methods

##### 3.1.5.24.1.1 GET

This method retrieves an instance ID to resource ID mapping.

It is invoked through the following URI.

```
https://<url>/networking/v1/internalResourceInstances/{instanceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.24.1.1.1 Request Body

None.

#### 3.1.5.24.1.1.2 Response Body

The format for the response body for the **internalResourceInstances GET** method is as follows:

```
{
  "resourceRef": "/internalResourceInstances/feaceea7-d230-43a8-8432-dc3ecb82c813",
  "resourceId": "feaceea7-d230-43a8-8432-dc3ecb82c813",
  "instanceId": "866a1b81-e241-41bc-a424-aab75fff9ffb",
  "properties": {
    "provisioningState": "Succeeded",
    "resourceReference": "/loadBalancers/d7574599-9ac8-451b-aadf-
bbd3b5d9d311/outboundNatRules/57140aa8-d782-453d-98bc-1df9fd264e50"
  }
}
```

The JSON schema for the **internalResourceInstances GET** method is located in section 6.22.1.

#### 3.1.5.24.1.1.3 Processing Details

This method retrieves an instance ID to resource ID mapping.

#### 3.1.5.24.1.2 GET ALL

This method retrieves all instance ID to resource ID mappings.

It is invoked through the following URI.

```
https://<url>/networking/v1/internalResourceInstances/
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.24.1.2.1 Request Body

None.

### 3.1.5.24.1.2.2 Response Body

The format for the response body for the **internalResourceInstances GET ALL** method is as follows.

```
{
  "value": [
    {
      "resourceRef": "/internalResourceInstances/feaceea7-d230-43a8-8432-dc3ecb82c813",
      "resourceId": "feaceea7-d230-43a8-8432-dc3ecb82c813",
      "instanceId": "866a1b81-e241-41bc-a424-aab75fff9ffb",
      "properties": {
        "provisioningState": "Succeeded",
        "resourceReference": "/loadBalancers/d7574599-9ac8-451b-aadf-
bbd3b5d9d311/outboundNatRules/57140aa8-d782-453d-98bc-1df9fd264e50"
      }
    },
    {
      "resourceRef": "/internalResourceInstances/ffa98c72-fffa-4523-92db-a37bf151074a",
      "resourceId": "ffa98c72-fffa-4523-92db-a37bf151074a",
      "instanceId": "9c5f9ab7-358e-4465-ac0e-ec532761768a",
      "properties": {
        "provisioningState": "Succeeded",
        "resourceReference": "/networkInterfaces/2abde95f-ed76-4245-bcf4-27da32e3a757"
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **internalResourceInstances GET ALL** method is located in section 6.22.2.

### 3.1.5.24.1.2.3 Processing Details

This method retrieves all instance ID to resource ID mappings.

### 3.1.5.25 (Updated Section) iDnsServer

The **iDnsServer** resource contains the configuration details for the DNS server in the internal DNS (iDNS) service.

It is invoked through the following URI.

```
https://<url>/networking/v1/iDnsServer/configuration
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides** v1 **or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.25.1.1	Create the <b>iDnsServer</b> resource or update the existing iDnsServer resource.
GET	3.1.5.25.1.2	Get the <b>iDnsServer</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>Connections</b>	Required	Indicates a reference to collection of all the connections on the iDNS Server of the deployment.
<b>Zone</b>	Required	Indicates the DNS zone under which the tenant host DNS resource records as described in [RFC1034] section 3.6 are stored.

### 3.1.5.25.1 HTTP Methods

#### 3.1.5.25.1.1 PUT

This method creates the **iDnsServer** resource or updates the existing **iDnsServer** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/iDnsServer/configuration
```

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes:

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.25.1.1.1 Request Body

The format for the request body for the **iDnsServer PUT** method is as follows.

```
{
  "properties": {
    "connections": [
      {
        "managementAddresses": [
          "192.83.0.23"
        ],
        "credential": {
          "resourceRef": "/credentials/iDnsServer-Credentials"
        },
        "credentialType": "usernamePassword"
      }
    ]
  }
}
```

```
    ],
    "zone": "cloudapp.net"
  }
}
```

The JSON schema for the **iDnsServer PUT** method is located in section 6.23.1.

### 3.1.5.25.1.1.2 Response Body

The format for the response body for the **PUT** method is the same as the **GET iDnsServer** response body (section 3.1.5.25.1.2.2). The JSON schema is located in section 6.23.2.

### 3.1.5.25.1.1.3 Processing Details

Creates the **iDnsServer** resource or updates an existing **iDnsServer** resource.

### 3.1.5.25.1.2 GET

This method retrieves the **iDnsServer** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/iDnsServer/configuration
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.25.1.2.1 Request Body

None.

### 3.1.5.25.1.2.2 Response Body

The format for the response body for the **iDnsServer GET** method is as follows.

```
{
  "resourceRef": "/iDnsServer/configuration",
  "resourceId": "configuration",
  "etag": "W/\"0ba91307-fe4d-4ed1-8e7c-472f77e942ca\"",
  "instanceId": "ae39e307-f8e6-43f6-9264-4a54c43ee33a",
  "properties": {
    "provisioningState": "Succeeded",
    "connections": [
      {
        "managementAddresses": [
          "192.83.0.23"
        ]
      }
    ]
  }
}
```



```

    ],
    "credential": {
      "resourceRef": "/credentials/iDnsServer-Credentials"
    },
    "credentialType": "usernamePassword"
  }
],
"zone": "cloudapp.net"
}
}

```

The JSON schema for the **iDnsServer GET** method is located in section 6.23.2.

### 3.1.5.25.1.2.3 Processing Details

Retrieves the **iDnsServer** resource.

### 3.1.5.26 (Updated Section) virtualSwitchManager

The **virtualSwitchManager** resource is a singleton resource that configures the virtual switch properties on every server managed by the Network Controller (NC), meaning that the NC has server resources for those machines.

It is invoked through the following URI.

`https://<url>/networking/v1/virtualSwitchManager/configuration`

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.26.1.1	Update the <b>virtualNetworkManager</b> singleton resource.
GET	3.1.5.26.1.2	Get the <b>virtualNetworkManager</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>QosSettings</b>	Optional	See QosSettings table following.
<b>PortDefaultState</b>	Optional	Sets the default state for a port. Possible values are: <ol style="list-style-type: none"> <li><b>Default</b> – Ports created on a virtual switch have a default state. The default state is dependent on the platform (server implementation). This setting tells the server to keep the port state the same as it was when the port was created.</li> <li><b>BlockTraffic</b> – VFP is enabled and all traffic is blocked.</li> </ol>

Element name	Type	Description
		<p>3. <b>AllowTraffic</b> – VFP is disabled and all traffic is allowed</p> <p>This property is supported on URI <b>v4 or v3.1 and later.</b>&lt;19&gt;</p>
<b>numInterfacesHavingQos</b>	Optional Read-only	<p>Number of resources of type <b>NetworkInterfaces</b> for which any of <b>portSettings.qosSettings.outboundReservedValue</b>, <b>portSettings.qosSettings.outboundMaximumMbps</b> or <b>portSettings.qosSettings.inboundMaximumMbps</b> are greater than 0.</p> <p>This property is supported on URI <b>v1 and later.</b>&lt;20&gt;</p>

## **QosSettings**

### **QosSetting**

Element name	Type	Description
<b>reservationMode</b>	Optional	Specifies whether <b>outboundReservedValue</b> is applied as the absolute bandwidth (Mbps) or as a weighted value. Allowed values are Absolute or Weight.
<b>enableSoftwareRevervation</b>	Optional	TRUE to enable software QOS reservation.
<b>enableHardwareLimits</b>	Optional	Offloads transmit Tx rings and receive Rx rings capabilities (cap) to hardware.
<b>enableHardwareReservation</b>	Optional	Offloads bandwidth reservation to hardware.
<b>linkSpeedPercentage</b>	Optional	The percentage of the link speed to be used for calculating reservable bandwidth.
<b>defaultReservation</b>	Optional	The default value of the reservation to be used for NICs that do not have any reservation specified (0).

## **3.1.5.26.1 HTTP Methods**

### **3.1.5.26.1.1 PUT**

This method updates the **virtualSwitchManager** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualSwitchManager/configuration
```

#### **3.1.5.26.1.1.1 Request Body**

The format for the **virtualSwitchManager PUT** request body is as follows.

```
{
  "resourceId": "configuration",
  "etag": "W/\"14753c1f-5893-45d7-8710-daf66c8dbb1e\"",
  "properties": {
    "qosSettings": {
      "reservationMode": "Weight",
```

```

        "linkSpeedPercentage": 50,
        "defaultReservation": 10,
        "enableHardwareLimits": false,
        "enableHardwareReservations": false,
        "enableSoftwareReservations": true
    }
}
}

```

The JSON schema for the **virtualSwitchManager PUT** method is located in section 6.24.1.

### 3.1.5.26.1.1.2 Response Body

The format for the response body for the **PUT virtualSwitchManager** method is the same as the format for the **GET virtualSwitchManager** response body (section 3.1.5.26.1.2.2). The JSON schema is located in section 6.24.2.

### 3.1.5.26.1.1.3 Processing Details

Create or update the global virtual switch settings.

### 3.1.5.26.1.2 GET

Retrieves the **virtualSwitchManager** configuration

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualSwitchManager/configuration
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)

### 3.1.5.26.1.2.1 Request Body

None.

### 3.1.5.26.1.2.2 Response Body

The format for the **virtualSwitchManager GET** response body is as follows.

```

{
  "resourceRef": "/virtualSwitchManager/configuration",
  "resourceId": "configuration",
  "etag": "W/\"ad1807d8-6ba6-4c24-9ad5-771f5e39474f\"",
  "instanceId": "d8ebbd42-6334-4c4a-8a11-5351df46984e",
  "properties": {
    "provisioningState": "Succeeded",

```

```

    "qosSettings": {
      "reservationMode": "Absolute",
      "linkSpeedPercentage": 22,
      "defaultReservation": 0,
      "enableHardwareLimits": false,
      "enableHardwareReservations": false,
      "enableSoftwareReservations": true
    },
    "numInterfacesHavingQos": 0
  }
}

```

The JSON schema for the **virtualSwitchManager GET** method is located in section 6.24.2.

### 3.1.5.26.1.2.3 Processing Details

Retrieves the **virtualSwitchManager** configuration.

### 3.1.5.27 (Updated Section) networkControllerBackup

The **networkControllerBackup** resource SHOULD<21> be used to persist to disk all the applicable configuration data for a network controller. The backed-up data can be used to restore the configuration of the network controller. For more details, see **networkControllerRestore** section 3.1.5.28. The format of the backed-up data is implementation-specific and is treated as opaque data.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerBackup/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, **besides v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.27.1.1	Create a new <b>networkControllerBackup</b> resource or update an existing <b>networkControllerBackup</b> resource.
<b>GET</b>	3.1.5.27.1.2	Get a <b>networkControllerBackup</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>instanceId</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>backupPath</b>	Required	A path to a location where the backup operation persists files.
<b>credential</b>	Optional	A reference ( <b>resourceRef</b> in section 2.2.2) to a <b>credentials</b> resource. The credential MUST be of type <b>usernamePassword</b> . The

Element name	Type	Description
		credential is used to access the <b>backupPath</b> .
<b>errorMessage</b>	Read-only	A string that describes an error, such as, <b>backupPath</b> is not accessible. An empty string can be returned.
<b>failedResourcesList</b>	Read-only	An array of strings that are references ( <b>resourceRef</b> in section 2.2.2) to resources that could not be backed up. An empty array can be returned.<22>
<b>successfulResourcesList</b>	Read-only	An array of strings that are references ( <b>resourceRef</b> in section 2.2.2) to resources that were successfully backed up. An empty array can be returned.<23>
<b>inProgressResourcesList</b>	Read-only	An array of strings that are references ( <b>resourceRef</b> in section 2.2.2) to resources that are in progress of being backed up. An empty array can be returned.<24>

### 3.1.5.27.1 HTTP Methods

#### 3.1.5.27.1.1 PUT

This method creates a new **networkControllerBackup** resource or updates an existing **networkControllerBackup** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerBackup/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.27.1.1.1 Request Body

The format for the request body for the **networkControllerBackup PUT** method is as follows.

```
{
  "properties": {
    "backupPath": "\\cloudshare\backups\09072016",
    "credential": {
```

```
        "resourceRef": "/credentials/backuprestore-credential"
    }
}
```

The JSON schema for the **networkControllerBackup PUT** method is located in section 6.25.1.

### 3.1.5.27.1.1.2 Response Body

The format for the response body for the **PUT networkControllerBackup** method is the same as the format for the **GET networkControllerBackup** response body (section 3.1.5.28.1.2.2). The JSON schema is located in section 6.25.2.

### 3.1.5.27.1.1.3 Processing Details

Creates a new **networkControllerBackup** resource or updates an existing **networkControllerBackup** resource. The network controller begins an internal operation of backing up all the applicable configuration data.

### 3.1.5.27.1.2 GET

This method retrieves a **networkControllerBackup** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerBackup/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.27.1.2.1 Request Body

None.

### 3.1.5.27.1.2.2 Response Body

The format for the response body for the **networkControllerBackup GET** method is as follows.

```
{
  "resourceRef": "/networkControllerBackup/backup3",
  "resourceId": "backup3",
  "etag": "W/\"a7a81dab-826a-4adb-8176-1e2a8b4658c5\"",
  "instanceId": "90c0dbec-afa2-4378-a277-ffe822fb8288",
  "properties": {
    "provisioningState": "Succeeded",
```

```

"backupPath": "\\cloudshare\backup\backup3",
"credential": {
  "resourceRef": "/credentials/host1-credentials"
},
"errorMessage": "",
"failedResourcesList": [],
"successfulResourcesList": [
  "/networking/v1/credentials/238c0490-71c6-49ea-9189-fb325fa47eb9",
  "/networking/v1/credentials/host1-credentials",
  "/networking/v1/virtualNetworkManager/configuration",
  "/networking/v1/virtualSwitchManager/configuration",
  "/networking/v1/accessControlLists/00269b41-e4c8-4193-a8e3-73a31ad62ebd",
  "/networking/v1/accessControlLists/eb5d4509-f4e5-45ac-befd-05c841d85709",
  "/networking/v1/accessControlLists/f6d79b36-867c-4a8b-9ae7-f7229a511d01",
  "/networking/v1/logicalNetworks/a9ff429f-168c-4ed7-8cca-6fc623dfff9c",
  "/networking/v1/macPools/5baae598-b262-477c-8801-207431a9da6b",
  "/networking/v1/servers/host1",
  "/networking/v1/networkInterfaces/52f2414c-0b95-44ce-afab-e2f8c395fb96",
  "/networking/v1/networkInterfaces/e73f7a7f-adfa-47e2-ad2f-8014c9411902",
  "/networking/v1/virtualNetworks/9119efd6-9a34-4073-ba87-e862b2c60140"
],
"inProgressResourcesList": []
}
}

```

The JSON schema for the **networkControllerBackup GET** method is located in section 6.25.2.

The value for the returned properties depends on when the **GET** method is invoked. The value can contain any or all the following lists: a list of resources that are in progress of being backed up, lists of resources that have been successfully backed up, or a list of resources that could not be backed up. An error message can be returned if not all the resources were backed up successfully.

### 3.1.5.27.1.2.3 Processing Details

Retrieves the status of the backup operation that was launched when the first **PUT** of the resource occurred.

### 3.1.5.28 (Updated Section) networkControllerRestore

The **networkControllerRestore** resource SHOULD be used to restore from disk all the applicable configuration data for a network controller. The configuration of the network controller MUST first be backed up via a PUT operation on a **networkControllerBackup** resource. For more details, see **networkControllerBackup** section 3.1.5.27.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerRestore/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, ~~besides~~ **v1** or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.28.1.1	Create a new <b>networkControllerRestore</b> resource or update an existing

HTTP method	Section	Description
		<b>networkControllerRestore</b> resource.
<b>GET</b>	3.1.5.28.1.2	Get a <b>networkControllerRestore</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>instanceId</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>restorePath</b>	Required	Location from which to pick up the backup data. The location MUST contain data previously created by a PUT operation on a <b>networkControllerBackup</b> resource.
<b>credential</b>	Required	A reference ( <b>resourceRef</b> in section 2.2.2) to a <b>credentials</b> resource. The credential MUST be of type <code>usernamePassword</code> . The credential is used to access the <b>restorePath</b> .
<b>statusMessages</b>	Read-only	An array of strings that describe the current progress of the restore. The messages are implementation-specific. They can provide time stamps or the time that was spent restoring resources. An empty array can be returned.
<b>successfulResourceList</b>	Read-only	Array of strings that represent references ( <b>resourceRef</b> in section 2.2.2) for resources that were restored successfully. An empty array can be returned.
<b>failedResourceList</b>	Read-only	Array of strings that represent references ( <b>resourceRef</b> in section 2.2.2) for resources that were not restored successfully. An empty array can be returned.

### 3.1.5.28.1 HTTP Methods

#### 3.1.5.28.1.1 PUT

This method creates a new **networkControllerRestore** resource or updates an existing **networkControllerRestore** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerRestore/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.



Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.28.1.1.1 Request Body

The format for the request body for the **networkControllerRestore PUT** method is as follows.

```
{
  "properties": {
    "restorePath": "\\cloudshare\backups\09072016",
    "credential": {
      "resourceRef": "/credentials/backuprestore-credential"
    }
  }
}
```

The JSON schema for the **networkControllerRestore PUT** method is located in section 6.26.1.

### 3.1.5.28.1.1.2 Response Body

The format for the response body for the **PUT networkControllerRestore** method is the same as the format for the **GET networkControllerRestore** response body (section 3.1.5.28.1.2.2). The JSON schema is located in section 6.26.1.

### 3.1.5.28.1.1.3 Processing Details

Creates a new **networkControllerRestore** resource or updates an existing **networkControllerRestore** resource. The network controller begins an internal operation of restoring resource configuration from the back-up data on disk. The network controller updates the provisioning state and, optionally, the error message properties depending on the restore status.

### 3.1.5.28.1.2 GET

This method retrieves a **networkControllerRestore** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkControllerRestore/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.28.1.2.1 Request Body

None.

### 3.1.5.28.1.2.2 Response Body

The format for the response body for the **networkControllerRestore GET** is as follows.

```
{
  "resourceRef": "/networkControllerRestore/restore09072016",
  "resourceId": "rloc",
  "etag": "W/\"7f448790-3191-46fb-bb80-b13740e1cde1\"",
  "instanceId": "cbfcfd2-5049-44e9-9776-461029ed78a1",
  "properties": {
    "provisioningState": "Succeeded",
    "restorePath": "\\\"cloudshare\\backups\\09072016",
    "failedResourceList": [],
    "successfulResourceList": [
      "/networking/v1/credentials/9f205df2-d36b-4b81-a2a6-a0aefcd3e557",
      "/networking/v1/credentials/backuprestore-credential",
      "/networking/v1/virtualNetworkManager/configuration",
      "/networking/v1/virtualSwitchManager/configuration",
      "/networking/v1/accessControlLists/357742e1-9cf9-468a-b33a-994ddaa65939",
      "/networking/v1/accessControlLists/3c916a36-fa6e-470b-a945-d3ab8aa76c28",
      "/networking/v1/accessControlLists/6601cb8d-c7b9-43cf-a156-9c98a4cla3be",
      "/networking/v1/accessControlLists/c11f6c66-4029-4236-a30f-b80fbcdf0e94",
      "/networking/v1/accessControlLists/c342db3a-83aa-40d4-b905-e72ed2420f87",
      "/networking/v1/logicalNetworks/84188228-6705-4980-b622-be2127d66a5d",
      "/networking/v1/macPools/d7b7e3d4-0308-4328-93ef-5bfb97bc2c3a",
      "/networking/v1/servers/testhost1",
      "/networking/v1/networkInterfaces/64c301dc-b2f4-406e-849d-ef4088337fb5",
      "/networking/v1/networkInterfaces/91f93708-7d06-44ca-b10d-d99956b6b1db",
      "/networking/v1/networkInterfaces/a6e56a93-cfbf-4a83-917e-a7727d9052d9",
      "/networking/v1/networkInterfaces/e1692488-039a-4786-8799-d819724f1fa1",
      "/networking/v1/virtualNetworks/a9ec521a-ee88-4e7d-9200-a74f7c31a3f7"
    ]
  }
  "statusMessages": [
    "OverallStatus:Restore is currenty in Stage: GenerateReport",
    "Service : NamedPropertyStore , Stage : RestoreNamedPropertyStoreCompleted, Status : Success, StartTime : 11/30/2016 11:00:26 AM, EndTime : 11/30/2016 11:00:28 AM",
    "Service : SlbManagerService , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:28 AM, EndTime : 11/30/2016 11:01:28 AM",
    "Service : FirewallService , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:08 AM, EndTime : 11/30/2016 11:01:08 AM",
    "Service : VSwitchService , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:20 AM, EndTime : 11/30/2016 11:01:20 AM",
    "Service : GatewayManager , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:01 AM, EndTime : 11/30/2016 11:01:01 AM",
    "Service : ServiceInsertion , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:00:58 AM, EndTime : 11/30/2016 11:00:58 AM",
    "Service : ControllerService , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:29 AM, EndTime : 11/30/2016 11:01:29 AM",
    "Service : FnmService , Stage : RestoreKVSCompleted, Status : Success, StartTime : 11/30/2016 11:01:10 AM, EndTime : 11/30/2016 11:01:10 AM",
    "Service : ApiService , Stage : ReplayCompleted, Status : Success, StartTime : 11/30/2016 11:06:04 AM, EndTime : 11/30/2016 11:06:05 AM"
  ]
}
```

}

The JSON schema for the **networkControllerRestore GET** method is located in section 6.26.2.

### 3.1.5.28.1.2.3 Processing Details

Retrieves the status of the restore operation that was launched when the first **PUT** of the resource occurred.

### 3.1.5.29 (Updated Section) SubnetEgressReset

The **SubnetEgressReset** resource SHOULD<26> be used to create an action to reset the **UnbilledEgressBytes** and **BilledEgressBytes** properties of virtual network subnets to zero (0).

It is invoked through the following **v2**-URI.

```
https://<url>/networking/v2v1/SubnetEgressReset
```

**url:** The address or name of the REST server of the Network Controller.

**Note** The server MAY support additional versions, **besides v2v1 or later**, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.29.1.1	Create a new <b>SubnetEgressReset</b> resource.
<b>GET</b>	3.1.5.29.1.2	Get a <b>SubnetEgressReset</b> resource.

### 3.1.5.29.1 HTTP Methods

#### 3.1.5.29.1.1 (Updated Section) PUT

The **SubnetEgressReset PUT** method creates a new **SubnetEgressReset** resource.

It is invoked through the following **v2**-URI.

```
https://<url>/networking/v2v1/SubnetEgressReset
```

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
404 (Not Found)

Status code
500 (Internal Server Error)

### 3.1.5.29.1.1.1 Request Body

The format for the request body for the **SubnetEgressReset PUT** method is as follows.

```
{
  "properties": {
    "virtualSubnetResourceReference": "/virtualnetwork/vnet1/subnet/subnet2"
  }
}
```

The **virtualSubnetResourceReference** property MUST be a reference to an existing virtual network subnet resource. The JSON schema for the **SubnetEgressReset PUT** method is located in section 6.27.1.

### 3.1.5.29.1.1.2 Response Body

The format for the response body for the **SubnetEgressReset PUT** method is the same as the format for the **SubnetEgressReset GET** response body (section 3.1.5.29.1.2.2). The JSON schema is located in section 6.27.2.

### 3.1.5.29.1.1.3 Processing Details

The **UnbilledEgressBytes** and **BilledEgressBytes** properties of the referenced virtual network subnet are reset to 0.

### 3.1.5.29.1.2 (Updated Section) GET

The **SubnetEgressReset GET** method retrieves the result of an action created via **SubnetEgressReset PUT** resource.

It is invoked through the following **v2** URI.

```
https://<url>/networking/v2v1/SubnetEgressReset
```

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.29.1.2.1 Request Body

None.

### 3.1.5.29.1.2.2 Response Body

The format for the response body for the **SubnetEgressReset GET** is as follows.

```
{
  "resourceRef": "/subnetEgressReset/Action",
  "resourceId": "Action",
  "etag": "W/\"d7a4302a-a0c1-4b6f-a612-095c52f32a88\"",
  "instanceId": "c8cac2f9-e5af-4671-a2ae-635f386a87eb",
  "properties": {
    "provisioningState": "Updating",
    "virtualSubnetResourceReference": "/virtualnetwork/vnet1/subnet/subnet2"
  }
}
```

The JSON schema for the **SubnetEgressReset GET** method is located in section 6.27.2.

### 3.1.5.29.1.2.3 Processing Details

Retrieves the status of the last action created via the **PUT** operation.

### 3.1.5.30 (Updated Section) discovery

The **discovery** resource SHOULD provide versioning information about the server. It returns all supported URI versions.

The URI for the **discovery** resource is as follows.

```
https://<url>/networking/discovery
```

**url:** The address or name of the REST server of the Network Controller.

**Note** version token not required in the URI.

The following HTTP method can be performed on this resource.

HTTP method	Section	Description
GET	3.1.5.30.1.1	Get the <b>discovery</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>Etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>networkControllerVersion</b>	Required	A string that indicates the versions of the server. It follows the format of X.Y.Z (Major.Minor.Revision).<28>
<b>supportedRestVersions</b>	Required	Array of string elements. Returns all supported versions. The supported values are "V1", "V2", "V3", "V3.1", "V3.2", "V4", and "V4.5".
<b>currentRestVersion</b>	Required	The preferred version for accessing resources on the server.

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

### 3.1.5.30.1 HTTP Methods

#### 3.1.5.30.1.1 GET

This method retrieves the **discovery** resource.

It is invoked through the following URI.

```
https://<url>/networking/discovery
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

#### 3.1.5.30.1.1.1 Request Body

None.

#### 3.1.5.30.1.1.2 Response Body

The format for the response body for the **discovery GET** method is as follows.<29>

```
{  
  "resourceRef": "/discovery/discovery",  
  "resourceId": "discovery",  
  "instanceId": "6a6efd73-b2a5-4b83-99fd-3956cabb58ec",  
  "properties": {
```

```

    "provisioningState": "Succeeded",
    "networkControllerVersion": "12.0.0",
    "supportedRestVersions": [
      "v1",
      "v2",
      "v3",
      "v4"
    ],
    "currentRestVersion": "v4"
  }
}

```

The JSON schema for the **discovery GET** method is located in section 6.28.1.

### 3.1.5.30.1.1.3 Processing Details

Retrieves the **discovery** resource.

#### 3.1.5.31 (Added Section) securityTags

A **securityTags** resource represents a mechanism to modify and apply firewall policies to a group of network interface cards (NICs). **securityTags** resources can be assigned to network interfaces (section 3.1.5.11). This means that any access control lists (ACLs) (section 3.1.5.1) associated with the security tag are also applied to each NIC associated with the security tag. Also, security tags can be used as the source or destination field of an ACL rule (section 3.1.5.1.2). If this happens, then the IP addresses of newly associated NICs are included in the source or destination field of that ACL rule.

It is invoked through the following v5 URI.

```
https://<url>/networking/v5/securityTags/{resourceId}
```

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note** The server MAY support additional versions, v5 or later, in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
<b>PUT</b>	3.1.5.31.1.1	Create a new <b>securityTags</b> resource or update an existing <b>securityTags</b> resource.
<b>GET</b>	3.1.5.31.1.2	Get one <b>securityTags</b> resource.
<b>GET ALL</b>	3.1.5.31.1.3	List all <b>securityTags</b> resources in the Network Controller.
<b>DELETE</b>	3.1.5.31.1.4	Delete a <b>securityTags</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.

Element name	Type	Description
<b>type</b>	Optional	A string that can be used to filter security tags after listing all security tags.
<b>accessControlList</b>	Optional	A reference to an <b>accessControlLists</b> resource (section 3.1.5.1) that defines the ACL rules to be applied to each NIC associated with this security tag.
<b>networkInterfaces</b>	Read-only	An array of references to <b>networkInterfaces</b> resources (section 3.1.5.11) that this security tag is associated with.
<b>aclRulesAsSource</b>	Read-only	An array of references to <b>aclRules</b> resources (section 3.1.5.1.2) that include this security tag in its <b>SourceSecurityTags</b> field.
<b>aclRulesAsDestination</b>	Read-only	An array of references to <b>aclRules</b> resources that include this security tag in its <b>DestinationSecurityTags</b> field.

### 3.1.5.31.1 (Added Section) HTTP Methods

#### 3.1.5.31.1.1 (Added Section) PUT

This method creates a new **securityTags** resource or updates an existing **securityTags** resource.

It is invoked through the following v5 URI.

```
https://<url>/networking/v5/securityTags/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

#### 3.1.5.31.1.1.1 (Added Section) Request Body

The format for the request body for the **securityTags** PUT method is as follows.

```
{
  "resourceRef": "/securityTags/dev",
  "resourceId": "dev",
  "etag": "W/\"41fcbdc-b-a21c-4630-9e4c-d4f23a00213e\"",
  "instanceId": "bc94ec26-2cea-427d-b350-e61f6cfd1e28",
  "properties": {
```



```

    "provisioningState": "Succeeded",
    "type": "Environment",
    "accessControlList": {
      "resourceRef": "/accessControlLists/prodDevRdpAllow"
    }
  }
}
}

```

The JSON schema for the **securityTags PUT** method is located in section 6.1.1.

### 3.1.5.31.1.1.2 (Added Section) **Response Body**

The format for the **securityTags PUT** response body is the same as the format for the **securityTags GET** response body (section 3.1.5.31.1.2.2). The JSON schema is located in section 6.1.2.

### 3.1.5.31.1.1.3 (Added Section) **Processing Details**

This method creates a new **securityTags** resource or updates an existing **securityTags** resource.

### 3.1.5.31.1.2 (Added Section) **GET**

This method retrieves a **securityTags** resource.

It is invoked through the following URI.

```
https://<url>/networking/v5/securityTags/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status code.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.31.1.2.1 (Added Section) **Request Body**

None.

### 3.1.5.31.1.2.2 (Added Section) **Response Body**

The format for the response body for the **securityTags GET** method is as follows.

```

{
  "resourceRef": "/securityTags/dev",
  "resourceId": "dev",
  "etag": "W/\"1793c626-92fe-4157-8e21-c10393636c23\"",
  "instanceId": "bc94ec26-2cea-427d-b350-e61f6cfd1e28",
  "properties": {
    "provisioningState": "Succeeded",

```

```

    "type": "Environment",
    "accessControlList": {
      "resourceRef": "/accessControlLists/prodDevRdpAllow"
    },
    "networkInterfaces": [
      {
        "resourceRef": "/networkInterfaces/ddafa6c7-4102-4d2b-b3e9-61514c5bc5ae"
      }
    ],
    "aclRulesAsSource": [
      {
        "resourceRef": "/accessControlLists/c326be5b-7353-41bd-bb78-0897744728bf/aclRules/4516a232-8394-4e9e-8f93-c196eff9662c"
      }
    ],
    "aclRulesAsDestination": [
      {
        "resourceRef": "/accessControlLists/devProdDeny/aclRules/devProdDeny"
      },
      {
        "resourceRef": "/accessControlLists/prodDevRdpAllow/aclRules/prodDevRdpAllow"
      }
    ]
  }
}

```

The JSON schema for the **securityTags** GET method is located in section 6.1.2.

### 3.1.5.31.1.2.3 (Added Section) **Processing Details**

The server uses the **resourceId** contained in the body of the message to locate the **securityTags** resource to send to the client. The server MUST return a status code of 200 (OK) if the operation succeeds, and the server MUST return a status code of 404 (Not Found) if the resource does not exist.

The properties that are associated with the **securityTags** resource are in section 3.1.5.31.

### 3.1.5.31.1.3 (Added Section) **GET ALL**

This operation retrieves a list of all **securityTags** resources in the Network Controller.

It is invoked through the following URI.

```
https://<url>/networking/v5/securityTags
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status code.

Status code
200 (OK)

### 3.1.5.31.1.3.1 (Added Section) **Request Body**

None.

### 3.1.5.31.1.3.2 (Added Section) Response Body

The format for the **securityTags GET ALL** response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/securityTags/database",
      "resourceId": "database",
      "etag": "W/\"1b3d08f6-69f9-4008-9b95-2270cf9cb63a\"",
      "instanceId": "3a1ca665-49c9-4274-95dc-af95730493e8",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "Application",
        "networkInterfaces": [
          {
            "resourceRef": "/networkInterfaces/ddafa6c7-4102-4d2b-b3e9-61514c5bc5ae"
          }
        ],
        "aclRulesAsSource": [],
        "aclRulesAsDestination": [
          {
            "resourceRef": "/accessControlLists/webDatabaseDeny/aclRules/webDatabaseDeny"
          }
        ]
      }
    },
    {
      "resourceRef": "/securityTags/dev",
      "resourceId": "dev",
      "etag": "W/\"1793c626-92fe-4157-8e21-c10393636c23\"",
      "instanceId": "bc94ec26-2cea-427d-b350-e61f6cfd1e28",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "Environment",
        "accessControlList": {
          "resourceRef": "/accessControlLists/prodDevRdpAllow"
        },
        "networkInterfaces": [
          {
            "resourceRef": "/networkInterfaces/ddafa6c7-4102-4d2b-b3e9-61514c5bc5ae"
          }
        ],
        "aclRulesAsSource": [
          {
            "resourceRef": "/accessControlLists/c326be5b-7353-41bd-bb78-0897744728bf/aclRules/4516a232-8394-4e9e-8f93-c196eff9662c"
          }
        ],
        "aclRulesAsDestination": [
          {
            "resourceRef": "/accessControlLists/devProdDeny/aclRules/devProdDeny"
          },
          {
            "resourceRef": "/accessControlLists/prodDevRdpAllow/aclRules/prodDevRdpAllow"
          }
        ]
      }
    },
    {
      "resourceRef": "/securityTags/production",
      "resourceId": "production",
      "etag": "W/\"5cfe0e9f-021c-48aa-86f3-285da40aba2e\"",
      "instanceId": "abf823e-4ce0-4e7a-af79-065fe34928d8",
      "properties": {
        "provisioningState": "Succeeded",
        "type": "Environment",
        "networkInterfaces": [

```

```

      "resourceRef": "/networkInterfaces/16ae8562-2e34-448a-b3f1-a35ad4ad9371"
    },
    ],
    "aclRulesAsSource": [
      {
        "resourceRef": "/accessControlLists/devProdDeny/aclRules/devProdDeny"
      },
      {
        "resourceRef": "/accessControlLists/prodDevRdpAllow/aclRules/prodDevRdpAllow"
      }
    ],
    "aclRulesAsDestination": []
  },
  },
  {
    "resourceRef": "/securityTags/web",
    "resourceId": "web",
    "etag": "W/\"60a7aa9f-8543-4730-9a1f-c99bb368c916\"",
    "instanceId": "ca403358-ea72-4d12-beab-5d78239bac3a",
    "properties": {
      "provisioningState": "Succeeded",
      "type": "Application",
      "networkInterfaces": [
        {
          "resourceRef": "/networkInterfaces/16ae8562-2e34-448a-b3f1-a35ad4ad9371"
        }
      ],
      "aclRulesAsSource": [
        {
          "resourceRef": "/accessControlLists/webDatabaseDeny/aclRules/webDatabaseDeny"
        }
      ],
      "aclRulesAsDestination": []
    }
  },
  ],
  "nextLink": ""
}

```

The JSON schema for the **securityTags GET ALL** method is located in section 6.1.2.

### 3.1.5.31.1.3.3 (Added Section) **Processing Details**

The server retrieves all **securityTags** resources.

### 3.1.5.31.1.4 (Added Section) **DELETE**

This method deletes a **securityTags** resource.

It is invoked through the following URI.

```
https://<url>/networking/v5/securityTags/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.31.1.4.1 (Added Section) Request Body

None.

#### 3.1.5.31.1.4.2 (Added Section) Response Body

None.

#### 3.1.5.31.1.4.3 (Added Section) Processing Details

Deletes a **securityTags** resource.

### 3.1.5.32 (Added Section) learnedIPAddresses

The **learnedIPAddresses** resource represents a virtual network IP address which may be dynamically moved across different virtual machines and is automatically detected by SDN stack. This resource is referenced by **ipConfigurations** resource (section 3.1.5.11.2) referenced in **networkInterfaces** resource (section 3.1.5.11).

It is invoked through the following URI.

<https://<url>/networking/v5/learnedIpAddresses/{resourceId}>

**url:** The address or name of the REST server of the Network Controller.

**resourceId:** the identifier for the specific resource within the resource type. See section 2.2.3.4 for more details.

**Note:** The server MAY support additional versions, besides v5 in the URI.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	3.1.5.32.1.1	Create a new <b>learnedIPAddresses</b> resource or update an existing <b>learnedIPAddresses</b> resource.
GET	3.1.5.32.1.2	Get one <b>learnedIPAddresses</b> resource.
GET ALL	3.1.5.32.1.3	List all <b>learnedIPAddresses</b> resources in the Network Controller.
DELETE	3.1.5.32.1.4	Deletes a <b>learnedIPAddresses</b> resource.

The following property elements are valid.

Element name	Type	Description
<b>etag</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>provisioningState</b>	Read-only	Specified in Common JSON Elements, section 2.2.2.
<b>ipAddress</b>	Required	VNET IP address which is allocated. The caller can pass in a specific VNET IP address to be allocated or leave it empty. IPv6 is not supported.
<b>ipConfiguration</b>	ReadOnly	Shows back references to <b>ipConfigurations</b> resources which share this learned IP address.
<b>virtualSubnet</b>	Required	Reference to the virtual subnet that the IP address should be allocated from.

### 3.1.5.32.1 (Added Section) HTTP Methods

#### 3.1.5.32.1.1 (Added Section) PUT

This method creates a new **learnedIPAddresses** resource or updates an existing **learnedIPAddresses** resource.

It is invoked through the following URI.

<https://<url>/networking/v5/learnedIpAddresses/{resourceId}>

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
201 (Created)
412 (Precondition Failed)

#### 3.1.5.32.1.1.1 (Added Section) Request Body

The format for the request body for the **learnedIPAddresses** PUT method is as follows.

```
{
  "resourceId": "{uniqueString}",
  "etag": "generated-guid",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata": {
    "client": "WAP Network Resource Provider",
    "tenantId": "{subscriptionid}",
    "groupId": "{groupname}",
    "name": "{name}",
```

```

    "originalHref": "https://...",
  },
  "properties": {
    "provisioningState": "Updating|Deleting|Failed|Succeeded|Cancelled",
    "ipAddress": "13.168.100.100", // the given IP address
    "subnet": {
      "resourceRef": "/virtualNetworks/29d028bc-a244-4bec-b3bb-958ea0c64681/subnets/c0f6d801-ca07-4345-8274-20b13454c51a"
    }
  }
}
]

```

The JSON schema for the **learnedAddresses PUT** method is located in section (...)

### 3.1.5.32.1.1.2 (Added Section) **Response Body**

The format is the same as the format for the **learnedIPAddresses GET** response body (section 3.1.5.32.1.2.2). The JSON schema is located in section 6.30.3.

### 3.1.5.32.1.1.3 (Added Section) **Processing Details**

Creates a new **learnedIPAddresses** resource or updates an existing **learnedIPAddresses** resource.

### 3.1.5.32.1.2 (Added Section) **GET**

This method retrieves a **learnedIPAddresses** resource.

It is invoked through the following URI.

```
https://<url>/networking/v5/learnedIPAddresses/{resourceId}
```

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
404 (Not Found)

### 3.1.5.32.1.2.1 (Added Section) **Request Body**

None.

### 3.1.5.32.1.2.2 (Added Section) **Response Body**

The format for the **learnedIPAddresses GET** response body is as follows.

```

{
  "resourceRef": "/learnedIPAddresses/LIP_176993538",
  "resourceId": "LIP_176993538",
  "etag": "W/\"cdef43cc-0455-4e93-b41e-ee9490c1277c\""}

```

```
"instanceId": "af345f5e-ccc2-4995-ae8c-2c8b179744d2",
"properties": {
  "provisioningState": "Succeeded",
  "ipConfiguration": [
    {
      "resourceRef": "/networkInterfaces/9b6afb9f-7e25-4553-8977-6c432aa293f7/ipConfigurations/1214839207"
    },
    {
      "resourceRef": "/networkInterfaces/09f4b40e-1dd4-42e2-8deb-7429a2698764/ipConfigurations/977845845"
    },
    {
      "resourceRef": "/networkInterfaces/bea506b0-57fb-4a6b-99b6-22c0f0358b55/ipConfigurations/1068510011"
    },
    {
      "resourceRef": "/networkInterfaces/73a390cf-7727-4dd9-8b99-a710c0887a19/ipConfigurations/228980991"
    }
  ],
  "virtualSubnet": {
    "resourceRef": "/virtualNetworks/63d04603-0dc0-4435-bf00-533a051b2d27/subnets/1b9d8b94-bcd4-4db7-8eb9-d481572ced7b"
  },
  "ipAddress": "13.168.100.244"
}
```

The JSON schema for the **learnedIPAddresses GET** method is located in section 6.30.3.

### 3.1.5.32.1.2.3 (Added Section) **Processing Details**

Retrieves a **learnedIPAddresses** resource.

### 3.1.5.32.1.3 (Added Section) **GET ALL**

This method retrieves all **learnedIPAddresses** resources.

It is invoked through the following URI.

```
https://<url>/networking/v5/learnedIPAddresses
```

There are no parameters for this query.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status code.

Status code
200 (OK)

### 3.1.5.32.1.3.1 (Added Section) **Request Body**

None.



### 3.1.5.32.1.3.2 (Added Section) **Response Body**

The format for the **learnedIPAddresses** GET ALL response body is as follows.

```
{
  "value": [
    {
      "resourceRef": "/learnedIPAddresses/LIP 0 0 930403821",
      "resourceId": "LIP 0 0 930403821",
      "etag": "W/\"ca580863-cb36-439d-8cc3-1f7bd3351e2f\"",
      "instanceId": "22b1bdee-60ea-4dea-915a-02c99bdd68de",
      "properties": {
        "provisioningState": "Succeeded",
        "ipConfiguration": [],
        "virtualSubnet": {
          "resourceRef": "/virtualNetworks/63d04603-0dc0-4435-bf00-533a051b2d27/subnets/1b9d8b94-bcd4-4db7-8eb9-d481572ced7b"
        },
        "ipAddress": "13.168.100.112"
      }
    },
    {
      "resourceRef": "/learnedIPAddresses/LIP 1738614592",
      "resourceId": "LIP 1738614592",
      "etag": "W/\"20a2be24-211a-4e55-bd83-9ebbc37ff106\"",
      "instanceId": "44dafca5-1f4e-4a38-821f-2bdd449b5958",
      "properties": {
        "provisioningState": "Succeeded",
        "ipConfiguration": [
          {
            "resourceRef": "/networkInterfaces/9339532f-048d-4f60-98d3-6616a6f2dadf/ipConfigurations/546108446"
          },
          {
            "resourceRef": "/networkInterfaces/b7ab4011-e5ab-4cf1-ae15-03d94c3ad7bc/ipConfigurations/696517911"
          },
          {
            "resourceRef": "/networkInterfaces/80e45926-9e98-4625-ba12-f43e98f149ae/ipConfigurations/1572354596"
          },
          {
            "resourceRef": "/networkInterfaces/8274dbe5-e785-4afd-a911-84e006350530/ipConfigurations/1587971265"
          }
        ],
        "virtualSubnet": {
          "resourceRef": "/virtualNetworks/63d04603-0dc0-4435-bf00-533a051b2d27/subnets/a43cdf42-79b7-4951-9bed-0af940a97c73"
        },
        "ipAddress": "13.168.101.243"
      }
    }
  ],
  "nextLink": ""
}
```

The JSON schema for the **learnedIPAddresses** GET ALL method is located in section 6.30.3.

### 3.1.5.32.1.3.3 (Added Section) **Processing Details**

Retrieves all **learnedIPAddresses** resources.

### 3.1.5.32.1.4 (Added Section) **DELETE**

This method deletes a **learnedIPAddress** resource.

It is invoked through the following URI.

`https://<url>/networking/v5/learnedIPAddresses/{resourceId}`

The query parameters are specified in section 2.2.3.

The request message for this method contains the HTTP headers defined in section 2.2.1.2.

The response message for this method contains the HTTP headers defined in section 2.2.1.3.

The response message for this method can result in the following status codes.

Status code
200 (OK)
202 (Accepted)
204 (No Content)
412 (Precondition Failed)

#### 3.1.5.32.1.4.1 (Added Section) Request Body

None.

#### 3.1.5.32.1.4.2 (Added Section) Response Body

None.

#### 3.1.5.32.1.4.3 (Added Section) Processing Details

Deletes a `learnedIPAddress` resource.

### 3.1.5.33 (Updated Section) Response Content for Errors

If the Network Controller returns an error for any operation, it includes the appropriate HTTP status code and a response body. See the HTTP Status Code Registry definition of specific response codes [RFC7231]. The JSON schema for the response body is given in the appendix, section 6.29.

The following property elements are valid for the response body.

Element name	Type	Description
<code>error</code>	Read-only	Container for the properties defined following.
<code>error.code</code>	Read-only	A string that is an error identifier. These error identifiers are defined in detail later in this section.
<code>error.message</code>	Read-only	A description of the error. This string is implementation-specific.
<code>error.innerError</code>	Read-only Optional	String description of an error that was the initial cause for a subsequent error (for <code>error.code</code> ). This string is implementation-specific.
<code>error.target</code>	Read-only	This string is implementation-specific. It contains extra details about the source of the error.

Element name	Type	Description
	Optional	
<b>error.details</b>	Read-only Optional	An array of structures that describe in more detail any errors that happened while the server was processing a REST method call.
<b>error.details.code</b>	Read-only	The same description applies as for <b>error.code</b> above.
<b>error.details.message</b>	Read-only	The same description applies as for <b>error.message</b> above.

Following is an example of a complete error response that include headers and JSON body.

```

HTTP/1.1 400 Bad Request
Content-Length: 1552
Content-Type: application/json; charset=utf-8
Server: Microsoft-HTTPAPI/2.0
x-ms-request-id: 3be9ff32-8097-47ad-8961-8de9caad8475
Date: Thu, 12 Jan 2017 20:11:43 GMT
Connection: close

{
  "error": {
    "code": "InvalidParameterValue",
    "message": "'2221.1.1.0/24' is not a valid argument for 'addressPrefix' of a
subnet.",
    "target": "SubnetAddress",
    "innerError": "Message: '2221.1.1.0/24' is not a valid argument for
'addressPrefix' of a subnet., Target: SubnetAddress, InnerException: null, Exception:
Microsoft.Windows.Networking.NetworkController.Framework.Utilities.ParameterInvalidExcept
ion: '2221.1.1.0/24' is not a valid argument for 'addressPrefix' of a subnet.\r\n  at
Microsoft.Windows.Networking.NetworkController.RestApi.Fabric.Fnm.FnmUtility.ParseIpAddre
ssWithPrefix(String addressWithPrefix, IPAddress& ipAddress, UInt32& addressPrefix)\r\n
at
Microsoft.Windows.Networking.NetworkController.RestApi.Fabric.Fnm.FnmUtility.ValidateLogi
calSubnet(LogicalSubnet newSubnet, LogicalNetwork logicalNetwork)\r\n  at
Microsoft.Windows.Networking.NetworkController.RestApi.Fabric.Fnm.FnmUtility.ValidateLogi
calNetwork(LogicalNetwork logicalNetwork)\r\n  at
Microsoft.Windows.Networking.NetworkController.RestApi.Fabric.Fnm.PutLogicalNetworkOperat
ion.ExecuteInternal(LogicalNetwork logicalNetwork, ITransaction transaction)\r\n  at
Microsoft.Windows.Networking.NetworkController.RestApi.Common.Operations.PutResourceDefau
ltOperation`1.DefaultExecuteTopLevelResource()\r\n  at
Microsoft.Windows.Networking.NetworkController.RestApi.Common.Operations.PutResourceDefau
ltOperation`1.Execute()\r\n  at
Microsoft.WindowsAzure.Networking.Nrp.Frontend.Operations.OperationBase`1.Run()"
  }
}

```

The following table contains all possible error codes returned by servers, along with an explanation.

Error.Code value	Explanation
InternalServerError	An unknown error occurred.
Canceled	Operation was canceled by a different, concurrent operation.
NotFound	The specified resource was not found.
BadRequest	The input contains invalid parameters.
RetryableError	A retry-able error occurred. This error is an indication that the client SHOULD retry the previous operation.
PublicIPAddressInUse	A public IP address specified in the request is already in use.

<b>Error.Code value</b>	<b>Explanation</b>
StaticAllocationMethodNotSupported	Static allocation method for public IP addresses is not supported.
PublicIPAddressMissing	Public IP address is required when IPAllocationMethod is static.
SubnetIsFull	The subnet of the virtual or logical network does not have any more available IP addresses.
PrivateIPAddressMissing	Private IP address is required when <b>privateIPAllocationMethod</b> is static.
SubnetIsRequired	IP configuration resources require subnet resource references.
PrivateIPAddressNotInSubnet	The private static IP address specified does not belong to the range of subnet prefix.
PrivateIPAddressInReservedRange	The specified private static IP address falls within reserved IP range of subnet prefix.
InvalidPrivateIPAddressFormat	The private static IP address value is invalid.
PrivateIPAddressInUse	Another IP Configuration is already using the specified IP address.
FrontendPrivateIPAddressIsNotNull	Frontend private IP address MUST NOT be specified when Subnet is not specified.
FrontendPrivateIPAllocationMethodIsNotDynamic	Frontend Private IP Allocation Method MUST be set to Dynamic when subnet is not specified.
InvalidResourceReference	The specified resource reference is invalid.
InvalidRequestFormat	Cannot parse the request. <b>Note</b> This is a top-level error with <b>InvalidJson</b> , <b>InvalidJsonReferenceWrongType</b> used as error details.
InvalidJson	Errors were encountered while parsing the request body.
InvalidJsonReferenceWrongType	An invalid resource reference was encountered.
InvalidJsonReferenceFormat	The resource reference format is invalid.
PublicIPAddressInUseCannotUpdate	The properties for the specified public IP address cannot be updated because the public IP is in use.
MultipleGatewaysUseSameVnet	More than one gateway is associated with subnets of this vnet.
InvalidGatewayIPCount	The specified VPN Gateway has more than one IP configuration.
DuplicateLocalVpnGatewayAddress	The specified VPN Gateway defines two local networks with the same local VPN Gateway address property, but different address space.
ReferencedResourceNotProvisioned	The referenced resource has not been successfully provisioned.
DnsRecordInUse	The specified DNS record is already in use by another public IP.

<b>Error.Code value</b>	<b>Explanation</b>
InvalidDomainNameLabel	The domain name label is invalid.
DomainNameLabelCannotBeNullOrEmpty	The domain name label for a DNS record specified for the public IP address is null or empty. If a DNS record is specified, its domain name label MUST NOT be null or empty.
InUseSubnetCannotBeDeleted	The specified subnet is in use and cannot be deleted.
SubnetsOldReferencesNotCleanedUp	Subnets cannot be updated or deleted because old references for following subnets have not been released yet.
InUseSubnetCannotBeUpdated	The subnet is in use and cannot be updated.
VnetInUse	Cannot change properties on the virtual network resource since it is in use.
AnotherOperationInProgress	Another operation on this or dependent resource is in progress.
DnsServerCountLimitReached	Reached limit for the number of DNS servers allowed for a virtual network.<30>
NicInUse	The Network Interface resource is in use.
OperationNotSupported	The specified operation on the specified resource is not supported.
OutboundNatRulesAreNotSupported	Outbound NAT rules are not supported.
RuleNameDuplicate	Two rules of different types use the same name.
InvalidFrontendIPCount	Load Balancer resources MUST have one frontend IP Configuration.
FrontendIPConfigHasNoSubnetOrPublicIP	Frontend IP Configuration MUST reference either a subnet or a public IP address.
FrontendIPConfigHasBothSubnetAndPublicIP	Frontend IP Configuration MUST NOT reference both a subnet and a public IP address.
RulesUseSameFrontendPort	Multiple load Balancer rules cannot use the same frontend port.
RulesUseSameBackendPort	Multiple load Balancer rules cannot use the same backend port.
InvalidProtocolForProbe	Probe can use only HTTP or TCP protocol.
ProbeRequestPathIsNotNull	Probe request path MUST be null when its protocol is TCP.
ProbeIntervalIsOutOfRange	The Probe Interval is invalid.
ProbeRequestPathIsRequired	Request Path is required for probes that use the HTTP protocol.
PortValueIsOutOfRange	The port value is invalid.
NumberOfProbesIsOutOfRange	The NumberOfProbes value for the probe is invalid.
BackendAndFrontendPortsAreDifferent	The load Balancer rule MUST use the same frontend and backend ports, because its <b>enableFloatingIP</b> flag is set to TRUE.

<b>Error.Code value</b>	<b>Explanation</b>
RuleIdleTimeoutIsOutOfRange	The load Balancer rule has invalid Idle Timeout.
PublicIPIdleTimeoutIsOutOfRange	The public IP address has invalid Idle Timeout.
BackendIPConfigurationsDontUseSameVnet	Not all backend IP Configurations referenced by the load Balancer use the same Virtual Network.
FrontendIPConfigAndBackendIPConfigsAreInDifferentVnets	Not all backend IP Configurations referenced by the Load Balancer use the same Virtual Network as frontend IP Configuration of the Load Balancer.
CannotSwitchLbBetweenAvailabilitySets	Load Balancer cannot be reassigned from one availability set to another.
InvalidResourceName	The resource name is invalid.
InvalidRouteAddressPrefix	The <b>addressPrefix</b> for the specified route is invalid.
AddressPrefixInRestrictedAddressSpace	The <b>addressPrefix</b> for the specified route is not allowed.
MissingNextHopIpAddress	The <b>NextHopIpAddress</b> cannot be Null or Empty.
InvalidNextHopIpAddress	The <b>NextHopIpAddress</b> for the specified route is invalid.
AddressPrefixMustBeInPublicAddressSpace	Invalid <b>addressPrefix</b> for route. The NextHopType MUST have <b>addressPrefix</b> in Public Address Space.
NextHopIpAddressNotAllowed	<b>NextHopIpAddress</b> for route cannot be specified.
InUseRouteTableCannotBeDeleted	The specified route table is in use and cannot be deleted.
RouteCountLimitReached	The number of allowed routes in a route table has been exceeded.
RouteConflict	Two or more routes cannot have the same <b>addressPrefix</b> .
InUseFrontendIpConfigurationCannotBeDeleted	The specified Frontend IP configuration is in use and cannot be deleted.
InUseBackendAddressPoolCannotBeDeleted	The specified Backend address pool is in use and cannot be deleted.
InUseProbeCannotBeDeleted	The specified Probe is in use and cannot be deleted.
InUseAccessControlListCannotBeDeleted	The specified AccessControlList resource is in use and cannot be deleted.
InvalidParameterValue	An invalid parameter was specified.
ValidationError	A validation error occurred.
ServiceUnavailable	The Network Controller REST service is unavailable.
InvalidLogicalNetworkReference	A logical Network resource is required for creating a virtual network. Specify a valid reference to an existing logical Network resource.
InvalidIPAddress	The IP Address is not in the correct format.
InvalidIPPrefix	The IP Prefix is not in the correct format.
PrivateMacAddressMissing	Private Mac address is required when <b>privateMacAllocationMethod</b> is static.

<b>Error.Code value</b>	<b>Explanation</b>
InvalidPrivateMacAddress	The Private static Mac address is invalid.
InvalidNetworkInterfaceReference	A Network Interface reference is required.
InUseServiceInsertionCannotBeDeleted	The specified <b>ServiceInsertion</b> resource is in use and cannot be deleted.
InUseServerCannotBeDeleted	The specified server resource is in use and cannot be deleted.
InUseVirtualServerCannotBeDeleted	The specified <b>VirtualServers</b> resource is in use and cannot be deleted.
InUseIpPoolCannotBeDeleted	The specified <b>ipPool</b> resource is in use and cannot be deleted.
ResourceInUse	A resource cannot be deleted because a related resource is in use.
IsHostVirtualNetworkInterfaceCannotBeUpdated	The <b>isHostVirtualNetworkInterface</b> property cannot be updated after the NetworkInterface has been created.
HostVirtualNetworkInterfaceCannotConnectToVirtualNetwork	The Host Virtual NetworkInterface cannot be connected to a Virtual Network.
PrivateMacAllocationMethodCannotBeUpdated	The <b>privateMacAllocationMethod</b> property cannot be updated after the NetworkInterface has been created.
InUseQosSettingsCannotBeUpdated	The QOS Settings are referenced by one or more Network Interfaces and cannot be modified.
QosGlobalSettingsNotConfigured	The QOS global settings are not configured. The QOS configuration cannot be specified on the NetworkInterface.
InvalidSubnet	An invalid subnet was specified.
AclRuleNullOrEmptySourceAddressPrefix	The <b>sourceAddressPrefix</b> property cannot be null or empty.
AclRuleNullOrEmptyDestinationAddressPrefix	The <b>destinationAddressPrefix</b> property cannot be null or empty.
AclRuleNullOrEmptySourcePortRange	The <b>sourcePortRange</b> property cannot be null or empty.
AclRuleNullOrEmptyDestinationPortRange	The <b>destinationPortRange</b> property cannot be null or empty.
InvalidAclRuleType	The <b>AclRuleAclRules</b> Type is invalid.
InvalidAclRuleAction	The <b>AclRuleAclRules</b> Action is invalid.
InvalidAclRulePriority	The specified priority is invalid.
InvalidAclRuleProtocol	The specified protocol is invalid. Possible values are TCP, UDP, or ALL.
UpgradeInProgress	The operation failed because an internal upgrade is in progress.
NetworkMismatch	Both Networks are not of the same type.
VirtualNetworkMismatch	SenderVirtualNetWork MUST be same as ReceiverVirtualNetwork.

<b>Error.Code value</b>	<b>Explanation</b>
AclRuleTagsNotSupportedOnLogicalNetwork	AclRule does not support Tags on Network Interfaces with an <b>ipConfiguration</b> in a logical subnet.
RouteNextHopIpAddressNotFound	The NextHopIpAddress was not found within Virtual Network to which the <b>RouteTable</b> is connected.
UnmanagedAllocationMethodNotSupported	Unmanaged IP allocation is not supported on virtual network or logical networks where virtualization is enabled.
InUseVipPoolCannotBeRemoved	A pool that has VIPs allocated from it cannot be removed from the load Balancer manager.
LbManagerResourceNotConfigured	The load Balancer Manager Resource MUST be configured before a load Balancer resource can be configured.
FrontEndIpNotInVipPool	The specified frontend IP Address is not part of a VIP Pool.
FrontendPrivateIpAllocationMethodIsNotStatic	Frontend Private IP Allocation Method MUST be set to Static when subnet is specified.
VipRangeTooLarge	The maximum number of addresses allowed in a single VIP range has been exceeded.
PrimaryNicPropertyCannotBeUpdated	The Primary NIC property for a network interface resource cannot be updated after the resource has been created.
OnlyPrimaryNetworkInterfaceCanHaveDnsSettings	Only Primary Network Interfaces can have DNS settings.
RestoreOperationInProgress	A restore operation is in progress.
AclRuleInvalidSourcePortRange	The <b>sourcePortRange</b> value is invalid.
BackupFolderNotEmpty	The Backup folder path is not empty.
AclRuleInvalidDestinationPortRange	The <b>destinationPortRange</b> value is invalid.
AclRuleInvalidSourceAddressPrefix	The <b>sourceAddressPrefix</b> value is invalid.
AclRuleInvalidDestinationAddressPrefix	The <b>destinationAddressPrefix</b> value is invalid.
TransientError	A retry-able error occurred. This error is an indication that the client SHOULD retry the previous operation.
PublicIpAddressVersionCannotUpdate	Cannot change the IP version from IPv4 to IPv6 or the other way around.
UnsupportedCredentialType	Only X509Certificate credential can be used to encrypt the subnet.
InUseCredentialCannotBeDeleted	The credential is in use and cannot be deleted.
InboundNatRuleInUse	The Network interface cannot use the NAT rule because it is already in use by another network interface.
InvalidVsidRangeFormat	The Virtual Subnet Id range is invalid. The range start value MUST be lower than the end value.
InvalidVsidRangeValues	The Virtual Subnet Id range is invalid. The range start and end values MUST be between the listed bounds.
MinimumApiVersionNotSpecifiedForVsidRange	Specified API version (URI version) does not meet the minimum required API version for Virtual Subnet Id Range configuration.



Error.Code value	Explanation
InvalidUnbilledAddressRange	An invalid unbilled address range was specified for the resource.
UseRemoteAndAllowTransitCannotBeTrue	Peering cannot have both <b>useRemoteGateways</b> flag and <b>allowGatewayTransit</b> set to TRUE.
RemoteVnetHasNoGateways	Peering cannot have <b>useRemoteGateways</b> flag set to TRUE, because the remote virtual network referenced by the peering does not have any gateways.
ParentVnetAlreadyHasGateways	Peering cannot have <b>useRemoteGateways</b> flag set to TRUE, because the parent virtual network already has a gateway configured.
AnotherPeeringAlreadyUsesRemoteGateways	Peering cannot have <b>useRemoteGateways</b> flag set to TRUE, because another peering already has <b>useRemoteGateways</b> flag set to TRUE.
RemotePeeringDoesNotAllowGatewayTransit	Peering cannot have <b>useRemoteGateways</b> flag set to TRUE, because corresponding remote peering has <b>allowGatewayTransit</b> flag set to FALSE.
RemoteVirtualNetworkNotSpecified	<b>remoteVirtualNetwork</b> property is required for peering.
ChangingRemoteVirtualNetworkNotAllowed	Changing <b>remoteVirtualNetwork</b> property of a peering is not allowed. Delete and re-create the peering with new <b>RemoteVirtualNetwork</b> value instead.
AnotherPeeringAlreadyReferencesRemoteVnet	The peering resource already references the remote virtual network. Cannot add another peering referencing the same remote virtual network.
VnetAddressSpacesOverlap	Cannot create or update the peering resource. The virtual networks cannot be peered because their address spaces overlap.
VnetAddressSpaceOverlapsWithAlreadyPeeredVnet	Cannot create or update the peering resource. The virtual networks cannot be peered because address space of the first virtual network overlaps with address space of a third virtual network already peered with the second virtual network.
RemotePeeringIsStaleBecauseVnetWasRecreated	Cannot create or update the peering resource because a remote peering resource is stale. It became stale because the virtual network was deleted and re-created. Update or re-create the remote peering to make sure it is in sync with the virtual network.
PeeringRemoteVnetIsSameAsParentVnet	<b>remoteVirtualNetwork</b> property of the peering resource cannot reference the parent virtual network of the peering.
VnetAddressSpaceCannotChangeDueToPeerings	The address space of the virtual network cannot be changed when the virtual network has peering resources.
<b>AclRuleBothDestinationAddressPrefixAndSecurityTagsPresent</b>	<b>DestinationAddressPrefix and DestinationSecurityTags cannot both have value(s).</b>
<b>AclRuleBothSourceAddressPrefixAndSecurityTagsPresent</b>	<b>SourceAddressPrefix and SourceSecurityTags cannot both have value(s).</b>
<b>AclRuleDestinationNeitherAddressPrefixNorSecurityTagsPresent</b>	<b>DestinationAddressPrefix and DestinationSecurityTags cannot both be null or empty.</b>

Error.Code value	Explanation
<code>AclRuleSourceNeitherAddressPrefixNorSecurityTagsPresent</code>	<code>SourceAddressPrefix</code> and <code>SourceSecurityTags</code> cannot both be null or empty.
<code>InUseSecurityTagCannotBeDeleted</code>	Security tag is in use and cannot be deleted.

### 3.1.6 Timer Events

None.

### 3.1.7 Other Local Events

None.

## 4 Protocol Examples

### 4.1 Example of the JSON used to create a default ACL for both inbound and outbound

This example describes the JSON that creates default ACLs for inbound and outbound **aclRules** resources for the **accessControlLists** resource.

```
PUT ~/Networking/v1/accessControlLists/acl3
{
  "properties": {
    "aclRules": [
      {
        "resourceId": "e4dc9ca4-d5b0-459c-a3e2-9212ba1db7af",
        "properties": {
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "13.168.100.0/24",
          "destinationAddressPrefix": "*",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      },
      {
        "resourceId": "a2a19a67-381e-47e9-bdba-8c8e281d303d",
        "properties": {
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "13.168.101.0/24",
          "destinationAddressPrefix": "*",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}
```

### 4.2 macPools usage

The admin creates a **macPools** resource on the Network Controller.

```
PUT ~/networking/v1/macPools/macPool1
{
  "properties": {
    "startMacAddress": "00-1D-A8-B7-1C-00",
    "endMacAddress": "00-1D-A8-F4-1F-FF"
  }
}
```

## **5 Security**

### **5.1 Security Considerations for Implementers**

This implementation does not have any security considerations.

### **5.2 Index of Security Parameters**

None.

## 6 Appendix A: Full JSON Schema

### 6.1 accessControlLists

#### 6.1.1 PUT Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for Access Control Lists",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "aclRules": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              },
              "resourceId": {
                "type": "string"
              },
              "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
              },
              "etag": {
                "type": "string"
              }
            }
          }
        }
      }
    }
  }
}
```

```

    },
    "properties": {
      "type": "object",
      "properties": {
        "protocol": {
          "enum": [ "ALL", "all", "All", "TCP", "Tcp", "tcp", "UDP", "Udp", "udp",
"HTTP", "Http", "http", "ICMPv4", "ICMPv6" ]
        },
        "sourcePortRange": {
          "type": "string"
        },
        "destinationPortRange": {
          "type": "string"
        },
        "action": {
          "enum": [ "Allow", "Deny" ]
        },
        "sourceAddressPrefix": {
          "type": "string"
        },
        "destinationAddressPrefix": {
          "type": "string"
        },
        "priority": {
          "type": "string",
          "pattern": "^[1-9][0-9][0-9]+$"
        },
        "type": {
          "enum": [ "Inbound", "Outbound" ]
        },
        "logging": {
          "enum": [ "Enabled", "Disabled" ]
        },
        "description": {
          "type": "string"
        }
      }
    },
    "required": [
      "protocol",
      "sourcePortRange",
      "destinationPortRange",
      "action",
      "sourceAddressPrefix",
      "destinationAddressPrefix",
      "priority",
      "type",
      "logging"
    ]
  }
},
"required": [
  "resourceId",
  "properties"
]
}
},
"required": [
  "aclRules"
]
},
"required": [
  "properties"
]
}

```

## 6.1.2 GET Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for Access Control Lists",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "additionalProperties": false,
        "properties": {
          "status": {
            "enum": [ "Success", "Failure" ]
          },
          "id": {
            "$ref": "#/definitions/GUID"
          },
          "lastUpdatedTime": {
            "type": "string"
          },
          "detailedInfo": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "source": {
                  "type": "string"
                },
                "message": {
                  "type": "string"
                },
                "code": {
                  "type": "string"
                }
              }
            }
          }
        }
      }
    },
    "required": [ "status", "id", "lastUpdatedTime" ]
  },
}
```

```

"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "aclRules": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            },
            "resourceId": {
              "type": "string"
            },
            "resourceMetadata": {
              "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
              "type": "string"
            },
            "instanceId": {
              "$ref": "#/definitions/GUID"
            }
          }
        }
      }
    }
  }
}

```



```

"properties": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "protocol": {
      "enum": [ "All", "TCP", "UDP", "HTTP", "ICMPv4", "ICMPv6" ]
    },
    "sourcePortRange": {
      "type": "string"
    },
    "destinationPortRange": {
      "type": "string"
    },
    "action": {
      "enum": [ "Allow", "Deny" ]
    },
    "sourceAddressPrefix": {
      "type": "string"
    },
    "destinationAddressPrefix": {
      "type": "string"
    },
    "priority": {
      "type": "string",
      "pattern": "^[1-9][0-9][0-9]+$"
    },
    "type": {
      "enum": [ "Inbound", "Outbound" ]
    },
    "logging": {
      "enum": [ "Enabled", "Disabled" ]
    },
    "description": {
      "type": "string"
    }
  },
  "required": [
    "provisioningState",
    "protocol",
    "sourcePortRange",
    "destinationPortRange",
    "action",
    "sourceAddressPrefix",
    "destinationAddressPrefix",
    "priority",
    "type",
    "logging"
  ]
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  }
},

```

```

        "required": [
            "resourceRef"
        ]
    },
    "subnets": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "configurationState": {
        "$ref": "#/definitions/configurationState"
    }
},
"required": [
    "provisioningState",
    "aclRules"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.1.3 GET ALL schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for Access Control Lists",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "additionalProperties": false,
        "properties": {
          "status": {
            "enum": [ "Success", "Failure" ]
          },
          "id": {
            "$ref": "#/definitions/GUID"
          },
          "lastUpdatedTime": {
            "type": "string"
          }
        },
        "detailedInfo": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "source": {
                "type": "string"
              },
              "message": {
                "type": "string"
              },
              "code": {
                "type": "string"
              }
            }
          }
        }
      }
    },
    "required": [ "status", "id", "lastUpdatedTime" ]
  },
  "configurationState": {
    {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [ "Success", "Failure" ]
        },
        "id": {
          "$ref": "#/definitions/GUID"
        },
        "lastUpdatedTime": {
          "type": "string"
        },
        "virtualNetworkInterfaceErrors": {
          "$ref": "#/definitions/detailedInfo"
        }
      },
      "required": [
        "status",
        "id",
        "lastUpdatedTime"
      ]
    },
    "AccessControlList": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {

```

```

    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "aclRules": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            },
            "resourceId": {
              "type": "string"
            },
            "resourceMetadata": {
              "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
              "type": "string"
            },
            "instanceId": {
              "$ref": "#/definitions/GUID"
            },
            "properties": {
              "type": "object",
              "properties": {
                "provisioningState": {
                  "$ref": "#/definitions/provisioningState"
                },
                "protocol": {
                  "enum": [ "All", "TCP", "UDP", "HTTP", "ICMPv4", "ICMPv6" ]
                },
                "sourcePortRange": {
                  "type": "string"
                },
                "destinationPortRange": {
                  "type": "string"
                },
                "action": {
                  "enum": [ "Allow", "Deny" ]
                },
                "sourceAddressPrefix": {
                  "type": "string"
                },
                "destinationAddressPrefix": {
                  "type": "string"
                },
                "priority": {
                  "type": "string",
                  "pattern": "^[1-9][0-9][0-9]+$"
                }
              }
            },
            "type": {
              "enum": [ "Inbound", "Outbound" ]
            }
          }
        }
      }
    }
  }
}

```

```

    },
    "logging": {
      "enum": [ "Enabled", "Disabled" ]
    },
    "description": {
      "type": "string"
    }
  },
  "required": [
    "provisioningState",
    "protocol",
    "sourcePortRange",
    "destinationPortRange",
    "action",
    "sourceAddressPrefix",
    "destinationAddressPrefix",
    "priority",
    "type",
    "logging"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"configurationState": {
  "$ref": "#/definitions/configurationState"
}
},
"required": [
  "provisioningState",
  "aclRules"
]
}
},
"required": [

```

```

        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
},
"AccessControlListArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/AccessControlList" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/AccessControlListArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["nextLink"]
}

```

## 6.1.4 aclRules

### 6.1.4.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for Access Control List Rules",
    "type": "object",
    "definitions": {
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    },
    "properties": {
        "resourceId": {
            "type": "string"
        },
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "properties": {
            "type": "object",
            "properties": {
                "protocol": {
                    "enum": [ "ALL", "all", "All", "TCP", "Tcp", "tcp", "UDP", "Udp", "udp", "HTTP",
                        "Http", "http", "ICMPv4", "ICMPv6" ]
                }
            }
        }
    }
}

```

```

    },
    "sourcePortRange": {
      "type": "string"
    },
    "destinationPortRange": {
      "type": "string"
    },
    },
    "action": {
      "enum": [ "Allow", "Deny" ]
    },
    },
    "sourceAddressPrefix": {
      "type": "string"
    },
    },
    "destinationAddressPrefix": {
      "type": "string"
    },
    },
    "priority": {
      "type": "string",
      "pattern": "^[1-9][0-9][0-9]+$"
    },
    },
    "type": {
      "enum": [ "Inbound", "Outbound" ]
    },
    },
    "logging": {
      "enum": [ "Enabled", "Disabled" ]
    },
    },
    "description": {
      "type": "string"
    }
  },
  "required": [
    "protocol",
    "sourcePortRange",
    "destinationPortRange",
    "action",
    "sourceAddressPrefix",
    "destinationAddressPrefix",
    "priority",
    "type",
    "logging"
  ]
}
},
"required": [
  "properties"
]
}

```

#### 6.1.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for Access Control List Rules",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    "groupId": {
      "type": "string"
    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "protocol": {
        "enum": [ "All", "TCP", "UDP", "HTTP", "ICMPv4", "ICMPv6" ]
      },
      "sourcePortRange": {
        "type": "string"
      },
      "destinationPortRange": {
        "type": "string"
      },
      "action": {
        "enum": [ "Allow", "Deny" ]
      },
      "sourceAddressPrefix": {
        "type": "string"
      },
      "destinationAddressPrefix": {
        "type": "string"
      },
      "priority": {
        "type": "string",
        "pattern": "^[1-9][0-9][0-9]+$"
      },
      "type": {
        "enum": [ "Inbound", "Outbound" ]
      },
      "logging": {
        "enum": [ "Enabled", "Disabled" ]
      },
      "description": {
        "type": "string"
      }
    }
  },
  "required": [

```



```

        "provisioningState",
        "protocol",
        "sourcePortRange",
        "destinationPortRange",
        "action",
        "sourceAddressPrefix",
        "destinationAddressPrefix",
        "priority",
        "type",
        "logging"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.1.4.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for Access Control List Rules",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "aclRule": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      }
    }
  },

```

```

    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "protocol": {
          "enum": [ "All", "TCP", "UDP", "HTTP", "ICMPv4", "ICMPv6" ]
        },
        "sourcePortRange": {
          "type": "string"
        },
        "destinationPortRange": {
          "type": "string"
        },
        "action": {
          "enum": [ "Allow", "Deny" ]
        },
        "sourceAddressPrefix": {
          "type": "string"
        },
        "destinationAddressPrefix": {
          "type": "string"
        },
        "priority": {
          "type": "string",
          "pattern": "^[1-9][0-9][0-9]+$"
        },
        "type": {
          "enum": [ "Inbound", "Outbound" ]
        },
        "logging": {
          "enum": [ "Enabled", "Disabled" ]
        },
        "description": {
          "type": "string"
        }
      }
    },
    "required": [
      "provisioningState",
      "protocol",
      "sourcePortRange",
      "destinationPortRange",
      "action",
      "sourceAddressPrefix",
      "destinationAddressPrefix",
      "priority",
      "type",
      "logging"
    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"aclRuleArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,

```

```

    "items": { "$ref": "#/definitions/aclRule" }
  },
  "properties": {
    "value": { "$ref": "#/definitions/aclRuleArray" },
    "nextLink": {
      "type": "string",
      "format": "uri",
      "default": ""
    }
  },
  "required": ["nextLink"]
}

```

## 6.2 credentials

### 6.2.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for credentials",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "certType": {
    "type": "object",
    "properties": {
      "type": {
        "enum": [ "X509Certificate" ]
      },
      "value": {
        "type": "string"
      }
    }
  },
  "required": [
    "type",
    "value"
  ]
},
  "usernameType": {
    "type": "object",
    "properties": {
      "type": {
        "enum": [ "usernamePassword" ]
      },
      "userName": {
        "type": "string"
      },
      "value": {

```

```

        "type": "string"
      },
    ],
    "required": [
      "type",
      "userName",
      "value"
    ]
  }
},
"properties": {
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "oneOf": [
      { "$ref": "#/definitions/certType" },
      { "$ref": "#/definitions/usernameType" }
    ]
  }
},
"required": [
  "properties"
]
}

```

## 6.2.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for credentials",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  }
}

```

```

    },
    "certType": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "type": {
          "enum": [ "X509Certificate" ]
        },
        "value": {
          "type": "string"
        }
      },
      "required": [
        "provisioningState",
        "type",
        "value"
      ]
    },
    "usernameType": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "type": {
          "enum": [ "usernamePassword" ]
        },
        "userName": {
          "type": "string"
        },
        "value": {
          "type": "string"
        }
      },
      "required": [
        "provisioningState",
        "type",
        "userName",
        "value"
      ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "oneOf": [
        { "$ref": "#/definitions/certType" },
        { "$ref": "#/definitions/usernameType" }
      ]
    }
  }
},

```

```

    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
}

```

### 6.2.3 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for credentials v2",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "certType": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "type": {
          "enum": [ "X509Certificate" ]
        },
        "value": {
          "type": "string"
        },
        "networks": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            },
            "required": [
              "resourceRef"
            ]
          }
        }
      }
    }
  }
}

```

```

    }
  },
  "required": [
    "provisioningState",
    "type",
    "value"
  ]
},
"usernameType": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "type": {
      "enum": [ "usernamePassword" ]
    },
    "userName": {
      "type": "string"
    },
    "value": {
      "type": "string"
    }
  },
  "required": [
    "provisioningState",
    "type",
    "userName",
    "value"
  ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "oneOf": [
      { "$ref": "#/definitions/certType" },
      { "$ref": "#/definitions/usernameType" }
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

## 6.2.4 GET ALL schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for credentials",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "certType": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "type": {
          "enum": [ "X509Certificate" ]
        },
        "value": {
          "type": "string"
        }
      },
      "required": [
        "provisioningState",
        "type",
        "value"
      ]
    },
    "usernameType": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "type": {
          "enum": [ "usernamePassword" ]
        },
        "userName": {
          "type": "string"
        },
        "value": {
          "type": "string"
        }
      }
    }
  }
}
```



```

    "required": [
      "provisioningState",
      "type",
      "userName",
      "value"
    ]
  },
  "credential": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "tags": {
        "additionalProperties": { "type": "string" }
      },
      "properties": {
        "oneOf": [
          { "$ref": "#/definitions/certType" },
          { "$ref": "#/definitions/usernameType" }
        ]
      }
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  },
  "credentialArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/credential" }
  },
  "properties": {
    "value": { "$ref": "#/definitions/credentialArray" },
    "nextLink": {
      "type": "string",
      "format": "uri",
      "default": ""
    }
  },
  "required": ["nextLink"]
}

```

### 6.2.5 GET ALL schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for credentials v2",
  "type": "object",

```

```

"definitions": {
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "resourceMetadata": {
    "properties": {
      "client": {
        "type": "string"
      },
      "tenantId": {
        "type": "string"
      },
      "groupId": {
        "type": "string"
      },
      "resourceName": {
        "type": "string"
      },
      "originalHref": {
        "type": "string"
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "certType": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "type": {
        "enum": [ "X509Certificate" ]
      },
      "value": {
        "type": "string"
      },
      "networks": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    }
  },
  "required": [
    "provisioningState",
    "type",
    "value"
  ]
},
"usernameType": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "type": {
      "enum": [ "usernamePassword" ]
    }
  },

```

```

        "userName": {
            "type": "string"
        },
        "value": {
            "type": "string"
        }
    },
    "required": [
        "provisioningState",
        "type",
        "userName",
        "value"
    ]
},
"credential": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "$ref": "#/definitions/GUID"
        },
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
            "additionalProperties": { "type": "string" }
        },
        "properties": {
            "oneOf": [
                { "$ref": "#/definitions/certType" },
                { "$ref": "#/definitions/usernameType" }
            ]
        }
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
},
"credentialArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/credential" }
},
"properties": {
    "value": { "$ref": "#/definitions/credentialArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
},
"required": ["nextLink"]
}

```

## 6.3 GatewayPools

### 6.3.1 PUT schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for GatewayPools",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "type": "object",
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "ipConfiguration": {
          "type": "object",
          "properties": {
            "greVipSubnets": {
              "type": "array",
              "items": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "resourceRef"
              ]
            }
          },
          "publicIPAddresses": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "resourceRef": {
                  "type": "string"
                }
              }
            }
          }
        }
      }
    }
  }
}
```

```

        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "required": [
    "greVipSubnets",
    "publicIPAddresses"
  ]
},
"redundantGatewayCount": {
  "type": "integer"
},
"gatewayCapacityKiloBitsPerSecond": {
  "type": "integer"
},
"RadiusServer": {
  "type": "string"
},
"RadiusSecret": {
  "type": "string"
},
"required": [
  "ipConfiguration",
  "redundantGatewayCount",
  "gatewayCapacityKiloBitsPerSecond",
  "RadiusServer",
  "RadiusSecret",
  "type"
]
}
},
"required": [
  "resourceId",
  "properties"
]
}

```

### 6.3.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for GatewayPools",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {

```

```

        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
}
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"type": "object",
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "type": {
                "type": "string"
            },
            "ipConfiguration": {
                "type": "object",
                "properties": {
                    "greVipSubnets": {
                        "type": "array",
                        "items": {
                            "type": "object",
                            "properties": {
                                "resourceRef": {
                                    "type": "string"
                                }
                            }
                        },
                        "required": [
                            "resourceRef"
                        ]
                    },
                    "publicIPAddresses": {
                        "type": "array",
                        "items": {
                            "type": "object",
                            "properties": {
                                "resourceRef": {
                                    "type": "string"
                                }
                            }
                        },
                        "required": [
                            "resourceRef"
                        ]
                    }
                }
            },
            "required": [
                "greVipSubnets",
                "publicIPAddresses"
            ]
        }
    }
}
]

```

```

    },
    "redundantGatewayCount": {
      "type": "integer"
    },
    "gatewayCapacityKiloBitsPerSecond": {
      "type": "integer"
    },
    "gateways": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "VirtualGateways": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "required": [
    "provisioningState",
    "type",
    "ipConfiguration",
    "redundantGatewayCount",
    "gatewayCapacityKiloBitsPerSecond",
    "gateways",
    "VirtualGateways"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

### 6.3.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for GatewayPools",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {

```

```

"properties": {
  "client": {
    "type": "string"
  },
  "tenantId": {
    "type": "string"
  },
  "groupId": {
    "type": "string"
  },
  "resourceName": {
    "type": "string"
  },
  "originalHref": {
    "type": "string"
  }
}
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"type": "object",
"properties": {
  "value": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "type": {
              "type": "string"
            }
          }
        },
        "ipConfiguration": {
          "type": "object",
          "properties": {
            "greVipSubnets": {
              "type": "array",
              "items": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "resourceRef"
              ]
            }
          }
        },
        "publicIPAddresses": {
          "type": "array",
          "items": {

```



```

        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"required": [
    "greVipSubnets",
    "publicIPAddresses"
]
},
"redundantGatewayCount": {
    "type": "integer"
},
"gatewayCapacityKiloBitsPerSecond": {
    "type": "integer"
},
"gateways": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"VirtualGateways": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"required": [
    "provisioningState",
    "type",
    "ipConfiguration",
    "redundantGatewayCount",
    "gatewayCapacityKiloBitsPerSecond",
    "gateways",
    "VirtualGateways"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]

```

```

    }
  },
  "nextLink": {
    "type": "string"
  }
},
"required": [
  "value",
  "nextLink"
]
}

```

## 6.4 gateways

### 6.4.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for gateways",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "type": "object",
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "pool": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    }
  },
}

```

```

"types": {
  "type": "array",
  "items": {
    "enum": [ "s2sipsec", "s2sgre", "forwarding", "vpn" ]
  }
},
"virtualServer": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  },
  "required": [
    "resourceRef"
  ]
},
"networkInterfaces": {
  "type": "object",
  "properties": {
    "externalNetworkInterface": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "internalNetworkInterface": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"required": [
  "externalNetworkInterface",
  "internalNetworkInterface"
]
},
"bgpConfig": {
  "type": "object",
  "properties": {
    "extASNumber": {
      "type": "string"
    },
    "bgpPeer": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "peerIP": {
            "type": "string"
          },
          "peerExtAsNumber": {
            "type": "string"
          }
        }
      },
      "required": [
        "peerIP",
        "peerExtAsNumber"
      ]
    }
  }
}

```

```

        }
    },
    "required": [
        "extASNumber",
        "bgpPeer"
    ]
},
"required": [
    "pool",
    "types",
    "virtualServer",
    "networkInterfaces"
]
},
"required": [
    "resourceId",
    "properties"
]
}

```

## 6.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for gateways",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    }
  },

```

```

"instanceId": {
  "$ref": "#/definitions/GUID"
},
"properties": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "VirtualGateways": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "virtualGateway": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "networkConnections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        }
      },
      "bgpRouter": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    },
    "required": [
      "virtualGateway",
      "networkConnections",
      "bgpRouter"
    ]
  }
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    }
  },
  "required": [
    "status",

```

```

        "lastUpdatedTime"
    ]
},
"virtualServer": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
},
"networkInterfaces": {
    "type": "object",
    "properties": {
        "externalNetworkInterface": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        },
        "internalNetworkInterface": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "required": [
        "externalNetworkInterface",
        "internalNetworkInterface"
    ]
},
"type": {
    "type": "string"
},
"state": {
    "type": "string"
},
"healthState": {
    "type": "string"
},
"totalCapacity": {
    "type": "integer"
},
"availableCapacity": {
    "type": "integer"
},
"bgpConfig": {
    "type": "object",
    "properties": {
        "extASNumber": {
            "type": "string"
        },
        "bgpPeer": {
            "type": "array",
            "items": {
                "type": "object",

```

```

        "properties": {
            "peerIP": {
                "type": "string"
            },
            "peerExtAsNumber": {
                "type": "string"
            }
        },
        "required": [
            "peerIP",
            "peerExtAsNumber"
        ]
    }
},
"required": [
    "extASNumber",
    "bgpPeer"
]
},
"connections": {
    "type": "array",
    "items": {}
},
"certificate": {
    "type": "string"
},
"externalIPAddress": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "ipAddress": {
                "type": "string"
            },
            "prefixLength": {
                "type": "integer"
            }
        },
        "required": [
            "ipAddress",
            "prefixLength"
        ]
    }
},
"pool": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"required": [
    "provisioningState",
    "configurationState",
    "networkInterfaces",
    "type",
    "state",
    "healthState",
    "totalCapacity",
    "availableCapacity",
    "bgpConfig",
    "connections",
    "externalIPAddress",
    "pool"
]

```

```

    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}

```

### 6.4.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for gateways",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "type": "object",
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {

```



```

"provisioningState": {
  "$ref": "#/definitions/provisioningState"
},
"VirtualGateways": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "virtualGateway": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "networkConnections": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "bgpRouter": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "required": [
    "virtualGateway",
    "networkConnections",
    "bgpRouter"
  ]
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    }
  },
  "required": [
    "status",
    "lastUpdatedTime"
  ]
},
"virtualServer": {
  "type": "object",
  "properties": {

```

```

        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
},
"networkInterfaces": {
    "type": "object",
    "properties": {
        "externalNetworkInterface": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        },
        "internalNetworkInterface": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "required": [
        "externalNetworkInterface",
        "internalNetworkInterface"
    ]
},
"type": {
    "type": "string"
},
"state": {
    "type": "string"
},
"healthState": {
    "type": "string"
},
"totalCapacity": {
    "type": "integer"
},
"availableCapacity": {
    "type": "integer"
},
"bgpConfig": {
    "type": "object",
    "properties": {
        "extASNumber": {
            "type": "string"
        }
    },
    "bgpPeer": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "peerIP": {
                    "type": "string"
                }
            },
            "peerExtAsNumber": {
                "type": "string"
            }
        }
    }
}

```

```

        }
        },
        "required": [
            "peerIP",
            "peerExtAsNumber"
        ]
    }
},
"required": [
    "extASNumber",
    "bgpPeer"
]
},
"connections": {
    "type": "array",
    "items": {}
},
"externalIPAddress": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "ipAddress": {
                "type": "string"
            },
            "prefixLength": {
                "type": "integer"
            }
        }
    },
    "required": [
        "ipAddress",
        "prefixLength"
    ]
}
},
"pool": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"required": [
    "provisioningState",
    "configurationState",
    "type",
    "state",
    "healthState",
    "totalCapacity",
    "availableCapacity",
    "pool"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"nextLink": {

```

```

        "type": "string"
    }
},
"required": [
    "value",
    "nextLink"
]
}

```

## 6.5 loadBalancers

### 6.5.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadBalancers",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "loadDistribution": {
    "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
  },
  "ipAllocationMethod": {
    "enum": [ "Dynamic", "Static", "Unmanaged" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          }
        }
      }
    }
  }
}

```

```

    "resourceId": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "privateIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "privateIPAllocationMethod": {
          "$ref": "#/definitions/ipAllocationMethod"
        },
        "subnet": {
          "$ref": "#/definitions/resourceRef"
        },
        "loadBalancingRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "inboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "outboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      }
    },
    "required": [
      "properties"
    ]
  },
  "backendAddressPools": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "instanceId": {
          "type": "string"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "backendIPConfigurations": {
              "type": "array",

```

```

        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    },
    "outboundNatRules": {
        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    },
    "loadBalancingRules": {
        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    }
},
"required": [
    "backendIPConfigurations"
]
}
},
"required": [
    "properties"
]
}
},
"loadBalancingRules": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "instanceId": {
                "type": "string"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "frontendIPConfigurations": {
                        "type": "array",
                        "items": {
                            "$ref": "#/definitions/resourceRef"
                        }
                    },
                    "protocol": {
                        "$ref": "#/definitions/protocol"
                    },
                    "frontendPort": {
                        "type": "integer"
                    },
                    "backendPort": {
                        "type": "integer"
                    },
                    "enableFloatingIP": {
                        "type": "boolean"
                    },
                    "idleTimeoutInMinutes": {
                        "type": "integer"
                    },
                    "backendAddressPool": {
                        "$ref": "#/definitions/resourceRef"
                    }
                }
            }
        }
    }
}

```

```

    },
    "loadDistribution": {
      "$ref": "#/definitions/loadDistribution"
    }
  },
  "required": [
    "frontendIPConfigurations",
    "protocol",
    "frontendPort"
  ]
}
},
"required": [
  "properties"
]
}
},
"probes": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "port": {
            "type": "integer"
          },
          "intervalInSeconds": {
            "type": "integer"
          },
          "numberOfProbes": {
            "type": "integer"
          },
          "loadBalancingRules": {
            "type": "array",
            "items": {
              "$ref": "#/definitions/resourceRef"
            }
          }
        }
      },
      "required": [
        "protocol",
        "port"
      ]
    }
  },
  "required": [
    "properties"
  ]
}
},
"outboundNatRules": {
  "type": "array",
  "items": {

```

```

    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "frontendIPConfigurations": {
            "type": "array",
            "items": {
              "$ref": "#/definitions/resourceRef"
            }
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "backendAddressPool": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "required": [
          "frontendIPConfigurations",
          "protocol",
          "backendAddressPool"
        ]
      }
    },
    "required": [
      "properties"
    ]
  }
},
"required": [
  "frontendIPConfigurations"
]
}
},
"required": [
  "properties"
]
}

```

## 6.5.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
  },

```



```

    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "loadDistribution": {
    "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
  },
  "ipAllocationMethod": {
    "enum": [ "Dynamic", "Static", "Unmanaged" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            },
            "resourceId": {
              "type": "string"
            },
            "etag": {
              "type": "string"
            },
            "instanceId": {
              "$ref": "#/definitions/GUID"
            },
            "properties": {
              "type": "object",
              "properties": {
                "provisioningState": {
                  "$ref": "#/definitions/provisioningState"
                },
                "privateIPAddress": {
                  "type": "string",
                  "format": "ipv4"
                },
                "privateIPAllocationMethod": {
                  "$ref": "#/definitions/ipAllocationMethod"
                }
              }
            }
          }
        }
      }
    }
  }
}

```

```

    },
    "subnet": {
      "$ref": "#/definitions/resourceRef"
    },
    "loadBalancingRules": {
      "type": "array",
      "items": {
        "$ref": "#/definitions/resourceRef"
      }
    },
    "inboundNatRules": {
      "type": "array",
      "items": {
        "$ref": "#/definitions/resourceRef"
      }
    },
    "outboundNatRules": {
      "type": "array",
      "items": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  },
  "required": [
    "provisioningState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"backendAddressPools": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          }
        },
        "backendIPConfigurations": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "outboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      }
    }
  }
}

```

```

    }
  },
  "loadBalancingRules": {
    "type": "array",
    "items": {
      "$ref": "#/definitions/resourceRef"
    }
  }
},
"required": [
  "provisioningState",
  "backendIPConfigurations"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"probes": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "port": {
            "type": "integer"
          },
          "intervalInSeconds": {
            "type": "integer"
          },
          "numberOfProbes": {
            "type": "integer"
          }
        }
      },
      "loadBalancingRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      }
    }
  },
  "required": [
    "provisioningState",
    "protocol",
    "port"
  ]
}

```

```

    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}
},
"inboundNatRules": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "frontendIPConfigurations": {
            "type": "array",
            "items": {
              "$ref": "#/definitions/resourceRef"
            }
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "frontendPort": {
            "type": "integer"
          },
          "backendPort": {
            "type": "integer"
          },
          "enableFloatingIP": {
            "type": "boolean"
          },
          "idleTimeoutInMinutes": {
            "type": "integer"
          },
          "backendIPConfiguration": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      },
      "required": [
        "provisioningState",
        "frontendIPConfigurations",
        "protocol",
        "frontendPort",
        "enableFloatingIP"
      ]
    }
  },
  "required": [

```

```

        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
},
"outboundNatRules": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "frontendIPConfigurations": {
                        "type": "array",
                        "items": {
                            "$ref": "#/definitions/resourceRef"
                        }
                    },
                    "protocol": {
                        "$ref": "#/definitions/protocol"
                    },
                    "backendAddressPool": {
                        "$ref": "#/definitions/resourceRef"
                    }
                }
            },
            "required": [
                "provisioningState",
                "frontendIPConfigurations",
                "protocol",
                "backendAddressPool"
            ]
        }
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
},
"loadBalancingRules": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {

```

```

        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "frontendIPConfigurations": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "protocol": {
                "$ref": "#/definitions/protocol"
            },
            "frontendPort": {
                "type": "integer"
            },
            "backendPort": {
                "type": "integer"
            },
            "enableFloatingIP": {
                "type": "boolean"
            },
            "idleTimeoutInMinutes": {
                "type": "integer"
            },
            "backendAddressPool": {
                "$ref": "#/definitions/resourceRef"
            },
            "loadDistribution": {
                "$ref": "#/definitions/loadDistribution"
            }
        }
    },
    "required": [
        "provisioningState",
        "frontendIPConfigurations",
        "protocol",
        "frontendPort",
        "loadDistribution"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
]
}
},
"required": [
    "provisioningState",
    "frontendIPConfigurations"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
]

```

```
}
```

### 6.5.3 GET ALL schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ALL loadBalancers",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "protocol": {
      "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "loadDistribution": {
      "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
    },
    "ipAllocationMethod": {
      "enum": [ "Dynamic", "Static", "Unmanaged" ]
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "frontendIPConfigurations": {
                "type": "array",
                "items": {
                  "type": "object",
                  "properties": {

```

```

    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "privateIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "privateIPAllocationMethod": {
          "$ref": "#/definitions/ipAllocationMethod"
        },
        "subnet": {
          "$ref": "#/definitions/resourceRef"
        },
        "loadBalancingRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "inboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "outboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      }
    },
    "required": [
      "provisioningState"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"backendAddressPools": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {

```



```

        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "backendIPConfigurations": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "outboundNatRules": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "loadBalancingRules": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            }
        }
    },
    "required": [
        "provisioningState",
        "backendIPConfigurations"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"probes": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            }
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "$ref": "#/definitions/GUID"
        },
        "properties": {
            "type": "object",
            "properties": {
                "provisioningState": {
                    "$ref": "#/definitions/provisioningState"
                }
            }
        }
    }
}

```

```

    },
    "protocol": {
      "$ref": "#/definitions/protocol"
    },
    "port": {
      "type": "integer"
    },
    "intervalInSeconds": {
      "type": "integer"
    },
    "numberOfProbes": {
      "type": "integer"
    },
    "loadBalancingRules": {
      "type": "array",
      "items": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  ],
  "required": [
    "provisioningState",
    "protocol",
    "port"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"inboundNatRules": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "frontendIPConfigurations": {
            "type": "array",
            "items": {
              "$ref": "#/definitions/resourceRef"
            }
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "frontendPort": {
            "type": "integer"
          }
        }
      }
    }
  }
}

```

```

    },
    "backendPort": {
      "type": "integer"
    },
    "enableFloatingIP": {
      "type": "boolean"
    },
    "idleTimeoutInMinutes": {
      "type": "integer"
    },
    "backendIPConfiguration": {
      "$ref": "#/definitions/resourceRef"
    }
  },
  "required": [
    "provisioningState",
    "frontendIPConfigurations",
    "protocol",
    "frontendPort",
    "enableFloatingIP"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"outboundNatRules": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "frontendIPConfigurations": {
            "type": "array",
            "items": {
              "$ref": "#/definitions/resourceRef"
            }
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "backendAddressPool": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      },
      "required": [
        "provisioningState",

```

```

        "frontendIPConfigurations",
        "protocol",
        "backendAddressPool"
    ]
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
},
"loadBalancingRules": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "frontendIPConfigurations": {
                        "type": "array",
                        "items": {
                            "$ref": "#/definitions/resourceRef"
                        }
                    },
                    "protocol": {
                        "$ref": "#/definitions/protocol"
                    },
                    "frontendPort": {
                        "type": "integer"
                    },
                    "backendPort": {
                        "type": "integer"
                    },
                    "enableFloatingIP": {
                        "type": "boolean"
                    },
                    "idleTimeoutInMinutes": {
                        "type": "integer"
                    },
                    "backendAddressPool": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "loadDistribution": {
                        "$ref": "#/definitions/loadDistribution"
                    }
                }
            },
            "required": [
                "provisioningState",
                "frontendIPConfigurations",
                "protocol",
                "frontendPort",
                "loadDistribution"
            ]
        }
    }
}

```

```

        }
      },
      "required": [
        "resourceRef",
        "resourceId",
        "instanceId",
        "properties"
      ]
    }
  },
  "required": [
    "provisioningState",
    "frontendIPConfigurations"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
}
}

```

## 6.5.4 backendAddressPools

### 6.5.4.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadBalancers backendAddressPools",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {

```

```

    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "backendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "outboundNatRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "loadBalancingRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      }
    }
  },
  "required": [
    "backendIPConfigurations"
  ]
},
"required": [
  "properties"
]
}

```

#### 6.5.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers backendAddressPools",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},

```

```

"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "backendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "outboundNatRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "loadBalancingRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      }
    }
  },
  "required": [
    "provisioningState",
    "backendIPConfigurations"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

### 6.5.4.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers backendAddressPools",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    }
  },

```

```

    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "value": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "backendIPConfigurations": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            },
            "outboundNatRules": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            },
            "loadBalancingRules": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            }
          }
        },
        "required": [
          "provisioningState",
          "backendIPConfigurations"
        ]
      }
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
}

```



```

    },
    "nextLink": {
      "type": "string",
      "format": "uri",
      "default": ""
    }
  },
  "required": [
    "nextLink"
  ]
}

```

## 6.5.5 frontendIPConfigurations

### 6.5.5.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadbalancers frontendipconfigurations",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "ipAllocationMethod": {
    "enum": [ "Dynamic", "Static", "Unmanaged" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "publicIPAddress": {
        "$ref": "#/definitions/resourceRef"
      },
      "privateIPAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "privateIPAllocationMethod": {
        "$ref": "#/definitions/ipAllocationMethod"
      },
      "subnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadBalancingRules": {

```

```

        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    },
    "inboundNatRules": {
        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    },
    "outboundNatRules": {
        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        }
    }
},
"oneOf": [
    {
        "type": "object",
        "required": [ "publicIPAddress" ]
    },
    {
        "type": "object",
        "required": [ "privateIPAddress" ]
    }
]
}
},
"required": [
    "properties"
]
}

```

### 6.5.5.2 PUT schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for loadbalancers frontendipconfigurations v2",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "protocol": {
        "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "ipAllocationMethod": {
        "enum": [ "Dynamic", "Static", "Unmanaged" ]
    }
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    }
},

```

```

    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "publicIPAddress": {
          "$ref": "#/definitions/resourceRef"
        },
        "privateIPAddress": {
          "type": "string",
          "oneOf": [
            { "format": "ipv4" },
            { "format": "ipv6" }
          ]
        },
        "privateIPAllocationMethod": {
          "$ref": "#/definitions/ipAllocationMethod"
        },
        "subnet": {
          "$ref": "#/definitions/resourceRef"
        },
        "loadBalancingRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "inboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "outboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      },
      "oneOf": [
        {
          "type": "object",
          "required": [ "publicIPAddress" ]
        },
        {
          "type": "object",
          "required": [ "privateIPAddress" ]
        }
      ]
    },
    "required": [
      "properties"
    ]
  }
}

```

### 6.5.5.3 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadbalancers frontendipconfigurations v2",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,

```

```

    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "ipAllocationMethod": {
    "enum": [ "Dynamic", "Static", "Unmanaged" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "publicIPAddress": {
        "$ref": "#/definitions/resourceRef"
      },
      "privateIPAddress": {
        "type": "string",
        "oneOf": [
          { "format": "ipv4" },
          { "format": "ipv6" }
        ]
      },
      "privateIPAllocationMethod": {
        "$ref": "#/definitions/ipAllocationMethod"
      },
      "subnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadBalancingRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "inboundNatRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "outboundNatRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      }
    }
  },
  "oneOf": [
    {
      "type": "object",
      "required": [ "publicIPAddress" ]
    },
    {

```

```

        "type": "object",
        "required": [ "privateIPAddress" ]
    }
]
},
"required": [
    "properties"
]
}

```

#### 6.5.5.4 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadbalancers frontendipconfigurations v2",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "ipAllocationMethod": {
    "enum": [ "Dynamic", "Static", "Unmanaged" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "resourceCounters": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "name": {
          "enum": [
            "TotalPackets",
            "DroppedPackets",
            "DroppedPacketsIPv6",
            "FlowEntries",
            "DroppedFlowEntries",
            "SynPackets",
            "AverageBandwidth",
            "PacketsPerSecond"
          ]
        }
      }
    },
    "unit": {
      "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
    },
    "currentValue": {
      "type": "number"
    },
    "context": {

```

```

        "type": "object",
        "properties": {
            "source": {
                "enum": [ "SoftwareLoadBalancer" ]
            },
            "category": {
                "enum": [ "Performance" ]
            }
        },
        "required": [ "source", "category" ]
    }
},
"required": [ "name", "unit", "currentValue", "context" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "publicIPAddress": {
                "$ref": "#/definitions/resourceRef"
            },
            "privateIPAddress": {
                "type": "string",
                "oneOf": [
                    {"format": "ipv4"},
                    {"format": "ipv6"}
                ]
            },
            "privateIPAllocationMethod": {
                "$ref": "#/definitions/ipAllocationMethod"
            },
            "subnet": {
                "$ref": "#/definitions/resourceRef"
            },
            "loadBalancingRules": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "inboundNatRules": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "outboundNatRules": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "counters": {

```

```

        "$ref": "#/definitions/resourceCounters"
    }
},
"required": [
    "provisioningState"
],
"oneOf": [
    {
        "type": "object",
        "required": [ "publicIPAddress" ]
    },
    {
        "type": "object",
        "required": [ "privateIPAddress" ]
    }
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.5.5.5 GET ALL schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for ALL loadBalancers frontendIPConfigurations",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        },
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "protocol": {
            "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
        },
        "ipAllocationMethod": {
            "enum": [ "Dynamic", "Static", "Unmanaged" ]
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        }
    },
    "properties": {
        "value": {
            "type": "array",
            "items": {
                "type": "object",
                "properties": {

```

```

    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "privateIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "privateIPAllocationMethod": {
          "$ref": "#/definitions/ipAllocationMethod"
        },
        "subnet": {
          "$ref": "#/definitions/resourceRef"
        },
        "loadBalancingRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "inboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "outboundNatRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      }
    },
    "required": [
      "provisioningState"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
]

```



```
}
```

### 6.5.5.6 GET ALL schema v2

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ALL loadbalancers frontendipconfigurations v2",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "protocol": {
      "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "ipAllocationMethod": {
      "enum": [ "Dynamic", "Static", "Unmanaged" ]
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceCounters": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "name": {
            "enum": [
              "TotalPackets",
              "DroppedPackets",
              "DroppedPacketsIPv6",
              "FlowEntries",
              "DroppedFlowEntries",
              "SynPackets",
              "AverageBandwidth",
              "PacketsPerSecond"
            ]
          }
        }
      },
      "unit": {
        "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
      },
      "currentValue": {
        "type": "number"
      },
      "context": {
        "type": "object",
        "properties": {
          "source": {
            "enum": [ "SoftwareLoadBalancer" ]
          },
          "category": {
            "enum": [ "Performance" ]
          }
        }
      }
    }
  }
}
```

```

    "required": [ "source","category" ]
  }
},
"required": [ "name", "unit", "currentValue", "context" ]
}
},
"properties": {
  "value": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "publicIPAddress": {
              "$ref": "#/definitions/resourceRef"
            },
            "privateIPAddress": {
              "type": "string",
              "oneOf": [
                {"format": "ipv4"},
                {"format": "ipv6"}
              ]
            },
            "privateIPAllocationMethod": {
              "$ref": "#/definitions/ipAllocationMethod"
            },
            "subnet": {
              "$ref": "#/definitions/resourceRef"
            },
            "loadBalancingRules": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            },
            "inboundNatRules": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            },
            "outboundNatRules": {
              "type": "array",
              "items": {
                "$ref": "#/definitions/resourceRef"
              }
            },
            "counters": {
              "$ref": "#/definitions/resourceCounters"
            }
          }
        },
        "required": [

```

```

        "provisioningState"
    ],
    "oneOf": [
        {
            "type": "object",
            "required": [ "publicIPAddress" ]
        },
        {
            "type": "object",
            "required": [ "privateIPAddress" ]
        }
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
}
},
"required": [
    "nextLink"
]
}
}

```

## 6.5.6 inboundNatRules

### 6.5.6.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for loadbalancers inboundNatRules",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "protocol": {
        "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {

```

```

    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "frontendPort": {
        "type": "integer"
      },
      "backendPort": {
        "type": "integer"
      },
      "enableFloatingIP": {
        "type": "boolean"
      },
      "idleTimeoutInMinutes": {
        "type": "integer"
      },
      "backendIPConfiguration": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  },
  "required": [
    "frontendIPConfigurations",
    "protocol",
    "frontendPort"
  ]
},
"required": [
  "properties"
]
}

```

### 6.5.6.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers outboundNatRules",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {

```

```

        "type": "string",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "protocol": {
        "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "frontendIPConfigurations": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "protocol": {
                "$ref": "#/definitions/protocol"
            },
            "frontendPort": {
                "type": "integer"
            },
            "backendPort": {
                "type": "integer"
            },
            "enableFloatingIP": {
                "type": "boolean"
            },
            "idleTimeoutInMinutes": {
                "type": "integer"
            },
            "backendIPConfiguration": {
                "$ref": "#/definitions/resourceRef"
            }
        }
    },
    "required": [
        "provisioningState",
        "frontendIPConfigurations",
        "protocol",
        "frontendPort"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
]

```

```
}
```

### 6.5.6.3 GET ALL schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers inboundNatRules",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "protocol": {
      "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "frontendIPConfigurations": {
                "type": "array",
                "items": {
                  "$ref": "#/definitions/resourceRef"
                }
              },
              "protocol": {
                "$ref": "#/definitions/protocol"
              },
              "frontendPort": {
                "type": "integer"
              }
            }
          }
        }
      }
    }
  }
}
```

```

    },
    "backendPort": {
      "type": "integer"
    },
    "enableFloatingIP": {
      "type": "boolean"
    },
    "idleTimeoutInMinutes": {
      "type": "integer"
    },
    "backendIPConfiguration": {
      "$ref": "#/definitions/resourceRef"
    }
  },
  "required": [
    "provisioningState",
    "frontendIPConfigurations",
    "protocol",
    "frontendPort"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
}
}

```

## 6.5.7 loadBalancingRules

### 6.5.7.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadBalancers loadBalancingRules",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "loadDistribution": {

```

```

    "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "frontendPort": {
        "type": "integer"
      },
      "backendPort": {
        "type": "integer"
      },
      "enableFloatingIP": {
        "type": "boolean"
      },
      "idleTimeoutInMinutes": {
        "type": "integer"
      },
      "backendAddressPool": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadDistribution": {
        "$ref": "#/definitions/loadDistribution"
      }
    }
  },
  "required": [
    "frontendIPConfigurations",
    "protocol",
    "frontendPort"
  ]
}
},
"required": [
  "properties"
]
}

```

### 6.5.7.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadbalancers loadBalancingRules",
  "type": "object",
  "definitions": {
    "resourceRef": {

```



```

"type": "object",
"additionalProperties": false,
"properties": {
  "resourceRef": {
    "type": "string"
  }
},
"required": [
  "resourceRef"
]
},
"GUID": {
  "type": "string",
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"protocol": {
  "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
},
"loadDistribution": {
  "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "frontendPort": {
        "type": "integer"
      },
      "backendPort": {
        "type": "integer"
      },
      "enableFloatingIP": {
        "type": "boolean"
      },
      "idleTimeoutInMinutes": {
        "type": "integer"
      },
      "backendAddressPool": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadDistribution": {
        "$ref": "#/definitions/loadDistribution"
      }
    }
  }
},

```

```

    "required": [
      "provisioningState",
      "frontendIPConfigurations",
      "protocol",
      "frontendPort"
    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
  ]
}

```

### 6.5.7.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ALL loadBalancers loadBalancingRules",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "loadDistribution": {
    "enum": [ "Default", "SourceIP", "SourceIPProtocol" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "value": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        }
      }
    }
  }
}

```

```

    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "frontendIPConfigurations": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        },
        "protocol": {
          "$ref": "#/definitions/protocol"
        },
        "frontendPort": {
          "type": "integer"
        },
        "backendPort": {
          "type": "integer"
        },
        "enableFloatingIP": {
          "type": "boolean"
        },
        "idleTimeoutInMinutes": {
          "type": "integer"
        },
        "backendAddressPool": {
          "$ref": "#/definitions/resourceRef"
        },
        "loadDistribution": {
          "$ref": "#/definitions/loadDistribution"
        }
      },
      "required": [
        "provisioningState",
        "frontendIPConfigurations",
        "protocol",
        "frontendPort"
      ]
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  },
  "required": [
    "nextLink"
  ]
}

```

## 6.5.8 outboundNatRules

### 6.5.8.1 PUT schema

```
{
```

```

"$schema": "http://json-schema.org/draft-04/schema#",
"title": "PUT JSON Schema for loadBalancers outboundNatRules",
"type": "object",
"definitions": {
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"protocol": {
  "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "backendAddressPool": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  },
  "required": [
    "frontendIPConfigurations",
    "protocol",
    "backendAddressPool"
  ]
}
},
"required": [
  "properties"
]
}

```

### 6.5.8.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",

```

```

"title": "GET JSON Schema for loadBalancers outboundNatRules",
"type": "object",
"definitions": {
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "frontendIPConfigurations": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "backendAddressPool": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  },
  "required": [
    "provisioningState",
    "frontendIPConfigurations",
    "protocol",
    "backendAddressPool"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId"
]

```

```

    "etag",
    "instanceId",
    "properties"
  ]
}

```

### 6.5.8.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ALL loadBalancers outboundNatRules",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "protocol": {
      "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "frontendIPConfigurations": {
                "type": "array",
                "items": {
                  "$ref": "#/definitions/resourceRef"
                }
              },
              "protocol": {

```

```

        "$ref": "#/definitions/protocol"
    },
    "backendAddressPool": {
        "$ref": "#/definitions/resourceRef"
    }
},
"required": [
    "provisioningState",
    "frontendIPConfigurations",
    "protocol",
    "backendAddressPool"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
}
},
"required": [
    "nextLink"
]
}
}

```

## 6.5.9 probes

### 6.5.9.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for loadBalancers probes",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "protocol": {
        "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {

```

```

    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "port": {
        "type": "integer"
      },
      "intervalInSeconds": {
        "type": "integer"
      },
      "numberOfProbes": {
        "type": "integer"
      },
      "loadBalancingRules": {
        "type": "array",
        "items": {
          "$ref": "#/definitions/resourceRef"
        }
      }
    }
  },
  "required": [
    "protocol",
    "port"
  ]
}
},
"required": [
  "properties"
]
}

```

### 6.5.9.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancers probes",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
}

```



```

    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "protocol": {
          "$ref": "#/definitions/protocol"
        },
        "port": {
          "type": "integer"
        },
        "intervalInSeconds": {
          "type": "integer"
        },
        "numberOfProbes": {
          "type": "integer"
        },
        "loadBalancingRules": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      }
    },
    "required": [
      "provisioningState",
      "protocol",
      "port"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

### 6.5.9.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ALL loadBalancers probes",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {

```

```

        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
},
"GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"type": "object",
"properties": {
    "value": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                },
                "resourceId": {
                    "type": "string"
                },
                "etag": {
                    "type": "string"
                },
                "instanceId": {
                    "$ref": "#/definitions/GUID"
                },
                "properties": {
                    "type": "object",
                    "properties": {
                        "provisioningState": {
                            "$ref": "#/definitions/provisioningState"
                        },
                        "protocol": {
                            "$ref": "#/definitions/protocol"
                        },
                        "port": {
                            "type": "integer"
                        },
                        "intervalInSeconds": {
                            "type": "integer"
                        },
                        "numberOfProbes": {
                            "type": "integer"
                        },
                        "loadBalancingRules": {
                            "type": "array",
                            "items": {
                                "$ref": "#/definitions/resourceRef"
                            }
                        }
                    }
                },
                "required": [
                    "provisioningState",
                    "protocol",
                    "port"
                ]
            }
        }
    }
}
}

```

```

    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
}
}

```

## 6.6 loadBalancerManager

### 6.6.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadBalancerManager",
  "type": "object",
  "definitions": {
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "loadBalancerManagerIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "outboundNatIPExemptions": {

```

```

        "type": "array",
        "items": {
            "type": "string",
            "format": "ipv4"
        }
    },
    "vipIpPools": {
        "type": "array",
        "items": {
            "$ref": "#/definitions/resourceRef"
        },
        "minItems": 1
    }
},
"required": [
    "loadBalancerManagerIPAddress",
    "outboundNatIPExemptions",
    "vipIpPools"
]
}
},
"required": [
    "properties"
]
}

```

## 6.6.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for loadBalancerManager",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        },
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "$ref": "#/definitions/GUID"
        },
        "properties": {

```

```

"type": "object",
"properties": {
  "provisioningState": {
    "$ref": "#/definitions/provisioningState"
  },
  "loadBalancerManagerIPAddress": {
    "type": "string",
    "format": "ipv4"
  },
  "outboundNatIPEmptions": {
    "type": "array",
    "items": {
      "type": "string",
      "format": "ipv4"
    }
  },
  "vipIpPools": {
    "type": "array",
    "items": {
      "$ref": "#/definitions/resourceRef"
    },
    "minItems": 1
  }
},
"required": [
  "provisioningState",
  "loadBalancerManagerIPAddress",
  "outboundNatIPEmptions",
  "vipIpPools"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

## 6.7 loadBalancerMuxes

### 6.7.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for loadBalancerMuxes",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
}

```

```

    },
    "peerRouterConfigurations": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "routerName": {
            "type": "string"
          },
          "routerIPAddress": {
            "type": "string",
            "format": "ipv4"
          },
          "peerASN": {
            "type": "integer"
          },
          "id": {
            "type": "string"
          }
        },
        "required": [
          "routerName",
          "routerIPAddress",
          "peerASN",
          "id"
        ]
      }
    },
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "routerConfiguration": {
            "type": "object",
            "properties": {
              "localASN": {
                "type": "integer"
              },
              "peerRouterConfigurations": {
                "$ref": "#/definitions/peerRouterConfigurations"
              }
            }
          },
          "required": [
            "localASN",
            "peerRouterConfigurations"
          ]
        }
      },
      "virtualServer": {
        "$ref": "#/definitions/resourceRef"
      },
      "connections": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "managementAddresses": {
              "type": "array",

```

```

        "items": {
            "type": "string",
            "format": "ipv4"
        }
    },
    "credential": {
        "$ref": "#/definitions/resourceRef"
    },
    "credentialType": {
        "type": "string"
    },
    "protocol": {
        "$ref": "#/definitions/protocol"
    },
    "port": {
        "type": "string"
    }
    },
    "required": [
        "managementAddresses",
        "credential",
        "credentialType"
    ]
}
}
},
"required": [
    "routerConfiguration",
    "virtualServer"
]
}
},
"required": [
    "properties"
]
}
}

```

## 6.7.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for loadBalancerMuxes",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "GUID": {
        "type": "string",
        "pattern": "^([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12})$"
    },
    "protocol": {
        "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "peerRouterConfigurations": {

```

```

"type": "array",
"items": {
  "type": "object",
  "properties": {
    "routerName": {
      "type": "string"
    },
    "routerIPAddress": {
      "type": "string",
      "format": "ipv4"
    },
    "peerASN": {
      "type": "integer"
    },
    "id": {
      "type": "string"
    }
  },
  "required": [
    "routerName",
    "routerIPAddress",
    "peerASN",
    "id"
  ]
},
"configurationState": {
  "type": "object",
  "items": {
    "additionalProperties": false,
    "properties": {
      "status": {
        "enum": [
          "Uninitialized",
          "InProgress",
          "Success",
          "Warning",
          "Failure"
        ]
      }
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "enum": [
              "ResourceGlobal",
              "SoftwareLoadBalancerManager",
              "VirtualNetwork",
              "VirtualSwitch",
              "Firewall"
            ]
          }
        },
        "message": {
          "type": "string"
        },
        "code": {
          "enum": [
            "Unknown",
            "Success",
            "InProgress",
            "HostUnreachable",
            "PAIPAddressExhausted",
            "PAMacAddressExhausted",
            "PAAddressConfigurationFailure",
            "CertificateNotTrusted",

```



```

        "CertificateNotAuthorized",
        "PolicyConfigurationFailureOnVfp",
        "PolicyConfigurationFailure",
        "HostNotConnectedToController",
        "MultipleVfpEnabledSwitches",
        "DhcpAddressAllocationFailure",
        "DistributedRouterConfigurationFailure",
        "PortBlocked",
        "Overloaded",
        "RoutePublicationFailure",
        "VirtualServerUnreachable",
        "QosConfigurationFailure",
        "InfrastructurePortsBlocked"
    ]
}
}
}
},
"required": [
    "status",
    "lastUpdatedTime"
]
}
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "routerConfiguration": {
                "type": "object",
                "properties": {
                    "localASN": {
                        "type": "integer"
                    },
                    "peerRouterConfigurations": {
                        "$ref": "#/definitions/peerRouterConfigurations"
                    }
                }
            },
            "required": [
                "localASN",
                "peerRouterConfigurations"
            ]
        }
    },
    "virtualServer": {
        "$ref": "#/definitions/resourceRef"
    },
    "connections": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "managementAddresses": {
                    "type": "array",

```

```

        "items": {
            "type": "string",
            "format": "ipv4"
        }
    },
    "credential": {
        "$ref": "#/definitions/resourceRef"
    },
    "credentialType": {
        "type": "string"
    },
    "protocol": {
        "$ref": "#/definitions/protocol"
    },
    "port": {
        "type": "string"
    }
    },
    "required": [
        "managementAddresses",
        "credential",
        "credentialType"
    ]
}
},
"configurationState": {
    "$ref": "#/definitions/configurationState"
}
},
"required": [
    "provisioningState",
    "routerConfiguration",
    "virtualServer",
    "configurationState"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.7.3 GET schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for loadbalancerMuxes v2",
    "type": "object",
    "definitions": {
        "resourceRef": {
            "type": "object",
            "additionalProperties": false,
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "GUID": {
        "type": "string",
    }
}

```

```

    "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "peerRouterConfigurations": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "routerName": {
          "type": "string"
        },
        "routerIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "peerASN": {
          "type": "integer"
        },
        "id": {
          "type": "string"
        }
      }
    },
    "required": [
      "routerName",
      "routerIPAddress",
      "peerASN",
      "id"
    ]
  },
  "configurationState": {
    "type": "object",
    "items": {
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [
            "Uninitialized",
            "InProgress",
            "Success",
            "Warning",
            "Failure"
          ]
        }
      }
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "enum": [
              "ResourceGlobal",
              "SoftwareLoadBalancerManager",
              "VirtualNetwork",
              "VirtualSwitch",
              "Firewall"
            ]
          }
        },
        "message": {
          "type": "string"
        }
      }
    }
  }
}

```

```

"code": {
  "enum": [
    "Unknown",
    "Success",
    "InProgress",
    "HostUnreachable",
    "PAIPAddressExhausted",
    "PAMacAddressExhausted",
    "PAAddressConfigurationFailure",
    "CertificateNotTrusted",
    "CertificateNotAuthorized",
    "PolicyConfigurationFailureOnVfp",
    "PolicyConfigurationFailure",
    "HostNotConnectedToController",
    "MultipleVfpEnabledSwitches",
    "DhcpAddressAllocationFailure",
    "DistributedRouterConfigurationFailure",
    "PortBlocked",
    "Overloaded",
    "RoutePublicationFailure",
    "VirtualServerUnreachable",
    "QosConfigurationFailure",
    "InfrastructurePortsBlocked"
  ]
}
}
}
},
"required": [
  "status",
  "lastUpdatedTime"
]
},
"resourceCounters": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "name": {
        "enum": [
          "TotalPacketsIPv4",
          "TotalPacketsIPv6",
          "DroppedPacketsIPv4",
          "DroppedPacketsIPv6",
          "SynPacketsIPv4",
          "SynPacketsIPv6",
          "FlowEntriesIPv4",
          "FlowEntriesIPv6",
          "DroppedFlowEntriesIPv4",
          "DroppedFlowEntriesIPv6",
          "AverageBandwidthIPv4",
          "AverageBandwidthIPv6",
          "PacketsPerSecondIPv4",
          "PacketsPerSecondIPv6"
        ]
      },
      "unit": {
        "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
      },
      "currentValue": {
        "type": "number"
      },
      "context": {
        "type": "object",
        "properties": {
          "source": {
            "enum": [ "SoftwareLoadBalancer" ]
          }
        }
      }
    }
  }
}

```

```

        "category": {
            "enum": [ "Performance" ]
        }
    },
    "required": [ "source","category" ]
}
},
"required": [ "name", "unit", "currentValue", "context" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "routerConfiguration": {
                "type": "object",
                "properties": {
                    "localASN": {
                        "type": "integer"
                    },
                    "peerRouterConfigurations": {
                        "$ref": "#/definitions/peerRouterConfigurations"
                    }
                },
                "required": [
                    "localASN",
                    "peerRouterConfigurations"
                ]
            },
            "virtualServer": {
                "$ref": "#/definitions/resourceRef"
            },
            "connections": {
                "type": "array",
                "items": {
                    "type": "object",
                    "properties": {
                        "managementAddresses": {
                            "type": "array",
                            "items": {
                                "type": "string",
                                "format": "ipv4"
                            }
                        },
                        "credential": {
                            "$ref": "#/definitions/resourceRef"
                        },
                        "credentialType": {
                            "type": "string"
                        },
                        "protocol": {
                            "$ref": "#/definitions/protocol"
                        },
                        "port": {

```

```

        "type": "string"
      }
    },
    "required": [
      "managementAddresses",
      "credential",
      "credentialType"
    ]
  }
},
"configurationState": {
  "$ref": "#/definitions/configurationState"
},
"counters": {
  "$ref": "#/definitions/resourceCounters"
}
},
"required": [
  "provisioningState",
  "routerConfiguration",
  "virtualServer",
  "configurationState",
  "counters"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

#### 6.7.4 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadBalancerMuxes",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "peerRouterConfigurations": {
    "type": "array",
    "items": {

```

```

"type": "object",
"properties": {
  "routerName": {
    "type": "string"
  },
  "routerIPAddress": {
    "type": "string",
    "format": "ipv4"
  },
  "peerASN": {
    "type": "integer"
  },
  "id": {
    "type": "string"
  }
},
"required": [
  "routerName",
  "routerIPAddress",
  "peerASN",
  "id"
]
},
"configurationState": {
  "type": "object",
  "items": {
    "additionalProperties": false,
    "properties": {
      "status": {
        "enum": [
          "Uninitialized",
          "InProgress",
          "Success",
          "Warning",
          "Failure"
        ]
      },
      "lastUpdatedTime": {
        "type": "string"
      },
      "detailedInfo": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "source": {
              "enum": [
                "ResourceGlobal",
                "SoftwareLoadBalancerManager",
                "VirtualNetwork",
                "VirtualSwitch",
                "Firewall"
              ]
            }
          }
        }
      },
      "message": {
        "type": "string"
      },
      "code": {
        "enum": [
          "Unknown",
          "Success",
          "InProgress",
          "HostUnreachable",
          "PAIPAddressExhausted",
          "PAMacAddressExhausted",
          "PAAddressConfigurationFailure",
          "CertificateNotTrusted",
          "CertificateNotAuthorized",
          "PolicyConfigurationFailureOnVfp",

```

```

        "PolicyConfigurationFailure",
        "HostNotConnectedToController",
        "MultipleVfpEnabledSwitches",
        "DhcpAddressAllocationFailure",
        "DistributedRouterConfigurationFailure",
        "PortBlocked",
        "Overloaded",
        "RoutePublicationFailure",
        "VirtualServerUnreachable",
        "QosConfigurationFailure",
        "InfrastructurePortsBlocked"
    ]
}
}
}
}
},
"required": [
    "status",
    "lastUpdatedTime"
]
}
}
},
"properties": {
    "value": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                },
                "resourceId": {
                    "type": "string"
                },
                "etag": {
                    "type": "string"
                },
                "instanceId": {
                    "$ref": "#/definitions/GUID"
                },
                "properties": {
                    "type": "object",
                    "properties": {
                        "provisioningState": {
                            "$ref": "#/definitions/provisioningState"
                        },
                        "routerConfiguration": {
                            "type": "object",
                            "properties": {
                                "localASN": {
                                    "type": "integer"
                                },
                                "peerRouterConfigurations": {
                                    "$ref": "#/definitions/peerRouterConfigurations"
                                }
                            }
                        },
                        "required": [
                            "localASN",
                            "peerRouterConfigurations"
                        ]
                    },
                    "virtualServer": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "connections": {
                        "type": "array",
                        "items": {
                            "type": "object",

```



```

        "properties": {
          "managementAddresses": {
            "type": "array",
            "items": {
              "type": "string",
              "format": "ipv4"
            }
          },
          "credential": {
            "$ref": "#/definitions/resourceRef"
          },
          "credentialType": {
            "type": "string"
          },
          "protocol": {
            "$ref": "#/definitions/protocol"
          },
          "port": {
            "type": "string"
          }
        },
        "required": [
          "managementAddresses",
          "credential",
          "credentialType"
        ]
      },
      "configurationState": {
        "$ref": "#/definitions/configurationState"
      }
    },
    "required": [
      "provisioningState",
      "routerConfiguration",
      "virtualServer",
      "configurationState"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
}
}

```

### 6.7.5 GET ALL schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadbalancerMuxes v2",
  "type": "object",
  "definitions": {
    "resourceRef": {

```

```

    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "protocol": {
    "enum": [ "Tcp", "Udp", "Http", "Https", "GRE", "ESP", "All" ]
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "peerRouterConfigurations": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "routerName": {
          "type": "string"
        },
        "routerIPAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "peerASN": {
          "type": "integer"
        },
        "id": {
          "type": "string"
        }
      },
      "required": [
        "routerName",
        "routerIPAddress",
        "peerASN",
        "id"
      ]
    }
  },
  "configurationState": {
    "type": "object",
    "items": {
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [
            "Uninitialized",
            "InProgress",
            "Success",
            "Warning",
            "Failure"
          ]
        },
        "lastUpdatedTime": {
          "type": "string"
        },
        "detailedInfo": {
          "type": "array",
          "items": {
            "type": "object",

```

```

"properties": {
  "source": {
    "enum": [
      "ResourceGlobal",
      "SoftwareLoadBalancerManager",
      "VirtualNetwork",
      "VirtualSwitch",
      "Firewall"
    ]
  },
  "message": {
    "type": "string"
  },
  "code": {
    "enum": [
      "Unknown",
      "Success",
      "InProgress",
      "HostUnreachable",
      "PAIPAddressExhausted",
      "PAMacAddressExhausted",
      "PAAddressConfigurationFailure",
      "CertificateNotTrusted",
      "CertificateNotAuthorized",
      "PolicyConfigurationFailureOnVfp",
      "PolicyConfigurationFailure",
      "HostNotConnectedToController",
      "MultipleVfpEnabledSwitches",
      "DhcpAddressAllocationFailure",
      "DistributedRouterConfigurationFailure",
      "PortBlocked",
      "Overloaded",
      "RoutePublicationFailure",
      "VirtualServerUnreachable",
      "QosConfigurationFailure",
      "InfrastructurePortsBlocked"
    ]
  }
}
}
}
}
},
"required": [
  "status",
  "lastUpdatedTime"
]
}
},
"resourceCounters": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "name": {
        "enum": [
          "TotalPacketsIPv4",
          "TotalPacketsIPv6",
          "DroppedPacketsIPv4",
          "DroppedPacketsIPv6",
          "SynPacketsIPv4",
          "SynPacketsIPv6",
          "FlowEntriesIPv4",
          "FlowEntriesIPv6",
          "DroppedFlowEntriesIPv4",
          "DroppedFlowEntriesIPv6",
          "AverageBandwidthIPv4",
          "AverageBandwidthIPv6",
          "PacketsPerSecondIPv4",
          "PacketsPerSecondIPv6"
        ]
      }
    }
  }
}
}

```

```

    },
    "unit": {
      "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
    },
    "currentValue": {
      "type": "number"
    },
  },
  "context": {
    "type": "object",
    "properties": {
      "source": {
        "enum": [ "SoftwareLoadBalancer" ]
      },
      "category": {
        "enum": [ "Performance" ]
      }
    },
    "required": [ "source", "category" ]
  }
},
"required": [ "name", "unit", "currentValue", "context" ]
}
},
"properties": {
  "value": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        }
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "routerConfiguration": {
            "type": "object",
            "properties": {
              "localASN": {
                "type": "integer"
              },
              "peerRouterConfigurations": {
                "$ref": "#/definitions/peerRouterConfigurations"
              }
            },
            "required": [
              "localASN",
              "peerRouterConfigurations"
            ]
          },
          "virtualServer": {
            "$ref": "#/definitions/resourceRef"
          },
          "connections": {
            "type": "array",
            "items": {
              "type": "object",

```

```

    "properties": {
      "managementAddresses": {
        "type": "array",
        "items": {
          "type": "string",
          "format": "ipv4"
        }
      },
      "credential": {
        "$ref": "#/definitions/resourceRef"
      },
      "credentialType": {
        "type": "string"
      },
      "protocol": {
        "$ref": "#/definitions/protocol"
      },
      "port": {
        "type": "string"
      }
    },
    "required": [
      "managementAddresses",
      "credential",
      "credentialType"
    ]
  },
  "configurationState": {
    "$ref": "#/definitions/configurationState"
  },
  "counters": {
    "$ref": "#/definitions/resourceCounters"
  }
},
"required": [
  "provisioningState",
  "routerConfiguration",
  "virtualServer",
  "configurationState",
  "counters"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"nextLink": {
  "type": "string",
  "format": "uri",
  "default": ""
}
},
"required": [
  "nextLink"
]
}

```

## 6.8 logicalNetworks

### 6.8.1 PUT schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for logicalNetworks",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "properties": {
        "subnets": {
          "type": "array",
          "items": {
            "type": "object",
            "resourceRef": {
              "type": "string"
            },
            "resourceId": {
              "type": "string"
            },
            "resourceMetadata": {
              "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
              "type": "string"
            },
            "properties": {
              "type": "object",
              "properties": {
                "addressPrefix": {
                  "type": "string"
                }
              }
            }
          }
        }
      }
    }
  }
}
```

```

    "vlanID": {
      "type": "string"
    },
    "routes": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
          },
          "etag": {
            "type": "string"
          },
          "properties": {
            "type": "object",
            "properties": {
              "destination": {
                "type": "string"
              },
              "nextHop": {
                "type": "string"
              }
            }
          }
        }
      }
    },
    "required": [
      "resourceId",
      "properties"
    ]
  },
  "dnsServers": {
    "type": "array",
    "items": {
      "type": "string"
    }
  },
  "defaultGateways": {
    "type": "array",
    "items": {
      "type": "string"
    }
  },
  "isPublic": {
    "type": "boolean"
  },
  "required": [
    "addressPrefix"
  ]
},
"required": [
  "resourceId",
  "properties"
]
}
},
"networkVirtualizationEnabled": {
  "type": "string"
}
}
}

```

```

    },
    "required": [
      "resourceId",
      "properties"
    ]
  }
}

```

## 6.8.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for logicalNetworks",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "subnets": {

```



```

"type": "array",
"items": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "addressPrefix": {
          "type": "string"
        },
        "networkInterfaces": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "GatewayPools": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "networkConnections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        }
      }
    }
  }
}

```

```

    ]
  },
  "vlanID": {
    "type": "string"
  },
  "ipPools": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "resourceMetadata": {
          "$ref": "#/definitions/resourceMetadata"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "startIpAddress": {
              "type": "string"
            },
            "endIpAddress": {
              "type": "string"
            }
          }
        },
        "required": [
          "provisioningState",
          "startIpAddress",
          "endIpAddress"
        ]
      }
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"routes": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {

```

```

        "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "destination": {
                "type": "string"
            },
            "nextHop": {
                "type": "string"
            }
        }
    },
    "required": [
        "provisioningState",
        "destination",
        "nextHop"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"dnsServers": {
    "type": "array",
    "items": {
        "type": "string"
    }
},
"defaultGateways": {
    "type": "array",
    "items": {
        "type": "string"
    }
},
"isPublic": {
    "type": "boolean"
}
},
"required": [
    "provisioningState",
    "addressPrefix",
    "isPublic"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"virtualNetworks": {

```

```

        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "networkVirtualizationEnabled": {
        "type": "string"
    },
    "usage": {
        "type": "object",
        "properties": {
            "numberOfIPAddresses": {
                "type": "string"
            },
            "numberOfIPAddressesAllocated": {
                "type": "string"
            },
            "numberOfIPAddressesInTransition": {
                "type": "string"
            }
        }
    },
    "required": [
        "provisioningState"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.8.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for logicalNetworks",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        }
      }
    }
  }
}

```

```

        "resourceName": {
            "type": "string"
        },
        "originalHref": {
            "type": "string"
        }
    }
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"logicalnetwork": {
    "type": "object",
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "provisioningState": {
            "$ref": "#/definitions/provisioningState"
        },
        "subnets": {
            "type": "array",
            "items": {
                "type": "object",
                "properties": {
                    "resourceRef": {
                        "type": "string"
                    },
                    "resourceId": {
                        "type": "string"
                    },
                    "etag": {
                        "type": "string"
                    },
                    "instanceId": {
                        "$ref": "#/definitions/GUID"
                    },
                    "resourceMetadata": {
                        "$ref": "#/definitions/resourceMetadata"
                    },
                    "tags": {
                        "additionalProperties": { "type": "string" }
                    },
                    "properties": {
                        "type": "object",
                        "properties": {
                            "provisioningState": {
                                "$ref": "#/definitions/provisioningState"
                            },
                            "addressPrefix": {
                                "type": "string"
                            }
                        }
                    },
                    "networkInterfaces": {
                        "type": "array",
                        "items": {

```

```

        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "GatewayPools": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "networkConnections": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "vlanID": {
        "type": "string"
    },
    "ipPools": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                },
                "resourceId": {
                    "type": "string"
                },
                "etag": {
                    "type": "string"
                },
                "instanceId": {
                    "$ref": "#/definitions/GUID"
                },
                "resourceMetadata": {
                    "$ref": "#/definitions/resourceMetadata"
                },
                "properties": {
                    "type": "object",
                    "properties": {
                        "provisioningState": {
                            "$ref": "#/definitions/provisioningState"
                        },
                        "startIpAddress": {
                            "type": "string"
                        }
                    }
                }
            }
        }
    }
}

```

```

        },
        "endIpAddress": {
            "type": "string"
        }
    },
    "required": [
        "provisioningState",
        "startIpAddress",
        "endIpAddress"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"routes": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "tags": {
                "additionalProperties": { "type": "string" }
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "destination": {
                        "type": "string"
                    },
                    "nextHop": {
                        "type": "string"
                    }
                }
            },
            "required": [
                "provisioningState",
                "destination",
                "nextHop"
            ]
        }
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}

```

```

    ]
  },
  "dnsServers": {
    "type": "array",
    "items": {
      "type": "string"
    }
  },
  "defaultGateways": {
    "type": "array",
    "items": {
      "type": "string"
    }
  },
  "isPublic": {
    "type": "boolean"
  }
},
"required": [
  "provisioningState",
  "addressPrefix",
  "isPublic"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"virtualNetworks": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"networkVirtualizationEnabled": {
  "type": "string"
},
"usage": {
  "type": "object",
  "properties": {
    "numberOfIPAddresses": {
      "type": "string"
    },
    "numberOfIPAddressesAllocated": {
      "type": "string"
    },
    "numberOfIPAddressesInTransition": {
      "type": "string"
    }
  }
}
},
"required": [
  "resourceRef",
  "resourceId",

```



```

        "etag",
        "instanceId",
        "properties"
    ]
},
"logicalnetworkArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/logicalnetwork" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/logicalnetworkArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": [ "nextLink" ]
}

```

## 6.8.4 subnets

### 6.8.4.1 ipPools

#### 6.8.4.1.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for ipPools",
    "type": "object",
    "properties": {
        "resourceId": {
            "type": "string"
        },
        "properties": {
            "type": "object",
            "properties": {
                "startIpAddress": {
                    "type": "string"
                },
                "endIpAddress": {
                    "type": "string"
                }
            },
            "required": [
                "startIpAddress",
                "endIpAddress"
            ]
        }
    },
    "required": [
        "resourceId",
        "properties"
    ]
}

```

#### 6.8.4.1.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for ipPools",

```

```

    "type": "object",
    "definitions": {
      "GUID": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
      },
      "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
      }
    },
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "startIpAddress": {
            "type": "string"
          },
          "endIpAddress": {
            "type": "string"
          }
        }
      },
      "required": [
        "startIpAddress",
        "endIpAddress",
        "provisioningState"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}

```

### 6.8.4.1.3 GET ALL schema

## 6.9 macPools

### 6.9.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for macPools",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {

```

```

        "client": {
            "type": "string"
        },
        "tenantId": {
            "type": "string"
        },
        "groupId": {
            "type": "string"
        },
        "resourceName": {
            "type": "string"
        },
        "originalHref": {
            "type": "string"
        }
    }
},
"properties": {
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "startMacAddress": {
                "type": "string",
                "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
            },
            "endMacAddress": {
                "type": "string",
                "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
            }
        },
        "required": [
            "startMacAddress",
            "endMacAddress"
        ]
    }
},
"required": [
    "properties"
]
}

```

## 6.9.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for macPools",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
    },
}

```

```

"resourceMetadata": {
  "properties": {
    "client": {
      "type": "string"
    },
    "tenantId": {
      "type": "string"
    },
    "groupId": {
      "type": "string"
    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "startMacAddress": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
      },
      "endMacAddress": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
      },
      "usage": {
        "type": "object",
        "properties": {
          "numberOfMacAddresses": {
            "type": "integer"
          },
          "numberOfMacAddressesAllocated": {
            "type": "integer"
          }
        }
      }
    }
  },
  "required": [
    "numberOfMacAddresses",

```

```

        "numberOfMacAddressesAllocated"
    ]
}
},
"required": [
    "provisioningState",
    "startMacAddress",
    "endMacAddress",
    "usage"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.9.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for macPools",
  "type": "object",

  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "macpool": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "startMacAddress": {
          "type": "string",
          "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
        },
        "endMacAddress": {
          "type": "string",
          "pattern": "^[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}-[a-fA-F0-9]{2}$"
        },
        "usage": {
          "type": "object",
          "properties": {
            "numberOfMacAddresses": {
              "type": "integer"
            },
            "numberOfMacAddressesAllocated": {
              "type": "integer"
            }
          },
          "required": [
            "numberOfMacAddresses",
            "numberOfMacAddressesAllocated"
          ]
        }
      },
      "required": [
        "provisioningState",
        "startMacAddress",
        "endMacAddress",
        "usage"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"macpoolArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/macpool" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/macpoolArray" },
  "nextLink": {
    "type": "string",

```

```

        "format": "uri",
        "default": ""
    }
},
"required": [ "nextLink" ]
}

```

## 6.10 routeTables

### 6.10.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for Route Tables",
  "type": "object",

  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },

  "properties": {
    "resourceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "routes": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceId": {
                "type": "string"
              },
              "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
              },
              "properties": {
                "type": "object",
                "properties": {
                  "addressPrefix": {
                    "type": "string"
                  },
                  "nextHopType": {

```

```

        "enum": [ "VirtualAppliance", "VnetLocal", "Internet",
"VirtualNetworkGateway", "None" ]
    },
    "nextHopIpAddress": {
        "type": "string"
    }
},
"required": [
    "addressPrefix",
    "nextHopType"
]
}
},
"required": [
    "resourceId",
    "properties"
]
}
},
"required": [
    "routes"
]
}
},
"required": [
    "properties"
]
}
}

```

### 6.10.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for Route Tables",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  }
}

```



```

    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "routes": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              },
              "resourceId": {
                "type": "string"
              },
              "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
              },
              "etag": {
                "type": "string"
              },
              "instanceId": {
                "$ref": "#/definitions/GUID"
              },
              "properties": {
                "type": "object",
                "properties": {
                  "provisioningState": {
                    "$ref": "#/definitions/provisioningState"
                  },
                  "addressPrefix": {
                    "type": "string"
                  },
                  "nextHopType": {
                    "enum": [ "VirtualAppliance", "VnetLocal", "Internet",
"VirtualNetworkGateway", "None" ]
                  },
                  "nextHopIpAddress": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "provisioningState",
                "addressPrefix",
                "nextHopType"
              ]
            }
          },
          "required": [
            "resourceRef",
            "resourceId",
            "etag",
            "instanceId",
            "properties"
          ]
        }
      }
    }
  ]
}

```

```

    }
  },
  "subnets": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"required": [
  "provisioningState",
  "routes"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.10.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for Route Tables",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "RouteTables": {
      "type": "object",

```

```

"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
    },
    "routes": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "addressPrefix": {
                "type": "string"
              },
            },
            "nextHopType": {
              "enum": [ "VirtualAppliance", "VnetLocal", "Internet",
"VirtualNetworkGateway", "None" ]
            },
            "nextHopIpAddress": {
              "type": "string"
            }
          },
          "required": [
            "provisioningState",
            "addressPrefix",
            "nextHopType"
          ]
        },
        "required": [
          "resourceRef",
          "resourceId",
          "etag",

```

```

        "instanceId",
        "properties"
    ]
    }
},
"subnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"required": [
    "provisioningState",
    "routes"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"RouteTablesArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/RouteTables" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/RouteTablesArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
},
"required": ["nextLink"]
}

```

## 6.10.4 routes

### 6.10.4.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for Route Table Routes",
    "type": "object",
    "definitions": {
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                }
            },

```

```

        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "tags": {
        "additionalProperties": { "type": "string" }
      },
      "properties": {
        "type": "object",
        "properties": {
          "addressPrefix": {
            "type": "string"
          },
          "nextHopType": {
            "enum": [ "VirtualAppliance", "VnetLocal", "Internet", "VirtualNetworkGateway",
"None" ]
          },
          "nextHopIpAddress": {
            "type": "string"
          }
        },
        "required": [
          "addressPrefix",
          "nextHopType"
        ]
      }
    },
    "required": [
      "properties"
    ]
  }
}

```

#### 6.10.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for Route Table Routes",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {

```

```

        "type": "string"
    },
    "groupId": {
        "type": "string"
    },
    "resourceName": {
        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
}
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "addressPrefix": {
                "type": "string"
            },
            "nextHopType": {
                "enum": [ "VirtualAppliance", "VnetLocal", "Internet", "VirtualNetworkGateway",
"None" ]
            },
            "nextHopIpAddress": {
                "type": "string"
            }
        },
        "required": [
            "provisioningState",
            "addressPrefix",
            "nextHopType"
        ]
    }
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.10.4.3 GET ALL schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for Route Table Routes",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "routes": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "resourceMetadata": {
          "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
          "additionalProperties": { "type": "string" }
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "addressPrefix": {
              "type": "string"
            },
            "nextHopType": {
              "enum": [ "VirtualAppliance", "VnetLocal", "Internet", "VirtualNetworkGateway",
                "None" ]
            },
            "nextHopIpAddress": {
```

```

        "type": "string"
      }
    },
    "required": [
      "provisioningState",
      "addressPrefix",
      "nextHopType"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"routesArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/routes" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/routesArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": ["nextLink"]
}

```

## 6.11 networkInterfaces

### 6.11.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for networkInterfaces",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
  }
}

```



```

"properties": {
  "resourceRef": {
    "type": "string"
  }
},
"required": [
  "resourceRef"
]
},
"portSettings": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "macSpoofingEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "arpGuardEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "dhcpGuardEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "stormLimit": {
      "type": "integer",
      "default": 0
    },
    "portFlowLimit": {
      "type": "integer",
      "default": 0
    },
    "iovWeight": {
      "type": "integer",
      "default": 0
    },
    "iovInterruptModeration": {
      "enum": [ "On", "Off" ],
      "default" : "Off"
    },
    "iovQueuePairsRequested": {
      "type": "integer",
      "default": 0
    },
    "vmqWeight": {
      "type": "integer",
      "default": 100
    }
  }
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "properties": {
        "type": "object",
        "properties": {
          "privateIPAllocationMethod": {
            "enum": [ "Static", "Dynamic", "Unmanaged" ]
          },
          "privateIPAddress": {
            "type": "string",

```

```

        "format": "ipv4"
    },
    "subnet": {
        "$ref": "#/definitions/resourceRef"
    },
    "accessControlList": {
        "$ref": "#/definitions/resourceRef"
    }
},
"required": [
    "privateIPAllocationMethod",
    "privateIPAddress",
    "subnet"
]
}
},
"required": [
    "resourceId",
    "properties"
]
}
},
"properties": {
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "ipConfigurations": {
                "$ref": "#/definitions/ipConfigurations"
            },
            "isHostVirtualNetworkInterface": {
                "type": "boolean",
                "default" : false
            },
            "isMultitenantStack": {
                "type": "boolean",
                "default": false
            },
            "isPrimary": {
                "type": "boolean",
                "default" : true
            },
            "internalDnsNameLabel": {
                "type": "string"
            },
            "privateMacAddress": {
                "type": "string",
                "pattern": "^[a-fA-F0-9]{12}$"
            },
            "privateMacAllocationMethod": {
                "enum": [ "Static", "Dynamic" ]
            },
            "dnsSettings": {
                "type": "object",
                "properties": {
                    "DnsServers": {
                        "type": "array",
                        "items": {
                            "type": "string",
                            "format": "ipv4"
                        }
                    }
                }
            }
        }
    }
},
},
},

```

```

    "serviceInsertionElements": {
      "type": "array",
      "uniqueItems": true,
      "items": { "$ref": "#/definitions/resourceRef" }
    },
    "portSettings": {
      "$ref": "#/definitions/portSettings"
    }
  },
  "required": [
    "provisioningState",
    "privateMacAddress",
    "privateMacAllocationMethod"
  ]
}
},
"required": [
  "properties"
]
}
}

```

### 6.11.2 PUT schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUGET JSON Schema for NetworkInterfaces v2",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"portSettings": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "macSpoofingEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "arpGuardEnabled": {

```

```

    "enum": [ "Eanbled", "Disabled" ],
    "default" : "Disabled"
  },
  "dhcpGuardEnabled": {
    "enum": [ "Eanbled", "Disabled" ],
    "default" : "Disabled"
  },
  "stormLimit": {
    "type": "integer",
    "default": 0
  },
  "portFlowLimit": {
    "type": "integer",
    "default": 0
  },
  "iovWeight": {
    "type": "integer",
    "default": 0
  },
  "iovInterruptModeration": {
    "enum": [ "On", "Off" ],
    "default" : "Off"
  },
  "iovQueuePairsRequested": {
    "type": "integer",
    "default": 0
  },
  "vmqWeight": {
    "type": "integer",
    "default": 100
  }
}
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "properties": {
        "type": "object",
        "properties": {
          "privateIPAllocationMethod": {
            "enum": [ "Static", "Dynamic", "Unmanaged" ]
          },
          "publicIPAddress": {
            "$ref": "#/definitions/resourceRef"
          },
          "privateIPAddress": {
            "type": "string",
            "oneOf": [
              {"format": "ipv4"},
              {"format": "ipv6"}
            ]
          },
          "subnet": {
            "$ref": "#/definitions/resourceRef"
          },
          "accessControlList": {
            "$ref": "#/definitions/resourceRef"
          }
        }
      },
      "required": [
        "privateIPAllocationMethod",
        "privateIPAddress",

```

```

        "subnet"
      ]
    }
  },
  "required": [
    "resourceId",
    "properties"
  ]
}
},
"properties": {
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "ipConfigurations": {
        "$ref": "#/definitions/ipConfigurations"
      },
      "isHostVirtualNetworkInterface": {
        "type": "boolean",
        "default" : false
      },
      "isMultitenantStack": {
        "type": "boolean",
        "default": false
      },
      "isPrimary": {
        "type": "boolean",
        "default" : true
      },
      "internalDnsNameLabel": {
        "type": "string"
      },
      "privateMacAddress": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{12}$"
      },
      "privateMacAllocationMethod": {
        "enum": [ "Static", "Dynamic" ]
      },
      "dnsSettings": {
        "type": "object",
        "properties": {
          "DnsServers": {
            "type": "array",
            "items": {
              "type": "string",
              "oneOf": [
                {"format": "ipv4"},
                {"format": "ipv6"}
              ]
            }
          }
        }
      },
      "serviceInsertionElements": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      },
      "portSettings": {
        "$ref": "#/definitions/portSettings"
      }
    }
  },
},

```

```

    "required": [
      "provisioningState",
      "privateMacAddress",
      "privateMacAllocationMethod"
    ]
  },
  "required": [
    "properties"
  ]
}

```

### 6.11.3 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for networkInterfaces",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "portSettings": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "macSpoofingEnabled": {
        "enum": [ "Eanbled", "Disabled" ],
        "default": "Disabled"
      },
      "arpGuardEnabled": {
        "enum": [ "Eanbled", "Disabled" ],

```

```

    "default" : "Disabled"
  },
  "dhcpGuardEnabled": {
    "enum": [ "Enabled", "Disabled" ],
    "default" : "Disabled"
  },
  "stormLimit": {
    "type": "integer",
    "default": 0
  },
  "portFlowLimit": {
    "type": "integer",
    "default": 0
  },
  "iovWeight": {
    "type": "integer",
    "default": 0
  },
  "iovInterruptModeration": {
    "enum": [ "On", "Off" ],
    "default" : "Off"
  },
  "iovQueuePairsRequested": {
    "type": "integer",
    "default": 0
  },
  "vmqWeight": {
    "type": "integer",
    "default": 100
  }
}
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    }
  }
}
},
"required": [
  "status",
  "id",
  "lastUpdatedTime"
]
},

```

```

"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "privateIPAllocationMethod": {
            "enum": [ "Static", "Dynamic", "Unmanaged" ]
          },
          "privateIPAddress": {
            "type": "string",
            "format": "ipv4"
          },
          "subnet": {
            "$ref": "#/definitions/resourceRef"
          },
          "accessControlList": {
            "$ref": "#/definitions/resourceRef"
          },
          "loadBalancerBackendAddressPools": {
            "type": "array",
            "uniqueItems": true,
            "items": { "$ref": "#/definitions/resourceRef" }
          },
          "loadBalancerInboundNatRules": {
            "type": "array",
            "uniqueItems": true,
            "items": { "$ref": "#/definitions/resourceRef" }
          }
        }
      },
      "required": [
        "provisioningState",
        "privateIPAllocationMethod",
        "privateIPAddress",
        "subnet"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}
},
"properties": {
  "resourceRef": {

```



```

    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "ipConfigurations": {
        "$ref": "#/definitions/ipConfigurations"
      },
      "isHostVirtualNetworkInterface": {
        "type": "boolean",
        "default": false
      },
      "isMultitenantStack": {
        "type": "boolean",
        "default": false
      },
      "isPrimary": {
        "type": "boolean",
        "default": true
      },
      "server": {
        "$ref": "#/definitions/resourceRef"
      },
      "internalDnsNameLabel": {
        "type": "string"
      },
      "configurationState": {
        "$ref": "#/definitions/configurationState"
      },
      "privateMacAddress": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{12}$"
      },
      "privateMacAllocationMethod": {
        "enum": [ "Static", "Dynamic" ]
      },
      "dnsSettings": {
        "type": "object",
        "properties": {
          "DnsServers": {
            "type": "array",
            "items": {
              "type": "string",
              "format": "ipv4"
            }
          }
        }
      },
      "serviceInsertionElements": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      }
    }
  }
}

```

```

    },
    "portSettings": {
      "$ref": "#/definitions/portSettings"
    }
  },
  "required": [
    "provisioningState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

#### 6.11.4 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for NetworkInterfaces v2",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "resourceCounters": {
      "type": "array",
      "items": {

```

```

"type": "object",
  "properties": {
    "name": {
      "enum": [
        "TotalPacketsOut",
        "TotalPacketsIn",
        "DropPacketsOut",
        "DropPacketsIn",
        "DropNoRuleMatchPacketsOut",
        "DropNoRuleMatchPacketsIn",
        "DropAclPacketsOut",
        "DropAclPacketsIn",
        "DropForwardingPacketsOut",
        "DropForwardingPacketsIn",
        "TcpSynPacketsOut",
        "TcpSynPacketsIn",
        "TcpFinPacketsOut",
        "TcpFinPacketsIn",
        "TcpResetPacketsOut",
        "TcpResetPacketsIn"
      ]
    },
    "unit": {
      "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
    },
    "currentValue": {
      "type": "number"
    },
    "context": {
      "type": "object",
      "properties": {
        "source": {
          "enum": [ "VirtualNetworkManager" ]
        },
        "category": {
          "enum": [ "Performance" ]
        }
      },
      "required": [ "source","category" ]
    },
    "required": [ "name", "unit", "currentValue", "context" ]
  }
},
"portSettings": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "macSpoofingEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "arpGuardEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "dhcpGuardEnabled": {
      "enum": [ "Eanbled", "Disabled" ],
      "default" : "Disabled"
    },
    "stormLimit": {
      "type": "integer",
      "default": 0
    },
    "portFlowLimit": {
      "type": "integer",
      "default": 0
    },
    "iovWeight": {
      "type": "integer",

```

```

    "default": 0
  },
  "iovInterruptModeration": {
    "enum": [ "On", "Off" ],
    "default" : "Off"
  },
  "iovQueuePairsRequested": {
    "type": "integer",
    "default": 0
  },
  "vmqWeight": {
    "type": "integer",
    "default": 100
  }
}
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    }
  }
}
},
"required": [
  "status",
  "id",
  "lastUpdatedTime"
]
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      }
    }
  }
}
}

```

```

    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "publicIPAddress": {
        "$ref": "#/definitions/resourceRef"
      },
      "privateIPAddress": {
        "type": "string",
        "oneOf": [
          {"format": "ipv4"},
          {"format": "ipv6"}
        ]
      },
      "privateIPAllocationMethod": {
        "enum": [ "Static", "Dynamic", "Unmanaged" ]
      },
      "subnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadBalancerBackendAddressPools": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      },
      "loadBalancerInboundNatRules": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      }
    }
  },
  "required": [
    "provisioningState",
    "privateIPAllocationMethod",
    "privateIPAddress",
    "subnet"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  }
}

```

```

},
"resourceMetadata": {
  "$ref": "#/definitions/resourceMetadata"
},
"tags": {
  "additionalProperties": { "type": "string" }
},
"properties": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "ipConfigurations": {
      "$ref": "#/definitions/ipConfigurations"
    },
    "isHostVirtualNetworkInterface": {
      "type": "boolean",
      "default": false
    },
    "isMultitenantStack": {
      "type": "boolean",
      "default": false
    },
    "server": {
      "$ref": "#/definitions/resourceRef"
    },
    "internalDnsNameLabel": {
      "type": "string"
    },
    "configurationState": {
      "$ref": "#/definitions/configurationState"
    },
    "privateMacAddress": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{12}$"
    },
    "privateMacAllocationMethod": {
      "enum": [ "Static", "Dynamic" ]
    },
    "dnsSettings": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "oneOf": [
              {"format": "ipv4"},
              {"format": "ipv6"}
            ]
          }
        }
      }
    },
    "serviceInsertionElements": {
      "type": "array",
      "uniqueItems": true,
      "items": { "$ref": "#/definitions/resourceRef" }
    },
    "portSettings": {
      "$ref": "#/definitions/portSettings"
    },
    "counters": {
      "$ref": "#/definitions/resourceCounters"
    }
  }
},
"required": [
  "provisioningState",
  "counters"
]

```

```

    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}

```

### 6.11.5 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for networkInterfaces",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "portSettings": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "macSpoofingEnabled": {
        "enum": [ "Eanbled", "Disabled" ],
        "default": "Disabled"
      },
      "arpGuardEnabled": {
        "enum": [ "Eanbled", "Disabled" ],

```

```

    "default" : "Disabled"
  },
  "dhcpGuardEnabled": {
    "enum": [ "Enabled", "Disabled" ],
    "default" : "Disabled"
  },
  "stormLimit": {
    "type": "integer",
    "default": 0
  },
  "portFlowLimit": {
    "type": "integer",
    "default": 0
  },
  "iovWeight": {
    "type": "integer",
    "default": 0
  },
  "iovInterruptModeration": {
    "enum": [ "On", "Off" ],
    "default" : "Off"
  },
  "iovQueuePairsRequested": {
    "type": "integer",
    "default": 0
  },
  "vmqWeight": {
    "type": "integer",
    "default": 100
  }
}
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    }
  }
}
},
"required": [
  "status",
  "id",
  "lastUpdatedTime"
]
},

```



```

"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "privateIPAllocationMethod": {
            "enum": [ "Static", "Dynamic", "Unmanaged" ]
          },
          "privateIPAddress": {
            "type": "string",
            "format": "ipv4"
          },
          "subnet": {
            "$ref": "#/definitions/resourceRef"
          },
          "accessControlList": {
            "$ref": "#/definitions/resourceRef"
          },
          "loadBalancerBackendAddressPools": {
            "type": "array",
            "uniqueItems": true,
            "items": { "$ref": "#/definitions/resourceRef" }
          },
          "loadBalancerInboundNatRules": {
            "type": "array",
            "uniqueItems": true,
            "items": { "$ref": "#/definitions/resourceRef" }
          }
        }
      },
      "required": [
        "provisioningState",
        "privateIPAllocationMethod",
        "privateIPAddress",
        "subnet"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"networkInterface": {
  "type": "object",
  "properties": {

```

```

"resourceRef": {
  "type": "string"
},
"resourceId": {
  "type": "string"
},
"etag": {
  "type": "string"
},
"instanceId": {
  "$ref": "#/definitions/GUID"
},
"resourceMetadata": {
  "$ref": "#/definitions/resourceMetadata"
},
"tags": {
  "additionalProperties": { "type": "string" }
},
"properties": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "ipConfigurations": {
      "$ref": "#/definitions/ipConfigurations"
    },
    "isHostVirtualNetworkInterface": {
      "type": "boolean",
      "default": false
    },
    "isMultitenantStack": {
      "type": "boolean",
      "default": false
    },
    "isPrimary": {
      "type": "boolean",
      "default": true
    },
    "server": {
      "$ref": "#/definitions/resourceRef"
    },
    "internalDnsNameLabel": {
      "type": "string"
    },
    "configurationState": {
      "$ref": "#/definitions/configurationState"
    },
    "privateMacAddress": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{12}$"
    },
    "privateMacAllocationMethod": {
      "enum": [ "Static", "Dynamic" ]
    },
    "dnsSettings": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "format": "ipv4"
          }
        }
      }
    },
    "serviceInsertionElements": {
      "type": "array",
      "uniqueItems": true,

```

```

        "items": { "$ref": "#/definitions/resourceRef" }
    },
    "portSettings": {
        "$ref": "#/definitions/portSettings"
    }
},
"required": [
    "provisioningState",
    "privateMacAddress",
    "privateMacAllocationMethod"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"networkInterfaceArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/networkInterface" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/networkInterfaceArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["value", "nextLink"]
}

```

### 6.11.6 GET ALL schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for NetworkInterfaces v2",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"resourceCounters": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "name": {
        "enum": [
          "TotalPacketsOut",
          "TotalPacketsIn",
          "DropPacketsOut",
          "DropPacketsIn",
          "DropNoRuleMatchPacketsOut",
          "DropNoRuleMatchPacketsIn",
          "DropAclPacketsOut",
          "DropAclPacketsIn",
          "DropForwardingPacketsOut",
          "DropForwardingPacketsIn",
          "TcpSynPacketsOut",
          "TcpSynPacketsIn",
          "TcpFinPacketsOut",
          "TcpFinPacketsIn",
          "TcpResetPacketsOut",
          "TcpResetPacketsIn"
        ]
      },
      "unit": {
        "enum": [ "Decimal", "Seconds", "MilliSeconds" ]
      },
      "currentValue": {
        "type": "number"
      },
      "context": {
        "type": "object",
        "properties": {
          "source": {
            "enum": [ "VirtualNetworkManager" ]
          },
          "category": {
            "enum": [ "Performance" ]
          }
        }
      },
      "required": [ "source", "category" ]
    }
  },
  "required": [ "name", "unit", "currentValue", "context" ]
}
},
"portSettings": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "macSpoofingEnabled": {
      "enum": [ "Eanbled", "Disabled" ],

```

```

    "default" : "Disabled"
  },
  "arpGuardEnabled": {
    "enum": [ "Enabled", "Disabled" ],
    "default" : "Disabled"
  },
  "dhcpGuardEnabled": {
    "enum": [ "Enabled", "Disabled" ],
    "default" : "Disabled"
  },
  "stormLimit": {
    "type": "integer",
    "default": 0
  },
  "portFlowLimit": {
    "type": "integer",
    "default": 0
  },
  "iovWeight": {
    "type": "integer",
    "default": 0
  },
  "iovInterruptModeration": {
    "enum": [ "On", "Off" ],
    "default" : "Off"
  },
  "iovQueuePairsRequested": {
    "type": "integer",
    "default": 0
  },
  "vmqWeight": {
    "type": "integer",
    "default": 100
  }
}
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    }
  }
}
},
"required": [
  "status",

```

```

        "id",
        "lastUpdatedTime"
    ]
},
"ipConfigurations": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "privateIPAllocationMethod": {
                        "enum": [ "Static", "Dynamic", "Unmanaged" ]
                    },
                    "publicIPAddress": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "privateIPAddress": {
                        "type": "string",
                        "oneOf": [
                            { "format": "ipv4" },
                            { "format": "ipv6" }
                        ]
                    },
                    "subnet": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "accessControlList": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "loadBalancerBackendAddressPools": {
                        "type": "array",
                        "uniqueItems": true,
                        "items": { "$ref": "#/definitions/resourceRef" }
                    },
                    "loadBalancerInboundNatRules": {
                        "type": "array",
                        "uniqueItems": true,
                        "items": { "$ref": "#/definitions/resourceRef" }
                    }
                }
            },
            "required": [
                "provisioningState",
                "privateIPAllocationMethod",
                "privateIPAddress",
                "subnet"
            ]
        }
    }
},
"required": [
    "resourceRef",

```

```

        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
},
"networkInterface": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "$ref": "#/definitions/GUID"
        },
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
            "additionalProperties": { "type": "string" }
        },
        "properties": {
            "type": "object",
            "properties": {
                "provisioningState": {
                    "$ref": "#/definitions/provisioningState"
                },
                "ipConfigurations": {
                    "$ref": "#/definitions/ipConfigurations"
                },
                "isHostVirtualNetworkInterface": {
                    "type": "boolean",
                    "default": false
                },
                "isMultitenantStack": {
                    "type": "boolean",
                    "default": false
                },
                "server": {
                    "$ref": "#/definitions/resourceRef"
                },
                "internalDnsNameLabel": {
                    "type": "string"
                },
                "configurationState": {
                    "$ref": "#/definitions/configurationState"
                },
                "privateMacAddress": {
                    "type": "string",
                    "pattern": "^[a-fA-F0-9]{12}$"
                },
                "privateMacAllocationMethod": {
                    "enum": [ "Static", "Dynamic" ]
                },
                "dnsSettings": {
                    "type": "object",
                    "properties": {
                        "DnsServers": {
                            "type": "array",
                            "items": {
                                "type": "string",
                                "oneOf": [
                                    { "format": "ipv4" },

```

```

        {"format": "ipv6"}
      ]
    }
  },
  "serviceInsertionElements": {
    "type": "array",
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/resourceRef" }
  },
  "portSettings": {
    "$ref": "#/definitions/portSettings"
  },
  "counters": {
    "$ref": "#/definitions/resourceCounters"
  }
},
"required": [
  "provisioningState",
  "privateMacAddress",
  "privateMacAllocationMethod",
  "counters"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"networkInterfaceArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/networkInterface" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/networkInterfaceArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": ["value", "nextLink"]
}
}

```

## 6.11.7 ipConfigurations

### 6.11.7.1 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for IP Configurations",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {

```



```

"properties": {
  "client": {
    "type": "string"
  },
  "tenantId": {
    "type": "string"
  },
  "groupId": {
    "type": "string"
  },
  "resourceName": {
    "type": "string"
  },
  "originalHref": {
    "type": "string"
  }
}
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "privateIPAllocationMethod": {
        "enum": [ "Static", "Dynamic", "Unmanaged" ]
      },
      "privateIPAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "subnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "loadBalancerBackendAddressPools": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      }
    }
  }
}

```

```

    },
    "loadBalancerInboundNatRules": {
      "type": "array",
      "uniqueItems": true,
      "items": { "$ref": "#/definitions/resourceRef" }
    }
  },
  "required": [
    "provisioningState",
    "privateIPAllocationMethod",
    "privateIPAddress",
    "subnet"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.11.7.2 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for IP Configurations",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
}

```

```

    ]
  },
  "ipConfigurations": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "resourceMetadata": {
          "$ref": "#/definitions/resourceMetadata"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "privateIPAllocationMethod": {
              "enum": [ "Static", "Dynamic", "Unmanaged" ]
            },
            "privateIPAddress": {
              "type": "string",
              "format": "ipv4"
            },
            "subnet": {
              "$ref": "#/definitions/resourceRef"
            },
            "accessControlList": {
              "$ref": "#/definitions/resourceRef"
            },
            "loadBalancerBackendAddressPools": {
              "type": "array",
              "uniqueItems": true,
              "items": { "$ref": "#/definitions/resourceRef" }
            },
            "loadBalancerInboundNatRules": {
              "type": "array",
              "uniqueItems": true,
              "items": { "$ref": "#/definitions/resourceRef" }
            }
          }
        },
        "required": [
          "provisioningState",
          "privateIPAllocationMethod",
          "privateIPAddress",
          "subnet"
        ]
      }
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}
},
}
},

```

```

    "properties": {
      "value": { "$ref": "#/definitions/ipConfigurations" },
      "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
      }
    },
    "required": ["value", "nextLink"]
  }
}

```

## 6.12 publicIPAddresses

### 6.12.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for public IP Addresses",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "staticIP": {
    "type": "object",
    "properties": {
      "ipAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "publicIPAllocationMethod": {
        "enum": [ "Static" ]
      },
      "idleTimeoutInMinutes": {
        "type": "integer",
        "minimum": 1
      }
    },
    "required": [
      "ipAddress",
      "publicIPAllocationMethod"
    ]
  },
  "dynamicIP": {
    "type": "object",
    "properties": {
      "ipAddress": {
        "type": "string",
        "format": "ipv4"
      }
    }
  },
}

```

```

        "publicIPAllocationMethod": {
            "enum": [ "Dynamic" ]
        },
        "idleTimeoutInMinutes": {
            "type": "integer",
            "minimum": 1
        }
    },
    "required": [
        "publicIPAllocationMethod"
    ]
}
},
"properties": {
    "resourceId": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "oneOf": [
            { "$ref": "#/definitions/staticIP" },
            { "$ref": "#/definitions/dynamicIP" }
        ]
    }
},
"required": [
    "properties"
]
}

```

### 6.12.2 PUT schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for public IP Addresses v2",
    "type": "object",
    "definitions": {
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    },
    "properties": {
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
            "additionalProperties": { "type": "string" }
        }
    }
}

```

```

    },
    "properties": {
      "type": "object",
      "properties": {
        "ipAddress": {
          "type": "string",
          "oneOf": [
            { "format": "ipv4" },
            { "format": "ipv6" }
          ]
        },
        "publicIPAllocationMethod": {
          "enum": [ "Static", "Dynamic" ]
        },
        "idleTimeoutInMinutes": {
          "type": "integer",
          "minimum": 1
        },
        "publicIPAddressVersion": {
          "enum": [ "IPv4", "IPv6" ]
        }
      }
    },
    "required": [
      "publicIPAllocationMethod",
      "publicIPAddressVersion"
    ]
  }
},
"required": [
  "properties"
]
}

```

### 6.12.3 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for public IP Addresses",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  }
},

```

```

"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "ipAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "publicIPAllocationMethod": {
        "enum": [ "Static", "Dynamic" ]
      },
      "idleTimeoutInMinutes": {
        "type": "integer",
        "minimum": 1
      }
    }
  },
  "required": [
    "ipAddress",
    "publicIPAllocationMethod",
    "idleTimeoutInMinutes"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

#### 6.12.4 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for public IP Addresses v2",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {

```

```

        "type": "string"
    },
    "tenantId": {
        "type": "string"
    },
    "groupId": {
        "type": "string"
    },
    "resourceName": {
        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
}
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"resourceCounters": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "name": {
                "enum": [
                    "TotalPackets",
                    "DroppedPackets",
                    "DroppedPacketsIPv6",
                    "FlowEntries",
                    "DroppedFlowEntries",
                    "SynPackets",
                    "AverageBandwidth",
                    "PacketsPerSecond"
                ]
            },
            "unit": {
                "enum": [ "Decimal", "Seconds", "Milliseconds" ]
            },
            "currentValue": {
                "type": "number"
            },
            "context": {
                "type": "object",
                "properties": {
                    "source": {
                        "enum": [ "SoftwareLoadBalancer" ]
                    },
                    "category": {
                        "enum": [ "Performance" ]
                    }
                }
            },
            "required": [ "source","category" ]
        }
    },
    "required": [ "name", "unit", "currentValue", "context" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {

```



```

    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "ipAddress": {
        "type": "string",
        "oneOf": [
          { "format": "ipv4" },
          { "format": "ipv6" }
        ]
      },
      "publicIPAllocationMethod": {
        "enum": [ "Static", "Dynamic" ]
      },
      "idleTimeoutInMinutes": {
        "type": "integer",
        "minimum": 1
      },
      "publicIPAddressVersion": {
        "enum": [ "IPv4", "IPv6" ]
      },
      "counters": {
        "$ref": "#/definitions/resourceCounters"
      }
    }
  },
  "required": [
    "ipAddress",
    "publicIPAllocationMethod",
    "publicIPAddressVersion",
    "idleTimeoutInMinutes",
    "provisioningState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

### 6.12.5 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for public IP Addresses",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {

```

```

        "type": "string"
    },
    "tenantId": {
        "type": "string"
    },
    "groupId": {
        "type": "string"
    },
    "resourceName": {
        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
}
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"publicIP": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "$ref": "#/definitions/GUID"
        },
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
            "additionalProperties": { "type": "string" }
        },
        "properties": {
            "type": "object",
            "properties": {
                "provisioningState": {
                    "$ref": "#/definitions/provisioningState"
                },
                "ipAddress": {
                    "type": "string",
                    "format": "ipv4"
                },
                "publicIPAllocationMethod": {
                    "enum": [ "Static", "Dynamic" ]
                },
                "idleTimeoutInMinutes": {
                    "type": "integer",
                    "minimum": 1
                }
            }
        },
        "required": [
            "ipAddress",
            "publicIPAllocationMethod",
            "idleTimeoutInMinutes"
        ]
    }
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",

```

```

        "properties"
      ]
    },
    "publicIPArray": {
      "type": "array",
      "minItems": 0,
      "uniqueItems": true,
      "items": { "$ref": "#/definitions/publicIP" }
    }
  },
  "properties": {
    "value": { "$ref": "#/definitions/publicIPArray" },
    "nextLink": {
      "type": "string",
      "format": "uri",
      "default": ""
    }
  }
},
"required": ["nextLink"]
}

```

### 6.12.6 GET ALL schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for public IP Addresses v2",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "resourceCounters": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "name": {
            "enum": [
              "TotalPackets",
              "DroppedPackets",
              "DroppedPacketsIPv6",
              "FlowEntries",
              "DroppedFlowEntries",
              "SynPackets",
              "AverageBandwidth",
              "PacketsPerSecond"
            ]
          }
        }
      }
    }
  }
}

```

```

    },
    "unit": {
      "enum": [ "Decimal", "Seconds", "Milliseconds" ]
    },
    "currentValue": {
      "type": "number"
    },
    "context": {
      "type": "object",
      "properties": {
        "source": {
          "enum": [ "SoftwareLoadBalancer" ]
        },
        "category": {
          "enum": [ "Performance" ]
        }
      }
    },
    "required": [ "source","category" ]
  }
},
"required": [ "name", "unit", "currentValue", "context" ]
}
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"publicIP": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "ipAddress": {
          "type": "string",
          "oneOf": [
            { "format": "ipv4" },
            { "format": "ipv6" }
          ]
        }
      }
    },
    "publicIPAllocationMethod": {
      "enum": [ "Static", "Dynamic" ]
    },
    "idleTimeoutInMinutes": {
      "type": "integer",
      "minimum": 1
    },
    "publicIPAddressVersion": {
      "enum": [ "IPv4", "IPv6" ]
    }
  },

```

```

        "counters": {
            "$ref": "#/definitions/resourceCounters"
        }
    },
    "required": [
        "ipAddress",
        "publicIPAllocationMethod",
        "idleTimeoutInMinutes",
        "publicIPAddressVersion"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"publicIPArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/publicIP" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/publicIPArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["nextLink"]
}
}

```

## 6.13 servers

### 6.13.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for servers",
    "type": "object",
    "definitions": {
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    }
},

```

```

"properties": {
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "properties": {
    "type": "object",
    "properties": {
      "connections": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "managementAddresses": {
              "type": "array",
              "items": {
                "type": "string"
              }
            },
            "credential": {
              "type": "object",
              "properties": {
                "resourceRef": {
                  "type": "string"
                }
              }
            },
            "required": [
              "resourceRef"
            ]
          },
          "credentialType": {
            "type": "string"
          }
        },
        "required": [
          "managementAddresses",
          "credential",
          "credentialType"
        ]
      }
    },
    "certificate": {
      "type": "string"
    },
    "rackSlot": {
      "type": "string"
    },
    "os": {
      "type": "string"
    },
    "model": {
      "type": "string"
    },
    "vendor": {
      "type": "string"
    },
    "serial": {
      "type": "string"
    },
    "networkInterfaces": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceId": {
            "type": "string"
          },
          "properties": {
            "type": "object",
            "properties": {
              "interfaceName": {

```

```

        "type": "string"
    },
    "mac": {
        "type": "string"
    },
    "ipConfiguration": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "ipAddress": {
                    "type": "string"
                },
                "networkPrefix": {
                    "type": "string"
                },
                "isDhcpEnabled": {
                    "type": "string"
                }
            }
        }
    },
    "vlanIds": {
        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "interfaceIndex": {
        "type": "string"
    },
    "interfaceSpeed": {
        "type": "string"
    },
    "isBMC": {
        "type": "string"
    },
    "logicalSubnets": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"required": [
    "logicalSubnets"
]
},
"required": [
    "resourceId",
    "properties"
]
},
"required": [
    "connections"
]
},
"tags": {
    "additionalProperties": { "type": "string" }
}

```

```

    }
  },
  "required": [
    "resourceId",
    "properties"
  ]
}

```

### 6.13.2 PUT schema v3

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for servers v3",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "properties": {
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "connections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "managementAddresses": {
                "type": "array",
                "items": {
                  "type": "string"
                }
              },
              "credential": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "resourceRef"
              ]
            },
            "credentialType": {
              "type": "string"
            }
          }
        }
      }
    }
  }
}

```



```

    "required": [
      "managementAddresses",
      "credential",
      "credentialType"
    ]
  },
  "certificate": {
    "type": "string"
  },
  "rackSlot": {
    "type": "string"
  },
  "os": {
    "type": "string"
  },
  "model": {
    "type": "string"
  },
  "vendor": {
    "type": "string"
  },
  "serial": {
    "type": "string"
  },
  "auditingEnabled": {
    "type": "string"
  },
  "networkInterfaces": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceId": {
          "type": "string"
        },
        "properties": {
          "type": "object",
          "properties": {
            "interfaceName": {
              "type": "string"
            },
            "mac": {
              "type": "string"
            },
            "ipConfiguration": {
              "type": "array",
              "items": {
                "type": "object",
                "properties": {
                  "ipAddress": {
                    "type": "string"
                  },
                  "networkPrefix": {
                    "type": "string"
                  },
                  "isDhcpEnabled": {
                    "type": "string"
                  }
                }
              }
            }
          }
        }
      }
    },
    "vlanIds": {
      "type": "array",
      "items": {
        "type": "string"
      }
    },
    "interfaceIndex": {
      "type": "string"
    }
  }
}

```



```

        "groupId": {
            "type": "string"
        },
        "resourceName": {
            "type": "string"
        },
        "originalHref": {
            "type": "string"
        }
    }
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "connections": {
                "type": "array",
                "items": {
                    "type": "object",
                    "properties": {
                        "managementAddresses": {
                            "type": "array",
                            "items": {
                                "type": "string"
                            }
                        },
                        "credential": {
                            "type": "object",
                            "properties": {
                                "resourceRef": {
                                    "type": "string"
                                }
                            }
                        },
                        "required": [
                            "resourceRef"
                        ]
                    },
                    "credentialType": {
                        "type": "string"
                    }
                },
                "required": [
                    "managementAddresses",
                    "credential",
                    "credentialType"
                ]
            }
        }
    },
}
},
},

```

```

"virtualServers": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
},
"virtualSwitches": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
},
},
"certificate": {
  "type": "string"
},
"rackSlot": {
  "type": "string"
},
"os": {
  "type": "string"
},
"model": {
  "type": "string"
},
"vendor": {
  "type": "string"
},
"serial": {
  "type": "string"
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      },
      "required": [
        "source",

```

```

        "message",
        "code"
    ]
    }
},
"lastUpdatedTime": {
    "type": "string"
}
},
"required": [
    "status",
    "detailedInfo",
    "lastUpdatedTime"
]
},
"networkInterfaces": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "interfaceName": {
                        "type": "string"
                    },
                    "mac": {
                        "type": "string"
                    },
                    "ipConfiguration": {
                        "type": "array",
                        "items": {
                            "type": "object",
                            "properties": {
                                "ipAddress": {
                                    "type": "string"
                                },
                                "networkPrefix": {
                                    "type": "string"
                                },
                                "isDhcpEnabled": {
                                    "type": "string"
                                }
                            }
                        },
                        "required": [
                        ]
                    },
                    "vlanIds": {
                        "type": "array",
                        "items": {
                            "type": "string"
                        }
                    }
                }
            }
        }
    }
}

```

```

    }
  },
  "adminStatus": {
    "type": "string"
  },
  "operationalStatus": {
    "type": "string"
  },
  "interfaceIndex": {
    "type": "string"
  },
  "interfaceSpeed": {
    "type": "string"
  },
  "isBMC": {
    "type": "string"
  },
  "logicalSubnets": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
}
},
"required": [
  "provisioningState",
  "mac",
  "ipConfiguration",
  "vlanIds",
  "interfaceIndex",
  "isBMC",
  "logicalSubnets"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"required": [
  "provisioningState",
  "connections",
  "configurationState",
  "networkInterfaces"
]
},
"tags": {
  "additionalProperties": { "type": "string" }
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties",
]
]

```

```
}
```

### 6.13.4 GET schema v2

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for servers v2",
  "type": "object",

  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },

  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "connections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
```

```

        "managementAddresses": {
            "type": "array",
            "items": {
                "type": "string"
            }
        },
        "credential": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "credentialType": {
        "type": "string"
    }
},
"required": [
    "managementAddresses",
    "credential",
    "credentialType"
]
}
},
"virtualServers": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
},
"virtualSwitches": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"certificate": {
    "type": "string"
},
"rackSlot": {
    "type": "string"
},
"os": {
    "type": "string"
},
"model": {
    "type": "string"
},
"vendor": {

```



```

    "type": "string"
  },
  "serial": {
    "type": "string"
  },
  "configurationState": {
    "type": "object",
    "properties": {
      "status": {
        "type": "string"
      },
      "detailedInfo": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "source": {
              "type": "string"
            },
            "message": {
              "type": "string"
            },
            "code": {
              "type": "string"
            }
          }
        },
        "required": [
          "source",
          "message",
          "code"
        ]
      }
    },
    "lastUpdatedTime": {
      "type": "string"
    }
  },
  "required": [
    "status",
    "detailedInfo",
    "lastUpdatedTime"
  ]
},
"virtualNetworkInterfaces": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"networkInterfaces": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      }
    }
  }
}

```

```

    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "interfaceName": {
          "type": "string"
        },
        "mac": {
          "type": "string"
        },
        "ipConfiguration": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "ipAddress": {
                "type": "string"
              },
              "networkPrefix": {
                "type": "string"
              },
              "isDhcpEnabled": {
                "type": "string"
              }
            }
          },
          "required": [
            ]
        }
      },
      "vlanIds": {
        "type": "array",
        "items": {
          "type": "string"
        }
      },
      "adminStatus": {
        "type": "string"
      },
      "operationalStatus": {
        "type": "string"
      },
      "interfaceIndex": {
        "type": "string"
      },
      "interfaceSpeed": {
        "type": "string"
      },
      "isBMC": {
        "type": "string"
      },
      "logicalSubnets": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    }
  }

```

```

        ]
      }
    }
  },
  "required": [
    "provisioningState",
    "mac",
    "ipConfiguration",
    "vlanIds",
    "interfaceIndex",
    "isBMC",
    "logicalSubnets"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"required": [
  "provisioningState",
  "connections",
  "configurationState",
  "networkInterfaces"
]
},
"tags": {
  "additionalProperties": { "type": "string" }
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.13.5 GET schema v3

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for servers v3",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {

```

```

        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "connections": {
                "type": "array",
                "items": {
                    "type": "object",
                    "properties": {
                        "managementAddresses": {
                            "type": "array",
                            "items": {
                                "type": "string"
                            }
                        },
                        "credential": {
                            "type": "object",
                            "properties": {
                                "resourceRef": {
                                    "type": "string"
                                }
                            }
                        },
                        "required": [
                            "resourceRef"
                        ]
                    },
                    "credentialType": {
                        "type": "string"
                    }
                },
                "required": [
                    "managementAddresses",
                    "credential",
                    "credentialType"
                ]
            }
        },
        "virtualServers": {
            "type": "array",
            "items": {
                "type": "object",

```

```

        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "virtualSwitches": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "certificate": {
        "type": "string"
    },
    "rackSlot": {
        "type": "string"
    },
    "os": {
        "type": "string"
    },
    "model": {
        "type": "string"
    },
    "vendor": {
        "type": "string"
    },
    "serial": {
        "type": "string"
    },
    "configurationState": {
        "type": "object",
        "properties": {
            "status": {
                "type": "string"
            },
            "detailedInfo": {
                "type": "array",
                "items": {
                    "type": "object",
                    "properties": {
                        "source": {
                            "type": "string"
                        },
                        "message": {
                            "type": "string"
                        },
                        "code": {
                            "type": "string"
                        }
                    },
                    "required": [
                        "source",
                        "message",
                        "code"
                    ]
                }
            }
        }
    }
}

```

```

    },
    "lastUpdatedTime": {
      "type": "string"
    }
  },
  "required": [
    "status",
    "detailedInfo",
    "lastUpdatedTime"
  ]
},
"auditingEnabled": {
  "type": "string"
},
"virtualNetworkInterfaces": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"networkInterfaces": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "interfaceName": {
            "type": "string"
          },
          "mac": {
            "type": "string"
          },
          "ipConfiguration": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "ipAddress": {
                  "type": "string"
                },
                "networkPrefix": {
                  "type": "string"
                }
              }
            }
          }
        }
      }
    }
  }
}

```

```

        },
        "isDhcpEnabled": {
            "type": "string"
        }
    },
    "required": [
    ]
}
},
"vlanIds": {
    "type": "array",
    "items": {
        "type": "string"
    }
},
"adminStatus": {
    "type": "string"
},
"operationalStatus": {
    "type": "string"
},
"interfaceIndex": {
    "type": "string"
},
"interfaceSpeed": {
    "type": "string"
},
"isBMC": {
    "type": "string"
},
"logicalSubnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
}
}
},
"required": [
    "provisioningState",
    "mac",
    "ipConfiguration",
    "vlanIds",
    "interfaceIndex",
    "isBMC",
    "logicalSubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "resourceMetadata",
    "etag",
    "instanceId",
    "properties"
]
},
"required": [
    "provisioningState",
    "connections",
    "configurationState",

```

```

        "networkInterfaces",
        "auditingEnabled"
    ]
},
"tags": {
    "additionalProperties": { "type": "string" }
}
},
"required": [
    "resourceRef",
    "resourceId",
    "resourceMetadata",
    "etag",
    "instanceId",
    "properties"
]
}

```

### 6.13.6 GET ALL schema v1

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for servers",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "server": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {

```



```

    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "connections": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "managementAddresses": {
            "type": "array",
            "items": {
              "type": "string"
            }
          },
          "credential": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "credentialType": {
          "type": "string"
        }
      },
      "required": [
        "managementAddresses",
        "credential",
        "credentialType"
      ]
    }
  },
  "virtualServers": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"virtualSwitches": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"certificate": {
  "type": "string"
}

```

```

    },
    "rackSlot": {
      "type": "string"
    },
    "os": {
      "type": "string"
    },
    "model": {
      "type": "string"
    },
    "vendor": {
      "type": "string"
    },
    "serial": {
      "type": "string"
    },
    "configurationState": {
      "type": "object",
      "properties": {
        "status": {
          "type": "string"
        },
        "detailedInfo": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "source": {
                "type": "string"
              },
              "message": {
                "type": "string"
              },
              "code": {
                "type": "string"
              }
            }
          },
          "required": [
            "source",
            "message",
            "code"
          ]
        }
      },
      "lastUpdatedTime": {
        "type": "string"
      }
    },
    "required": [
      "status",
      "detailedInfo",
      "lastUpdatedTime"
    ]
  },
  "networkInterfaces": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "resourceMetadata": {
          "$ref": "#/definitions/resourceMetadata"
        },
        "etag": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "interfaceName": {
          "type": "string"
        },
        "mac": {
          "type": "string"
        },
        "ipConfiguration": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "ipAddress": {
                "type": "string"
              },
              "networkPrefix": {
                "type": "string"
              },
              "isDhcpEnabled": {
                "type": "string"
              }
            }
          }
        },
        "vlanIds": {
          "type": "array",
          "items": {
            "type": "string"
          }
        },
        "adminStatus": {
          "type": "string"
        },
        "operationalStatus": {
          "type": "string"
        },
        "interfaceIndex": {
          "type": "string"
        },
        "interfaceSpeed": {
          "type": "string"
        },
        "isBMC": {
          "type": "string"
        },
        "logicalSubnets": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        }
      }
    }
  },
}

```

```

        "required": [
            "provisioningState",
            "mac",
            "ipConfiguration",
            "vlanIds",
            "interfaceIndex",
            "isBMC",
            "logicalSubnets"
        ]
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
},
"required": [
    "provisioningState",
    "connections",
    "configurationState",
    "networkInterfaces"
],
"tags": {
    "additionalProperties": { "type": "string" }
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties",
]
},
"serverArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/server" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/serverArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["nextLink"]
}

```

### 6.13.7 GET ALL schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for servers v2",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {

```

```

"properties": {
  "client": {
    "type": "string"
  },
  "tenantId": {
    "type": "string"
  },
  "groupId": {
    "type": "string"
  },
  "resourceName": {
    "type": "string"
  },
  "originalHref": {
    "type": "string"
  }
}
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"server": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      }
    },
    "connections": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "managementAddresses": {
            "type": "array",
            "items": {
              "type": "string"
            }
          }
        },
        "credential": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          }
        },
        "required": [
          "resourceRef"
        ]
      },
      "credentialType": {
        "type": "string"
      }
    },
    "required": [

```

```

        "managementAddresses",
        "credential",
        "credentialType"
    ]
    },
    "virtualServers": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "virtualSwitches": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "certificate": {
        "type": "string"
    },
    "rackSlot": {
        "type": "string"
    },
    "os": {
        "type": "string"
    },
    "model": {
        "type": "string"
    },
    "vendor": {
        "type": "string"
    },
    "serial": {
        "type": "string"
    },
    "configurationState": {
        "type": "object",
        "properties": {
            "status": {
                "type": "string"
            }
        }
    },
    "detailedInfo": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "source": {
                    "type": "string"
                },
                "message": {
                    "type": "string"
                }
            }
        }
    },

```

```

        "code": {
            "type": "string"
        }
    },
    "required": [
        "source",
        "message",
        "code"
    ]
}
},
"lastUpdatedTime": {
    "type": "string"
}
},
"required": [
    "status",
    "detailedInfo",
    "lastUpdatedTime"
]
},
"virtualNetworkInterfaces": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"networkInterfaces": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "interfaceName": {
                        "type": "string"
                    },
                    "mac": {
                        "type": "string"
                    }
                },
                "ipConfiguration": {
                    "type": "array",
                    "items": {

```

```

        "type": "object",
        "properties": {
            "ipAddress": {
                "type": "string"
            },
            "networkPrefix": {
                "type": "string"
            },
            "isDhcpEnabled": {
                "type": "string"
            }
        }
    },
    "vlanIds": {
        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "adminStatus": {
        "type": "string"
    },
    "operationalStatus": {
        "type": "string"
    },
    "interfaceIndex": {
        "type": "string"
    },
    "interfaceSpeed": {
        "type": "string"
    },
    "isBMC": {
        "type": "string"
    },
    "logicalSubnets": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    }
}
},
"required": [
    "provisioningState",
    "mac",
    "ipConfiguration",
    "vlanIds",
    "interfaceIndex",
    "isBMC",
    "logicalSubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},

```



```

    "required": [
      "provisioningState",
      "connections",
      "configurationState",
      "networkInterfaces"
    ],
    "tags": {
      "additionalProperties": { "type": "string" }
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"serverArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/server" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/serverArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
},
"required": ["nextLink"]
}

```

### 6.13.8 GET ALL schema v3

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for servers v3",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  }
},

```

```

"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"server": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "connections": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "managementAddresses": {
              "type": "array",
              "items": {
                "type": "string"
              }
            },
            "credential": {
              "type": "object",
              "properties": {
                "resourceRef": {
                  "type": "string"
                }
              }
            },
            "required": [
              "resourceRef"
            ]
          },
          "credentialType": {
            "type": "string"
          }
        },
        "required": [
          "managementAddresses",
          "credential",
          "credentialType"
        ]
      }
    },
    "virtualServers": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    }
  }
}

```

```

    }
  },
  "virtualSwitches": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"certificate": {
  "type": "string"
},
"rackSlot": {
  "type": "string"
},
"os": {
  "type": "string"
},
"model": {
  "type": "string"
},
"vendor": {
  "type": "string"
},
"serial": {
  "type": "string"
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    },
    "required": [
      "source",
      "message",
      "code"
    ]
  }
},
"lastUpdatedTime": {
  "type": "string"
}
},
"required": [
  "status",
  "detailedInfo",

```

```

        "lastUpdatedTime"
    ]
},
"auditingEnabled": {
    "type": "string"
},
"virtualNetworkInterfaces": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"networkInterfaces": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "interfaceName": {
                        "type": "string"
                    },
                    "mac": {
                        "type": "string"
                    },
                    "ipConfiguration": {
                        "type": "array",
                        "items": {
                            "type": "object",
                            "properties": {
                                "ipAddress": {
                                    "type": "string"
                                },
                                "networkPrefix": {
                                    "type": "string"
                                },
                                "isDhcpEnabled": {
                                    "type": "string"
                                }
                            }
                        }
                    }
                }
            }
        }
    },
    "vlanIds": {

```

```

        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "adminStatus": {
        "type": "string"
    },
    "operationalStatus": {
        "type": "string"
    },
    "interfaceIndex": {
        "type": "string"
    },
    "interfaceSpeed": {
        "type": "string"
    },
    "isBMC": {
        "type": "string"
    },
    "logicalSubnets": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    }
}
},
"required": [
    "provisioningState",
    "mac",
    "ipConfiguration",
    "vlanIds",
    "interfaceIndex",
    "isBMC",
    "logicalSubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"required": [
    "provisioningState",
    "connections",
    "configurationState",
    "networkInterfaces",
    "auditingEnabled"
],
"tags": {
    "additionalProperties": { "type": "string" }
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",

```

```

        "instanceId",
        "properties"
    ]
},
"serverArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/server" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/serverArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["nextLink"]
}

```

## 6.14 serviceInsertions

### 6.14.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for service Insertions",
    "type": "object",
    "definitions": {
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    },
    "properties": {
        "resourceId": {
            "type": "string"
        },
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "properties": {
            "type": "object",
            "properties": {
                "serviceInsertionRules": {
                    "type": "array",
                    "items": {
                        "type": "object",
                        "properties": {
                            "resourceId": {

```

```

        "type": "string"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
        "type": "object",
        "properties": {
            "description": {
                "type": "string"
            },
            "protocol": {
                "enum": [ "All", "Tcp", "Udp", "Http" ]
            },
            "sourcePortRangeStart": {
                "type": "integer"
            },
            "sourcePortRangeEnd": {
                "type": "integer"
            },
            "destinationPortRangeStart": {
                "type": "integer"
            },
            "destinationPortRangeEnd": {
                "type": "integer"
            },
            "sourceSubnets": {
                "type": "array",
                "items": {
                    "type": "string"
                }
            },
            "destinationSubnets": {
                "type": "array",
                "items": {
                    "type": "string"
                }
            }
        }
    },
    "required": [
        "protocol",
        "sourcePortRangeStart",
        "sourcePortRangeEnd",
        "destinationPortRangeStart",
        "destinationPortRangeEnd",
        "sourceSubnets",
        "destinationSubnets"
    ]
}
},
"required": [
    "resourceId",
    "properties"
]
}
},
"serviceInsertionElements": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "properties": {
                "type": "object",
                "properties": {

```





```

    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "serviceInsertionRules": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              },
              "resourceId": {
                "type": "string"
              },
              "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
              },
              "etag": {
                "type": "string"
              },
              "instanceId": {
                "$ref": "#/definitions/GUID"
              },
              "properties": {
                "type": "object",
                "properties": {
                  "provisioningState": {
                    "$ref": "#/definitions/provisioningState"
                  },
                  "description": {
                    "type": "string"
                  },
                  "protocol": {
                    "enum": [ "All", "Tcp", "Udp", "Http" ]
                  },
                  "sourcePortRangeStart": {
                    "type": "integer"
                  },
                  "sourcePortRangeEnd": {
                    "type": "integer"
                  },
                  "destinationPortRangeStart": {
                    "type": "integer"
                  },
                  "destinationPortRangeEnd": {
                    "type": "integer"
                  },
                  "sourceSubnets": {
                    "type": "array",

```

```

        "items": {
            "type": "string"
        }
    },
    "destinationSubnets": {
        "type": "array",
        "items": {
            "type": "string"
        }
    }
},
"required": [
    "provisioningState",
    "protocol",
    "sourcePortRangeStart",
    "sourcePortRangeEnd",
    "destinationPortRangeStart",
    "destinationPortRangeEnd",
    "sourceSubnets",
    "destinationSubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"serviceInsertionElements": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "description": {
                        "type": "string"
                    },
                    "order": {
                        "type": "integer"
                    }
                }
            },
            "required": [
                "provisioningState",
                "order"
            ]
        }
    }
}
}

```

```

    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
},
"priority": {
  "type": "integer"
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"required": [
  "provisioningState",
  "serviceInsertionRules",
  "serviceInsertionElements",
  "priority"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.14.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for service Insertions",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",

```

```

    "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "resourceMetadata": {
    "properties": {
      "client": {
        "type": "string"
      },
      "tenantId": {
        "type": "string"
      },
      "groupId": {
        "type": "string"
      },
      "resourceName": {
        "type": "string"
      },
      "originalHref": {
        "type": "string"
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "serviceInsertions": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "serviceInsertionRules": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "resourceRef": {
                  "type": "string"
                },
                "resourceId": {
                  "type": "string"
                },
                "resourceMetadata": {
                  "$ref": "#/definitions/resourceMetadata"
                },
                "etag": {
                  "type": "string"
                },
                "instanceId": {
                  "$ref": "#/definitions/GUID"
                },
                "properties": {

```

```

    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "description": {
        "type": "string"
      },
      "protocol": {
        "enum": [ "All", "Tcp", "Udp", "Http" ]
      },
      "sourcePortRangeStart": {
        "type": "integer"
      },
      "sourcePortRangeEnd": {
        "type": "integer"
      },
      "destinationPortRangeStart": {
        "type": "integer"
      },
      "destinationPortRangeEnd": {
        "type": "integer"
      },
      "sourceSubnets": {
        "type": "array",
        "items": {
          "type": "string"
        }
      },
      "destinationSubnets": {
        "type": "array",
        "items": {
          "type": "string"
        }
      }
    },
    "required": [
      "provisioningState",
      "protocol",
      "sourcePortRangeStart",
      "sourcePortRangeEnd",
      "destinationPortRangeStart",
      "destinationPortRangeEnd",
      "sourceSubnets",
      "destinationSubnets"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"serviceInsertionElements": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      }
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    }
  }
}

```

```

    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "description": {
          "type": "string"
        },
        "order": {
          "type": "integer"
        }
      }
    },
    "required": [
      "provisioningState",
      "order"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"priority": {
  "type": "integer"
},
"ipConfigurations": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
}
},
"required": [
  "provisioningState",
  "serviceInsertionRules",

```

```

        "serviceInsertionElements",
        "priority"
    ]
    }
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"ServiceInsertionsArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/serviceInsertions" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/ServiceInsertionsArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": [ "nextLink" ]
}

```

## 6.15 VirtualGateways

### 6.15.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for VirtualGateways",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        }
    }
},

```

```

"type": "object",
"properties": {
  "resourceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "gatewaypool": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "GatewayPools": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "gatewaySubnets": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "vpnClientAddressSpace": {
    "type": "null"
  },
  "networkConnections": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceId": {
          "type": "string"
        },
        "properties": {
          "type": "object",
          "properties": {
            "connectionType": {
              "enum": [ "IPSec", "GRE", "L3" ]
            },
            "outboundKiloBitsPerSecond": {
              "type": "integer"
            }
          }
        }
      }
    }
  }
}

```



```

    "inboundKiloBitsPerSecond": {
      "type": "integer"
    },
    "outboundBytes": {
      "type": "integer"
    },
    "inboundBytes": {
      "type": "integer"
    },
    "outboundDroppedPackets": {
      "type": "integer"
    },
    "inboundDroppedPackets": {
      "type": "integer"
    },
    "ipSecConfiguration": {
      "type": "object",
      "properties": {
        "authenticationMethod": {
          "enum": [ "Certificates", "PSK" ]
        },
        "sharedSecret": {
          "type": "string"
        },
        "quickMode": {
          "type": "object",
          "properties": {
            "perfectForwardSecrecy": {
              "enum": [ "None", "PFS1", "PFS2", "PFS2048", "ECP256", "ECP384",
"PFSMM", "PFS24" ]
            },
            "authenticationTransformationConstant": {
              "enum": [ "MD596", "SHA196", "SHA256128", "GCM AES128",
"GCM AES192", "GCM AES256", "None" ]
            },
            "cipherTransformationConstant": {
              "enum": [ "DES", "DES3", "AES128", "AES192", "AES256",
"GCM AES128", "GCM AES192", "GCM AES256" ]
            },
            "saLifeTimeSeconds": {
              "type": "integer"
            },
            "idleDisconnectSeconds": {
              "type": "integer"
            },
            "saLifeTimeKiloBytes": {
              "type": "integer"
            }
          }
        },
        "required": [
          "perfectForwardSecrecy",
          "authenticationTransformationConstant",
          "cipherTransformationConstant",
          "saLifeTimeSeconds",
          "idleDisconnectSeconds",
          "saLifeTimeKiloBytes"
        ]
      }
    },
    "mainMode": {
      "type": "object",
      "properties": {
        "diffieHellmanGroup": {
          "enum": [ "Group1", "Group2", "Group14", "ECP258", "ECP384" ]
        },
        "integrityAlgorithm": {
          "enum": [ "MD5", "SHA1", "SHA256", "SHA384" ]
        },
        "encryptionAlgorithm": {
          "enum": [ "DES", "DES3", "AES128", "AES192", "AES256" ]
        }
      }
    }
  }
}

```

```

        "saLifeTimeSeconds": {
            "type": "integer"
        },
        "saLifeTimeKiloBytes": {
            "type": "integer"
        }
    },
    "required": [
        "diffieHellmanGroup",
        "integrityAlgorithm",
        "encryptionAlgorithm",
        "saLifeTimeSeconds",
        "saLifeTimeKiloBytes"
    ]
},
"required": [
    "authenticationMethod",
    "sharedSecret",
    "quickMode",
    "mainMode"
]
},
"greConfiguration": {
    "type": "object",
    "properties": {
        "greKey": {
            "type": "string"
        }
    },
    "required": [
        "greKey"
    ]
},
"l3Configuration": {
    "type": "object",
    "properties": {
        "vlanSubnet": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            },
            "required": [
                "resourceRef"
            ]
        }
    },
    "required": [
        "vlanSubnet"
    ]
},
"ipAddresses": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "ipAddress": {
                "type": "string"
            },
            "prefixLength": {
                "type": "integer"
            }
        },
        "required": [
            "ipAddress",
            "prefixLength"
        ]
    }
}

```

```

    },
    "PeerIPAddresses": {
      "type": "array",
      "items": {
        "type": "string"
      }
    },
    "destinationIPAddress": {
      "type": "string"
    },
    "routes": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "Metric": {
            "type": "integer"
          },
          "DestinationPrefix": {
            "type": "string"
          }
        }
      },
      "required": [
        "Metric",
        "DestinationPrefix"
      ]
    }
  },
  "required": [
    "connectionType",
    "outboundKiloBitsPerSecond",
    "inboundKiloBitsPerSecond",
    "outboundBytes",
    "inboundBytes",
    "outboundDroppedPackets",
    "inboundDroppedPackets"
  ]
},
"required": [
  "resourceId",
  "properties"
]
},
"bgpRouters": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "isEnabled": {
            "type": "string"
          },
          "requireIGPSync": {

```

```

        "type": "string"
    },
    "extASNumber": {
        "type": "string"
    },
    "routerIP": {
        "type": "array",
        "items": {}
    },
    "isGenerated": {
        "type": "boolean"
    },
    "bgpPeers": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "resourceId": {
                    "type": "string"
                },
                "properties": {
                    "type": "object",
                    "properties": {
                        "peerIpAddress": {
                            "type": "string"
                        },
                        "asNumber": {
                            "type": "string"
                        },
                        "extAsNumber": {
                            "type": "string"
                        },
                        "policyMapIn": {
                            "type": "null"
                        },
                        "policyMapOut": {
                            "type": "null"
                        }
                    }
                }
            },
            "required": [
                "peerIpAddress",
                "asNumber",
                "extAsNumber",
                "policyMapIn",
                "policyMapOut"
            ]
        }
    },
    "required": [
        "resourceId",
        "properties"
    ]
}
},
"required": [
    "isEnabled",
    "requireIGPSync",
    "extASNumber",
    "routerIP",
    "isGenerated",
    "bgpPeers"
]
}
},
"required": [
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]

```

```

    ]
  }
},
"policyMaps": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "policyMapEntryList": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "policyName": {
                "type": "string"
              },
              "action": {
                "type": "string"
              },
              "matchCriteria": {
                "type": "array",
                "items": {
                  "type": "object",
                  "properties": {
                    "property": {
                      "type": "string"
                    },
                    "value": {
                      "type": "array",
                      "items": {
                        "type": "string"
                      }
                    }
                  }
                },
                "required": [
                  "property",
                  "value"
                ]
              }
            },
            "setActions": {
              "type": "array",
              "items": {}
            }
          },
          "required": [
            "policyName",
            "action",
            "matchCriteria",
            "setActions"
          ]
        }
      }
    }
  },
  "required": [
    "resourceId",
    "etag",

```

```

        "instanceId",
        "properties"
    ]
},
"routingType": {
    "type": "string"
}
},
"required": [
    "gatewaypool",
    "GatewayPools",
    "gatewaySubnets",
    "networkConnections",
    "bgpRouters"
]
}
},
"required": [
    "resourceId",
    "properties"
]
}
}

```

## 6.15.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for VirtualGateways",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        }
    },
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        },
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        }
    },
}

```

```

"instanceId": {
  "$ref": "#/definitions/GUID"
},
"properties": {
  "type": "object",
  "properties": {
    "provisioningState": {
      "$ref": "#/definitions/provisioningState"
    },
    "networkConnections": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "connectionType": {
                "enum": [ "IPSec", "GRE", "L3" ]
              },
              "outboundKiloBitsPerSecond": {
                "type": "integer"
              },
              "inboundKiloBitsPerSecond": {
                "type": "integer"
              },
              "ipSecConfiguration": {
                "type": "object",
                "properties": {
                  "authenticationMethod": {
                    "enum": [ "Certificates", "PSK" ]
                  },
                  "quickMode": {
                    "type": "object",
                    "properties": {
                      "perfectForwardSecrecy": {
                        "enum": [ "None", "PFS1", "PFS2", "PFS2048", "ECP256", "ECP384",
"PFSMM", "PFS24" ]
                      },
                      "cipherTransformationConstant": {
                        "enum": [ "DES", "DES3", "AES128", "AES192", "AES256",
"GCMAES128", "GCMAES192", "GCMAES256" ]
                      },
                      "authenticationTransformationConstant": {
                        "enum": [ "MD596", "SHA196", "SHA256128", "GCMAES128",
"GCMAES192", "GCMAES256", "None" ]
                      },
                      "idleDisconnectSeconds": {
                        "type": "integer"
                      },
                      "saLifeTimeSeconds": {
                        "type": "integer"
                      },
                      "saLifeTimeKiloBytes": {
                        "type": "integer"
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  }
}

```

```

    }
  },
  "required": [
    "perfectForwardSecrecy",
    "cipherTransformationConstant",
    "authenticationTransformationConstant",
    "idleDisconnectSeconds",
    "saLifeTimeSeconds",
    "saLifeTimeKiloBytes"
  ]
},
"mainMode": {
  "type": "object",
  "properties": {
    "diffieHellmanGroup": {
      "enum": [ "Group1", "Group2", "Group14", "ECP258", "ECP384" ]
    },
    "encryptionAlgorithm": {
      "enum": [ "DES", "DES3", "AES128", "AES192", "AES256" ]
    },
    "integrityAlgorithm": {
      "enum": [ "MD5", "SHA1", "SHA256", "SHA384" ]
    },
    "saLifeTimeSeconds": {
      "type": "integer"
    },
    "saLifeTimeKiloBytes": {
      "type": "integer"
    }
  },
  "required": [
    "diffieHellmanGroup",
    "encryptionAlgorithm",
    "integrityAlgorithm",
    "saLifeTimeSeconds",
    "saLifeTimeKiloBytes"
  ]
},
"localVpnTrafficSelector": {
  "type": "array",
  "items": {
    "type": "string"
  }
},
"remoteVpnTrafficSelector": {
  "type": "array",
  "items": {
    "type": "string"
  }
}
},
"greConfiguration": {
  "type": "object",
  "properties": {
    "greKey": {
      "type": "string"
    }
  }
},
"l3Configuration": {
  "type": "object",
  "properties": {
    "vlanSubnet": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    }
  }
}

```



```

    }
  }
},
"ipAddresses": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "ipAddress": {
        "type": "string"
      },
      "prefixLength": {
        "type": "integer"
      }
    },
    "required": [
      "ipAddress",
      "prefixLength"
    ]
  }
},
"peerIPAddresses": {
  "type": "array",
  "items": {
    "type": "string"
  }
},
"routes": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "destinationPrefix": {
        "type": "string"
      },
      "nextHop": {
        "type": "string"
      },
      "metric": {
        "type": "integer"
      },
      "protocol": {
        "type": "string"
      }
    },
    "required": [
      "destinationPrefix",
      "nextHop",
      "metric",
      "protocol"
    ]
  }
},
"connectionStatus": {
  "type": "string"
},
"connectionState": {
  "type": "string"
},
"connectionUpTime": {
  "type": "string"
},
"connectionErrorReason": {
  "type": "string"
},
"unreachabilityReason": {
  "type": "string"
},
},

```

```

"statistics": {
  "type": "object",
  "properties": {
    "outboundBytes": {
      "type": "integer"
    },
    "inboundBytes": {
      "type": "integer"
    },
    "rxTotalPacketsDropped": {
      "type": "integer"
    },
    "txTotalPacketsDropped": {
      "type": "integer"
    },
    "txRateKbps": {
      "type": "integer"
    },
    "rxRateKbps": {
      "type": "integer"
    },
    "txRateLimitedPacketsDropped": {
      "type": "integer"
    },
    "rxRateLimitedPacketsDropped": {
      "type": "integer"
    },
    "lastUpdated": {
      "type": "string"
    }
  }
},
"required": [
  "outboundBytes",
  "inboundBytes",
  "rxTotalPacketsDropped",
  "txTotalPacketsDropped",
  "txRateKbps",
  "rxRateKbps",
  "txRateLimitedPacketsDropped",
  "rxRateLimitedPacketsDropped",
  "lastUpdated"
]
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    }
  }
},
"required": [
  "status",
  "lastUpdatedTime"
]
},
"gateway": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  }
},
"required": [
  "resourceRef"
]
}
},

```

```

        "required": [
            "provisioningState",
            "connectionType",
            "outboundKiloBitsPerSecond",
            "inboundKiloBitsPerSecond",
            "ipAddresses",
            "routes",
            "connectionStatus",
            "connectionState",
            "connectionUpTime",
            "statistics",
            "configurationState",
            "gateway"
        ]
    },
    },
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
},
"bgpRouters": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "isEnabled": {
                        "type": "boolean"
                    },
                    "requireIgpSync": {
                        "type": "boolean"
                    },
                    "extAsNumber": {
                        "type": "string"
                    },
                    "routerId": {
                        "type": "string"
                    },
                    "routerIP": {
                        "type": "array",
                        "items": {
                            "type": "string"
                        }
                    },
                    "isGenerated": {
                        "type": "boolean"
                    },
                    "bgpPeers": {

```

```

"type": "array",
"items": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "asNumber": {
          "type": "string"
        },
        "extAsNumber": {
          "type": "string"
        },
        "peerIpAddress": {
          "type": "string"
        },
        "connectionState": {
          "type": "string"
        },
        "statistics": {
          "type": "object",
          "properties": {
            "tcpConnectionClosed": {
              "type": "string"
            },
            "openMessageStats": {
              "type": "object",
              "properties": {
                "sentCount": {
                  "type": "integer"
                },
                "receivedCount": {
                  "type": "integer"
                }
              }
            },
            "required": [
              "sentCount",
              "receivedCount"
            ]
          },
          "notificationMessageStats": {
            "type": "object",
            "properties": {
              "sentCount": {
                "type": "integer"
              },
              "receivedCount": {
                "type": "integer"
              }
            },
            "required": [
              "sentCount",
              "receivedCount"
            ]
          }
        }
      }
    }
  }
}

```

```

"keepAliveMessageStats": {
  "type": "object",
  "properties": {
    "sentCount": {
      "type": "integer"
    },
    "receivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "sentCount",
    "receivedCount"
  ]
},
"routeRefreshMessageStats": {
  "type": "object",
  "properties": {
    "sentCount": {
      "type": "integer"
    },
    "receivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "sentCount",
    "receivedCount"
  ]
},
"updateMessageStats": {
  "type": "object",
  "properties": {
    "sentCount": {
      "type": "integer"
    },
    "receivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "sentCount",
    "receivedCount"
  ]
},
"ipv4Route": {
  "type": "object",
  "properties": {
    "updateSentCount": {
      "type": "integer"
    },
    "updateReceivedCount": {
      "type": "integer"
    },
    "withdrawlSentCount": {
      "type": "integer"
    },
    "withdrawlReceivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "updateSentCount",
    "updateReceivedCount",
    "withdrawlSentCount",
    "withdrawlReceivedCount"
  ]
},
"ipv6Route": {
  "type": "object",

```

```

        "properties": {
            "updateSentCount": {
                "type": "integer"
            },
            "updateReceivedCount": {
                "type": "integer"
            },
            "withdrawlSentCount": {
                "type": "integer"
            },
            "withdrawlReceivedCount": {
                "type": "integer"
            }
        },
        "required": [
            "updateSentCount",
            "updateReceivedCount",
            "withdrawlSentCount",
            "withdrawlReceivedCount"
        ]
    },
    "lastUpdated": {
        "type": "string"
    }
},
"required": [
    "tcpConnectionClosed",
    "openMessageStats",
    "notificationMessageStats",
    "keepAliveMessageStats",
    "routeRefreshMessageStats",
    "updateMessageStats",
    "ipv4Route",
    "ipv6Route",
    "lastUpdated"
]
},
"isGenerated": {
    "type": "boolean"
}
},
"required": [
    "provisioningState",
    "asNumber",
    "extAsNumber",
    "peerIpAddress",
    "connectionState",
    "statistics",
    "isGenerated"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"configurationState": {
    "type": "object",
    "properties": {
        "status": {
            "type": "string"
        }
    },
    "lastUpdatedTime": {
        "type": "string"
    }
}

```

```

    },
    "required": [
      "status",
      "lastUpdatedTime"
    ]
  },
  "required": [
    "provisioningState",
    "configurationState"
  ]
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
},
"policyMaps": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "bgpPeersWithPolicyMapIn": {
            "type": "array",
            "items": {}
          },
          "bgpPeersWithPolicyMapOut": {
            "type": "array",
            "items": {}
          },
          "policyMapEntryList": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "action": {
                  "type": "string"
                },
                "matchCriteria": {
                  "type": "array",
                  "items": {
                    "type": "object",
                    "properties": {
                      "property": {
                        "type": "string"
                      },
                      "value": {

```

```

        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "required": [
        "property",
        "value"
    ]
},
"setActions": {
    "type": "array",
    "items": {}
}
},
"required": [
    "action",
    "matchCriteria",
    "setActions"
]
}
},
"required": [
    "provisioningState",
    "bgpPeersWithPolicyMapIn",
    "bgpPeersWithPolicyMapOut",
    "policyMapEntryList"
]
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"routingType": {
    "type": "string"
},
"GatewayPools": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        }
    },
    "required": [
        "resourceRef"
    ]
},
"configurationState": {
    "type": "object",
    "properties": {
        "status": {
            "type": "string"
        },
        "lastUpdatedTime": {
            "type": "string"
        }
    }
},
"required": [

```



```

        "status",
        "lastUpdatedTime"
    ]
},
"gatewaySubnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"required": [
    "provisioningState",
    "networkConnections",
    "bgpRouters",
    "routingType",
    "GatewayPools",
    "configurationState",
    "gatewaySubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.15.3 GET ALL schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for VirtualGateways",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "type": "object",
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "networkConnections": {
                "type": "array",
                "items": {
                  "type": "object",
                  "properties": {
                    "resourceRef": {
                      "type": "string"
                    },
                    "resourceId": {
                      "type": "string"
                    },
                    "etag": {
                      "type": "string"
                    },
                    "instanceId": {
                      "$ref": "#/definitions/GUID"
                    },
                    "properties": {
                      "type": "object",
                      "properties": {
                        "provisioningState": {
                          "$ref": "#/definitions/provisioningState"
                        },
                        "connectionType": {
                          "enum": [ "IPSec", "GRE", "L3" ]
                        },
                        "outboundKiloBitsPerSecond": {
                          "type": "integer"
                        },
                        "inboundKiloBitsPerSecond": {
                          "type": "integer"
                        },
                        "ipSecConfiguration": {
                          "type": "object",
                          "properties": {
                            "authenticationMethod": {
                              "enum": [ "Certificates", "PSK" ]
                            },
                            "quickMode": {
                              "type": "object",

```

```

        "properties": {
            "perfectForwardSecrecy": {
                "enum": [ "None", "PFS1", "PFS2", "PFS2048", "ECP256", "ECP384",
"PFSMM", "PFS24" ]
            },
            "cipherTransformationConstant": {
                "enum": [ "DES", "DES3", "AES128", "AES192", "AES256",
"GCMAES128", "GCMAES192", "GCMAES256" ]
            },
            "authenticationTransformationConstant": {
                "enum": [ "MD596", "SHA196", "SHA256128", "GCMAES128",
"GCMAES192", "GCMAES256", "None" ]
            },
            "idleDisconnectSeconds": {
                "type": "integer"
            },
            "saLifeTimeSeconds": {
                "type": "integer"
            },
            "saLifeTimeKiloBytes": {
                "type": "integer"
            }
        },
        "required": [
            "perfectForwardSecrecy",
            "cipherTransformationConstant",
            "authenticationTransformationConstant",
            "idleDisconnectSeconds",
            "saLifeTimeSeconds",
            "saLifeTimeKiloBytes"
        ]
    },
    "mainMode": {
        "type": "object",
        "properties": {
            "diffieHellmanGroup": {
                "enum": [ "Group1", "Group2", "Group14", "ECP258", "ECP384" ]
            },
            "encryptionAlgorithm": {
                "enum": [ "DES", "DES3", "AES128", "AES192", "AES256" ]
            },
            "integrityAlgorithm": {
                "enum": [ "MD5", "SHA1", "SHA256", "SHA384" ]
            },
            "saLifeTimeSeconds": {
                "type": "integer"
            },
            "saLifeTimeKiloBytes": {
                "type": "integer"
            }
        },
        "required": [
            "diffieHellmanGroup",
            "encryptionAlgorithm",
            "integrityAlgorithm",
            "saLifeTimeSeconds",
            "saLifeTimeKiloBytes"
        ]
    },
    "localVpnTrafficSelector": {
        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "remoteVpnTrafficSelector": {
        "type": "array",
        "items": {

```

```

        "type": "string"
    }
}
},
"greConfiguration": {
    "type": "object",
    "properties": {
        "greKey": {
            "type": "string"
        }
    }
},
"l3Configuration": {
    "type": "object",
    "properties": {
        "vlanSubnet": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        }
    }
},
"ipAddresses": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "ipAddress": {
                "type": "string"
            },
            "prefixLength": {
                "type": "integer"
            }
        }
    },
    "required": [
        "ipAddress",
        "prefixLength"
    ]
},
"peerIPAddresses": {
    "type": "array",
    "items": {
        "type": "string"
    }
},
"routes": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "destinationPrefix": {
                "type": "string"
            },
            "nextHop": {
                "type": "string"
            },
            "metric": {
                "type": "integer"
            },
            "protocol": {
                "type": "string"
            }
        }
    },
    "required": [
        "destinationPrefix",

```

```

        "nextHop",
        "metric",
        "protocol"
    ]
    },
    "connectionStatus": {
        "type": "string"
    },
    "connectionState": {
        "type": "string"
    },
    "connectionUpTime": {
        "type": "string"
    },
    "connectionErrorReason": {
        "type": "string"
    },
    "unreachabilityReason": {
        "type": "string"
    },
    "statistics": {
        "type": "object",
        "properties": {
            "outboundBytes": {
                "type": "integer"
            },
            "inboundBytes": {
                "type": "integer"
            },
            "rxTotalPacketsDropped": {
                "type": "integer"
            },
            "txTotalPacketsDropped": {
                "type": "integer"
            },
            "txRateKbps": {
                "type": "integer"
            },
            "rxRateKbps": {
                "type": "integer"
            },
            "txRateLimitedPacketsDropped": {
                "type": "integer"
            },
            "rxRateLimitedPacketsDropped": {
                "type": "integer"
            },
            "lastUpdated": {
                "type": "string"
            }
        }
    },
    "required": [
        "outboundBytes",
        "inboundBytes",
        "rxTotalPacketsDropped",
        "txTotalPacketsDropped",
        "txRateKbps",
        "rxRateKbps",
        "txRateLimitedPacketsDropped",
        "rxRateLimitedPacketsDropped",
        "lastUpdated"
    ]
    },
    "configurationState": {
        "type": "object",
        "properties": {
            "status": {
                "type": "string"
            }
        }
    },

```

```

        "lastUpdatedTime": {
            "type": "string"
        }
    },
    "required": [
        "status",
        "lastUpdatedTime"
    ]
},
"gateway": {
    "type": "object",
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
}
},
"required": [
    "provisioningState",
    "connectionType",
    "outboundKiloBitsPerSecond",
    "inboundKiloBitsPerSecond",
    "ipAddresses",
    "routes",
    "connectionStatus",
    "connectionState",
    "connectionUpTime",
    "statistics",
    "configurationState",
    "gateway"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"bgpRouters": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "isEnabled": {

```

```

    "type": "boolean"
  },
  "requireIgpSync": {
    "type": "boolean"
  },
  "extAsNumber": {
    "type": "string"
  },
  "routerId": {
    "type": "string"
  },
  "routerIP": {
    "type": "array",
    "items": {
      "type": "string"
    }
  },
  "isGenerated": {
    "type": "boolean"
  },
  "bgpPeers": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "asNumber": {
              "type": "string"
            },
            "extAsNumber": {
              "type": "string"
            },
            "peerIpAddress": {
              "type": "string"
            },
            "connectionState": {
              "type": "string"
            },
            "statistics": {
              "type": "object",
              "properties": {
                "tcpConnectionClosed": {
                  "type": "string"
                },
                "openMessageStats": {
                  "type": "object",
                  "properties": {
                    "sentCount": {
                      "type": "integer"
                    },
                    "receivedCount": {
                      "type": "integer"
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  }
}

```

```

    },
    "required": [
      "sentCount",
      "receivedCount"
    ]
  },
  "notificationMessageStats": {
    "type": "object",
    "properties": {
      "sentCount": {
        "type": "integer"
      },
      "receivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "sentCount",
      "receivedCount"
    ]
  },
  "keepAliveMessageStats": {
    "type": "object",
    "properties": {
      "sentCount": {
        "type": "integer"
      },
      "receivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "sentCount",
      "receivedCount"
    ]
  },
  "routeRefreshMessageStats": {
    "type": "object",
    "properties": {
      "sentCount": {
        "type": "integer"
      },
      "receivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "sentCount",
      "receivedCount"
    ]
  },
  "updateMessageStats": {
    "type": "object",
    "properties": {
      "sentCount": {
        "type": "integer"
      },
      "receivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "sentCount",
      "receivedCount"
    ]
  },
  "ipv4Route": {
    "type": "object",
    "properties": {
      "updateSentCount": {

```



```

        "type": "integer"
    },
    "updateReceivedCount": {
        "type": "integer"
    },
    "withdrawlSentCount": {
        "type": "integer"
    },
    "withdrawlReceivedCount": {
        "type": "integer"
    }
},
"required": [
    "updateSentCount",
    "updateReceivedCount",
    "withdrawlSentCount",
    "withdrawlReceivedCount"
]
},
"ipv6Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawlSentCount",
        "withdrawlReceivedCount"
    ]
},
"lastUpdated": {
    "type": "string"
}
},
"required": [
    "tcpConnectionClosed",
    "openMessageStats",
    "notificationMessageStats",
    "keepAliveMessageStats",
    "routeRefreshMessageStats",
    "updateMessageStats",
    "ipv4Route",
    "ipv6Route",
    "lastUpdated"
]
},
"isGenerated": {
    "type": "boolean"
}
},
"required": [
    "provisioningState",
    "asNumber",
    "extAsNumber",
    "peerIpAddress",
    "connectionState",
    "statistics",
    "isGenerated"
]

```

```

        ]
      },
      "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
      ]
    }
  },
  "configurationState": {
    "type": "object",
    "properties": {
      "status": {
        "type": "string"
      },
      "lastUpdatedTime": {
        "type": "string"
      }
    },
    "required": [
      "status",
      "lastUpdatedTime"
    ]
  },
  "required": [
    "provisioningState",
    "configurationState"
  ]
},
"required": [
  "resourceRef",
  "resourceId",
  "instanceId",
  "properties"
]
},
"policyMaps": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "bgpPeersWithPolicyMapIn": {
            "type": "array",
            "items": {}
          },
          "bgpPeersWithPolicyMapOut": {

```

```

        "type": "array",
        "items": {}
    },
    "policyMapEntryList": {
        "type": "array",
        "items": {
            "type": "object",
            "properties": {
                "action": {
                    "type": "string"
                },
                "matchCriteria": {
                    "type": "array",
                    "items": {
                        "type": "object",
                        "properties": {
                            "property": {
                                "type": "string"
                            },
                            "value": {
                                "type": "array",
                                "items": {
                                    "type": "string"
                                }
                            }
                        }
                    },
                    "required": [
                        "property",
                        "value"
                    ]
                }
            },
            "setActions": {
                "type": "array",
                "items": {}
            },
            "required": [
                "action",
                "matchCriteria",
                "setActions"
            ]
        }
    },
    "required": [
        "provisioningState",
        "bgpPeersWithPolicyMapIn",
        "bgpPeersWithPolicyMapOut",
        "policyMapEntryList"
    ]
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"routingType": {
    "type": "string"
},
"GatewayPools": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {

```

```

        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
},
"configurationState": {
    "type": "object",
    "properties": {
        "status": {
            "type": "string"
        },
        "lastUpdatedTime": {
            "type": "string"
        }
    },
    "required": [
        "status",
        "lastUpdatedTime"
    ]
},
"gatewaySubnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    }
},
"required": [
    "provisioningState",
    "networkConnections",
    "bgpRouters",
    "routingType",
    "GatewayPools",
    "configurationState",
    "gatewaySubnets"
]
},
"required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
]
},
"nextLink": {
    "type": "string"
}
},
"required": [
    "value",
    "nextLink"
]
}

```

## 6.15.4 bgpRouters

### 6.15.4.1 PUT schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "type": "string"
        },
        "isEnabled": {
          "type": "string"
        },
        "requireIGPSync": {
          "type": "string"
        },
        "extASNumber": {
          "type": "string"
        },
        "routerIP": {
          "type": "array",
          "items": {}
        },
        "isGenerated": {
          "type": "boolean"
        }
      }
    },
    "bgpPeers": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceId": {
            "type": "string"
          },
          "properties": {
            "type": "object",
            "properties": {
              "peerIpAddress": {
                "type": "string"
              },
              "asNumber": {
                "type": "string"
              },
              "extASNumber": {
                "type": "string"
              },
              "policyMapIn": {
                "type": "null"
              },
              "policyMapOut": {
                "type": "null"
              }
            }
          }
        },
        "required": [
          "peerIpAddress",

```

```

        "asNumber",
        "extAsNumber",
        "policyMapIn",
        "policyMapOut"
    ]
    },
    "required": [
        "resourceId",
        "properties"
    ]
}
},
"required": [
    "provisioningState",
    "isEnabled",
    "requireIGPSync",
    "extASNumber",
    "routerIP",
    "isGenerated",
    "bgpPeers"
]
}
},
"required": [
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

#### 6.15.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "type": "string"
        },
        "isEnabled": {
          "type": "boolean"
        },
        "requireIgpSync": {
          "type": "boolean"
        },
        "extAsNumber": {
          "type": "string"
        },
        "routerId": {
          "type": "string"
        }
      }
    }
  }
}

```



```

        "type": "integer"
    },
    "receivedCount": {
        "type": "integer"
    }
},
"required": [
    "sentCount",
    "receivedCount"
]
},
"keepAliveMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"routeRefreshMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"updateMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"ipv4Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    }
}

```



```

    }
  },
  "required": [
    "updateSentCount",
    "updateReceivedCount",
    "withdrawlSentCount",
    "withdrawlReceivedCount"
  ]
},
"ipv6Route": {
  "type": "object",
  "properties": {
    "updateSentCount": {
      "type": "integer"
    },
    "updateReceivedCount": {
      "type": "integer"
    },
    "withdrawlSentCount": {
      "type": "integer"
    },
    "withdrawlReceivedCount": {
      "type": "integer"
    }
  }
},
"required": [
  "updateSentCount",
  "updateReceivedCount",
  "withdrawlSentCount",
  "withdrawlReceivedCount"
]
},
"lastUpdated": {
  "type": "string"
}
},
"required": [
  "tcpConnectionClosed",
  "openMessageStats",
  "notificationMessageStats",
  "keepAliveMessageStats",
  "routeRefreshMessageStats",
  "updateMessageStats",
  "ipv4Route",
  "ipv6Route",
  "lastUpdated"
]
},
"isGenerated": {
  "type": "boolean"
}
},
"required": [
  "provisioningState",
  "asNumber",
  "extAsNumber",
  "peerIpAddress",
  "connectionState",
  "statistics",
  "isGenerated"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
]

```

```

    }
  },
  "configurationState": {
    "type": "object",
    "properties": {
      "status": {
        "type": "string"
      },
      "lastUpdatedTime": {
        "type": "string"
      }
    },
    "required": [
      "status",
      "lastUpdatedTime"
    ]
  }
},
"required": [
  "provisioningState",
  "isEnabled",
  "requireIgpSync",
  "extAsNumber",
  "routerId",
  "routerIP",
  "isGenerated",
  "bgpPeers",
  "configurationState"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

### 6.15.4.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "type": "string"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "type": "string"
              }
            }
          }
        }
      }
    }
  }
}

```

```

},
"isEnabled": {
  "type": "boolean"
},
"requireIgpSync": {
  "type": "boolean"
},
"extAsNumber": {
  "type": "string"
},
"routerId": {
  "type": "string"
},
"routerIP": {
  "type": "array",
  "items": {
    "type": "string"
  }
},
"isGenerated": {
  "type": "boolean"
},
"bgpPeers": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "type": "string"
          },
          "asNumber": {
            "type": "string"
          },
          "extAsNumber": {
            "type": "string"
          },
          "peerIpAddress": {
            "type": "string"
          },
          "connectionState": {
            "type": "string"
          },
          "statistics": {
            "type": "object",
            "properties": {
              "tcpConnectionClosed": {
                "type": "string"
              },
              "openMessageStats": {
                "type": "object",
                "properties": {
                  "sentCount": {
                    "type": "integer"
                  },
                  "receivedCount": {

```

```

        "type": "integer"
    }
},
"required": [
    "sentCount",
    "receivedCount"
]
},
"notificationMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"keepAliveMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"routeRefreshMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"updateMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"ipv4Route": {
    "type": "object",

```

```

    "properties": {
      "updateSentCount": {
        "type": "integer"
      },
      "updateReceivedCount": {
        "type": "integer"
      },
      "withdrawlSentCount": {
        "type": "integer"
      },
      "withdrawlReceivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "updateSentCount",
      "updateReceivedCount",
      "withdrawlSentCount",
      "withdrawlReceivedCount"
    ]
  },
  "ipv6Route": {
    "type": "object",
    "properties": {
      "updateSentCount": {
        "type": "integer"
      },
      "updateReceivedCount": {
        "type": "integer"
      },
      "withdrawlSentCount": {
        "type": "integer"
      },
      "withdrawlReceivedCount": {
        "type": "integer"
      }
    },
    "required": [
      "updateSentCount",
      "updateReceivedCount",
      "withdrawlSentCount",
      "withdrawlReceivedCount"
    ]
  },
  "lastUpdated": {
    "type": "string"
  }
},
"required": [
  "tcpConnectionClosed",
  "openMessageStats",
  "notificationMessageStats",
  "keepAliveMessageStats",
  "routeRefreshMessageStats",
  "updateMessageStats",
  "ipv4Route",
  "ipv6Route",
  "lastUpdated"
]
},
"isGenerated": {
  "type": "boolean"
}
},
"required": [
  "provisioningState",
  "asNumber",
  "extAsNumber",
  "peerIpAddress",
  "connectionState",

```

```

        "statistics",
        "isGenerated"
    ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}
},
"configurationState": {
  "type": "object",
  "properties": {
    "status": {
      "type": "string"
    },
    "lastUpdatedTime": {
      "type": "string"
    }
  }
},
"required": [
  "status",
  "lastUpdatedTime"
]
}
},
"required": [
  "provisioningState",
  "isEnabled",
  "requireIgpSync",
  "extAsNumber",
  "routerId",
  "routerIP",
  "isGenerated",
  "bgpPeers",
  "configurationState"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"nextLink": {
  "type": "string"
}
},
"required": [
  "value",
  "nextLink"
]
}
}

```

#### 6.15.4.4 bgpPeers

##### 6.15.4.4.1 PUT schema

```
{
```

```

"$schema": "http://json-schema.org/draft-04/schema#",
"type": "object",
"properties": {
  "resourceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "peerIpAddress": {
        "type": "string"
      },
      "asNumber": {
        "type": "string"
      },
      "extAsNumber": {
        "type": "string"
      },
      "policyMapIn": {
        "type": "null"
      },
      "policyMapOut": {
        "type": "null"
      }
    }
  },
  "required": [
    "peerIpAddress",
    "asNumber",
    "extAsNumber",
    "policyMapIn",
    "policyMapOut"
  ]
}
},
"required": [
  "resourceId",
  "properties"
]
}

```

#### 6.15.4.4.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "type": "string"
        },
        "asNumber": {
          "type": "string"
        },
        "extAsNumber": {

```

```

    "type": "string"
  },
  "peerIpAddress": {
    "type": "string"
  },
  "connectionState": {
    "type": "string"
  },
  "statistics": {
    "type": "object",
    "properties": {
      "tcpConnectionClosed": {
        "type": "string"
      },
      "openMessageStats": {
        "type": "object",
        "properties": {
          "sentCount": {
            "type": "integer"
          },
          "receivedCount": {
            "type": "integer"
          }
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "notificationMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "keepAliveMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "routeRefreshMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [

```



```

        "sentCount",
        "receivedCount"
    ]
},
"updateMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"ipv4Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawlSentCount",
        "withdrawlReceivedCount"
    ]
},
"ipv6Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawlSentCount",
        "withdrawlReceivedCount"
    ]
},
"lastUpdated": {
    "type": "string"
}
},
"required": [

```

```

        "tcpConnectionClosed",
        "openMessageStats",
        "notificationMessageStats",
        "keepAliveMessageStats",
        "routeRefreshMessageStats",
        "updateMessageStats",
        "ipv4Route",
        "ipv6Route",
        "lastUpdated"
    ]
},
    "isGenerated": {
        "type": "boolean"
    }
},
    "required": [
        "provisioningState",
        "asNumber",
        "extAsNumber",
        "peerIpAddress",
        "connectionState",
        "statistics",
        "isGenerated"
    ]
}
},
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
}
}

```

#### 6.15.4.4.3 GET ALL schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "type": "object",
    "properties": {
        "value": {
            "type": "array",
            "items": {
                "type": "object",
                "properties": {
                    "resourceRef": {
                        "type": "string"
                    },
                    "resourceId": {
                        "type": "string"
                    },
                    "etag": {
                        "type": "string"
                    },
                    "instanceId": {
                        "type": "string"
                    },
                    "properties": {
                        "type": "object",
                        "properties": {
                            "provisioningState": {
                                "type": "string"
                            },
                            "asNumber": {
                                "type": "string"
                            },
                            "extAsNumber": {

```

```

    "type": "string"
  },
  "peerIpAddress": {
    "type": "string"
  },
  "connectionState": {
    "type": "string"
  },
  "statistics": {
    "type": "object",
    "properties": {
      "tcpConnectionClosed": {
        "type": "string"
      },
      "openMessageStats": {
        "type": "object",
        "properties": {
          "sentCount": {
            "type": "integer"
          },
          "receivedCount": {
            "type": "integer"
          }
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "notificationMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "keepAliveMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [
        "sentCount",
        "receivedCount"
      ]
    },
    "routeRefreshMessageStats": {
      "type": "object",
      "properties": {
        "sentCount": {
          "type": "integer"
        },
        "receivedCount": {
          "type": "integer"
        }
      },
      "required": [

```

```

        "sentCount",
        "receivedCount"
    ]
},
"updateMessageStats": {
    "type": "object",
    "properties": {
        "sentCount": {
            "type": "integer"
        },
        "receivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "sentCount",
        "receivedCount"
    ]
},
"ipv4Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawlSentCount",
        "withdrawlReceivedCount"
    ]
},
"ipv6Route": {
    "type": "object",
    "properties": {
        "updateSentCount": {
            "type": "integer"
        },
        "updateReceivedCount": {
            "type": "integer"
        },
        "withdrawlSentCount": {
            "type": "integer"
        },
        "withdrawlReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawlSentCount",
        "withdrawlReceivedCount"
    ]
},
"lastUpdated": {
    "type": "string"
}
},
"required": [

```

```

        "tcpConnectionClosed",
        "openMessageStats",
        "notificationMessageStats",
        "keepAliveMessageStats",
        "routeRefreshMessageStats",
        "updateMessageStats",
        "ipv4Route",
        "ipv6Route",
        "lastUpdated"
    ]
},
    "isGenerated": {
        "type": "boolean"
    }
},
    "required": [
        "provisioningState",
        "asNumber",
        "extAsNumber",
        "peerIpAddress",
        "connectionState",
        "statistics",
        "isGenerated"
    ]
},
    "required": [
        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
},
    "nextLink": {
        "type": "string"
    }
},
    "required": [
        "value",
        "nextLink"
    ]
}
}

```

## 6.15.5 policyMaps

### 6.15.5.1 PUT schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "type": "object",
    "properties": {
        "resourceId": {
            "type": "string"
        },
        "etag": {
            "type": "string"
        },
        "instanceId": {
            "type": "string"
        },
        "properties": {
            "type": "object",
            "properties": {
                "provisioningState": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    },
    "policyMapEntryList": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "policyName": {
            "type": "string"
          },
          "action": {
            "type": "string"
          },
          "matchCriteria": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "property": {
                  "type": "string"
                },
                "value": {
                  "type": "array",
                  "items": {
                    "type": "string"
                  }
                }
              }
            }
          },
          "required": [
            "property",
            "value"
          ]
        }
      },
      "setActions": {
        "type": "array",
        "items": {}
      }
    },
    "required": [
      "policyName",
      "action",
      "matchCriteria",
      "setActions"
    ]
  }
},
"required": [
  "provisioningState",
  "policyMapEntryList"
]
}
},
"required": [
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.15.5.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "resourceRef": {

```

```

    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "type": "string"
      },
      "bgpPeersWithPolicyMapIn": {
        "type": "array",
        "items": {}
      },
      "bgpPeersWithPolicyMapOut": {
        "type": "array",
        "items": {}
      },
      "policyMapEntryList": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "action": {
              "type": "string"
            },
            "matchCriteria": {
              "type": "array",
              "items": {
                "type": "object",
                "properties": {
                  "property": {
                    "type": "string"
                  },
                  "value": {
                    "type": "array",
                    "items": {
                      "type": "string"
                    }
                  }
                }
              }
            },
            "required": [
              "property",
              "value"
            ]
          }
        },
        "setActions": {
          "type": "array",
          "items": {}
        }
      },
      "required": [
        "action",
        "matchCriteria",
        "setActions"
      ]
    }
  },
  "required": [
    "provisioningState",
    "bgpPeersWithPolicyMapIn",

```

```

        "bgpPeersWithPolicyMapOut",
        "policyMapEntryList"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.15.5.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "type": "object",
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "type": "string"
          }
        }
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "type": "string"
          },
          "bgpPeersWithPolicyMapIn": {
            "type": "array",
            "items": {}
          },
          "bgpPeersWithPolicyMapOut": {
            "type": "array",
            "items": {}
          },
          "policyMapEntryList": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "action": {
                  "type": "string"
                },
                "matchCriteria": {
                  "type": "array",
                  "items": {
                    "type": "object",
                    "properties": {
                      "property": {
                        "type": "string"
                      }
                    }
                  },
                  "value": {

```



```

        "type": "array",
        "items": {
            "type": "string"
        }
    },
    "required": [
        "property",
        "value"
    ]
},
"setActions": {
    "type": "array",
    "items": {}
}
},
"required": [
    "action",
    "matchCriteria",
    "setActions"
]
}
},
"required": [
    "provisioningState",
    "bgpPeersWithPolicyMapIn",
    "bgpPeersWithPolicyMapOut",
    "policyMapEntryList"
]
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
},
"nextLink": {
    "type": "string"
}
},
"required": [
    "value",
    "nextLink"
]
}
}

```

## 6.16 virtualNetworks

### 6.16.1 PUT schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for virtualNetworks",
  "type": "object",

  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    "tenantId": {
      "type": "string"
    },
    "groupId": {
      "type": "string"
    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  }
},
"required": [
  "resourceRef"
]
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "addressPrefix": {
            "type": "string"
          },
          "routeTable": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        }
      },
      "required": [
        "addressPrefix"
      ]
    }
  },
  "required": [
    "resourceId",
    "properties"
  ]
}
},
}
},

```

```

"properties": {
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "addressSpace": {
        "type": "object",
        "properties": {
          "addressPrefixes": {
            "type": "array",
            "items": {
              "type": "string"
            },
            "minItems": 1
          }
        }
      },
      "required": [
        "addressPrefixes"
      ]
    },
    "dhcpOptions": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "format": "ipv4"
          }
        }
      }
    },
    "subnets": {
      "$ref": "#/definitions/subnets"
    },
    "logicalNetwork": {
      "$ref": "#/definitions/resourceRef"
    }
  },
  "required": [
    "addressSpace",
    "logicalNetwork"
  ]
}
},
"required": [
  "properties"
]
}

```

## 6.16.2 PUT schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for virtualNetworks v2",
  "type": "object",
  "definitions": {

```

```

"resourceMetadata": {
  "properties": {
    "client": {
      "type": "string"
    },
    "tenantId": {
      "type": "string"
    },
    "groupId": {
      "type": "string"
    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  }
},
"required": [
  "resourceRef"
]
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "addressPrefix": {
            "type": "string"
          },
          "routeTable": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "encryptionEnabled": {
          "type": "boolean",
          "default": false
        }
      },
      "required": [
        "addressPrefix"
      ]
    }
  }
}

```

```

    }
  },
  "required": [
    "resourceId",
    "properties"
  ]
}
},
"properties": {
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "addressSpace": {
        "type": "object",
        "properties": {
          "addressPrefixes": {
            "type": "array",
            "items": {
              "type": "string"
            },
            "minItems": 1
          }
        }
      },
      "required": [
        "addressPrefixes"
      ]
    },
    "dhcpOptions": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "format": "ipv4"
          }
        }
      }
    },
    "subnets": {
      "$ref": "#/definitions/subnets"
    },
    "logicalNetwork": {
      "$ref": "#/definitions/resourceRef"
    },
    "encryptionCredential": {
      "$ref": "#/definitions/resourceRef"
    }
  },
  "required": [
    "addressSpace",
    "logicalNetwork"
  ]
}
},
"required": [
  "properties"
]

```

```
]
}
```

### 6.16.3 PUT schema v3

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for virtualNetworks v3",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ],
  "subnets": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceId": {
          "type": "string"
        }
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "properties": {
        "type": "object",
        "properties": {
          "addressPrefix": {
            "type": "string"
          }
        }
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "dualStackSubnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "routeTable": {
        "type": "object",
        "properties": {
          "resourceRef": {

```

```

        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "encryptionEnabled": {
    "type": "boolean",
    "default": false
  }
},
"required": [
  "addressPrefix"
]
}
},
"required": [
  "resourceId",
  "properties"
]
}
},
"peerings": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "resourceId": {
        "type": "string"
      },
      "properties": {
        "type": "object",
        "properties": {
          "remoteVirtualNetwork": {
            "$ref": "#/definitions/resourceRef"
          },
          "allowVirtualNetworkAccess": {
            "type": "boolean",
            "default": true
          },
          "allowForwardedTraffic": {
            "type": "boolean",
            "default": false
          },
          "allowGatewayTransit": {
            "type": "boolean",
            "default": false
          },
          "useRemoteGateways": {
            "type": "boolean",
            "default": false
          }
        }
      },
      "required": [
        "remoteVirtualNetwork"
      ]
    }
  },
  "required": [
    "resourceId",
    "properties"
  ]
}
},
"properties": {

```

```

"resourceMetadata": {
  "$ref": "#/definitions/resourceMetadata"
},
"tags": {
  "additionalProperties": { "type": "string" }
},
"properties": {
  "type": "object",
  "properties": {
    "addressSpace": {
      "type": "object",
      "properties": {
        "addressPrefixes": {
          "type": "array",
          "items": {
            "type": "string"
          },
          "minItems": 1
        }
      },
      "required": [
        "addressPrefixes"
      ]
    },
    "dhcpOptions": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "oneOf": [
              { "format": "ipv4" },
              { "format": "ipv6" }
            ]
          },
          "minItems": 0
        }
      }
    },
    "subnets": {
      "$ref": "#/definitions/subnets"
    },
    "logicalNetwork": {
      "$ref": "#/definitions/resourceRef"
    },
    "virtualNetworkPeerings": {
      "$ref": "#/definitions/peerings"
    },
    "encryptionCredential": {
      "$ref": "#/definitions/resourceRef"
    }
  },
  "required": [
    "addressSpace",
    "logicalNetwork"
  ]
}
},
"required": [
  "properties"
]
}

```

#### 6.16.4 GET schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",

```



```

"title": "GET JSON Schema for virtualNetworks",
"type": "object",
"definitions": {
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "resourceMetadata": {
    "properties": {
      "client": {
        "type": "string"
      },
      "tenantId": {
        "type": "string"
      },
      "groupId": {
        "type": "string"
      },
      "resourceName": {
        "type": "string"
      },
      "originalHref": {
        "type": "string"
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "detailedInfo": {
    "type": "array",
    "items": {
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [ "Success", "Failure" ]
        },
        "id": {
          "$ref": "#/definitions/GUID"
        },
        "lastUpdatedTime": {
          "type": "string"
        },
        "detailedInfo": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "source": {
                "type": "string"
              },
              "message": {
                "type": "string"
              },
              "code": {
                "type": "string"
              }
            }
          }
        }
      }
    }
  },
  "required": [ "status", "id", "lastUpdatedTime" ]
},
"configurationState": {
  "type": "object",
  "additionalProperties": false,
  "properties": {

```

```

    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    },
    "hostErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"resourceRef": {
  {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "addressPrefix": {
            "type": "string"
          },
          "accessControlList": {
            "$ref": "#/definitions/resourceRef"
          },
          "ipConfigurations": {
            "type": "array",
            "uniqueItems": true,

```

```

        "items": { "$ref": "#/definitions/resourceRef" }
    },
    "routeTable": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "required": [
        "provisioningState",
        "addressPrefix"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "addressSpace": {
                "type": "object",
                "properties": {
                    "addressPrefixes": {
                        "type": "array",
                        "items": {
                            "type": "string"
                        },
                        "minItems": 1
                    }
                },
                "required": [
                    "addressPrefixes"
                ]
            }
        }
    },
}
},

```

```

    "dhcpOptions": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "format": "ipv4"
          }
        }
      }
    },
    "subnets": {
      "$ref": "#/definitions/subnets"
    },
    "logicalNetwork": {
      "$ref": "#/definitions/resourceRef"
    },
    "configurationState": {
      "$ref": "#/definitions/configurationState"
    }
  },
  "required": [
    "addressSpace"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.16.5 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualNetworks v2",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "provisioningState": {

```

```

    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "detailedInfo": {
    "type": "array",
    "items": {
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [ "Success", "Failure" ]
        },
        "id": {
          "$ref": "#/definitions/GUID"
        },
        "lastUpdatedTime": {
          "type": "string"
        }
      },
      "detailedInfo": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "source": {
              "type": "string"
            },
            "message": {
              "type": "string"
            },
            "code": {
              "type": "string"
            }
          }
        }
      }
    }
  },
  "required": [ "status", "id", "lastUpdatedTime" ]
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    },
    "hostErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"resourceRef":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {

```

```

        "type": "string"
    }
},
"required": [
    "resourceRef"
]
},
"subnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {
                "type": "string"
            },
            "resourceId": {
                "type": "string"
            },
            "resourceMetadata": {
                "$ref": "#/definitions/resourceMetadata"
            },
            "etag": {
                "type": "string"
            },
            "instanceId": {
                "$ref": "#/definitions/GUID"
            },
            "properties": {
                "type": "object",
                "properties": {
                    "provisioningState": {
                        "$ref": "#/definitions/provisioningState"
                    },
                    "addressPrefix": {
                        "type": "string"
                    },
                    "accessControlList": {
                        "$ref": "#/definitions/resourceRef"
                    },
                    "ipConfigurations": {
                        "type": "array",
                        "uniqueItems": true,
                        "items": { "$ref": "#/definitions/resourceRef" }
                    },
                    "routeTable": {
                        "type": "object",
                        "properties": {
                            "resourceRef": {
                                "type": "string"
                            }
                        }
                    },
                    "required": [
                        "resourceRef"
                    ]
                },
            },
            "unbilledEgressBytes": {
                "type": "integer",
                "minimum": 0
            },
            "billedEgressBytes": {
                "type": "integer",
                "minimum": 0
            },
            "encryptionEnabled": {
                "type": "boolean",
                "default": false
            }
        },
        "required": [
            "provisioningState",

```

```

        "addressPrefix"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "addressSpace": {
        "type": "object",
        "properties": {
          "addressPrefixes": {
            "type": "array",
            "items": {
              "type": "string"
            },
            "minItems": 1
          }
        },
        "required": [
          "addressPrefixes"
        ]
      },
      "dhcpOptions": {
        "type": "object",
        "properties": {
          "DnsServers": {
            "type": "array",
            "items": {
              "type": "string",
              "format": "ipv4"
            }
          }
        }
      },
      "subnets": {
        "$ref": "#/definitions/subnets"
      },
      "encryptionCredential": {

```

```

        "$ref": "#/definitions/resourceRef"
    },
    "logicalNetwork": {
        "$ref": "#/definitions/resourceRef"
    },
    "configurationState": {
        "$ref": "#/definitions/configurationState"
    }
},
"required": [
    "addressSpace"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.16.6 GET schema v3

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for virtualNetworks v3",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        },
        "detailedInfo": {
            "type": "array",
            "items": {
                "additionalProperties": false,
                "properties": {
                    "status": {
                        "enum": [ "Success", "Failure" ]
                    },
                    "id": {
                        "$ref": "#/definitions/GUID"
                    }
                }
            }
        }
    }
}

```



```

        "lastUpdatedTime": {
            "type": "string"
        },
        "detailedInfo": {
            "type": "array",
            "items": {
                "type": "object",
                "properties": {
                    "source": {
                        "type": "string"
                    },
                    "message": {
                        "type": "string"
                    },
                    "code": {
                        "type": "string"
                    }
                }
            }
        }
    },
    "required": [ "status", "id", "lastUpdatedTime" ]
}
},
"configurationState":
{
    "type": "object",
    "additionalProperties": false,
    "properties": {
        "status": {
            "enum": [ "Success", "Failure" ]
        },
        "id": {
            "$ref": "#/definitions/GUID"
        },
        "lastUpdatedTime": {
            "type": "string"
        },
        "virtualNetworkInterfaceErrors": {
            "$ref": "#/definitions/detailedInfo"
        },
        "hostErrors": {
            "$ref": "#/definitions/detailedInfo"
        }
    },
    "required": [
        "status",
        "id",
        "lastUpdatedTime"
    ]
},
"resourceRef":
{
    "type": "object",
    "additionalProperties": false,
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    },
    "required": [
        "resourceRef"
    ]
},
"subnets": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceRef": {

```

```

    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "addressPrefix": {
        "type": "string"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "dualStackSubnet": {
        "$ref": "#/definitions/resourceRef"
      },
      "ipConfigurations": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      },
      "routeTable": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        },
        "required": [
          "resourceRef"
        ]
      },
      "unbilledEgressBytes": {
        "type": "integer",
        "minimum": 0
      },
      "billedEgressBytes": {
        "type": "integer",
        "minimum": 0
      },
      "encryptionEnabled": {
        "type": "boolean",
        "default": false
      }
    },
    "required": [
      "provisioningState",
      "addressPrefix"
    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
}

```

```

    ]
  }
},
"peerings": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "remoteVirtualNetwork": {
            "$ref": "#/definitions/resourceRef"
          },
          "allowVirtualNetworkAccess": {
            "type": "boolean",
            "default": true
          },
          "allowForwardedTraffic": {
            "type": "boolean",
            "default": false
          },
          "allowGatewayTransit": {
            "type": "boolean",
            "default": false
          },
          "useRemoteGateways": {
            "type": "boolean",
            "default": false
          },
          "remoteAddressSpace": {
            "type": "object",
            "properties": {
              "addressPrefixes": {
                "type": "array",
                "items": {
                  "type": "string"
                }
              },
              "minItems": 1
            }
          },
          "required": [
            "addressPrefixes"
          ]
        },
        "peeringState": {
          "enum": [ "Initiated", "Connected", "Disconnected", "Disconnecting" ]
        }
      },
      "required": [
        "remoteVirtualNetwork",
        "provisioningState",

```

```

        "allowVirtualNetworkAccess",
        "allowForwardedTraffic",
        "allowGatewayTransit",
        "useRemoteGateways",
        "remoteAddressSpace",
        "peeringState"
    ]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
        "additionalProperties": { "type": "string" }
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "addressSpace": {
                "type": "object",
                "properties": {
                    "addressPrefixes": {
                        "type": "array",
                        "items": {
                            "type": "string"
                        },
                        "minItems": 1
                    }
                },
                "required": [
                    "addressPrefixes"
                ]
            },
            "dhcpOptions": {
                "type": "object",
                "properties": {
                    "dnsServers": {
                        "type": "array",
                        "items": {
                            "type": "string",
                            "oneOf": [
                                { "format": "ipv4" },
                                { "format": "ipv6" }
                            ]
                        }
                    }
                }
            }
        }
    }
}

```

```

        },
        "minItems": 0
    }
}
},
"subnets": {
    "$ref": "#/definitions/subnets"
},
"virtualNetworkPeerings": {
    "$ref": "#/definitions/peerings"
},
"encryptionCredential": {
    "$ref": "#/definitions/resourceRef"
},
"logicalNetwork": {
    "$ref": "#/definitions/resourceRef"
},
"configurationState": {
    "$ref": "#/definitions/configurationState"
}
},
"required": [
    "addressSpace",
    "logicalNetwork", "dhcpOptions"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

### 6.16.7 GET ALL schema v1

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for virtualNetworks",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        },
        "provisioningState": {

```

```

    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "detailedInfo": {
    "type": "array",
    "items": {
      "additionalProperties": false,
      "properties": {
        "status": {
          "enum": [ "Success", "Failure" ]
        },
        "id": {
          "$ref": "#/definitions/GUID"
        },
        "lastUpdatedTime": {
          "type": "string"
        }
      },
      "detailedInfo": {
        "type": "array",
        "items": {
          "type": "object",
          "properties": {
            "source": {
              "type": "string"
            },
            "message": {
              "type": "string"
            },
            "code": {
              "type": "string"
            }
          }
        }
      }
    }
  },
  "required": [ "status", "id", "lastUpdatedTime" ]
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    },
    "hostErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  }
}

```

```

    }
  },
  "required": [
    "resourceRef"
  ]
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "addressPrefix": {
            "type": "string"
          },
          "accessControlList": {
            "$ref": "#/definitions/resourceRef"
          },
          "ipConfigurations": {
            "type": "array",
            "uniqueItems": true,
            "items": { "$ref": "#/definitions/resourceRef" }
          },
          "routeTable": {
            "type": "object",
            "properties": {
              "resourceRef": {
                "type": "string"
              }
            },
            "required": [
              "resourceRef"
            ]
          }
        },
        "required": [
          "provisioningState",
          "addressPrefix"
        ]
      }
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
},
}

```

```

"virtualNetwork": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "addressSpace": {
          "type": "object",
          "properties": {
            "addressPrefixes": {
              "type": "array",
              "items": {
                "type": "string"
              }
            },
            "minItems": 1
          }
        },
        "required": [
          "addressPrefixes"
        ]
      },
      "dhcpOptions": {
        "type": "object",
        "properties": {
          "DnsServers": {
            "type": "array",
            "items": {
              "type": "string",
              "format": "ipv4"
            }
          }
        }
      },
      "subnets": {
        "$ref": "#/definitions/subnets"
      },
      "logicalNetwork": {
        "$ref": "#/definitions/resourceRef"
      },
      "configurationState": {
        "$ref": "#/definitions/configurationState"
      }
    },
    "required": [
      "addressSpace"
    ]
  }
},
"required": [

```



```

        "resourceRef",
        "resourceId",
        "etag",
        "instanceId",
        "properties"
    ]
},
"virtualNetworkArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/virtualNetwork" }
}
},
"properties": {
    "value": { "$ref": "#/definitions/virtualNetworkArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
}
},
"required": ["nextLink"]
}

```

### 6.16.8 GET ALL schema v2

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for virtualNetworks v2",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                },
                "originalHref": {
                    "type": "string"
                }
            }
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        },
        "detailedInfo": {
            "type": "array",
            "items": {
                "additionalProperties": false,
                "properties": {
                    "status": {
                        "enum": [ "Success", "Failure" ]
                    }
                }
            }
        }
    }
}

```

```

    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "detailedInfo": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "source": {
            "type": "string"
          },
          "message": {
            "type": "string"
          },
          "code": {
            "type": "string"
          }
        }
      }
    }
  },
  "required": [ "status", "id", "lastUpdatedTime" ]
},
"configurationState":
{
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    },
    "hostErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  },
  "required": [
    "resourceRef"
  ]
},
"subnets": {
  "type": "array",
  "items": {
    "type": "object",

```

```

"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "addressPrefix": {
        "type": "string"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "ipConfigurations": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      },
      "routeTable": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "unbilledEgressBytes": {
      "type": "integer",
      "minimum": 0
    },
    "billedEgressBytes": {
      "type": "integer",
      "minimum": 0
    },
    "encryptionEnabled": {
      "type": "boolean",
      "default": false
    }
  },
  "required": [
    "provisioningState",
    "addressPrefix"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]

```

```

    },
    "virtualNetwork": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        },
        "resourceId": {
          "type": "string"
        },
        "etag": {
          "type": "string"
        },
        "instanceId": {
          "$ref": "#/definitions/GUID"
        },
        "resourceMetadata": {
          "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
          "additionalProperties": { "type": "string" }
        },
        "properties": {
          "type": "object",
          "properties": {
            "provisioningState": {
              "$ref": "#/definitions/provisioningState"
            },
            "addressSpace": {
              "type": "object",
              "properties": {
                "addressPrefixes": {
                  "type": "array",
                  "items": {
                    "type": "string"
                  },
                  "minItems": 1
                }
              },
              "required": [
                "addressPrefixes"
              ]
            },
            "dhcpOptions": {
              "type": "object",
              "properties": {
                "dnsServers": {
                  "type": "array",
                  "items": {
                    "type": "string",
                    "format": "ipv4"
                  }
                }
              }
            },
            "subnets": {
              "$ref": "#/definitions/subnets"
            },
            "logicalNetwork": {
              "$ref": "#/definitions/resourceRef"
            },
            "configurationState": {
              "$ref": "#/definitions/configurationState"
            },
            "encryptionCredential": {
              "$ref": "#/definitions/resourceRef"
            }
          }
        },
        "required": [

```

```

        "addressSpace"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"virtualNetworkArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/virtualNetwork" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/virtualNetworkArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": ["nextLink"]
}

```

### 6.16.9 GET ALL schema v3

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for virtualNetworks v3",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "detailedInfo": {
      "type": "array",
      "items": {

```

```

"additionalProperties": false,
"properties": {
  "status": {
    "enum": [ "Success", "Failure" ]
  },
  "id": {
    "$ref": "#/definitions/GUID"
  },
  "lastUpdatedTime": {
    "type": "string"
  },
  "detailedInfo": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "source": {
          "type": "string"
        },
        "message": {
          "type": "string"
        },
        "code": {
          "type": "string"
        }
      }
    }
  }
},
"required": [ "status", "id", "lastUpdatedTime" ]
},
"configurationState": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "status": {
      "enum": [ "Success", "Failure" ]
    },
    "id": {
      "$ref": "#/definitions/GUID"
    },
    "lastUpdatedTime": {
      "type": "string"
    },
    "virtualNetworkInterfaceErrors": {
      "$ref": "#/definitions/detailedInfo"
    },
    "hostErrors": {
      "$ref": "#/definitions/detailedInfo"
    }
  },
  "required": [
    "status",
    "id",
    "lastUpdatedTime"
  ]
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  },
  "required": [
    "resourceRef"
  ]
}

```

```

    },
    "subnets": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "addressPrefix": {
                "type": "string"
              },
              "accessControlList": {
                "$ref": "#/definitions/resourceRef"
              },
              "dualStackSubnet": {
                "$ref": "#/definitions/resourceRef"
              },
              "ipConfigurations": {
                "type": "array",
                "uniqueItems": true,
                "items": { "$ref": "#/definitions/resourceRef" }
              },
              "routeTable": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "resourceRef"
              ]
            },
            "unbilledEgressBytes": {
              "type": "integer",
              "minimum": 0
            },
            "billedEgressBytes": {
              "type": "integer",
              "minimum": 0
            },
            "encryptionEnabled": {
              "type": "boolean",
              "default": false
            }
          },
          "required": [
            "provisioningState",
            "addressPrefix"
          ]
        }
      }
    }
  }
}

```

```

    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
},
"peerings": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "remoteVirtualNetwork": {
            "$ref": "#/definitions/resourceRef"
          },
          "allowVirtualNetworkAccess": {
            "type": "boolean",
            "default": true
          },
          "allowForwardedTraffic": {
            "type": "boolean",
            "default": false
          },
          "allowGatewayTransit": {
            "type": "boolean",
            "default": false
          },
          "useRemoteGateways": {
            "type": "boolean",
            "default": false
          },
          "remoteAddressSpace": {
            "type": "object",
            "properties": {
              "addressPrefixes": {
                "type": "array",
                "items": {
                  "type": "string"
                }
              },
              "minItems": 1
            }
          },
          "required": [
            "addressPrefixes"
          ]
        }
      }
    }
  }
},

```



```

    "peeringState": {
      "enum": [ "Initiated", "Connected", "Disconnected", "Disconnecting" ]
    }
  },
  "required": [
    "remoteVirtualNetwork",
    "provisioningState",
    "allowVirtualNetworkAccess",
    "allowForwardedTraffic",
    "allowGatewayTransit",
    "useRemoteGateways",
    "remoteAddressSpace",
    "peeringState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"virtualNetwork": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "addressSpace": {
          "type": "object",
          "properties": {
            "addressPrefixes": {
              "type": "array",
              "items": {
                "type": "string"
              },
              "minItems": 1
            }
          },
          "required": [
            "addressPrefixes"
          ]
        },
        "dhcpOptions": {
          "type": "object",
          "properties": {

```

```

        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "oneOf": [
              { "format": "ipv4" },
              { "format": "ipv6" }
            ]
          },
          "minItems": 0
        }
      },
      "subnets": {
        "$ref": "#/definitions/subnets"
      },
      "virtualNetworkPeerings": {
        "$ref": "#/definitions/peerings"
      },
      "logicalNetwork": {
        "$ref": "#/definitions/resourceRef"
      },
      "configurationState": {
        "$ref": "#/definitions/configurationState"
      },
      "encryptionCredential": {
        "$ref": "#/definitions/resourceRef"
      }
    ],
    "required": [
      "addressSpace"
    ]
  },
  "required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
  ]
},
"virtualNetworkArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/virtualNetwork" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/virtualNetworkArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": ["nextLink"]
}

```

## 6.16.10 subnets

### 6.16.10.1 PUT schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for subnet",

```

```

"type": "object",
"definitions": {
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"properties": {
  "resourceId": {
    "type": "string"
  },
  "properties": {
    "type": "object",
    "properties": {
      "addressPrefix": {
        "type": "string"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      }
    },
    "required": [
      "addressPrefix"
    ]
  }
},
"required": [
  "properties"
]
}

```

### 6.16.10.2 PUT schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for subnet v2",
  "type": "object",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "addressPrefix": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "accessControlList": {
      "$ref": "#/definitions/resourceRef"
    },
    "encryptionEnabled": {
      "type": "boolean",
      "default": false
    }
  },
  "required": [
    "addressPrefix"
  ]
}
},
"required": [
  "properties"
]
}
}

```

### 6.16.10.3 GET schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for subnet",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "properties": {
    "resourceRef": {

```

```

    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "addressPrefix": {
        "type": "string"
      },
      "accessControlList": {
        "$ref": "#/definitions/resourceRef"
      },
      "ipConfigurations": {
        "type": "array",
        "uniqueItems": true,
        "items": { "$ref": "#/definitions/resourceRef" }
      },
      "routeTable": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          }
        },
        "required": [
          "resourceRef"
        ]
      }
    },
    "required": [
      "provisioningState",
      "addressPrefix"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

#### 6.16.10.4 GET schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for subnet",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",

```

```

    "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "resourceMetadata": {
    "properties": {
      "client": {
        "type": "string"
      },
      "tenantId": {
        "type": "string"
      },
      "groupId": {
        "type": "string"
      },
      "resourceName": {
        "type": "string"
      },
      "originalHref": {
        "type": "string"
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "addressPrefix": {
          "type": "string"
        },
        "accessControlList": {
          "$ref": "#/definitions/resourceRef"
        },
        "ipConfigurations": {
          "type": "array",
          "uniqueItems": true,
          "items": { "$ref": "#/definitions/resourceRef" }
        }
      }
    }
  }
}

```

```

    },
    "routeTable": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "unbilledEgressBytes": {
    "type": "integer",
    "minimum": 0
  },
  "billedEgressBytes": {
    "type": "integer",
    "minimum": 0
  },
  "encryptionEnabled": {
    "type": "boolean",
    "default": false
  }
},
"required": [
  "provisioningState",
  "addressPrefix"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.16.10.5 GET ALL schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for subnets",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "subnets": {

```

```

"type": "array",
"items": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "addressPrefix": {
          "type": "string"
        },
        "accessControlList": {
          "$ref": "#/definitions/resourceRef"
        },
        "ipConfigurations": {
          "type": "array",
          "uniqueItems": true,
          "items": { "$ref": "#/definitions/resourceRef" }
        },
        "routeTable": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "required": [
          "provisioningState",
          "addressPrefix"
        ]
      }
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
},
"properties": {
  "value": { "$ref": "#/definitions/subnets" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
},
"required": ["nextLink"]

```



```
}
```

### 6.16.10.6 GET ALL schema v2

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for subnets",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "subnets": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "etag": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "addressPrefix": {
                "type": "string"
              },
              "accessControlList": {
                "$ref": "#/definitions/resourceRef"
              },
              "ipConfigurations": {
                "type": "array",
                "uniqueItems": true,
                "items": { "$ref": "#/definitions/resourceRef" }
              },
              "routeTable": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              }
            }
          }
        }
      }
    }
  }
}
```

```

        }
      },
      "required": [
        "resourceRef"
      ]
    },
    "unbilledEgressBytes": {
      "type": "integer",
      "minimum": 0
    },
    "billedEgressBytes": {
      "type": "integer",
      "minimum": 0
    },
    "encryptionEnabled": {
      "type": "boolean",
      "default": false
    }
  },
  "required": [
    "provisioningState",
    "addressPrefix"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"properties": {
  "value": { "$ref": "#/definitions/subnets" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
},
"required": ["nextLink"]
}

```

## 6.16.11 virtualNetworkPeerings

### 6.16.11.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for PUT virtualNetworkPeerings",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {

```

```

        "type": "string"
      },
      "originalHref": {
        "type": "string"
      }
    }
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"properties": {
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "properties": {
    "type": "object",
    "properties": {
      "remoteVirtualNetwork": {
        "$ref": "#/definitions/resourceRef"
      },
      "allowVirtualNetworkAccess": {
        "type": "boolean",
        "default": true
      },
      "allowForwardedTraffic": {
        "type": "boolean",
        "default": false
      },
      "allowGatewayTransit": {
        "type": "boolean",
        "default": false
      },
      "useRemoteGateways": {
        "type": "boolean",
        "default": false
      }
    }
  },
  "required": [
    "remoteVirtualNetwork"
  ]
}
},
"required": [
  "properties"
]
}
}

```

### 6.16.11.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualNetworkPeerings",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {

```

```

        "type": "string"
    },
    "tenantId": {
        "type": "string"
    },
    "groupId": {
        "type": "string"
    },
    "resourceName": {
        "type": "string"
    },
    "originalHref": {
        "type": "string"
    }
}
},
"resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
        "resourceRef": {
            "type": "string"
        }
    }
},
"required": [
    "resourceRef"
]
},
"GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"properties": {
    "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
    },
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "remoteVirtualNetwork": {
                "$ref": "#/definitions/resourceRef"
            },
            "allowVirtualNetworkAccess": {
                "type": "boolean",
                "default": true
            },
            "allowForwardedTraffic": {
                "type": "boolean",
                "default": false
            }
        }
    }
}
},

```

```

    "allowGatewayTransit": {
      "type": "boolean",
      "default": false
    },
    "useRemoteGateways": {
      "type": "boolean",
      "default": false
    },
    "remoteAddressSpace": {
      "type": "object",
      "properties": {
        "addressPrefixes": {
          "type": "array",
          "items": {
            "type": "string"
          },
          "minItems": 1
        }
      },
      "required": [
        "addressPrefixes"
      ]
    },
    "peeringState": {
      "enum": [ "Initiated", "Connected", "Disconnected", "Disconnecting" ]
    }
  },
  "required": [
    "remoteVirtualNetwork",
    "provisioningState",
    "allowVirtualNetworkAccess",
    "allowForwardedTraffic",
    "allowGatewayTransit",
    "useRemoteGateways",
    "remoteAddressSpace",
    "peeringState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

### 6.16.11.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for subnets",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        }
      }
    }
  }
}

```

```

    },
    "originalHref": {
      "type": "string"
    }
  },
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  },
  "required": [
    "resourceRef"
  ]
},
"GUID": {
  "type": "string",
  "pattern": "[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"peerings": {
  "type": "array",
  "items": {
    "type": "object",
    "properties": {
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/GUID"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "remoteVirtualNetwork": {
            "$ref": "#/definitions/resourceRef"
          },
          "allowVirtualNetworkAccess": {
            "type": "boolean",
            "default": true
          },
          "allowForwardedTraffic": {
            "type": "boolean",
            "default": false
          },
          "allowGatewayTransit": {
            "type": "boolean",
            "default": false
          },
          "useRemoteGateways": {
            "type": "boolean",
            "default": false
          }
        }
      }
    }
  }
}

```

```

    },
    "remoteAddressSpace": {
      "type": "object",
      "properties": {
        "addressPrefixes": {
          "type": "array",
          "items": {
            "type": "string"
          },
          "minItems": 1
        }
      },
      "required": [
        "addressPrefixes"
      ]
    },
    "peeringState": {
      "enum": [ "Initiated", "Connected", "Disconnected", "Disconnecting" ]
    }
  },
  "required": [
    "remoteVirtualNetwork",
    "provisioningState",
    "allowVirtualNetworkAccess",
    "allowForwardedTraffic",
    "allowGatewayTransit",
    "useRemoteGateways",
    "remoteAddressSpace",
    "peeringState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
},
"properties": {
  "value": { "$ref": "#/definitions/peerings" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
},
"required": ["nextLink"]
}
}

```

## 6.17 virtualNetworkManager

### 6.17.1 PUT schema v1

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for virtualNetworkManager configuration",
  "type": "object",
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    }
  }
}

```

```

    },
    "properties": {
      "type": "object",
      "properties": {
        "distributedRouterState": {
          "enum": [ "Enabled" ]
        },
        "networkVirtualizationProtocol": {
          "enum": [ "VXLAN", "NVGRE" ],
          "default": "VXLAN"
        }
      }
    }
  },
  "required": [
    "properties"
  ]
}

```

### 6.17.2 PUT schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for virtualNetworkManager configuration v2",
  "type": "object",
  "definitions": {
    "virtualSubnetIdRange": {
      "properties": {
        "startId": {
          "type": "integer",
          "minimum": 4096,
          "maximum": 16777215
        },
        "endId": {
          "type": "integer",
          "minimum": 4096,
          "maximum": 16777215
        }
      }
    }
  },
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "distributedRouterState": {
          "enum": [ "Enabled" ]
        },
        "networkVirtualizationProtocol": {
          "enum": [ "VXLAN", "NVGRE" ],
          "default": "VXLAN"
        },
        "virtualSubnetIdRange": {
          "$ref": "#/definitions/virtualSubnetIdRange"
        }
      }
    }
  },
  "required": [
    "properties"
  ]
}

```



```
}
```

### 6.17.3 GET schema v1

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualNetworkManager configuration",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "distributedRouterState": {
          "enum": [ "Enabled" ]
        },
        "networkVirtualizationProtocol": {
          "enum": [ "VXLAN", "NVGRE" ],
          "default": "VXLAN"
        }
      }
    },
    "required": [
      "provisioningState",
      "distributedRouterState",
      "networkVirtualizationProtocol"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
```

### 6.17.4 GET schema v2

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualNetworkManager configuration v2",
```

```

"type": "object",
"definitions": {
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "virtualSubnetIdRange": {
    "properties": {
      "startId": {
        "type": "integer",
        "minimum": 4096,
        "maximum": 16777215
      },
      "endId": {
        "type": "integer",
        "minimum": 4096,
        "maximum": 16777215
      }
    }
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "distributedRouterState": {
        "enum": [ "Enabled" ]
      },
      "networkVirtualizationProtocol": {
        "enum": [ "VXLAN", "NVGRE" ],
        "default": "VXLAN"
      },
      "virtualSubnetIdRange": {
        "$ref": "#/definitions/virtualSubnetIdRange"
      }
    }
  },
  "required": [
    "provisioningState",
    "distributedRouterState",
    "networkVirtualizationProtocol"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
]

```

```
}
```

## 6.18 auditingSettings

### 6.18.1 PUT schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for auditingSettings/configuration",
  "type": "object",
  "properties": {
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "outputDirectory": {
          "type": "string"
        }
      }
    },
    "required": [
      "outputDirectory"
    ]
  },
  "required": [
    "properties"
  ]
}
```

### 6.18.2 GET schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for auditingSettings/configuration",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    }
  }
}
```

```

    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "outputDirectory": {
          "type": "string"
        }
      }
    },
    "required": [
      "provisioningState",
      "outputDirectory"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
]
}

```

## 6.19 virtualServers

### 6.19.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for Virtual Servers",
  "type": "object",
  "definitions": {
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "properties": {
    "resourceId": {
      "type": "string"
    }
  }
}

```

```

    },
    "etag": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "connections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "managementAddresses": {
                "type": "array",
                "items": {
                  "type": "string"
                },
                "minItems": 1
              },
              "credential": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                },
                "required": [
                  "resourceRef"
                ]
              },
              "credentialType": {
                "enum": [ "usernamePassword", "X509Certificate" ]
              }
            },
            "required": [
              "managementAddresses",
              "credential",
              "credentialType"
            ]
          }
        },
        "vmGuid": {
          "type": "string"
        }
      },
      "required": [
        "connections",
        "vmGuid"
      ]
    },
    "markServerReadOnly": {
      "type": "boolean"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "required": [
      "properties",
      "markServerReadOnly"
    ]
  }
}

```

## 6.19.2 GET schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for VirtualServers",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "properties": {
      "resourceRef": {
        "type": "string"
      },
      "resourceId": {
        "type": "string"
      },
      "etag": {
        "type": "string"
      },
      "instanceId": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "resourceMetadata": {
        "$ref": "#/definitions/resourceMetadata"
      },
      "properties": {
        "type": "object",
        "properties": {
          "provisioningState": {
            "$ref": "#/definitions/provisioningState"
          },
          "connections": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "managementAddresses": {
                  "type": "array",
                  "items": {
                    "type": "string"
                  },
                  "minItems": 1
                }
              }
            }
          }
        }
      }
    }
  }
}
```

```

        "credential": {
          "type": "object",
          "properties": {
            "resourceRef": {
              "type": "string"
            }
          },
          "required": [
            "resourceRef"
          ]
        },
        "credentialType": {
          "enum": [ "usernamePassword", "X509Certificate" ]
        }
      },
      "required": [
        "managementAddresses",
        "credential",
        "credentialType"
      ]
    }
  },
  "vmGuid": {
    "type": "string"
  }
},
"required": [
  "provisioningState",
  "connections",
  "vmGuid"
]
},
"markServerReadOnly": {
  "type": "boolean"
},
"tags": {
  "additionalProperties": { "type": "string" }
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties",
  "markServerReadOnly"
]
}
}

```

### 6.19.3 GET ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for VirtualServers",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        }
      },
      "tenantId": {
        "type": "string"
      }
    }
  }
}

```

```

    },
    "groupId": {
      "type": "string"
    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"virtualServer": {
  "type" : "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "markServerReadOnly": {
      "type": "boolean"
    },
    "tags": {
      "additionalProperties": { "type": "string" }
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "connections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "managementAddresses": {
                "type": "array",
                "items": {
                  "type": "string"
                }
              },
              "minItems": 1
            },
            "credential": {
              "type": "object",
              "properties": {
                "resourceRef": {
                  "type": "string"
                }
              }
            },
            "required": [
              "resourceRef"
            ]
          },
          "credentialType": {
            "enum": [ "usernamePassword", "X509Certificate" ]
          }
        }
      }
    }
  }
}

```



```

        }
      },
      "required": [
        "managementAddresses",
        "credential",
        "credentialType"
      ]
    }
  },
  "vmGuid": {
    "type": "string"
  }
},
"required": [
  "provisioningState",
  "connections",
  "vmGuid"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties",
  "markServerReadOnly"
]
},
"virtualServerArray": {
  "type": "array",
  "minItems": 0,
  "uniqueItems": true,
  "items": { "$ref": "#/definitions/virtualServer" }
}
},
"properties": {
  "value": { "$ref": "#/definitions/virtualServerArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": ["nextLink"]
}

```

## 6.20 Diagnostics

### 6.20.1 Diagnostics ConnectivityCheck

#### 6.20.1.1 PUT Schema Request

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for ConnectivityCheck",
  "definitions": {
    "networkReference": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
}

```

```

    ]
  },
  "properties": {
    "properties": {
      "type": "object",
      "properties": {
        "senderLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "senderVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "senderIpAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "receiverIpAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "disableTracing": {
          "type": "boolean",
          "default": false
        },
        "protocol": {
          "type": "string",
          "enum": [ "Icmp", "Tcp", "Udp" ],
          "default": "Icmp"
        }
      },
      "required": [
        "senderIpAddress",
        "receiverIpAddress"
      ]
    }
  },
  "required": [
    "properties"
  ]
}

```

### 6.20.1.2 PUT Schema Response

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for ConnectivityCheck",
  "definitions": {
    "networkReference": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      },
      "required": [
        "resourceRef"
      ]
    }
  },
  "properties": {
    "properties": {
      "type": "object",
      "properties": {
        "senderLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "senderVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "senderIpAddress": {
          "type": "string",

```

```

        "format": "ipv4"
    },
    "receiverIpAddress": {
        "type": "string",
        "format": "ipv4"
    },
    "disableTracing": {
        "type": "boolean",
        "default": false
    },
    "protocol": {
        "type": "string",
        "enum": [ "Icmp", "Tcp", "Udp" ],
        "default": "Icmp"
    }
},
"required": [
    "senderIpAddress",
    "receiverIpAddress"
]
}
},
"required": [
    "properties"
]
}
}

```

## 6.20.2 Diagnostics ConnectivityCheckResults

### 6.20.2.1 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for ConnectivityCheckResults",
  "definitions": {
    "networkReference": {
      "type": "object",
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
}

```

```

"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "senderLogicalNetwork": { "$ref": "#/definitions/networkReference" },
      "receiverLogicalNetwork": { "$ref": "#/definitions/networkReference" },
      "senderVirtualNetwork": { "$ref": "#/definitions/networkReference" },
      "receiverVirtualNetwork": { "$ref": "#/definitions/networkReference" },
      "senderIpAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "receiverIpAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "disableTracing": {
        "type": "boolean",
        "default": false
      },
      "protocol": {
        "type": "string",
        "enum": [ "Icmp", "Tcp", "Udp" ]
      },
      "operationId": {
        "$ref": "#/definitions/GUID"
      },
      "submitTime": {
        "type": "string"
      },
      "result": {
        "type": "object",
        "properties": {
          "status": {
            "type": "string",
            "enum": [ "Pending", "InProgress", "Failure", "Success" ]
          },
          "roundTripTimeMSec": {
            "type": "integer",
            "default": 0
          },
          "nodeOutput": {
            "type": "array",
            "items": {
              "type": "object",
              "properties": {
                "nodeType": {
                  "type": "string",
                  "enum": [ "Sender", "Transit", "Receiver" ]
                },
                "nodeSequenceNumber": {
                  "type": "integer"
                }
              },
              "errorMessage": {
                "type": "string"
              }
            }
          }
        }
      }
    }
  }
}

```

```

        },
        "traceOutput": {
            "type": "array",
            "items": {
                "type": "string"
            }
        }
    },
    "required": [
        "nodeType",
        "nodeSequenceNumber"
    ]
}
},
"required": [
    "status",
    "roundTripTimeMSec",
    "nodeOutput"
]
}
},
"required": [
    "senderIpAddress",
    "receiverIpAddress",
    "provisioningState",
    "protocol",
    "submitTime",
    "result"
]
}
},
"required": [
    "properties",
    "resourceRef",
    "etag",
    "instanceId"
]
}
}

```

### 6.20.2.2 GET ALL Schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET ALL JSON Schema for connectivityCheckResults",
    "type": "object",
    "definitions": {
        "networkReference": {
            "type": "object",
            "properties": {
                "resourceRef": {
                    "type": "string"
                }
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "GUID": {
        "type": "string",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
        "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    },
    "resourceRef": {
        "type": "object",

```

```

"additionalProperties": false,
"properties": {
  "resourceRef": {
    "type": "string"
  }
},
"required": [
  "resourceRef"
]
},
"checkResult": {
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "senderLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverLogicalNetwork": { "$ref": "#/definitions/networkReference" },
        "senderVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "receiverVirtualNetwork": { "$ref": "#/definitions/networkReference" },
        "senderIpAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "receiverIpAddress": {
          "type": "string",
          "format": "ipv4"
        },
        "disableTracing": {
          "type": "boolean",
          "default": false
        },
        "protocol": {
          "type": "string",
          "enum": [ "Icmp", "Tcp", "Udp" ]
        },
        "operationId": {
          "$ref": "#/definitions/GUID"
        },
        "submitTime": {
          "type": "string"
        },
        "result": {
          "type": "object",
          "properties": {
            "status": {
              "type": "string",
              "enum": [ "Pending", "InProgress", "Failure", "Success" ]
            },
            "roundTripTimeMSec": {
              "type": "integer",
              "default": 0
            },
            "nodeOutput": {
              "type": "array",
              "items": {

```

```

        "type": "object",
        "properties": {
            "nodeType": {
                "type": "string",
                "enum": [ "Sender", "Transit", "Receiver" ]
            },
            "nodeSequenceNumber": {
                "type": "integer"
            },
            "errorMessage": {
                "type": "string"
            },
            "traceOutput": {
                "type": "array",
                "items": {
                    "type": "string"
                }
            }
        },
        "required": [
            "nodeType",
            "nodeSequenceNumber"
        ]
    },
    "required": [
        "status"
    ]
},
"required": [
    "senderIpAddress",
    "receiverIpAddress",
    "provisioningState",
    "protocol",
    "submitTime",
    "result"
]
},
"required": [
    "properties",
    "resourceRef",
    "etag",
    "instanceId"
]
},
"checkResultArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/checkResult" }
},
"properties": {
    "value": { "$ref": "#/definitions/checkResultArray" },
    "nextLink": {
        "type": "string",
        "format": "uri",
        "default": ""
    }
},
"required": ["value", "nextLink"]
}

```

## 6.20.3 Diagnostics SlbState

### 6.20.3.1 PUT Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for SlbState PUT Response",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string",
    "enum": ["/diagnostics/slbState/Action"]
  },
  "resourceId": {
    "type": "string",
    "enum": ["Action"]
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "operationId": {
        "$ref": "#/definitions/GUID"
      },
      "slbStateResult": {
        "$ref": "#/definitions/resourceRef"
      },
      "submitTime": {
        "type": "string"
      }
    }
  },
  "required": [
    "operationId",
    "slbStateResult",
    "submitTime"
  ]
}
},
"required": [
```



```

    "properties",
    "resourceRef",
    "etag",
    "instanceId",
    "resourceId"
  ]
}

```

## 6.20.4 Diagnostics SlbStateResults

### 6.20.4.1 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for SlbStateResults",
  "definitions": {
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  },
  "GUID": {
    "type": "string",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "dataGroups": {
    "type": "array",
    "items": {
      "additionalProperties": false,
      "properties": {
        "name": {
          "enum": [ "Fabric", "Tenant" ]
        },
        "description": {
          "type": "string"
        },
        "dataSections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "name": {
                "type": "string",
                "enum": [ "SlbmVips", "MuxState", "RouterConfiguration",
"ConnectedHostInfo", "VipRanges", "MuxRoutes", "VipConsolidatedState" ]
              },
              "description": {
                "type": "string",
                "enum": [ "Slbm Vips", "Mux State", "Router Configuration", "Connected Host
Info", "Vip Ranges", "Mux Routes", "Vip Consolidated State" ]
              },
              "dataRetrievalFailed": {
                "type": "boolean"
              }
            }
          },
          "dataUnits": {
            "type": "array",

```

```

        "items": {
            "additionalProperties": false,
            "properties": {
                "name": {
                    "type": "string"
                },
                "value": {
                    "type": "array",
                    "items": {
                        "type": "string"
                    }
                }
            },
            "required": [ "value" ]
        }
    },
    "required": [ "name", "description", "dataRetrievalFailed", "dataUnits" ]
}
},
"required": [ "name", "description", "dataSections" ]
}
},
"properties": {
    "resourceRef": {
        "type": "string"
    },
    "resourceId": {
        "type": "string"
    },
    "etag": {
        "type": "string"
    },
    "instanceId": {
        "$ref": "#/definitions/GUID"
    },
    "properties": {
        "type": "object",
        "properties": {
            "provisioningState": {
                "$ref": "#/definitions/provisioningState"
            },
            "submitTime": {
                "type": "string"
            },
            "status": {
                "type": "string",
                "enum": [ "Pending", "InProgress", "Failure", "Success" ]
            },
            "output": {
                "type": "object",
                "properties": {
                    "dataGroups": {
                        "$ref": "#/definitions/dataGroups"
                    }
                }
            }
        }
    },
    "required": [
        "provisioningState",
        "status",
        "submitTime"
    ]
}
},
"required": [
    "properties",
    "resourceRef",

```

```

    "etag",
    "instanceId",
    "resourceId"
  ]
}

```

## 6.20.4.2 GET ALL Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for slbStateResults",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
  },
  "dataGroups": {
    "type": "array",
    "items": {
      "additionalProperties": false,
      "properties": {
        "name": {
          "enum": [ "Fabric", "Tenant" ]
        },
        "description": {
          "type": "string"
        },
        "dataSections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "name": {
                "type": "string",
                "enum": [ "SlbmVips", "MuxState", "RouterConfiguration",
"ConnectedHostInfo", "VipRanges", "MuxRoutes", "VipConsolidatedState" ]
              },
              "description": {
                "type": "string",
                "enum": [ "Slbm Vips", "Mux State", "Router Configuration", "Connected Host
Info", "Vip Ranges", "Mux Routes", "Vip Consolidated State" ]
              },
              "dataRetrievalFailed": {
                "type": "boolean"
              }
            }
          }
        }
      }
    }
  }
}

```

```

    },
    "dataUnits": {
      "type": "array",
      "items": {
        "additionalProperties": false,
        "properties": {
          "name": {
            "type": "string"
          },
          "value": {
            "type": "array",
            "items": {
              "type": "string"
            }
          }
        }
      },
      "required": [ "value" ]
    }
  },
  "required": [ "name", "description", "dataRetrievalFailed", "dataUnits" ]
}
},
"required": [ "name", "description", "dataSections" ]
}
},
"slbState": {
  "type": "object",
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "submitTime": {
          "type": "string"
        },
        "status": {
          "type": "string",
          "enum": [ "Pending", "InProgress", "Failure", "Success" ]
        },
        "output": {
          "type": "object",
          "properties": {
            "dataGroups": {
              "$ref": "#/definitions/dataGroups"
            }
          }
        }
      }
    }
  },
  "required": [
    "provisioningState",
    "status",
    "submitTime"
  ]
}
}

```

```

    },
    "required": [
      "properties",
      "resourceRef",
      "etag",
      "instanceId",
      "resourceId"
    ]
  },
  "slbStateArray": {
    "type": "array",
    "minItems": 0,
    "uniqueItems": true,
    "items": { "$ref": "#/definitions/slbState" }
  }
},
"properties": {
  "value": { "$ref": "#/definitions/slbStateArray" },
  "nextLink": {
    "type": "string",
    "format": "uri",
    "default": ""
  }
}
},
"required": [ "nextLink" ]
}

```

## 6.20.5 Diagnostics NetworkControllerState

### 6.20.5.1 PUT Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for networkControllerState",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string",
      "enum": ["/networkControllerState/NetworkControllerState"]
    },
    "resourceId": {
      "type": "string",
      "enum": ["NetworkControllerState"]
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "lastQueryTimeStamp": {

```

```

        "type": "string"
    }
},
"required": [
    "provisioningState",
    "lastQueryTimeStamp"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

## 6.21 networkControllerStatistics

### 6.21.1 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for networkControllerStatistics",
  "type": "object",
  "definitions": {
    "provisioningState": {
      "enum": [ "Succeeded", "Failed" ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "healthStatistics": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceType": {
                "enum": [ "VirtualNetwork", "Gateway", "LoadBalancerMux" ]
              },
              "totalResourceCount": {
                "type": "integer",
                "minimum": 0
              },
              "healthyResourceCount": {
                "type": "integer",
                "minimum": 0
              },
              "errorResourceCount": {
                "type": "integer",

```

```

        "minimum": 0
      },
      "warningResourceCount": {
        "type": "integer",
        "minimum": 0
      },
      "healthUnknownCount": {
        "type": "integer",
        "minimum": 0
      }
    },
    "required": [
      "errorResourceCount",
      "healthUnknownCount",
      "healthyResourceCount",
      "resourceType",
      "totalResourceCount",
      "warningResourceCount"
    ]
  },
  "usageStatistics": {
    "type": "array",
    "items": {
      "type": "object",
      "properties": {
        "resourceType": {
          "enum": [ "PublicIPUtilization", "BackendIPUtilization", "MacPoolUtilization"
]
        },
        "totalResourceCount": {
          "type": "integer",
          "minimum": 0
        },
        "inUseResourceCount": {
          "type": "integer",
          "minimum": 0
        }
      },
      "required": [
        "inUseResourceCount",
        "resourceType",
        "totalResourceCount"
      ]
    }
  },
  "required": [
    "provisioningState",
    "healthStatistics",
    "usageStatistics"
  ]
},
"required": [
  "resourceRef",
  "instanceId",
  "properties"
]
}

```

## 6.21.2 GET Schema v2

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GETPUT JSON Schema for networkControllerStatistics v2",
  "type": "object",
  "definitions": {

```

```

    "provisioningState": {
      "enum": [ "Succeeded", "Failed" ]
    },
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceCounters": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "name": {
            "type": "string"
          },
          "unit": {
            "enum": [ "Decimal", "Seconds", "Milliseconds" ]
          },
          "currentValue": {
            "type": "number"
          },
          "context": {
            "type": "object",
            "properties": {
              "source": {
                "type": "string"
              },
              "category": {
                "enum": [ "Global", "Performance", "Diagnostics" ]
              }
            }
          },
          "required": [ "source", "category" ]
        }
      },
      "required": [ "name", "unit", "currentValue", "context" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "healthStatistics": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "resourceType": {
                "enum": [ "VirtualNetwork", "Gateway", "LoadBalancerMux" ]
              },
              "totalResourceCount": {
                "type": "integer",
                "minimum": 0
              },
              "healthyResourceCount": {
                "type": "integer",
                "minimum": 0
              },
              "errorResourceCount": {
                "type": "integer",

```



```

        "minimum": 0
    },
    "warningResourceCount": {
        "type": "integer",
        "minimum": 0
    },
    "healthUnknownCount": {
        "type": "integer",
        "minimum": 0
    }
},
"required": [
    "errorResourceCount",
    "healthUnknownCount",
    "healthyResourceCount",
    "resourceType",
    "totalResourceCount",
    "warningResourceCount"
]
}
},
"usageStatistics": {
    "type": "array",
    "items": {
        "type": "object",
        "properties": {
            "resourceType": {
                "enum": [ "PublicIPUtilization", "BackendIPUtilization", "MacPoolUtilization"
            ]
        },
        "totalResourceCount": {
            "type": "integer",
            "minimum": 0
        },
        "inUseResourceCount": {
            "type": "integer",
            "minimum": 0
        }
    },
    "required": [
        "inUseResourceCount",
        "resourceType",
        "totalResourceCount"
    ]
}
},
"counters": {
    "$ref": "#/definitions/resourceCounters"
}
},
"required": [
    "provisioningState",
    "healthStatistics",
    "usageStatistics",
    "counters"
]
}
},
"required": [
    "resourceRef",
    "instanceId",
    "properties"
]
}
}

```

## 6.22 internalResourceInstances

### 6.22.1 GET schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for internalResourceInstances",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "resourceReference": {
          "type": "string"
        }
      },
      "required": [
        "provisioningState",
        "resourceReference"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
  ]
}
```

### 6.22.2 GET ALL schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET ALL JSON Schema for internalResourceInstances",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
  ]
}
```

```

    },
    "internalResourceInstances": {
      "type": "array",
      "uniqueItems": true,
      "items": {
        "type": "object",
        "properties": {
          "resourceRef": {
            "type": "string"
          },
          "resourceId": {
            "type": "string"
          },
          "instanceId": {
            "$ref": "#/definitions/GUID"
          },
          "properties": {
            "type": "object",
            "properties": {
              "provisioningState": {
                "$ref": "#/definitions/provisioningState"
              },
              "resourceReference": {
                "type": "string"
              }
            }
          },
          "required": [
            "provisioningState",
            "resourceReference"
          ]
        }
      },
      "required": [
        "resourceRef",
        "resourceId",
        "instanceId",
        "properties"
      ]
    }
  },
  "properties": {
    "value": { "$ref": "#/definitions/internalResourceInstances" },
    "nextLink": {
      "type": "string",
      "format": "uri",
      "default": ""
    }
  },
  "required": ["nextLink"]
}

```

## 6.23 iDnsServer

### 6.23.1 PUT schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for iDNSServer/configuration",
  "type": "object",
  "properties": {
    "properties": {
      "type": "object",
      "properties": {
        "connections": {
          "type": "array",
          "items": {

```

```

        "type": "object",
        "properties": {
            "managementAddresses": {
                "type": "array",
                "items": {
                    "type": "string"
                }
            },
            "credential": {
                "type": "object",
                "properties": {
                    "resourceRef": {
                        "type": "string"
                    }
                }
            },
            "required": [
                "resourceRef"
            ]
        },
        "credentialType": {
            "type": "string",
            "enum": ["X509Certificate", "usernamePassword" ]
        }
    },
    "required": [
        "managementAddresses",
        "credential",
        "credentialType"
    ]
}
},
"zone": {
    "type": "string"
}
},
"required": [
    "connections",
    "zone"
]
}
},
"required": [
    "properties"
]
}
}

```

### 6.23.2 GET schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for iDNSServer/configuration",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "provisioningState": {
            "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
        }
    },
    "properties": {
        "resourceRef": {
            "type": "string",
            "enum": ["/iDnsServer/configuration"]
        }
    }
}

```

```

    },
    "resourceId": {
      "type": "string",
      "enum": ["configuration"]
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "connections": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "managementAddresses": {
                "type": "array",
                "items": {
                  "type": "string"
                }
              },
              "credential": {
                "type": "object",
                "properties": {
                  "resourceRef": {
                    "type": "string"
                  }
                }
              },
              "required": [
                "resourceRef"
              ]
            },
            "credentialType": {
              "type": "string",
              "enum": ["X509Certificate", "usernamePassword" ]
            }
          },
          "required": [
            "managementAddresses",
            "credential",
            "credentialType"
          ]
        },
        "zone": {
          "type": "string"
        }
      },
      "required": [
        "connections",
        "provisioningState",
        "zone"
      ]
    },
    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  ]
}

```

```
}
```

## 6.24 virtualSwitchManager

### 6.24.1 PUT Schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualSwitchManager configuration",
  "type": "object",
  "definitions": {
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "numInterfacesHavingQos": {
          "type": "integer"
        },
        "portDefaultState": {
          "type": "string",
          "enum": [ "default", "BlockTraffic", "AllowTraffic" ]
        },
        "qosSettings": {
          "type": "object",
          "properties": {
            "reservationMode": {
              "enum": [ "Absolute", "Weight" ],
              "default": "Weight"
            },
            "linkSpeedPercentage": {
              "type": "integer",
              "minimum": 0,
              "maximum": 100
            },
            "defaultReservation": {
              "type": "integer"
            },
            "enableHardwareLimits": {
              "type": "boolean"
            },
            "enableHardwareReservations": {
              "type": "boolean"
            },
            "enableSoftwareReservations": {
              "type": "integer"
            }
          }
        }
      }
    },
    "required": [
      "qosSettings"
    ]
  }
},
```

```

    "required": [
      "properties"
    ]
  }
}

```

## 6.24.2 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for virtualSwitchManager configuration",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "resourceMetadata": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "numInterfacesHavingQos": {
          "type": "integer"
        },
        "qosSettings": {
          "type": "object",
          "properties": {

```

```

        "reservationMode": {
            "enum": [ "Absolute", "Weight" ]
        },
        "linkSpeedPercentage": {
            "type": "integer",
            "minimum": 0,
            "maximum": 100
        },
        "defaultReservation": {
            "type": "integer"
        },
        "enableHardwareLimits": {
            "type": "boolean"
        },
        "enableHardwareReservations": {
            "type": "boolean"
        },
        "enableSoftwareReservations": {
            "type": "boolean"
        }
    }
},
"required": [
    "provisioningState",
    "qosSettings",
    "numInterfacesHavingQos"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

## 6.25 networkControllerBackup

### 6.25.1 PUT Schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT JSON Schema for networkControllerBackup",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                },
                "resourceName": {
                    "type": "string"
                }
            }
        }
    }
}

```



```

        "originalHref": {
            "type": "string"
        }
    },
    "resourceRef": {
        "type": "object",
        "additionalProperties": false,
        "properties": {
            "resourceRef": {
                "type": "string"
            }
        },
        "required": [
            "resourceRef"
        ]
    },
    "properties": {
        "resourceMetadata": {
            "$ref": "#/definitions/resourceMetadata"
        },
        "tags": {
            "additionalProperties": { "type": "string" }
        },
        "properties": {
            "type": "object",
            "properties": {
                "backupPath": {
                    "type": "string"
                },
                "credential": {
                    "$ref": "#/definitions/resourceRef"
                }
            },
            "required": [
                "backupPath",
                "credential"
            ]
        }
    },
    "required": [
        "properties"
    ]
}

```

## 6.25.2 GET Schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "GET JSON Schema for networkControllerBackup",
    "type": "object",
    "definitions": {
        "GUID": {
            "type": "string",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
        },
        "resourceMetadata": {
            "properties": {
                "client": {
                    "type": "string"
                },
                "tenantId": {
                    "type": "string"
                },
                "groupId": {
                    "type": "string"
                }
            }
        }
    }
}

```

```

    },
    "resourceName": {
      "type": "string"
    },
    "originalHref": {
      "type": "string"
    }
  }
},
"provisioningState": {
  "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
},
"resourceRef": {
  "type": "object",
  "additionalProperties": false,
  "properties": {
    "resourceRef": {
      "type": "string"
    }
  },
  "required": [
    "resourceRef"
  ]
},
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "backupPath": {
        "type": "string"
      },
      "credential": {
        "$ref": "#/definitions/resourceRef"
      },
      "errorMessage": {
        "type": "string"
      },
      "failedResourcesList": {
        "type": "array",
        "minItems": 0,
        "uniqueItems": true,
        "items": { "type": "string" }
      },
      "successfulResourcesList": {
        "type": "array",
        "minItems": 0,
        "uniqueItems": true,
        "items": { "type": "string" }
      }
    }
  }
}

```

```

    },
    "inProgressResourcesList": {
      "type": "array",
      "minItems": 0,
      "uniqueItems": true,
      "items": { "type": "string" }
    }
  },
  "required": [
    "provisioningState",
    "backupPath",
    "credential",
    "errorMessage",
    "failedResourcesList",
    "successfulResourcesList",
    "inProgressResourcesList"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}
}

```

## 6.26 networkControllerRestore

### 6.26.1 PUT Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for networkControllerRestore",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    }
  },
  "resourceRef": {
    "type": "object",
    "additionalProperties": false,
    "properties": {
      "resourceRef": {
        "type": "string"
      }
    }
  }
}

```

```

    }
  },
  "required": [
    "resourceRef"
  ]
},
"properties": {
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "restorePath": {
        "type": "string"
      },
      "credential": {
        "$ref": "#/definitions/resourceRef"
      }
    }
  },
  "required": [
    "restorePath",
    "credential"
  ]
}
},
"required": [
  "properties"
]
}

```

## 6.26.2 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for networkControllerRestore",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "resourceMetadata": {
      "properties": {
        "client": {
          "type": "string"
        },
        "tenantId": {
          "type": "string"
        },
        "groupId": {
          "type": "string"
        },
        "resourceName": {
          "type": "string"
        },
        "originalHref": {
          "type": "string"
        }
      }
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  }
}

```

```

    },
    "resourceRef": {
      "type": "object",
      "additionalProperties": false,
      "properties": {
        "resourceRef": {
          "type": "string"
        }
      }
    },
    "required": [
      "resourceRef"
    ]
  }
},
"properties": {
  "resourceRef": {
    "type": "string"
  },
  "resourceId": {
    "type": "string"
  },
  "etag": {
    "type": "string"
  },
  "instanceId": {
    "$ref": "#/definitions/GUID"
  },
  "resourceMetadata": {
    "$ref": "#/definitions/resourceMetadata"
  },
  "tags": {
    "additionalProperties": { "type": "string" }
  },
  "properties": {
    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "restorePath": {
        "type": "string"
      },
      "statusMessages": {
        "type": "array",
        "minItems": 0,
        "uniqueItems": true,
        "items": { "type": "string" }
      },
      "failedResources": {
        "type": "array",
        "minItems": 0,
        "uniqueItems": true,
        "items": { "type": "string" }
      },
      "successfulResources": {
        "type": "array",
        "minItems": 0,
        "uniqueItems": true,
        "items": { "type": "string" }
      }
    }
  },
  "required": [
    "provisioningState",
    "restorePath",
    "statusMessages",
    "failedResources",
    "successfulResources"
  ]
}
},

```

```

    "required": [
      "resourceRef",
      "resourceId",
      "etag",
      "instanceId",
      "properties"
    ]
  }
}

```

## 6.27 SubnetEgressReset

### 6.27.1 PUT Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "PUT JSON Schema for SubnetEgressReset",
  "type": "object",
  "properties": {
    "properties": {
      "type": "object",
      "properties": {
        "virtualSubnetResourceReference": {
          "type": "string"
        }
      }
    },
    "required": [
      "virtualSubnetResourceReference"
    ]
  }
},
"required": [
  "properties"
]
}

```

### 6.27.2 GET Schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for SubnetEgressReset",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "etag": {
      "type": "string"
    },
    "instanceId": {
      "$ref": "#/definitions/GUID"
    },
    "properties": {

```

```

    "type": "object",
    "properties": {
      "provisioningState": {
        "$ref": "#/definitions/provisioningState"
      },
      "virtualSubnetResourceReference": {
        "type": "string"
      }
    },
    "required": [
      "provisioningState",
      "virtualSubnetResourceReference"
    ]
  }
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
]
}

```

## 6.28 discovery

### 6.28.1 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for discovery resource",
  "type": "object",
  "definitions": {
    "GUID": {
      "type": "string",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
    },
    "provisioningState": {
      "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
    }
  },
  "properties": {
    "resourceRef": {
      "type": "string"
    },
    "resourceId": {
      "type": "string"
    },
    "instanceId": {
      "type": "string"
    },
    "properties": {
      "type": "object",
      "properties": {
        "provisioningState": {
          "$ref": "#/definitions/provisioningState"
        },
        "networkControllerVersion": {
          "type": "string"
        },
        "currentRestVersion": {
          "type": "string",
          "enum": ["v1", "v2", "v3", "V1", "V2", "V3"]
        },
        "supportedRestVersions": {
          "type": "array",

```

```

        "minItems": 1,
        "items": [
          {
            "type": "string",
            "enum": ["v1", "v2", "v3", "V1", "V2", "V3"]
          }
        ]
      },
      "required": [
        "provisioningState",
        "currentRestVersion",
        "networkControllerVersion",
        "supportedRestVersions"
      ]
    }
  },
  "required": [
    "resourceRef",
    "resourceId",
    "instanceId",
    "properties"
  ]
}

```

## 6.29 Schema for Error Response

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for error responses",
  "type": "object",
  "properties": {
    "error": {
      "type": "object",
      "properties": {
        "code": {
          "type": "string"
        },
        "message": {
          "type": "string"
        },
        "target": {
          "type": "string"
        },
        "innerError": {
          "type": "string"
        },
        "details": {
          "type": "array",
          "items": {
            "type": "object",
            "properties": {
              "code": {
                "type": "string"
              },
              "message": {
                "type": "string"
              }
            }
          },
          "required": [
            "code"
          ]
        }
      }
    },
    "required": [
      "code"
    ]
  }
}

```



```
    }  
  },  
  "required": [  
    "error"  
  ]  
}
```

## 7 (Updated Section) Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include updates to those products.

The terms "earlier" and "later", when used with a product version, refer to either all preceding versions or all subsequent versions, respectively. The term "through" refers to the inclusive range of versions. Applicable Microsoft products are listed chronologically in this section.

- Windows Server 2016 operating system
- Windows Server operating system
- Windows Server 2019 operating system
- Windows Server 2022 operating system

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms "SHOULD" or "SHOULD NOT" implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term "MAY" implies that the product does not follow the prescription.

<1> Section 1.7: Version v2 is not supported in Windows Server 2016 with the [MSKB-3216755] update. Version v3 is not supported in Windows Server v1709 operating system. **Version 3.1 was added in the June 2021 patch for Windows Server 2022. Version 3.2 was added in the August 2021 patch for Windows Server 2022. April 2022 versions v3.1 and v3.2 were applied to Windows Server v1809 operating system and Windows Server 2019.** Version v4 is not supported in Windows Server v1809 ~~operating system~~ and Windows Server 2019.

<2> Section 1.7: The capability negotiation resources are supported according to the following table.

Operating system versions	Protocol versions	Resources and properties available
Windows Server 2016	V1	All original v1 resources
Windows Server 2016 with the [MSKB-3216755] update	V1	Added v1 resources: <b>networkControllerBackup</b> (section 3.1.5.27) <b>networkControllerRestore</b> (section 3.1.5.28) <b>Response Content for Errors</b> (section 3.1.5.31)  Added v1 properties to resources: <b>accessControlLists</b> (section 3.1.5.1) <b>gateways</b> (section 3.1.5.4) <b>loadBalancerMuxes</b> (section 3.1.5.7) <b>networkInterfaces</b> (section 3.1.5.11) <b>ipConfigurations</b> (section 3.1.5.11.2) <b>virtualNetworks</b> (section 3.1.5.18)
Windows Server v1709	V1	All previous v1 resources
	V2	Added v2 resource:

Operating system versions	Protocol versions	Resources and properties available
		<p><b>SubnetEgressReset</b> (section 3.1.5.29)  <b>Note</b> available in v1 or later.</p> <p>Added v2 properties to resources:  <b>credentials</b> (section 3.1.5.2)  <b>frontendIpConfigurations</b> (section 3.1.5.5.3)  <b>virtualNetworks</b> (section 3.1.5.18)  <b>subnets</b> (section 3.1.5.18.2)  <b>virtualNetworkManager</b> (section 3.1.5.19)  <b>Response Content for Errors</b> (section 3.1.5.31)</p>
Windows Server v1809 and Windows Server 2019	V1	All previous v1 resources
	V2	<p>All previous v2 resources</p> <p>Added v2 resource:  <b>Resource Counters</b> structure (section 3.1.1.1)</p> <p>Added v2 properties to resources:  <b>frontendIPConfigurations</b> (section 3.1.5.5.3)  <b>loadBalancerMuxes</b> (section 3.1.5.7)  <b>networkInterfaces</b> (section 3.1.5.11)  <b>publicIpAddresses</b> (section 3.1.5.14)  <b>virtualNetworkManager</b> (section 3.1.5.19)  <b>networkControllerStatistics</b> (section 3.1.5.23)</p>
	V3	<p>All v1 and v2 resources can be retrieved via v3 URI even if there is no change in the data format.</p> <p>Added v3 resources:  <b>virtualNetworkPeerings</b> (section 3.1.5.18.3)  <b>auditingSettings</b> (section 3.1.5.20)  <b>discovery</b> (section 3.1.5.30) returns all supported URI versions</p> <p>Added v3 properties to resources:  <b>credentials</b> (section 3.1.5.2)  <b>servers</b> (section 3.1.5.15)  <b>virtualNetworks</b> (section 3.1.5.18)  <b>subnets</b> (section 3.1.5.18.2)  <b>Response Content for Errors</b> (section 3.1.5.31)</p>
<p>June 2021 patch for Windows Server 2022.</p> <p>April 2022 applied to Windows 10 v1809 operating system and Windows Server 2019.</p>	V3.1	<p>Updated to v3.1 property:  <b>PortDefaultState</b> (section 3.1.5.26)</p> <p>Added v1 property:  <b>numInterfacesHavingQos</b> (section 3.1.5.26)</p>
<p>August 2021 patch for Windows Server 2022.</p> <p>April 2022 applied to Windows 10 v1809 and Windows Server 2019.</p>	V3.2	<p>Updated to v3.2 property:  <b>enableTcpReset</b> (section 3.1.5.5.4, section 3.1.5.5.5, and section 3.1.5.5.6)</p>

Operating system versions	Protocol versions	Resources and properties available
Windows Server 2022	V4	<p>All previous v1, v2, and v3 resources are available except the following removals, updates, and additions:</p> <p>Removed properties:  <b>counters</b> (section 3.1.1)  <b>failedResourcesList</b> (section 3.1.5.27)  <b>successfulResourcesList</b> (section 3.1.5.27)  <b>inProgressResourcesList</b> (section 3.1.5.27)</p> <p>Updated v3 properties:  <b>protocol</b> – added ICMPv4 and ICMPv6 (section 3.1.5.1.2)</p> <p>Added v4 properties:  <del><b>enableTcpReset</b> (section 3.1.5.5.4, section 3.1.5.5.5, and section 3.1.5.5.6)</del>  <b>enableHardwareLimits</b> (section 3.1.5.11)  <b>isPrimary</b> (section 3.1.5.11.2)  <del><b>PortDefaultState</b> (section 3.1.5.26)</del></p>
	V5	<p>Added v5 resource:  <b>securityTags</b> (section 3.1.5.31)</p> <p>Added v5 properties:  <b>destinationSecurityTags</b> and <b>sourceSecurityTags</b> (section 3.1.5.1.2)  <b>securityTags</b> (section 3.1.5.11)</p>

<3> Section 3.1: In applicable Windows Server releases, the server does not paginate, and "nextLink" is always set to empty string ("").

<4> Section 3.1.1.1: Support for the **ResourceCounter** structure with version v2 is not available in Windows Server 2016 with the [MSKB-3216755] update.

<5> Section 3.1.5.5.3.1.1.3: Network source rules for two or more **frontendIPConfigurations** resources is applicable to Windows Server v1809 and Windows Server 2019 and later.

<6> Section 3.1.5.5.4: The **frontendPort** lowest possible value change from 1 to 0 is applicable to Windows Server v1809 and Windows Server 2019 and later.

<7> Section 3.1.5.5.4: The **backendPort** lowest possible value change from 1 to 0 is applicable to Windows Server v1809 and Windows Server 2019 and later.

<8> Section 3.1.5.5.4: Support for the **enableTcpReset** property was backported to Windows Server v1809 and Windows Server 2019 and later.

<9> Section 3.1.5.5.5: Support for the **enableTcpReset** property was backported to Windows Server v1809 and Windows Server 2019 and later.

<10> Section 3.1.5.5.5.1.1.3: The new rules for port numbers for **frontendPort** and **backendPort** for the resource of type **inboundNatRules** resource is applicable to Windows Server v1809 and Windows Server 2019 and later.

<11> Section 3.1.5.5.6: Support for the **enableTcpReset** property was backported to Windows Server v1809 and Windows Server 2019 and later.

<12> Section 3.1.5.5.7: In Windows, the default value for the probe interval is 15 seconds, the minimum value is 5, and the maximum value is 2147483646.

<13> Section 3.1.5.7: The reference is used only to keep track of REST resource relationships. The server does not do anything with the network interface resource reference.

<14> Section 3.1.5.7: The reference is used only to keep track of REST resource relationships. The server does not do anything with the network interface resource reference.

<15> Section 3.1.5.10: The server limits the number of routes per table to 100.

<16> Section 3.1.5.18: In applicable Windows Server releases, the server limits the number of DNS servers per virtual network to 9.

<17> Section 3.1.5.18.3: Support for the **virtualNetworkPeerings** resource in version v3 is not available in Windows Server v1709.

<18> Section 3.1.5.20: Support for **auditingSettings** resource in version v3 is not available in Windows Server v1709.

<19> Section 3.1.5.26: The **Support for the PortDefaultState** property **element is supported in was backported to** Windows Server ~~2022~~v1809 and Windows Server 2019 and later.

~~<13>~~<20> Section 3.1.5.26: Support for the **numInterfacesHavingQos** property was backported to Windows Server 2016 and later.

<21> Section 3.1.5.27: The **networkControllerBackup** resource is not available prior to Windows Server 2016 with the [MSKB-3216755] update.

<22> Section 3.1.5.27: The **failedResourcesList** property is removed from Windows Server 2022 and later.

<23> Section 3.1.5.27: The **successfulResourcesList** property is removed from Windows Server 2022 and later.

<24> Section 3.1.5.27: The **inProgressResourcesList** property is removed from Windows Server 2022 and later.

<25> Section 3.1.5.28: The **networkControllerRestore** resource is not available prior to Windows Server 2016 with the [MSKB-3216755] update.

<26> Section 3.1.5.29: Support for **SubnetEgressReset** resource in version v2 is not available in Windows Server 2016.

<27> Section 3.1.5.30: Support for the **discovery** resource in version v3 is not available in Windows Server v1709.

<28> Section 3.1.5.30: In Windows Server the x.y.z value changes. Each monthly servicing release has a different minor version. From a protocol perspective the number helps in ordering.

<29> Section 3.1.5.30.1.1.2: Version "V4" is supported in Windows Server 2022 and later.

<30> Section 3.1.5.33: In applicable Windows Server releases, the server limits the number of DNS servers per virtual network to 9.

## 8 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements.
- A document revision that captures changes to protocol functionality.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

The changes made to this document are listed in the following table. For more information, please contact dohelp@microsoft.com.

Section	Description	Revision class
1.7 Versioning and Capability Negotiation	11280 : Added URIs versions 3.1 and 3.2 and in behavior notes.	Major
1.7 Versioning and Capability Negotiation	Updated to 7 versions with version 5.	Major
1.7 Versioning and Capability Negotiation	Added that v3.1 and v3.2 are applied to the last previous Windows Server versions.	Major
2.2.3.4 resourceId	Added securityTags resource.	Major
2.2.4 Data Structures	Added securityTags data structue.	Major
3.1.5 Message Processing Events and Sequencing Rules	Added securityTags resource.	Major
3.1.5.1.1.1.3 Processing Details	11280 : Added failure scenario for when the portDefaultState property of the virtualSwitchManager resource is equal to AllowTraffic.	Major
3.1.5.1.1.2.2 Response Body	Added destinationSecurityTags and sourceSecurityTags.	Major
3.1.5.1.1.3.2 Response Body	Added destinationSecurityTags and sourceSecurityTags.	Major
3.1.5.1.2 aclRules	11284 : In the protocol element added HTTP value and changed asterisk(*) to All for any protocol.	Major
3.1.5.1.2 aclRules	Added destinationSecurityTags and sourceSecurityTags properties.	Major
3.1.5.1.2.1.2.2 Response Body	Added destinationSecurityTags and sourceSecurityTags.	Major
3.1.5.1.2.1.3.2 Response Body	Added destinationSecurityTags and sourceSecurityTags.	Major
3.1.5.5.3.1.1.3 Processing Details	11280 : Added network source rules for two or more frontendIPConfigurations resources.	Major

Section	Description	Revision class
3.1.5.5.4 inboundNatRules	11280 : Changed frontendPort and backendPort minimum value from 1 to 0, zero. Changed enableTcpReset URI version from v4 to v3.2.	Major
3.1.5.5.5 loadBalancingRules	11280 : Changed enableTcpReset URI version from v4 to v3.2.	Major
3.1.5.5.5.1.1.3 Processing Details	11280 : Added previous and new processing rules for port numbers for frontendPort and backendPort for the inboundNatRules resource type.	Major
3.1.5.5.6 outboundNatRules	11280 : Changed enableTcpReset URI version from v4 to v3.2.	Major
3.1.5.11 networkInterfaces	Added securityTags property.	Major
3.1.5.11.1.2.2 Response Body	Added securityTags.	Major
3.1.5.11.1.3.2 Response Body	Added securityTags.	Major
3.1.5.16 serviceInsertions	11284 : In the protocol element added HTTP value and changed asterisk(*) to All for any protocol.	Major
3.1.5.18.1.1.3 Processing Details	11280 : Added failure scenario for when the portDefaultState property of the virtualSwitchManager resource is equal to AllowTraffic.	Major
3.1.5.26 virtualSwitchManager	11280 : Changed PortDefaultState property URI from v4 to v3.1. Added numInterfacesHavingQos property for URI v1.	Major
3.1.5.29 SubnetEgressReset	Changed from version 2 to version 1.	Major
3.1.5.29.1.1 PUT	Changed from version 2 to version 1.	Major
3.1.5.29.1.2 GET	Changed from version 2 to version 1.	Major
3.1.5.30 discovery	Added supportedRestVersions v3.1, v3.2, and v5. Added status codes.	Major
3.1.5.31 securityTags	Added new 18 section tree.	Major
3.1.5.31.1 HTTP Methods	Added new section.	Major
3.1.5.31.1.1 PUT	Added new section.	Major
3.1.5.31.1.1.1 Request Body	Added new section.	Major
3.1.5.31.1.1.2 Response Body	Added new section.	Major
3.1.5.31.1.1.3 Processing Details	Added new section.	Major
3.1.5.31.1.2 GET	Added new section.	Major
3.1.5.31.1.2.1 Request Body	Added new section.	Major
3.1.5.31.1.2.2 Response Body	Added new section.	Major
3.1.5.31.1.2.3 Processing Details	Added new section.	Major
3.1.5.31.1.3 GET ALL	Added new section.	Major

<b>Section</b>	<b>Description</b>	<b>Revision class</b>
3.1.5.31.1.3.1 Request Body	Added new section.	Major
3.1.5.31.1.3.2 Response Body	Added new section.	Major
3.1.5.31.1.3.3 Processing Details	Added new section.	Major
3.1.5.31.1.4 DELETE	Added new section.	Major
3.1.5.31.1.4.1 Request Body	Added new section.	Major
3.1.5.31.1.4.2 Response Body	Added new section.	Major
3.1.5.31.1.4.3 Processing Details	Added new section.	Major
3.1.5.33 Response Content for Errors	Added 5 SecurityTags error codes.	Major



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