

[MS-NCNBI]:

Network Controller Northbound Interface

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1 Introduction

This document specifies the Northbound API (NBI) definition of the Microsoft Network Controller. 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.

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.

Border Gateway Protocol (BGP): An interautonomous system routing protocol designed for TCP/IP routing.

certification authority (CA): A third party that issues public key certificates (1). Certificates serve to bind public keys to a user identity. Each user and certification authority (CA) can decide whether to trust another user or CA for a specific purpose, and whether this trust should be transitive. For more information, see [\[RFC3280\]](#).

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 (1) 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 [\[RFC2131\]](#).

Encapsulating Security Payload (ESP): An **Internet Protocol security (IPsec)** encapsulation mode that provides authentication, data confidentiality, and message integrity. For more information, see [\[RFC4303\]](#) section 1.

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. The Microsoft implementation of IPsec is based on standards developed by the Internet Engineering Task Force (IETF) IPsec working group.

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 (2) 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 [\[RFC4627\]](#). 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.

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. The LAN Manager protocols were the default in Windows NT operating system environments prior to Windows 2000 operating system. 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 uses two

keys to encrypt data—a public key known to everyone and a private or secret key known only to the recipient of the message. SSL supports server and, optionally, client authentication (2) using X.509 certificates (2). For more information, see [\[X509\]](#). The SSL protocol is precursor to Transport Layer Security (TLS). The TLS version 1.0 specification is based on SSL version 3.0 [SSL3].

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.

tracing: A mechanism used to write out diagnostic information.

Transmission Control Protocol (TCP): A protocol used with the Internet Protocol (IP) to send data in the form of message units between computers over the Internet. TCP handles keeping track of the individual units of data (called packets) that a message is divided into for efficient routing through the Internet.

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 [\[RFC1738\]](#).

User Datagram Protocol (UDP): The connectionless protocol within TCP/IP that corresponds to the transport layer in the ISO/OSI reference model.

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

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 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. We will assist you in finding the relevant information.

[RFC1123] Braden, R., "Requirements for Internet Hosts - Application and Support", RFC 1123, October 1989, <http://www.ietf.org/rfc/rfc1123.txt>

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

[RFC2616] Fielding, R., Gettys, J., Mogul, J., et al., "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999, <http://www.rfc-editor.org/rfc/rfc2616.txt>

[RFC7231] Fielding, R., and Reschke, J., Eds., "Hypertext Transfer Protocol -- HTTP/1.1: Semantics and Content", RFC7231, June 2014, <http://www.rfc-editor.org/rfc/rfc7231.txt>

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

This document provides the Northbound API (NBI) definition of the Microsoft Network Controller. 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.

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 is a 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.

- ETag of the parent is updated.
- 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 **networks** resource is updated then its ETag is updated along with all **logicalSubnets** resources under it and all **ipPools** resources under all **logicalSubnets** resources under the original **networks** resource.

Case 2: A child resource is updated.

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

Example 1: If a **logicalSubnets** resource is updated then its ETag is updated along with the ETag of the parent **networks** resource and all **ipPools** resources under the specific **logicalSubnets** resource. Any other **logicalSubnets** resources under the original **networks** 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 **logicalSubnets** resource and the ETag of the **logicalSubnets**' parent **networks** resource. But if there are any other **logicalSubnets** resources under the **networks** resource and **ipPools** resources under these **logicalSubnets** resources their ETags will not be updated.

Case 3: A resource with dependencies is updated

- ETag of resource is updated.
- 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 response codes related to Etags.

PUT	Resource does not exist	Resource exists
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

PATCH	Resource does not exist	Resource exists
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

DELETE	Resource does not exist	Resource exists
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 a number of services, it handles transient failures internally. It does this by having a retry loop that will continue retrying the operation a number of 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 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.

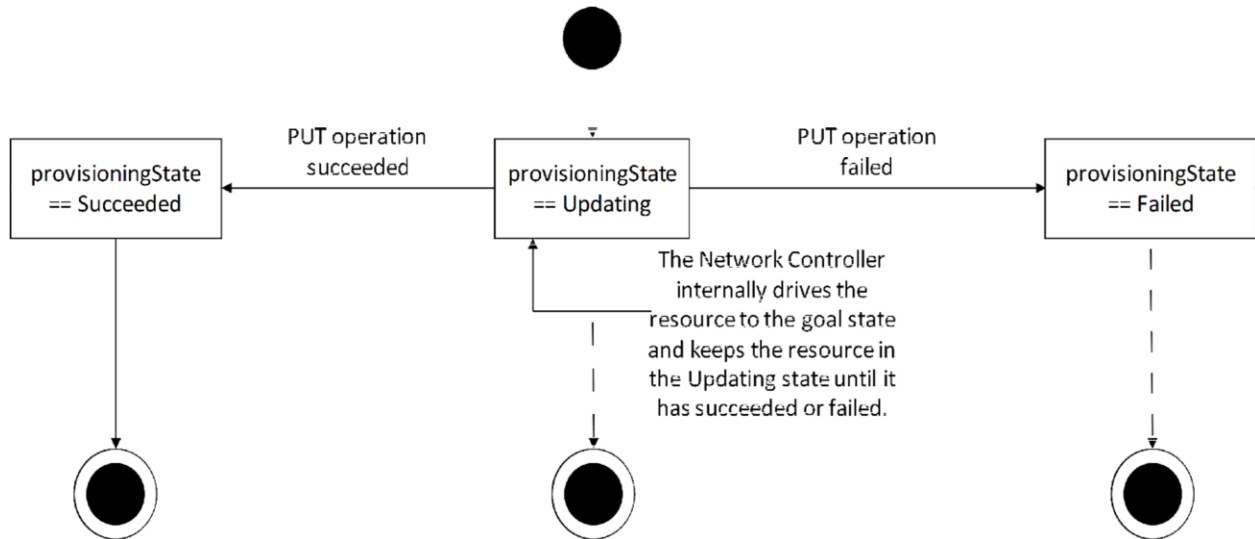


Figure 1: State Diagram for Asynchronous PUT Operations

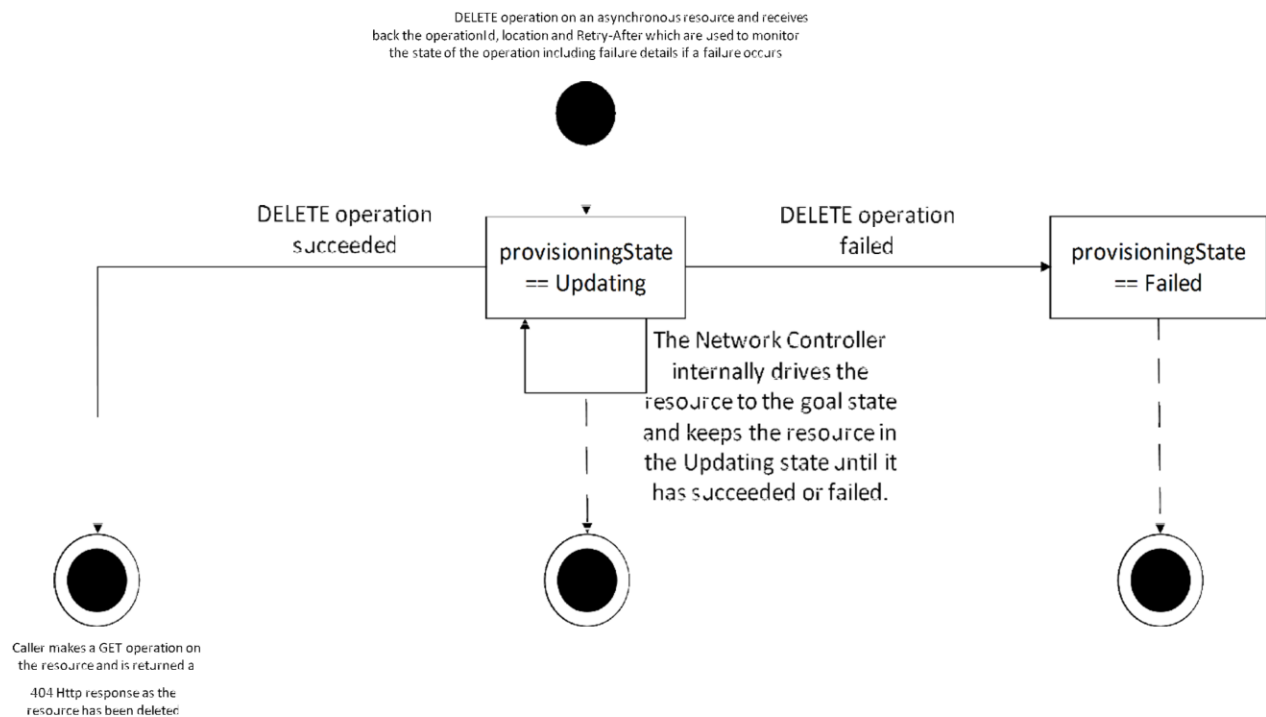


Figure 2: State Diagram for Asynchronous DELETE Operations

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 **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 operation-id is the value of the x-ms-request-id header returned by the resource provider.

```
https://<url>/networking/v1/operationResults/{operation-id}
```

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 or 201 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 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 section [1.3.3](#), Concurrent Operations, 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/{operation-id}
```

1.3.2.3 Differences between operations and operationResults

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

The **GET** <AsyncOperation header value> always returns HTTP 200 and "Async Operation" resource.

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

The AsyncOperation 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 provisioningStates 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 section [2.2.2](#), Common JSON Elements, for a detailed description 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.

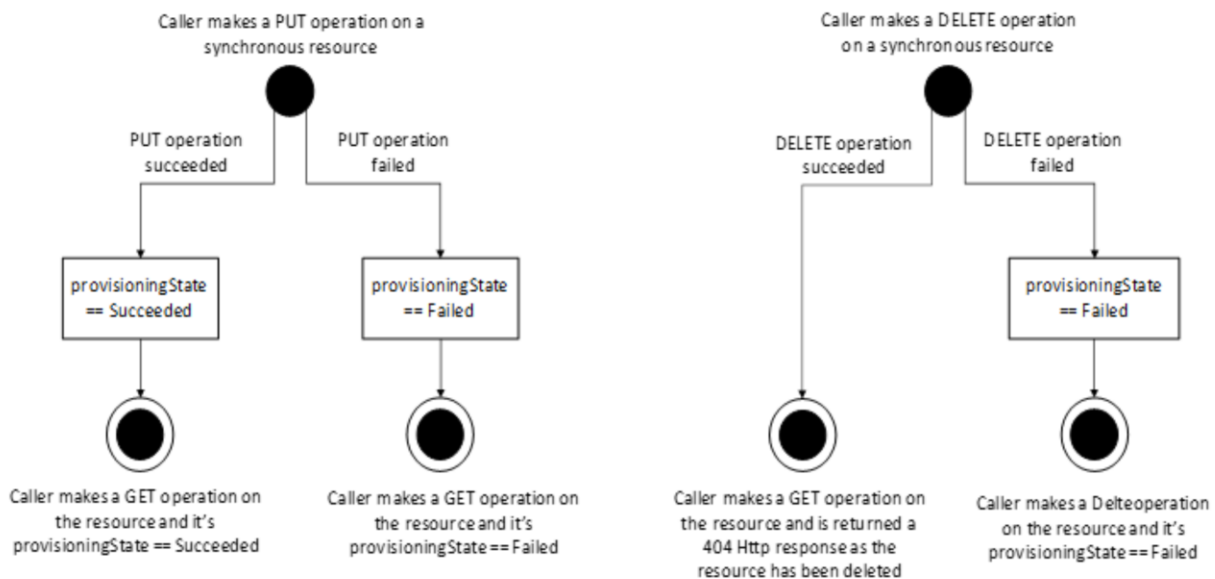


Figure 3: State Diagrams for Synchronous Operations

1.3.2.6 State Diagrams for Asynchronous Operations

For asynchronous operations the valid states are Deleting, Failed, Succeeded, and Updating.

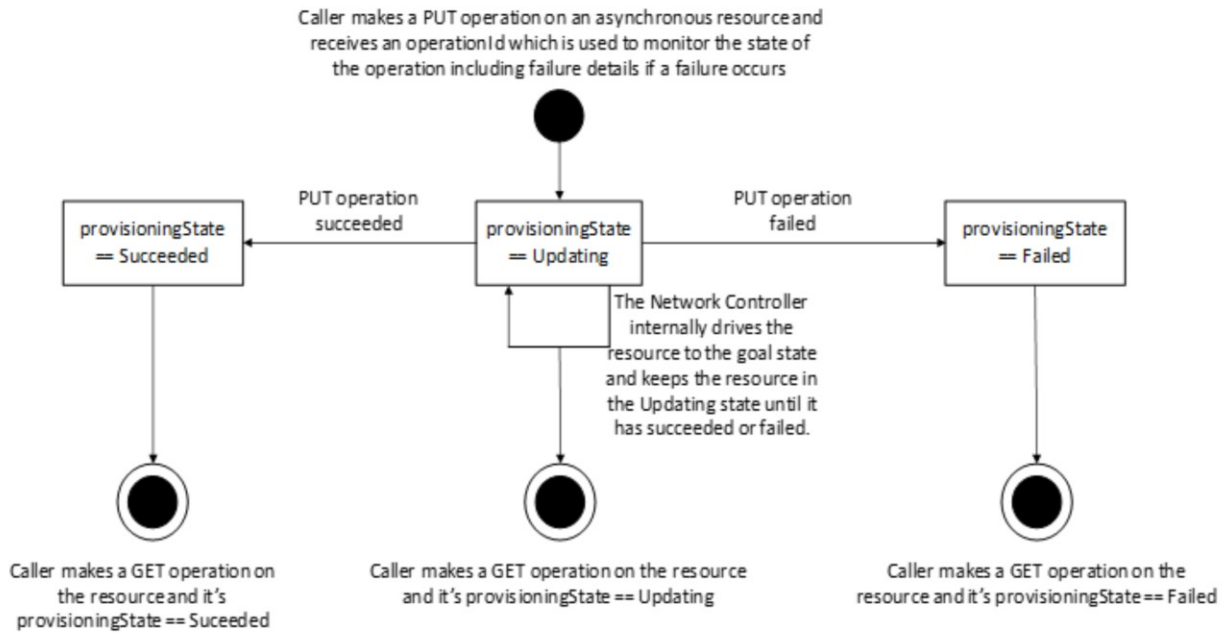


Figure 4: State Diagrams for Asynchronous PUT and GET Operations

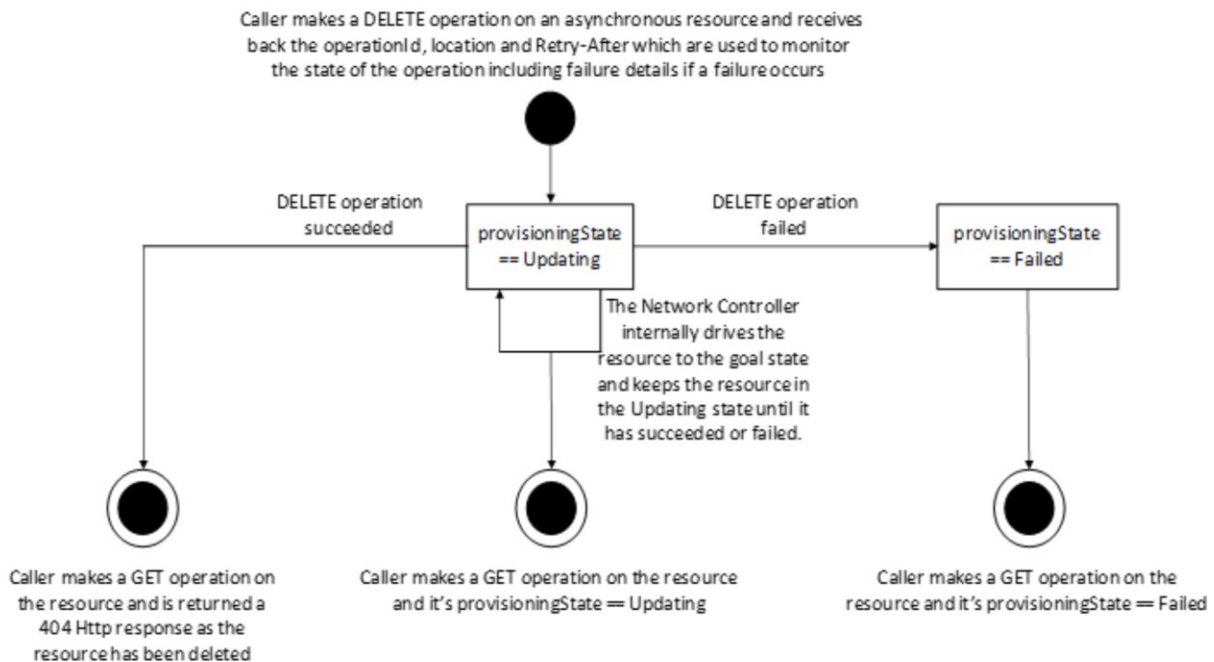


Figure 5: State Diagrams for Asynchronous Delete Operation

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 **networks** resource is updated then its **property.provisioningState** element is updated along with all **logicalSubnets** resources under it and all **ipPools** resources under all **logicalSubnets** resources under the original **networks** 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 **logicalSubnets** resource is updated then its **property.provisioningState** element is updated along with the **property.provisioningState** element of the parent **networks** resource and all **ipPools** resources under the specific **logicalSubnets** resource. Any other **logicalSubnets** under the original **networks** 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 **logicalSubnets** resource and the **property.provisioningState** element of the **logicalSubnets'** parent **networks** resource. But if there are any other **logicalSubnets** resources under the **networks** resource and **ipPools** resources under these **logicalSubnets** 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" while its ancestor resource will be set to "Updating" 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.

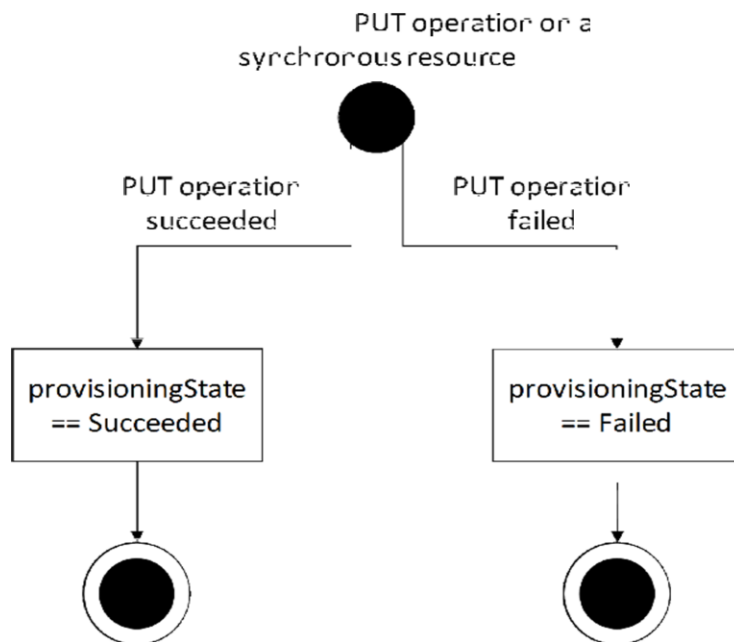
Because the Network Controller is a distributed service made up of a number of services, it handles transient failures internally. It does this by having a retry loop that the Software-Defined Networking

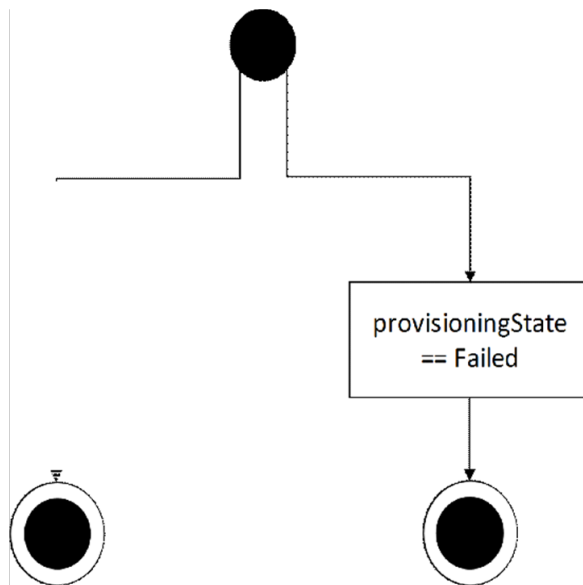
API (SDNAPI) service uses for communicating with the other services. The SDNAPI service is the component in the network controller that listens for HTTP/HTTPS web requests, parses them and forwards them on to the appropriate service module for handling. This retry loop will continue retrying the operation a number of 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 shows states for synchronous operations.





Caller makes a GET operation on the resource and is returned a 404 HTTP response because the resource has been deleted

Figure 6: States 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 409 – Conflict. The error details are as follows:

Error code: AnotherOperationInProgress

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

NOTE: **PUT** or **DELETE** of descendant resource updates ETag of itself and the ancestors. **PUT** on top-level resource updates ETags of all descendants.

For more information about how the Network Controller internally handles asynchronous operations, see Asynchronous Operations, section [1.3.2](#).

1.3.3.2 Concurrent operations when there are dependent resources

In the Network Controller's Northbound API there are a number of resources that depend on other resources, or dependee 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. A **gateways** resource is a dependee resource for 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 (ex. **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 a 409 Conflict Http 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 a 409 Conflict Http 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 dependee 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.

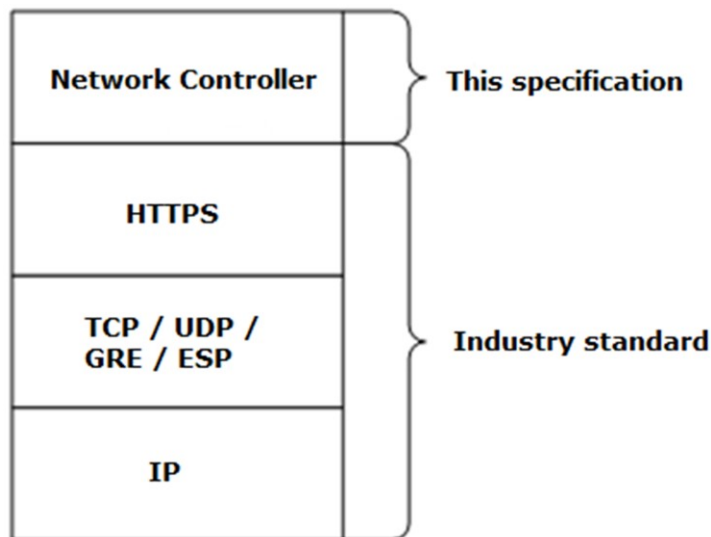


Figure 7: Relationship of the Network Controller to industry-standard protocols

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 server and REST APIs. This protocol is applicable to both Internet and intranet client-server scenarios.

1.7 Versioning and Capability Negotiation

This protocol does not provide any mechanism for capability negotiation.

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.

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 JavaScript Object Notation (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** 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 requests to the Network Controller, and it is also provided by the 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 following error will be returned if the content-type does not contain the appropriate value.

```
{
  "Message": "The request entity's media type 'application/text' is not supported for this
  resource.", "ExceptionMessage": "No MediaTypeFormatter is available to read an object of type
  'NetworkInterface' from content with media type 'application/text'.", "ExceptionType":
  "System.Net.Http.UnsupportedMediaTypeException", "StackTrace": " at
  System.Net.Http.HttpContentExtensions.ReadAsAsync[T](HttpContent content, Type type,
  IEnumerable`1 formatters, IFormatterLogger formatterLogger, CancellationToken
  cancellationTokent)\r\n at System.Web.Http.ModelBinding.FormatterParameterBin
  ding.ReadContentAsync(HttpRequestMessage request,
  }
}
```

2.2.1.2 Request Headers

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

Header	Section	Description
Accept-Language	2.2.1.2.1	Optional. The language in which error

Header	Section	Description
		messages are returned.
Content-Type	2.2.1.1	The content type of the payload.
if-match	2.2.1.2.2	Optional. An etag that can be obtained by executing a GET command on a resource or collection of resources, or an etag that is contained in the output of a PUT or PATCH command.
Referrer	2.2.1.2.3	Optional. Specifies the hostname of the computer of the end user.
x-ms-client-ip-address	2.2.1.2.4	Optional. IP address of the client. This is recorded in the tracing logs for every Network Controller Northbound operation for audit.
x-ms-client-request-id	2.2.1.2.5	Optional. A unique ID provided by the client that the service uses to identify the specific request.
x-ms-return-client-request-id	2.2.1.2.6	Optional. Determines whether the Network Controller will echo the x-ms-client-request-id.

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.

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
Azure-AsyncOperation	2.2.1.3.1	Contains URL to enable monitoring of asynchronous operations.
Content-Length	2.2.1.3.2	The length of the content that is returned.
Content-Type	2.2.1.1	Required. The content type of the payload. This header is not required in responses that do not contain content.
Date	2.2.1.3.3	The date that the request was processed, in [RFC1123] format.
ETag	2.2.1.3.4	An opaque string representing the state of the resource at the time the response was generated.
HTTP/1.1	2.2.1.3.5	Indicates the HTTP status code of the request.
Location	2.2.1.3.6	Header for long-running operations. Contains the URL where the status of the long running operation can be checked.
Retry-After	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.
Server	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".
x-ms-request-id	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 Asynchronous Operations, 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	Description
resourceId	The resource ID 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.

JSON Element	Description
resourceRef	A relative URI to an associated resource.
instanceId	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 instanceId to resourceId with the internalResourceInstances resource, section 3.1.5.23 . The <i>instanceId</i> element cannot be used directly in the API.
tags	Optional. Key-value pairs of arbitrary data that the client stores with the resource on the controller.
resourceMetadata	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.
resourceMetadata.client	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.
resourceMetadata.tenantId	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.
resourceMetadata.groupId	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.
resourceMetadata.resourceName	Optional. Indicates the globally unique name of the resource. If it is not assigned a value then it will be blank.
resourceMetadata.originalHref	Optional for resourceMetadata. The original URI of the resource if the client uses a URI based system to organize resources.
properties	Optional array of structured data. The structure of this data is unique to each resource except two common read-only elements - etag and provisioningState .
properties.etag	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. The etag is updated every time the resource is updated.
properties.provisioningState	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
<url>	section 2.2.3.5	The URL of the Network Controller.
<i>config</i>		The configuration object containing the properties of the specified resource. The properties are defined by the resource contained in the URI
<i>grandParentResourceID</i>	section 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>operation-id</i>	section 2.2.3.2	The value of the x-ms-request-id header returned by the resource provider.
<i>parentResourceID</i>	section 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"> ▪ User-defined, system-defined, or both ▪ Unique across all resources of the same type ▪ Unique across all resources of the same type in the context of the specific grandparent resource.
<i>resourceId</i>	section 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"> ▪ User-defined, system-defined, or both ▪ Unique across all resources of the same type ▪ Unique across all resources of the same type in the context of the specific ancestor resource. When the resourceId is optional for an ancestor resource, it is required for the descendant resources.
<i>instanceId</i>	section 3.1.5.23	The globally unique Id generated and used internally by the Network Controller. The mapping resource that enables the client to map between the instanceId and the resourceId.

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 **logicalSubnets** resource when it is parent for the **ipPools** resource, the **logicalSubnets** resource when it is parent for the **routes** resource, the **logicalNetworks** resource when it is parent for the **logicalSubnets** 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**, **logicalSubnets**, **networkConnections**, **outboundNatRules**, **policyMaps**, **probes**, **routes**, and **subnets**.

2.2.3.4 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
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**, **loadBalancerMux**, **loadBalancers**, **loadBalancingRules**, **logicalNetworks**, **logicalSubnets**, **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**, **connectivityChecksResults**, **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**, **loadBalancerMux**, **loadBalancers**, **logicalNetworks**, **macPools**, **policyMaps**, **publicIpAddresses**, **routeTables**, **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 `interfacesResource`. For example, two **aclRules** resources can have the same `resourceId` if their parent **accessControlLists** resources are different; however, two **aclRules** resources can not 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**
- **logicalSubnets** ancestor resource: **ipPools**, **routes**
- **networkInterfaces** ancestor resource: **ipConfigurations**
- **logicalNetworks** ancestor resource: **logicalSubnets**
- **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 universal resource locator for the Network Controller. It identifies the server that is running the Network Controller. It MUST be one of the values in the following table.

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

2.2.4 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 specific to a particular request/response body are described within the corresponding sections.

Data structure	Section	Description
accessControlLists	The ipConfigurations resource, section 3.1.5.5.3 .	Contains an accessControlLists resource that defines the ACLs in and out of the IP Configuration.
aclRules	The aclRules resource, section 3.1.5.1.2 .	Indicates the rules in an access control list, Indicates the action the ACL Rule will take.
addressPrefixes	The addressSpace resource in the virtualNetworks resource, section 3.1.5.18 .	Indicates the valid list of address prefixes that can make up this virtual network.
addressSpace	The virtualNetworks resource, section 3.1.5.18 .	Required. Indicates the address space of the virtual network.
backendAddressPools	The outboundNatRules resource, section 3.1.5.5.6 . The loadBalancingRules resource, section 3.1.5.5.5 .	Indicates an array of references to a backendAddressPools 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.
backendIPConfigurations	The backendAddress Pools resource, section 3.1.5.5.2 .	An array of references to ipConfiguration Resources. There is no restriction on having the same IP configurations in multiple backendAddressPools .
bgpPeers	The bgpPeers resource in the bgpRouters resource in the virtualGateways resource, section 3.1.5.17.2.2 .	A collection of BGP peers associated with the BGP bgpRouters resource.
bgpRouters	The virtualGateways resource, section 3.1.5.17 .	An array of bgpRouters on the physical switch.
connections	The gateways resource, section 3.1.5.4 .	A collection of all the connections on the gateway.
connections	The servers resource, section 3.1.5.15 . The loadBalancerMux resource, section 3.1.5.7 . The iDnsServers resource, section 3.1.5.24 . The virtualServers resource, section 3.1.5.20 .	An array of connections that specify the information needed to connect to the specific device to manage and control it.
destinationSubnets	The rules resource in the serviceInsertions resource, section 3.1.5.16 .	An array of subnets to match the destination subnet.
details	The operations resource, section 3.1.5.12 . The operationResults resource, section 3.1.5.13 .	Contains detailed information about the error.

Data structure	Section	Description
dhcpOptions	The virtualNetworks resource, section 3.1.5.18.	Indicates the DHCP options used by servers in the virtual network.
dnsRecord	The publicIpAddresses resource, section 3.1.5.14 .	Properties of a DNS record associated with this public IP address. This field is not supported.
dnsServers	The logicalSubnets resource, section 3.1.5.8.2 . The dhcpOptions resource in the virtualNetworks 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.
dnsSettings	The virtualNetworks Interfaces resource, section 3.1.5.13.	Indicates the DNS settings of this network interface.
error	The operations resource, section 3.1.5.12. The operationResults 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.
eTag	The Etag header, section 2.2.1.3.4	The Network Controller returns an etag in the response body as the etag property of the resource.
externalIPAddress	The gateways resource, section 3.1.5.4.	A collection of IP address information.
frontendIPConfigurations	The loadBalancers resource, section 3.1.5.5 . The frontEndIP Configurations resource, section 3.1.5.5.3.	Indicates the frontend IP addresses of the load balancers.
frontendIPConfigurations	The inboundNatRules resource, section 3.1.5.5.4 . The outboundNatRules , section 3.1.5.5.6. The loadBalancingRules resource, section 3.1.5.5.5.	Indicates an array of references to frontendIPConfiguration resources.
frontendIpPools	The loadBalancerManager resource, section 3.1.5.6 .	An array of references to ipPools resources to use for the frontend IP Addresses.
gatewayCapacityKiloBits PerSecond	The gatewayPools resource, section 3.1.5.4.	Indicates the total capacity of the gateway pool in kilobits per second.
GatewayPools	The virtualGateways resource, section 3.1.5.17.	The collection of references to gatewayPools resources in which connections can be created. This information is populated at the time of subscription and can be changed only by using the

Data structure	Section	Description
		Service administrator portal.
gateways	The gatewayPools resource, section 3.1.5.4.	An array that contains references to the gateways resources in the gateway pool.
gatewaySubnets	The virtualGateways resource, section 3.1.5.17.	Indicates collection of references to IPv4/IPv6 subnet of the VSID/gateway subnet that contains the specified gateway.
greConfiguration	The networkConnections resource, section 3.1.5.17.4 .	Indicates details of GRE configuration
IcmpProtocolConfig	The Diagnostics ConnectivityCheck resource, section 3.1.5.21.1 . The Diagnostics ConnectivityCheckResults resource, section 3.1.5.21.2 .	Contains the details of an ICMP Protocol specific configuration.
iDnsServer	The iDnsServer resource, section 3.1.5.24.	Indicates the configuration details for the DNS server in the internal DNS service.
inboundNatRules	The loadBalancers resource, section 3.1.5.5. The inboundNatRules resource, section 3.1.5.5.4.	Indicates an array of inbound NAT rules configured for the load balancer.
internalIpAddresses	The networkConnections resource, section 3.1.5.17.4.	Indicates collection of Internal IP Addresses of the connection.
internalPeerIpAddresses	The networkConnections resource, section 3.1.5.17.4.	Indicates collection of Internal IP Addresses of the peer.
IPConfiguration	The network Interfaces resource, section 3.1.5.15.2 .	Indicates an array of IP configurations
ipConfigurations	The accessControlLists resource, section 3.1.5.1 .	Indicates references to the IP addresses of networkInterfaces resource that are associated with an accessControlLists resource.
ipConfigurations	The subnets resource in the virtualNetworks resource, section 3.1.5.18.2 .	Indicates an array of references of networkInterfaces resources that are connected to the subnet.
ipPools	The ipPools resource, section 3.1.5.8.2.2 . The logicalSubnets resource, section 3.1.5.8.2.	Indicates the IP Pools that are contained in the logical subnet.
ipsecConfiguration	The networkConnections resource, section	Details of IPsec configuration

Data structure	Section	Description
	3.1.5.17.4.	
IPv4AddressPrefixes	The vpnConfiguration in the virtualGateways resource, section 3.1.5.17.	Indicates collection of IPv4 address pools from which VPN clients are assigned addresses
I3Configuration	The networkConnections resource, section 3.1.5.17.4.	Indicates details of L3 configuration.
loadBalancerMux	The virtualServers resource, section 3.1.5.20.	Indicates the Loadbalancer MU running on this virtualServer.
loadBalancers	The loadBalancer resource, section 3.1.5.5.	Contains information about the frontend and backend configurations for load balancing.
loadBalancing Rules	The loadBalancer resource, section 3.1.5.5.	Contains a list of load balancing configurations.
loadBalancing Rules	The backendAddress Pools resource, section 3.1.5.5.2. The probes resource, section 3.1.5.5.7.	an array of references to loadBalancingRules resources.
logicalSubnets	The network Interfaces resource, section 3.1.5.15.2.	Indicates an array of logicalSubnets resource that the network interface is connected to.
mainMode	The ipsecConfiguration resource in the networkConnections resource, section 3.1.5.17.4.	in the networkConnections resource. Main mode IPsec configuration details
ManagementAddresses	The loadBalancerMux resource, section 3.1.5.7.	The management address used to connect to the server.
networkConnections	The networkConnections resource, section 3.1.5.17.4. The virtualGateways resource, section 3.1.5.17.	Indicates list of network connections that are configured for this virtualGateways resource.
networkInterfaces	The gateways resource, section 3.1.5.4. The logicalSubnets resource, section 3.1.5.8.2.	An array of references to networkInterfaces resource that are used by a gateway or logical subnet.
networkInterfaces[]	The networkInterfaces resource in the servers resource, section 3.1.5.15.2.	An array of references to networkInterfaces resource that represent the physical network interface cards of the server. These resources are automatically created.
networks	The bgpRouters resource in the virtualGateways	Collection of network prefixes "IP address/prefix" format that identifying the networks that

Data structure	Section	Description
	resource, section 3.1.5.17.2	are to be announced by the router.
outboundNatRules	The backendAddress Pools resource, section 3.1.5.5.2. The loadBalancers resource, section 3.1.5.5.	An array of references to the outboundNatRules resource.
output.DataGroups	The Diagnostics sIbStateResults resource, section 3.1.5.21.4 .	The hierarchical output of this diagnostics operation. Data group as level 1, data section as level 2 and data unit as level 3
peerIpAddresses	The networkConnections resource, section 3.1.5.17.4.	Array of IP Addresses of the destination (S2S IP)
peerRouter Configurations	The routerConfiguration structure in the loadBalancerMux resource, section 3.1.5.7..	The BGP settings that are used to establish and maintain BGP peering with one or more peers.
peerTrafficSelector	The ipsecConfiguration resource in the networkConnections resource, section 3.1.5.17.4.	Indicates collection of IPSec TrafficSelectors on the enterprise side
policyMaps	The virtualGateways resource, section 3.1.5.17.	A collection of policyMaps resources for the virtualGateways resource.
probes	The probes resource, section 3.1.5.5.7. The loadBalancers resource, section 3.1.5.5.	Indicates an array of probes configured for the load balancer.
properties	The Properties 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: etag and provisioningState . If properties is not included this will cause the resource to be created but have no properties.
publicIpAddresses	The gatewayPools resource, section 3.1.5.4.	A collection of public IP addresses to which external connections connect.
portSettings	The networkInterfaces resource, section 3.1.5.11 .	Contains a reference to quality of service settings to apply to virtual network interface.
redundantGatewayCount	The gatewayPools resource, section 3.1.5.4.	Indicates the number of redundant gateway VMs that will be used for each virtualGateway instance to ensure its availability.

Data structure	Section	Description
resourceMetadata	The Common JSON Elements, section 2.2.2.	An array of structured data that the client sends to the server.
routerConfiguration	The loadBalancerMux 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.
routerIpAddress	The bgpRouters resource in the virtualGateways resource, section 3.1.5.17.2	Indicates IP addresses to which BGP peering can be established.
routes	The routeTables resource, section 3.1.5.10 .	The routes that are contained in a route table.
routes	The routes resource in the logicalSubnets resource, section 3.1.5.8.2.3 .	The routes that are contained in the logical subnet.
routes	The networkConnections 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.
rules	The serviceInsertions resource, section 3.1.5.16.	Indicates an array of rules that define what traffic goes through the service insertion.
configurationState	<p>This is a common data structure that can be present on resources. Currently the networkInterface, VirtualNetwork, LoadBalancerMux and Server resources contain an instance of this structure.</p> <p>The networkInterface resource,</p> <p>The virtualNetwork resource,</p> <p>The gateways resource, section 3.1.5.4.</p> <p>The virtualGateways resource, section 3.1.5.17.</p> <p>The bgpRouters resource in the virtualGateways resource, section 3.1.5.17.2.</p> <p>The bgpPeers resource in the bgpRouters resource in the virtualGateways resource, section 3.1.5.17.2.2.</p> <p>The networkConnections resource in the virtualGateways resource, section 3.1.5.17.4.</p> <p>The LoadBalancerMux resource, section 3.1.5.7.</p>	<p>Configuration state indicates any failures in processing go state corresponding to the resource it is contained in. In absence of failures it can not 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 on the status field of the configurationState structure.</p> <p>Information pertaining to each failure is collected in the detailedInfo field. Please see definition of detailedInfo field.</p> <p>Running state update time is noted within the running state structure. The LastUpdateTime stores this information.</p>
configurationState.detailedInfo	configurationState structures can contain one or more detailedInfo fields to reflect fine grained	<p>Detailed Info has 3 fields</p> <ul style="list-style-type: none"> Source: The source field identifies the component

Data structure	Section	Description
	success or failure information in processing operations related to the resource which the configuration state field is contained in.	<p>within the SDN stack that encountered a failure while processing this resource.</p> <ul style="list-style-type: none"> ▪ Code: This field contains somewhat fine grained classification of the error encountered while processing this resource ▪ Message: A friendly message that describes the encountered error. <p>Note: Some codes and Messages correspond to success cases as well.</p>
serviceInsertionElements	The networkInterfaces resource, section 3.1.5.11.	Indicates an array of serviceInsertions resources that contains this networkInterfaces resource
serviceInsertionElements	The serviceInsertions resource, section 3.1.5.16.	Indicates an array of service insertion elements through which to send packets that match the rules.
sourceSubnets	The rules resource in the serviceInsertions resource, section 3.1.5.16 .	Indicates an array of subnets match as source subnet. For a single source ip address match specify as a /32 subnet.
statistics	<p>The networkConnections resource, section 3.1.5.17.4.</p> <p>The bgpPeers resource in the bgpRouters resource in the virtualGateways resource, section 3.1.5.17.2.2.</p>	Statistics of the connection
subnets	The accessControlLists resource, section 3.1.5.1.	An array of references to subnets resources that are associated with the access control list.
subnets	<p>The logicalNetworks resource, section 3.1.5.8.</p> <p>The virtualNetworks resource, section 3.1.5.18.</p>	Indicates the subnets that are on the virtual network or are contained in the logical network.
subnets	The serviceInsertions resource, section 3.1.5.16.	Indicates an array of reference to subnets resources this serviceInsertions resource is associated with.
subnets	The routeTables resource, section 3.1.5.10.	Indicates an array of reference to subnets resources this routeTables policy is associated with.
tags	most resources	Key-value pairs of arbitrary data that the client stores with

Data structure	Section	Description
		the resource.
TrafficSelector	The ipsecConfiguration resource in the networkConnections resource, section 3.1.5.17.4.	Indicates collection of IPSec TrafficSelectors on the hoster side.
usage	The ipPools resource, section 3.1.5.8.2.2. The macPools resource, section 3.1.5.9 .	Indicates the usage statistics of the IP pool or the MAC address pool.
virtualGateways	The gateways resource, section 3.1.5.4. The gatewayPools resource, section 3.1.5.3 .	A collection of virtual gateway for a tenant. This enumerates the tenants that are dependent on this gateway.
virtualNetworks	The logicalNetworks resource, section 3.1.5.8.	An array of virtualNetworks resources that are using the network.
virtualServers[]	The virtualServer resource.	Indicates an array of virtual server that are on the server and being managed by the Network Controller.
vlanIds	The network Interfaces resource, section 3.1.5.11.	Indicates the ID of the VLANs to which the network interface is connected.
vlan	The IpConfigurations resource in the network Interfaces resource, section 3.1.5.11.	Vlan IDs associated with the IP address on the interface
vpnConfiguration	The virtualGateways 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 enumeration are provided in the subsections of each resource. In general, the response for Get All follows this pattern:

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

`Resource1` to `ResourceN` are valid resources of the same kind. "value" is a JSON array of object. "nextLink" is a link for the client to retrieve the next page of the response, in case the server paginates the response. <1>

If the Network Controller returns an error for any operation, it includes the appropriate HTTP status code (see the [RFC7231](#), Hypertext Transfer Protocol (HTTP) Status Code Registry, definition of specific response codes) and the response body as specified in the following section. The message is localized per the Accept-Language header specified in the original request for direct exposure to end-users. The error response is common to all methods from the server,

The format for the response body is as follows:

```
{
  "status": "Failed", "error":
  {
    "code": "BadArgument",
    "message": "The provided database 'foo' has an invalid username." "target": "query",
    "details": [
      {
        "code": "301", "target": "$search"
        "message": "$search query option not supported",
      }
    ]
  }
}
```

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.

3.1.2 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 Message Processing Events and Sequencing Rules

The following resources are required to create and maintain a proper network configuration between the NC and its clients.

Resources are processed one at a time; however, the **GET** method can act on all of the same resource at once when the `resourceId` is omitted. The following table lists all of the resources.

Resource	Section	Description
accessControlLists	section 3.1.5.1	Contains a list of ACL rules that can be assigned to subnets or individual NICs and IP addresses.
aclRules	section 3.1.5.1.2	Describes the network traffic that is allowed or denied for a network interface of a virtual machine.
backendAddressPools	section 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 MUX handles incoming traffic via the front end IPs and distributes them to backend IPs based on load balancing configuration.
bgpPeers	The bgpPeers resource of the bgpRouters resource of the virtualGateways resource, section 3.1.5.17.2.2 .	Configures BGP peers of the virtualGateways resource.
bgpRouters	The bgpRouters resource of the virtualGateways resource, section 3.1.5.17.2 .	Contains the configuration for the Border Gateway Protocol (BGP) router in the virtual gateway.
credentials	section 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.
diagnostics/ConnectivityCheck	section 3.1.5.21.1	This resource initiates a diagnostics action to check data path

Resource	Section	Description
		connectivity between two endpoints.
diagnostics/ConnectivityCheckResults	section 3.1.5.21.2	This resource queries the result of a previously initiated diagnostics action between two endpoints.
diagnostics/ NetworkControllerState	section 3.1.5.21.5	This resource creates a dump of internal server data that can be used for troubleshooting.
diagnostics/SlbState	section 3.1.5.21.3	This resource initiates a diagnostics action to collect internal state for the software load-balancer.
diagnostics/SlbStateResults	section 3.1.5.21.4	This resource queries the result of a previously initiated diagnostics slbState action
frontendIpConfigurations	section 3.1.5.5.3	This resource represents the frontend IP addresses of the load balancer.
gatewayPools	section 3.1.5.3	Contains an array of gateways that provide the infrastructure for virtualGateways resources for tenant virtual networks.
gateways	section 3.1.5.4	Provides gateway services to one or more virtualNetworks resources.
iDnsServer	section 3.1.5.24	Contains the configuration details for the DNS server in the internal DNS service.
inboundNatRules	section 3.1.5.5.4	This resource is used to configure the load balancer to apply Network Address Translation of inbound traffic.
internalResourceInstances	section 3.1.5.23	This resource provides a means to map instance IDs to resource IDs or to get all the mappings.
ipConfigurations	section 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.
ipPools	section 3.1.5.8.2.2	The ipPools resource represents the range from which IP addresses will be allocated for nodes 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.
loadBalancerManager	section 3.1.5.6	The loadBalancerManager resource is a singleton resource

Resource	Section	Description
		that configures the load balancing service of the Network Controller.
loadBalancerMux	section 3.1.5.7	The loadBalancerMux resource represents a MUX VM deployed in the Network Controller's stamp.
loadBalancers	section 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.
loadBalancingRules	section 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.
logicalNetworks	section 3.1.5.8	A collection of logical subnets or a logical partition of physical network that is dedicated for a specific purpose.
logicalSubnets	section 3.1.5.8.2	A logicalSubnets resource consists of a subnet/VLAN pair. The vlangs resource is required; however it MAY contain a value of zero if the subnet is not associated with a vlan.
macPools	section 3.1.5.9	Specifies a range of MAC addresses which are used internally by the Network Controller service modules for various service modules in both CA and PA space including VNET, VSM , and GWM. Specifically, these MAC Pools are used for the PAHost vNIC(s), the HNV Distributed Router (DR) Host vNIC (used for health probes), and the HNV Virtual MAC (to route traffic to the HNV Distributed Router).
monitoring/NetworkControllerStatistics	section 3.1.5.22	This resource provides a means to get usage and health information for a few resources
networkConnections	section 3.1.5.17.4	Specifies a connection from a virtual network to external networks.
networkInterfaces	The networkInterfaces resource, section 3.1.5.11 .	Specifies the configuration of either a host virtual interface (host vNIC) or a virtual server NIC (VMNIC).
operationResults	section 3.1.5.13	Provides the status of a specific

Resource	Section	Description
		asynchronous operation. The URL for a specific operations resource is returned in the location header of that operation.
operations	section 3.1.5.12	Provides the status of a specific asynchronous operation. The URL for a specific operations resource is returned in the AsyncOperation header of that operation.
outboundNatRules	section 3.1.5.5.6	This resource is used to configure the load balancer to apply Network Address Translation of outbound traffic.
policyMaps	The policyMaps resource of the virtualGateways resource, section 3.1.5.17.3	Contains the routing policies that enable the Border Gateway Protocol (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.
probes	section 3.1.5.5.7	Configures the mechanism of detection of connectivity issues with load balanced IPs.
publicIpAddresses	section 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 virtualGateways resource and the loadBalancer resource.
routes	section 3.1.5.10.2	Create routes under a tenant's Route Table.
routes	section 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.
routeTables	section 3.1.5.10	Contains a list of tenant routes that can be assigned to virtual subnets to control routing within a virtual network.
servers	section 3.1.5.15	Represents a physical server that is being controlled by the Network Controller.
serviceInsertions	section 3.1.5.16	Specifies the relationship between the service insertion and the service insertion rule.

Resource	Section	Description
subnets	section 3.1.5.18.2	Contains Virtual Subnets (VSIDs) under a tenant's Virtual Network (RDID). User can specify the addressPrefix to use for the subnets, the accessControl Lists to protect the subnets, the routeTable to apply to the subnet, and optionally service insertions to use within the subnet.
virtualGateways	section 3.1.5.17	A logical entity that runs on multiple gateways in the gatewayPools resource, the virtualGateways resource describes the gateway used for cross-premises connectivity from the virtual network.
virtualNetworkManager	section 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.
virtualNetworks	section 3.1.5.18	Creates a Virtual Network using HNV for tenant overlays.
virtualServers	section 3.1.5.20	A resource that corresponds to a Virtual Machine. Such resources need to be created for VMs that correspond to gateway (section 3.1.5.4) and MUX resources (section 3.1.5.7).
virtualSwitchManager	section 3.1.5.25	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. Is also returned for DELETE operations when the specified resource is not found to delete.
201 (Created)	
202 (Accept)	Indicates that the request has been accepted and is being processed. See Asynchronous Operations, section 1.3.2 , to understand how the client handles responses with 202 (Accept).
204 (No Content)	Indicates that the resource with the specified resourceId could not be found.

Status Code	Description
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 ETag doesn't match one specified in the If-Match 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 accessControlLists

An **accessControlLists** resource contains a list of 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 interfaces (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 of the computer on which the Network Controller is running.

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.1.1.1	Create a new accessControlLists resource or update an existing accessControlLists resource.
GET	section 3.1.5.1.1.2	Get one accessControlLists resource.
GET (All)	section 3.1.5.1.1.3	List all accessControlLists resources in the Network Controller.
DELETE	section 3.1.5.1.1.4	Delete an accessControlLists resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
aclRules	Optional	Indicates the rules in an access control list. See AclRules resource, section 3.1.5.1.2 , for full details on this element.
inboundDefaultAction	Optional	Indicates the default action for Inbound Rules. Valid values are Permit Deny. The default value is Permit.
ipConfigurations	Read-Only	Indicates references to IP addresses of network interfaces resources this access control list is associated with.
outboundDefaultAction	Optional	Indicates the default action for Outbound Rules. Valid values are Permit Deny. The default value is Permit.
subnets	Read-Only	Indicates an array of references to subnets resources this access control list is associated with.

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](#), Common URI 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)
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 Processing Details

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

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](#), Common URI 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)

3.1.5.1.1.2.1 Request Body

None.

3.1.5.1.1.2.2 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",
          "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 Processing Details

The server uses the resourceID contained in the body of the message to locate the accessControlList resource to send to the client. The server MUST return a status code of 200 if the operation succeeds, and the server MUST return a status code of 404 if the resource does not exist.

The properties that are associated with the **accessControlList** resource are in section [3.1.5.1](#).

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 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",
            "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",
            "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",
                    "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",
          "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-bfa1-14263ef3f17b\"",
    "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-bfa1-14263ef3f17b\"",
          "instanceId": "df2d3959-e471-4a14-9f56-071058dbd5ff",
          "properties": {
            "provisioningState": "Succeeded",
            "protocol": "All",
            "sourcePortRange": "0-65535",
            "destinationPortRange": "31267",
            "action": "Allow",
            "sourceAddressPrefix": "*",
            "destinationAddressPrefix": "20.168.0.21",
            "priority": "200",
            "type": "Inbound",
            "logging": "Enabled"
          }
        }
      ]
    }
  ],
  "ipConfigurations": [
    {

```



```

        "destinationAddressPrefix": "20.168.0.27",
        "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": "*",
                    "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-fe1a8cd026c1\"",
    "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-fe1a8cd026c1\\"",
    "instanceId": "09a7e3c7-6f51-43ea-be31-f25174eb4066",
    "properties": {
      "provisioningState": "Succeeded",
      "protocol": "All",
      "sourcePortRange": "0-65535",
      "destinationPortRange": "31267",
      "action": "Allow",
      "sourceAddressPrefix": "*",
      "destinationAddressPrefix": "20.170.0.26",
      "priority": "200",
      "type": "Inbound",
      "logging": "Enabled"
    }
  },
  "ipConfigurations": [
    {
      "resourceRef": "/networkInterfaces/3b2f21f0-fd38-40b4-8c53-
e6f648f1ba25/ipConfigurations/ff715733-de86-4ddl-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": "585efbff-d269-465e-8a49-85b018f01466",
        "properties": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.170.0.24",
          "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",

```

```

"etag": "W/\\"bbf3cf36-14c7-42f3-97a6-2437818f48ae\\\"",
"instanceId": "61e5e84a-e205-43ec-9e92-ebd8571e98d6",
"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": "*",
        "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": {
          "provisioningState": "Succeeded",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "*",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  },
  "ipConfigurations": [
    ],
    "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",
          "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",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.169.0.25",
          "priority": "200",
          "type": "Inbound",
        }
      }
    ]
  }
}
}
}

```

```

        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
{
    "resourceRef": "/networkInterfaces/1c4f0be6-0ba9-417c-9f66-
c4a4c1163029/ipConfigurations/28ba9be8-4d21-4829-91dd-dc88f964507c"
}
],
"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",
                "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",
"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",
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
    {
        "resourceRef": "/networkInterfaces/9aca78f4-ddbd-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/\"6b22baf8-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/\"6b22baf8-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",
                    "priority": "200",
                    "type": "Inbound",
                    "logging": "Enabled"
                }
            }
        ]
    },
    "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/a5b6bf1d-91ce-4879-ad35-e783a20e88a1",
        "resourceId": "a5b6bf1d-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",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/7d855a76-7be7-4681-8710-cff77f67fbcd/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",
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "31267",
          "action": "Allow",
          "sourceAddressPrefix": "*",
          "destinationAddressPrefix": "20.169.0.26",
          "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",
            "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",
  "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",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ]
  }
}

```

```

    ],
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/c996e4c2-d062-4e8f-a9b9-30f63cc36ffb/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",
            "priority": "200",
            "type": "Inbound",
            "logging": "Enabled"
          }
        }
      ]
    },
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/ba1b152b-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",
        "priority": "200",
        "type": "Inbound",
        "logging": "Enabled"
    }
}
],
"ipConfigurations": [
    {
        "resourceRef": "/networkInterfaces/fe79110d-7075-478c-975c-79f362791a88/ipConfigurations/268203d3-bffc-4d82-a402-6e274d3dce28"
    }
],
"subnets": [
]
}
},
{
    "resourceRef": "/accessControlLists/dae828ec-2c50-426f-90db-97449b187d3f",
    "resourceId": "dae828ec-2c50-426f-90db-97449b187d3f",
    "etag": "W/\"1c2e4e25-7b2c-48f5-b9a2-660351e17097\"",
    "instanceId": "3dab675e-62f6-42c9-a929-a31dfe28c3c0",
    "properties": {
        "provisioningState": "Succeeded",
        "aclRules": [
            {
                "resourceRef": "/accessControlLists/dae828ec-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",
                    "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 if the operation succeeds. If no **accessControlList** 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](#), Common URI 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)
202 (Accept)
204 (No Content)
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 **accessControlList** resource.

3.1.5.1.2 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 of the computer on which the Network Controller is running.

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.1.2.1.1	Create a new aclRules resource or update an existing aclRules resource.
GET	section 3.1.5.1.2.1.2	Get one aclRules resource.
GET (All)	section 3.1.5.1.2.1.3	List all aclRules resources in the Network Controller.
DELETE	section 3.1.5.1.2.1.4	Delete an aclRules resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
action	Required	Indicates the action the ACL Rule will take. Valid values are: Allow Deny. There is no default value since it is a required element.
description	Optional	Indicates a description of the ACL rule.
destinationAddressPrefix	Required	Indicates the 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. Pre-defined tags can also be used within aclRules 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 AZURELOADBALANCER VIRTUALNETWORK - This tag denotes all of your virtual network address space. INTERNET - This tag denotes the IP address space that is outside the virtual network and reachable by public Internet. AZURELOADBALANCER - This tag denotes the datacenter IP address(es) from which the load balancer health probes originate.
destinationPortRange	Required	Indicates the destination port(s) that will trigger this ACL rule. Valid values include a single port, port range (separated by "-"), or "*" for all ports. All numbers are inclusive. Example: 80, 80-80, 80-81, *
logging	Required	Indicates whether logging will be turned on for when this rule gets triggered. Valid values are Enable disabled. The default value is enabled.

Element name	Type	Description
priority	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 accessControlLists resource. Value from 101 – 65000 are user defined. Values 1- 100 and 65001 – 65535 are reserved.
protocol	Required	Indicates the protocol to which the ACL rule will apply. Valid values are TCP UDP .
sourceAddressPrefix	Required	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 forIPv6 all traffic. Valid pre-defined TAG values are VIRTUALNETWORK INTERNET AZURELOADBALANCER VIRTUALNETWORK - This tag denotes all of your virtual network address space. INTERNET - This tag denotes the IP address space that is outside the virtual network and reachable by public Internet. AZURELOADBALANCER – This tag denotes the datacenter IP address(es) from which the load balancer health probes originate.
sourcePortRange	Required	Indicates the source port(s) that will trigger this ACL rule. Valid values include a single port, port range (separated by "-"), or "*" for all ports. All numbers are inclusive. Example: 80, 80-80, 80-81, *
type	Required	Indicates whether the rule is to be evaluated against ingress traffic (Inbound) or egress traffic (Outbound). Valid values are Inbound 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](#), Common URI 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)
202 (Accept)
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](#), Common URI 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)

3.1.5.1.2.1.2.1 Request Body

None.

3.1.5.1.2.1.2.2 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",
    "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](#), Common URI 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)

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 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",
        "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",
        "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](#), Common URI 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)
202 (Accept)
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 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 **SSL** certificate provisioned on the Network Controller nodes. 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.

The URI for the **credentials** resource is as follows:

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

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.2.1.1	Create a new credentials resource or update an existing credentials resource.
GET	section 3.1.5.2.1.2	Get one credentials resource.
GET (All)	section 3.1.5.2.1.3	List all credentials resources in the Network Controller.
DELETE	section 3.1.5.2.1.4	Delete a credentials resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
type	Required	Indicates the type of the credential. Valid values are: <ul style="list-style-type: none"> ▪ usernamePassword ▪ snmpCommunityString ▪ x509Certificate ▪ GroupManagedServiceAccount
userName	Optional	If the credential 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.
value	Required	Indicates the value of the credential. The actual value will depend on the type field: <p>For credentials resources of type UsernamePassword, this element represents the password.</p> <p>For credentials resources of type SNMPCommunityString, this element represents the community string.</p> <p>For credentials resources of type X509Certificate, this element represents the certificate subject name.</p> <p>For credentials resources of type GroupManagedServiceAccount, this element is expected to be empty.</p>

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](#), Common URI 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)
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, **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](#), Common URI 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)

3.1.5.2.1.2.1 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.

```
{
  "etag": "W/\"858c6520-f861-4ab0-9e18-8a11822bbafd\"",
  "instanceId": "0a83672d-08d1-4ce3-92f8-8cb3efcaf60e",
  "properties": {
    "provisioningState": "Succeeded",
    "type": "X509Certificate",
    "value": "DED5163DBA00F32C842B35B6250B852464BA7978"
  },
  "resourceId": "5eda8dd3-9fad-4f73-bb46-fa696b2ca894",
  "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894"
}
```

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 [6.2.3](#).

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](#), Common URI 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)
202 (Accept)
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 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 virtualGateway instances with differentiated services for tenant virtual networks.

A gateway pool usually consists of gateways that provide services, such as IPsec, GRE or Forwarding 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.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), `resourceId`.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.3.1.1	Create a new gatewayPools resource or update an existing gatewayPools resource.
GET	section 3.1.5.3.1.2	Get one gatewayPools resource.
GET (All)	section 3.1.5.3.1.3	List all gatewayPools resources in the Network Controller.
DELETE	section 3.1.5.3.1.4	Delete a gatewayPools resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
Type	Required	Indicates the type of the role of gateway VMs in the pool. The following are valid string values: <ul style="list-style-type: none"> ▪ "s2sIPsec" ▪ "s2sGre" ▪ "forwarding" ▪ ALL
greVipSubnets	Read-Write Required if Type == "S2SGRE" or "ALL"	Indicates the logical subnet from which VIPs for gateways providing "GRE" based network connections.
publicIpAddresses	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 Type is "s2sGRE".
redundantGatewayCount	Read-Write	Indicates the number of redundant gateway VMs that will be used for each virtualGateway instance to ensure its availability. For example, in a 3+1 gateway deployment, 1 will be redundant gateway count.
gatewayCapacityKiloBitsPerSecond	Read-Write	Indicates the total capacity of each gateway in the pool in kilobits per second.
Gateways	Read-Only	Indicates references to collection of gateways that comprise the gateway pool.
VirtualGateways	Read-Only	Indicate references to collection of VirtualGateways (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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.3.1.2.1 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](#), Common URI 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)
202 (Accept)
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 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.

The URI for a gateways resource is as follows:

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

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.4.1.1	Create a new gateways resource or update an existing gateways resource.
GET	section 3.1.5.4.1.2	Get one gateways resource.
GET (All)	section 3.1.5.4.1.3	List all gateways resources in the Network Controller.
DELETE	section 3.1.5.4.1.4	Delete a gateways resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
virtualGateways	Read-Only	Reference to collection of tenants' virtual gateway. This helps in enumerating the tenants that are dependent on this gateway.
configurationState	Read-only	Indicates the last known running state of this Gateway.
configurationState.status	Read-only	Indicates the last known running state of this Gateway. Possible values are – Uninitialized, InProgres, Success, Warning, Failure
configurationState.DetailedInfo	Read-only	Detail information about the status. It is NULL if status is success.
configurationState.DetailedInfo.Code	Read-only	Indicates failure code. Can take values – PolicyConfigurationFailure, HostUnreachable
configurationState.DetailedInfo.Message	Read-only	Contains an error string based on the error
configurationState.lastUpdatedTime	Read-only	Indicates the time stamp when the configuration state last changed.
virtualServer	Read-Only	Reference to the virtual server that acts as a gateway.
totalCapacity	Read-Only	Indicates total bandwidth capacity of the gateway when it was provisioned. This value indicates plain-text processing capacity. For example for a

Element name	Type	Description
		6 core VM the value will be 6 Gbps.
connections	Read-Write	Indicates a reference to collection of all the connections on the gateway.
pool	Required	Indicates a reference to the gatewayPools resource the gateway is part of.
type	Read-only	Indicates the type of pool – all, IKEv2, GRE or forwarding
bgpConfig	Read-write	Indicates the BGP peering information required for peering with ToR router for GRE Gateway.
bgpConfig.extASNumber	Read-write	Extended (4-byte) ASN of the local BGP Router in XX.YY format
bgpConfig.bgpPeer	Read-write	Indicates information of the BGP peer
bgpConfig.bgpPeer.peerIP	Read-write	IP address of the peer, in this case the ToR
bgpConfig.bgpPeer.peerExtAsNumber	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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.4.1.2.1 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-ad48-755ee9clf665"
        }
      },
      {
        "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-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.

3.1.5.4.1.3 GET (All)

Retrieves all **gateway** resources. Lists all gateway 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.

Status code
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-
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"
      }
    }
  ],
  "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](#), Common URI 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)
202 (Accept)
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 loadBalancers

The **loadBalancers** resource allows fine-grained configuration of the distribution of incoming traffic across VM instances that are hosted in a Windows Server and System Center cloud. 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 particular 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 probe 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 particular 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 URI for the **loadBalancers** resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), **resourceId**.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.1.4	Create a new loadBalancers resource or update an existing loadBalancers resource.
GET	section 3.1.5.5.1.2	Get one loadBalancers resource
GET (All)	section 3.1.5.5.1.3	List all loadBalancers resources in the Network Controller.
DELETE	section 3.1.5.5.1.1	Delete a loadBalancers resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
backendAddressPools	Optional**	Indicates the backend Address Pool of the load balancer, see backendAddressPool resource, section 3.1.5.5.2 , for full details on this element.
frontendIPConfigurations	Required	Indicates the frontend IP addresses of the load balancer, see frontEndIPConfiguration resource, section 3.1.5.5.3 , for full details on this element.
loadBalancingRules	Optional*	A list of load balancing configurations. Each configuration describes what traffic and how it gets load balanced between backend Ips.
inboundNatRules	Optional*	Indicates an array of inbound NAT rules configured for the load balancer, see inboundNatRules resource, section 3.1.5.5.4 , for full details on this element.
outboundNatRules	Optional*	Indicates an array of outbound NAT rules configured for the load balancer, see outboundNatRules resource , section 3.1.5.5.6 , for full details on this element.
probes	Optional	Indicates an array of probes configured for the load balancer, see probes resource, 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 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](#), Common URI 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)

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

3.1.5.5.1.1.1 Request Body

None.

3.1.5.5.1.1.2 Response Body

None.

3.1.5.5.1.1.3 Processing Details

Deletes a 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](#), Common URI 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)

3.1.5.5.1.2.1 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": "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",
          }
        ]
      }
    }
  ],
  "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-e0fe1f42ccel",
  "resourceId": "d2251a0d-32d2-457e-b3aa-e0fe1f42ccel",
  "etag": "W/\72fdfa3d-34f4-4c90-ae94-d97ed73c9cf7\"",
  "instanceId": "b32d0db3-13db-431a-a265-32185aa5a905",
  "properties": {
    "provisioningState": "Succeeded",
    "frontendIPConfigurations": [
      {
        "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-e0fe1f42ccel/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-
e0fe1f42ccel/inboundNatRules/d076eae7-926a-457a-a60c-0a713a02977d"
          }
        ],
        "outboundNatRules": [
          {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388"
          }
        ]
      }
    },
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/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-
e0fe1f42ccel/inboundNatRules/425eea91-5a9e-4777-b2c3-0442dfc20344"
          }
        ],
        "outboundNatRules": [
          {
            "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/outboundNatRules/f3f3291d-b26c-44d3-8d55-99b644b70388"
          }
        ]
      }
    }
  ],
  "backendAddressPools": [
    {
      "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/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-e0fe1f42cce1/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-e0fe1f42cce1/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-e0fe1f42cce1/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-e0fe1f42cce1/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-e0fe1f42cce1/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-
e0fe1f42ccel/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-
e0fe1f42ccel/frontendIPConfigurations/9f37a479-7d60-489a-aab6-d7eb2200306f"
        },
        {
          "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/frontendIPConfigurations/ab5ccbe7-2ce9-4cdf-a0da-e4e5d81479d8"
        }
      ],
      "protocol": "All",
      "backendAddressPool": {
        "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42ccel/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 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](#), Common URI 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)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

3.1.5.5.1.4.1 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-c11676fdcdc0"
        }
      ],
      "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-c11676fdcdc0"
          }
        ],
        "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](#).

3.1.5.5.1.4.2 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](#).

3.1.5.5.1.4.3 Processing Details

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

3.1.5.5.2 backendAddressPools

This 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 the resource is as follows.

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

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.2.1.1	Create a new backendAddressPools resource or update an existing backendAddressPools resource.
GET	section 3.1.5.5.2.1.2	Get one backendAddressPools resource.
GET (All)	section 3.1.5.5.2.1.3	List all backendAddressPools resources in the Network Controller.
DELETE	section 3.1.5.5.2.1.4	Delete a backendAddressPools resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
backendIPConfigurations	Read-Only	Indicates an array of references to ipConfiguration Resources. There is no restriction on having the same IP configurations in multiple backendAddressPools. An IpConfiguration can become a part of a backendAddressPool by setting a reference to a backendAddressPool resource in the loadBalancerBackendAddressPools array field on the IpConfiguration resource.
loadBalancingRules	Read-Only	Indicates an array of references to the set of loadBalancingRules resources that use this backend address pool.
outboundNatRules	Read-Only	Indicates an array of references to the set of outboundNatRules 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}/backendAddressPool/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
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](#), Common URI 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)

3.1.5.5.2.1.2.1 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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
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 frontendIpConfigurations

This 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}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.3.1.1	Create a new frontendIpConfigurations resource or update an existing frontendIpConfigurations resource.
GET	section 3.1.5.5.3.1.2	Get one frontendIpConfigurations resource
GET (All)	section 3.1.5.5.3.1.3	List all frontendIpConfigurations resources in the Network Controller
DELETE	section 3.1.5.5.3.1.4	Deletes a frontendIpConfigurations resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
inboundNatRules	Read-Only	Indicates a reference to the inboundNatRules resource used by the frontEndIpConfiguration.
loadBalancingRules	Read-Only	Indicates a reference to the loadBalancingRules resource used by the frontEndIpConfiguration.
outboundNatRules	Read-Only	Indicates a reference to the outboundNatRules resource used by the frontEndIpConfiguration.
publicIPAddress	Optional	Indicates a reference to the publicIPAddresses resource used by the frontEndIpConfiguration. If a publicIPAddress is specified, then a privateIPAddress is not specified. When a publicIPAddress is specified, the privateIpAllocationMethod is set to Dynamic.
privateIPAddress	Optional	This is only specified if a specific private IP address identifies an IP address which is statically configured for use with this

Element name	Type	Description
		<p>frontendIpConfiguration. PrivateIPAllocation method MUST be allocated static for this case.</p> <p>If a privateIPAddress is specified, a reference to a publicIPAddress cannot be specified at the same time.</p> <p>privateIPAddresses 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 subnet element.reference.</p>
privateIPAllocationMethod	Optional	Static or Dynamic
subnet	Optional	<p>Indicates a references to the subnet resource used by the frontendIpConfiguration resource. MUST be specified if a privateIPAddress is specified.</p> <p>A subnet reference to a logical network subnet is needed if the privateIpAddress is from the infrastructure address space. A subnet reference to a virtual network subnet is needed if the privateIpAddress is from a tenant address space.</p> <p>The subnet MUST include the IP address specified in privateIpAddress</p>

Either a privateIPAddress or a reference to a PublicIPAddresses MUST be specified – both of 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.

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](#), Common URI 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)
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 [6.5.5.2](#).

3.1.5.5.3.1.1.3 Processing Details

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

3.1.5.5.3.1.2 GET

This method retrieves a **frontendIpConfiguration** 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](#), Common URI 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)

3.1.5.5.3.1.2.1 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.

```
{
  "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 [6.5.5.2](#).

3.1.5.5.3.1.2.3 Processing Details

Retrieves a **frontendIpConfigurations** resource.

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](#), Common URI 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)

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 [6.5.5.3](#).

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](#), Common URI 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)
202 (Accept)
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 inboundNatRules

This resource is used to configure the load balancer to apply Network Address Translation of inbound traffic.

It is invoked through the following URI.

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

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.4.1.1	Create a new inboundNatRules resource or update an existing inboundNatRules resource.
GET	section 3.1.5.5.4.1.2	Get one inboundNatRules resource
GET (All)	section 3.1.5.5.4.1.3	List all inboundNatRules resources in the Network Controller
DELETE	section 3.1.5.5.4.1.4	Deletes a inboundNatRules resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
backendIPConfiguration	Optional	Indicates a references to backendAddressPool resource. Traffic sent to frontendPort of each of the frontendIPConfigurations is forwarded to the backend IP.
backendPort	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 different from the one that is exposed externally. Possible values range between 1 and 65535, inclusive. This parameter is required if the protocol is TCP or UDP.
frontendIPConfigurations	Required	Indicates an array of references to frontendIPConfigurations resources.

Element name	Type	Description
frontendPort	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. Possible values range between 1 and 65535, inclusive. This parameter must be specified if protocol is TCP or UDP.
protocol	Required	Indicates the inbound transport protocol for the external endpoint. Valid values include UDP TCP GRE ESP ALL. ALL indicates a wildcard.

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](#), Common URI 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)
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](#), Common URI 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)

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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
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 a inboundNatRules resource.

3.1.5.5.5 loadBalancingRules

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.

It is invoked through the following URI.

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

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.5.1.1	Create a new loadBalancingRules resource or update an existing loadBalancingRules resource.
GET	section 3.1.5.5.5.1.2	Get one loadBalancingRules resource
GET (All)	section 3.1.5.5.5.1.3	List all loadBalancingRules resources in the Network Controller

HTTP method	Section	Description
DELETE	section 3.1.5.5.1.4	Deletes a loadBalancingRules resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
backendAddressPool	Optional	Indicates an array of references to a backendAddressPool resource. Inbound traffic is randomly load balanced across IPs in the backend pool.
backendPort	Optional	Indicates the 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 different from the one that is exposed externally. If not specified, the value of localPort is the same as the port attribute. Set the value of localPort to "*" 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.
frontendIPConfigurations	Required	Indicates an array of references to frontendIpAddress resources.
frontendPort	Optional	Indicates the port for the external endpoint. Possible values range between 1 and 65535, inclusive. This value MUST be unique for the loadbalancer resource. This parameter is required if the protocol is TCP or UDP.
idleTimeoutInMinutes	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.
protocol	Required	Indicates the inbound transport protocol for the external endpoint. Valid values include UDP TCP GRE ESP ALL.
probe	Optional	Indicates a reference to the probe resource used by this loadBalancingRule.
EnableFloatingIP	Optional	This specifies that a floating IP will be used on the available servers behind a load balancer. Floating IP (VIP) will be forwarded by the load balancer 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.
LoadDistribution	Optional	This specifies the load balancing distribution type to be used by the load balancer. The loadBalancer uses a distribution algorithm which is a 5 tuple (source IP,

Element name	Type	Description
		<p>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 particular 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 SourceIPProtocol, connections initiated from the same client computer goes to the same datacenter IP endpoint.</p> <p>Default – The load balancer is configured to use a 5 tuple hash to map traffic to available servers</p> <p>SourceIP – The load balancer is configured to use a 2 tuple hash to map traffic to available servers</p> <p>SourceIPProtocol – The load balancer is configured to use a 3 tuple hash to map traffic to available servers</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](#), Common URI 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)
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 Processing Details

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

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](#), Common URI 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)

3.1.5.5.5.1.2.1 Request Body

None.

3.1.5.5.5.1.2.2 Response Body

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

```
{
  "resourceRef": "/loadBalancers/d2251a0d-32d2-457e-b3aa-
e0fe1f42cce1/loadBalancingRules/6339de0b-5730-4057-b2ee-37e90d3e4470",
  "resourceId": "6339de0b-5730-4057-b2ee-37e90d3e4470",
  "etag": "W/\"87c5f43a-3d37-4955-b6ba-bc3037fcfefed\"",
  "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"
  }
}
```

The JSON schema for the **loadBalancingRules GET** method is located in section [6.5.7.2](#).

3.1.5.5.5.1.2.3 Processing Details

Retrieves a **loadBalancingRules** resource.

3.1.5.5.5.1.3 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](#), Common URI 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)

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

3.1.5.5.5.1.3.1 Request Body

None.

3.1.5.5.5.1.3.2 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-bc3037fcfefd\"",
      "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](#).

3.1.5.5.5.1.3.3 Processing Details

Retrieves all loadBalancingRules resources.

3.1.5.5.5.1.4 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](#), Common URI 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)
202 (Accept)
204 (No Content)
412 (Precondition Failed)

3.1.5.5.5.1.4.1 Request Body

None.

3.1.5.5.5.1.4.2 Response Body

None.

3.1.5.5.5.1.4.3 Processing Details

Deletes a loadBalancingRules resource.

3.1.5.5.6 outboundNatRules

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

The URI for the resource is as follows.

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

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.6.1.1	Create a new outboundNatRules resource or update an existing outboundNatRules resource.
GET	section 3.1.5.5.6.1.2	Get one outboundNatRules resource
GET (All)	section 3.1.5.5.6.1.3	List all outboundNatRules resources in the Network Controller
DELETE	section 3.1.5.5.6.1.4	Delete an outboundNatRules resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
frontendIPConfigurations	Required	Indicates an array of frontendIpConfigurations resources. Indicates an array of references to frontendIpAddress resources.
backendAddressPool	Required	Indicates a reference to the backendAddressPool resource. This is the pool of IP addresses where outbound traffic originates.
protocol	Required	Protocol for outbound traffic. For transparent outbound NAT specify "all". Valid values include TCP UDP GRE ESP All

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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.5.6.1.2.1 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](#), Common URI 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)

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-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"
        }
      }
    }
  ],
  "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](#), Common URI 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)
202 (Accept)

Status code
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 probes

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

The URI for the resource is as follows.

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

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.5.7.1.1	Create a new probes resource or update an existing probes resource.
GET	section 3.1.5.5.7.1.2	Get one probes resource
GET (All)	section 3.1.5.5.7.1.3	List all probes resources in the Network Controller
DELETE	section 3.1.5.5.7.1.4	Deletes a probes resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
intervalInSeconds	Optional	Indicates the interval, in seconds, for how frequently to probe the endpoint for health status. Typically, the interval is slightly less than half the allocated timeout period (in seconds) which allows two full

Element name	Type	Description
		probes before taking the instance out of rotation. The default value is 15, the minimum value is 5.
loadBalancingRules	Read-Only	Indicates an array of references to loadBalancingRule resources that use this probe.
numberOfProbes	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.
protocol	Required	Indicates the protocol of the end point. Valid values are HTTP 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.
port	Required	Indicates the port for communicating the probe. Possible values range from 1 to 65535, inclusive.
requestPath	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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.5.7.1.2.1 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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
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 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
```

The following HTTP methods can be performed on this resource.

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

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
loadBalancerManagerIPAddress	Required	The IP address of the load balancer service. This is part of one of the frontendIPpools as specified in the frontendIPPool element in this resource.
outboundNatIPExemptions	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. NOTE: There is no validation that these IP addresses are known by the network controller
vipIpPools	Required	An array of references to ipPool resource 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 vipPools configured on the loadbalancerManager resource.

In any update removal of an IpPool reference from vipIpPools must only be attempted when no loadbalancers reference IP addresses from that pool in their frontendIpConfiguration and no PublicIPs 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 IPAddress 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)
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": "000000000-0000-0000-0000-000000000000",
  "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 loadBalancerMux

The **loadBalancerMux** resource represents a MUX VM deployed in the Network Controller's stamp.

It is invoked through the following URI.

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

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.6.1.1	Create a new loadBalancerMux resource or update an existing loadBalancerMux resource.
GET	section 3.1.5.7.1.2	Get one loadBalancerMux resource.
GET (All)	section 3.1.5.7.1.3	List all loadBalancerMux resources in the Network Controller.
DELETE	section 3.1.5.7.1.4	Delete a loadBalancerMux resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
connections[]	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.

Element name	Type	Description
connections.credential	Optional	Indicates a reference to a credential resource that can be used to connect to the device for management purposes.
connections.credentialType	Optional	Indicates the type of credential, e.g. X509Certificate or UsernamePassword.
connections.managementAddresses	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.
routerConfiguration	Required	Provides the BGP router configuration to the MUX to ensure it peers with the datacenter routing infrastructure and properly advertises routes.
routerConfiguration.localASN	Required	Is the BGP autonomous system number of the MUX
routerConfiguration.peerRouterConfigurations	Required	The BGP settings the MUX uses to establish and maintain BGP peering with one or more peers.
routerConfiguration.peerRouterConfigurations.routerName	Required	The friendly name of the peer router.
routerConfiguration.peerRouterConfigurations.peerAsn	Required	The BGP autonomous system number of the peer.
routerConfiguration.peerRouterConfigurations.routerIpAddress	Optional	The IPv4 address of the local interface on the Mux from which peering to BGP will be established. If this is not specified, peering is attempted from the management interface on the mux. If a localIpAddress is specified on a router configuration, the same localIpAddress must be specified for every other router configuration in a given Mux resource..
virtualServer	Required	Indicates a reference to the virtualServer resource that the loadbalancer mux runs on.

3.1.5.7.1 HTTP Methods

3.1.5.7.1.1 PUT

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

It is invoked through the following URI.

```
https://<url>/networking/v1/loadBalancerMux/{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 **loadBalancerMux PUT** method is as follows.

```
{
  "resourceRef": "/loadBalancerMuxes/",
  "resourceId": "Mux-0",
  "instanceId": "00000000-0000-0000-0000-000000000000",
  "properties": {
    "provisioningState": "Succeeded",
    "routerConfiguration": {
      "localASN": 2,
      "peerRouterConfigurations": [
        {
          "routerName": "BGPGateway-0",
          "routerIPAddress": "192.169.0.1",
          "peerASN": 1,
          "id": "00000000-0000-0000-0000-000000000000"
        }
      ]
    },
    "virtualServer": {
      "resourceRef": "/virtualServers/b25c83dd-edb9-407d-b54e-27399db3dc70"
    },
    "connections": [
      {
        "managementAddresses": [
          "195.171.120.21",

```

```

        "hmv-test22"
      ],
      "credential": {
        "resourceRef": "/credentials/hmv-test22-credentials"
      },
      "credentialType": "usernamePassword",
      "protocol": "tcp",
      "port": "2003"
    }
  ]
}
}
}

```

The JSON schema for the **loadBalancerMux PUT** method is located in section [6.7.1](#).

3.1.5.7.1.1.2 Response Body

The format for the **loadBalancerMux PUT** response body is the same as the format for the **loadBalancerMux 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 **loadBalancerMux** resource or update an existing **loadBalancerMux** resource.

3.1.5.7.1.2 GET

This method retrieves a **loadBalancerMux** resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.7.1.2.1 Request Body

None.

3.1.5.7.1.2.2 Response Body

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

```

{
  "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 **loadBalancerMux GET** method is located in section [6.7.2](#).

3.1.5.7.1.2.3 Processing Details

Retrieves a **loadBalancerMux** resource.

3.1.5.7.1.3 GET (All)

This method retrieves all **loadBalancerMux** resources.

It is invoked through the following URI.

```
https://<url>/networkng/v1/loadBalancerMux
```

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 **loadBalancerMux GET ALL** method is an array of resources similar to what **loadBalancerMux 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 **loadBalancerMux GET** method is located in section [6.7.3](#).

3.1.5.7.1.3.3 Processing Details

Retrieves all **loadBalancerMux** resources.

3.1.5.7.1.4 DELETE

This method deletes a **loadBalancerMux** resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 **loadBalancerMux** resource.

3.1.5.8 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.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.8.1.1	Create a new logicalNetworks resource or update an existing logicalNetworks resource.
GET	section 3.1.5.8.1.2	Get one logicalNetworks resource
GET (All)	section 3.1.5.8.1.3	List all logicalNetworks resources in the Network Controller
DELETE	section 3.1.5.8.1.4	Deletes a logicalNetworks resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
subnets	Optional	Indicates the subnets that are contained in the logical network. See the logicalSubnets resource, section 3.1.5.8.2 , for full details on this element.
networkVirtualizationEnabled	Optional	Indicates if the network is enabled to be the Provider Address network for one or more virtual networks. Valid values are True False. The default is false.
virtualNetworks	Read-Only	Indicates an array of virtualNetwork 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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.8.1.2.1 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/lb0993ad-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/lb0993ad-9690-4f26-9a99-
f4ee1d101c52/subnets/lsubnet1/routes/lroute1",
          "resourceId": "lroute1",
          "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](#), Common URI 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)
202 (Accept)
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 logicalSubnets

The **logicalSubnets** resource consists of a subnet/VLAN pair. The vlan 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 logicalSubnet MUST be contained within the logical subnet.

The URI for the resource is as follows.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/logicalSubnets/{resourceId}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.8.2.1.1	Create a new logicalSubnets resource or update an existing logicalSubnets resource.
GET	section 3.1.5.8.2.1.2	Get one logicalSubnets resource
GET (All)	section 3.1.5.8.2.1.3	List all logicalSubnets resources in the Network Controller
DELETE	section 3.1.5.8.2.1.4	Deletes a logicalSubnets resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
addressPrefix	Read/Write	Identifies the subnet id in form of ipAddress/prefixlength
vlanId	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 logicalSubnets.
routes	Read/Write (Optional)	Indicates the routes that are contained in the logical subnet. See the routes resource, section 3.1.5.8.2.3 , for full details on this element.
ipPools	Read/Write (Optional)	Indicates the IP Pools that are contained in the logical subnet. See the ipPools resource, section 3.1.5.8.2.2 , for full details on this element.
dnsServers	Read/Write (Optional)	Indicates one or more DNS servers that are used for resolving DNS queries by devices or host connected to this logical subnet.
networkInterfaces	Read-Only	Indicates an array of references to networkInterfaces resources that are attached to the logical subnet.
isPublic	Read/Write	Boolean flag specifying whether the logical subnet is a public subnet
defaultGateways	Read/Write	A collection of one or more gateways for the subnet.

3.1.5.8.2.1 HTTP Methods

3.1.5.8.2.1.1 PUT

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

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/logicalSubnets/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
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 **logicalSubnets 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 **logicalSubnets 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 **logicalSubnets PUT** response body is the same as the format for the **logicalSubnets 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 logicalSubnets resource or update an existing logicalSubnets resource.

3.1.5.8.2.1.2 GET

This method retrieves a **logicalSubnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/logicalSubnets/{resourceId}
}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.8.2.1.2.1 Request Body

None.

3.1.5.8.2.1.2.2 Response Body

The format for the response body for the **logicalSubnets 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 **logicalSubnets 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 **logicalSubnets** resource.

3.1.5.8.2.1.3 GET (All)

This method retrieves all **logicalSubnets** resources.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/logicalSubnets
```

The query parameters are specified in section [2.2.3](#), Common URI 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)

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 **logicalSubnets 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 **logicalSubnets 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 logicalSubnets resources.

3.1.5.8.2.1.4 DELETE

This method deletes a **logicalSubnets** resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/logicalNetworks/{parentResourceId}/logicalSubnets/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 logicalSubnets resource.

3.1.5.8.2.2 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 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 the resource is as follows.

```
https://<url>/networking/v1/logicalNetworks/{grandparentResourceId}/logicalSubnets/{parentResourceId}/ipPools/{resourceId}
```

grandParentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.1](#), grandParentResourceId.

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](#), parentResourceId.

resourceId: the identifier for the specific resource within the resource type that is the descendant of the parentResource. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.8.2.2.1.1	Create a new ipPools resource or update an existing ipPools resource.
GET	section 3.1.5.8.2.2.1.2	Get one ipPools resource
GET (All)	section 3.1.5.8.2.2.1.3	List all ipPools resources in the Network Controller
DELETE	section 3.1.5.8.2.2.1.4	Deletes an ipPools resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
startIPAddress	Required/Read-Write	Start IP address of the pool. Note: This is an inclusive value so it is a valid IP address from this pool.
endIPAddress	Required/Read-Write	End IP address of the pool. Note: This is an inclusive value so it is a valid IP

Element name	Type	Description
		address from this pool.
usage	Read-Only	Statistics of the usage of the IP pool
usage.numberOfIPAddresses	Read-Only	Total number of IP Addresses in the IP pool
usage.numberOfIPAddresses Allocated	Read-Only	Number of allocated IP addresses in the IP pool
usage.numberOfIPAddresses InTransition	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}/logicalSubnets/{parentResourceId}/ipPools/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
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>/networking/v1/networks/{grandparentResourceid}/logicalSubnets/{parentResourceid}/ipPools/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.8.2.2.1.2.1 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/networks/{grandparentResourceid}/logicalSubnets/{parentResourceid}/ipPools

```

The query parameters are specified in section [2.2.3](#), Common URI 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)

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/networks/{grandparentResourceid}/logicalSubnets/{parentResourceid}/ipPools/{resourceId}

```

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 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 the resource is as follows.

```
https://<url>/networking/v1/logicalNetworks/{grandparentResourceId}/logicalSubnets/{parentResourceId}/routes/{resourceId}
```

grandParentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.1](#), resourceId.

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](#), resourceId.

resourceId: the identifier for the specific resource within the resource type that is the descendant of the parentResource. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.8.2.3.1.1	Create a new routes resource or update an existing routes resource.
GET	section 3.1.5.8.2.3.1.2	Get one routes resource
GET (All)	section 3.1.5.8.2.3.1.3	List all routes resources in the Network Controller
DELETE	section 3.1.5.8.2.3.1.4	Delete a routes resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
destination	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. Ex. 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.
nextHop	Required	Indicates the next hop IP address for this route. 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}/logicalSubnets/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
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}/logicalSubnets/{parentResourceId}/routes/{resourceId}
```

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.8.2.3.1.2.1 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}/logicalSubnets/{parentResourceId}/routes
```

The query parameters are specified in section [2.2.3](#), Common URI 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)

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}/logicalSubnets/{parentResourceId}/routes/{resourceId}`

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 macPools

The **macPools** resource specifies a range of MAC addresses which are used internally by the Network Controller service modules and are plumbed down to the hosts for items such as Host vNICs.

The MAC address pool resource is a global resource used internally by the Network Controller for various service modules in both CA and PA space including VNET, VSM, and GWM. Specifically, these MAC pools are used for the PA Host vNIC(s), the HNV Distributed Router (DR) Host vNIC (used for health probes), and the HNV Virtual MAC (to route traffic to the HNV Distributed Router).

The MAC pool range is a proper subset from the overall MAC pool used for tenant VMs (CA MAC).

If more than one MAC pool is created by the admin, the ASM service module in the Network Controller MUST determine which MAC to allocate from for the requesting service module (e.g. Vnet). After a MAC pool has been created, the pool cannot be extended or shrunk. MACs from the pool will not be reassigned.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

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.

IP subnets in the same logical network MUST not overlap. An IP subnet MUST not span across multiple VLANs within a logical network. All next hops in the routes resource (as specified in section [3.1.5.8.2.3](#)) MUST be within the logical subnet.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.9.1.1	Create a new macPools resource or update an existing macPools resource.
GET	section 3.1.5.9.1.2	Get one macPools resource
GET (All)	section 3.1.5.9.1.3	List all macPools resources in the Network Controller
DELETE	section 3.1.5.9.1.4	Deletes a macPools resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
startMacAddress	Required/Read-Write	This is a string in the form of "AA-BB-CC-DD-EE-FF"
endMacAddress	Required/Read-Write	This is a string in the form of "UU-VV-WW-XX-YY-ZZ"
usage	Read-Only	Usage statistics of the MAC address pool
usage.numberOfMacAddresses	Read-Only	Number of MAC addresses in the address pool
usage.numberOfMACAddressesAllocated	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](#), Common URI 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)
201 (Created)
412 (Precondition Failed)
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](#), Common URI 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)

3.1.5.9.1.2.1 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": "47a5ea1e-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](#), Common URI 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)
202 (Accept)
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 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 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 of the computer on which the Network Controller is running.

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Description
PUT	Create a new routeTables resource or update an existing routeTables resource.
GET	Get one routeTables resource
GET ALL	List all routeTables resources in the Network Controller
DELETE	Deletes a routeTables resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
routes	Optional	Indicates the routes in a route table, see routes resource for full details on this element.
subnets	Read-Only	Indicates an array of references to subnets 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](#), Common URI 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)
201 (Created)

Status code
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](#), Common URI 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)

Status code
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](#), Common URI 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)

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 and can be invoked through the following URIs:

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 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 of the computer on which the Network Controller is running.

parentResourceId: the identifier for the specific ancestor resource within the resource type. See [2.2.3.3](#), `parentResourceId`.

resourceId: the identifier for the specific descendant resource within the resource type. See [2.2.3.4](#), `resourceId`.

The following HTTP methods can be performed on this resource.

HTTP method	Description
PUT	Create a new routes resource or update an existing routes resource.
GET	Get one routes resource
GET ALL	List all routes resources in the Network Controller
DELETE	Deletes a routes resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.
provisioningState	Read-Only	See the description in the Common JSON Elements page.
addressPrefix	Required	The destination CIDR to which the route applies, such as 10.1.0.0/16
nextHopType	Required	The type of hop to which the packet is sent. Valid values are <code>VirtualAppliance</code> <code>VnetLocal</code> <code>VirtualNetworkGateway</code> <code>Internet</code> <code>None</code> <code>VirtualAppliance</code> represents a virtual appliance VM within the tenant virtual network. <code>VnetLocal</code> represents the local virtual network. <code>VirtualNetworkGateway</code> represents a virtual network gateway. <code>Internet</code> represents the default internet gateway. <code>None</code> represents a black hole. Packets forwarded to a black hole will not be forwarded out of it.
nextHopIpAddress	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 routes where the next hop type is <code>VirtualAppliance</code> and this value MUST be specified when the next hop type is <code>VirtualAppliance</code> .

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](#), Common URI 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)
202 (Accept)
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](#), Common URI 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)

3.1.5.10.2.1.2.1 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](#), Common URI 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)

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.

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 networkInterfaces

The **networkInterfaces** resource specifies the configuration of either a host virtual interface (host vNIC) or a virtual server NIC (VMNIC).

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), **resourceId**.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.11.1.1	Create a new networkInterfaces resource or update an existing networkInterfaces resource.

HTTP method	Section	Description
GET	section 3.1.5.11.1.2	Get one networkInterfaces resource
GET (All)	section 3.1.5.11.1.3	List all networkInterfaces resources in the Network Controller
DELETE	section 3.1.5.11.1.4	Delete a networkInterfaces resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
dnsSettings		Indicates the DNS settings of this network interface.
dnsSettings.dnsServers		Indicates an array of IP Addresses that this network interface resource will use for the DNS servers.
ipConfigurations		Indicates an array of IP configurations that are contained in the network interface. See the ipConfigurations resource, section 3.1.5.11.2 , for full details on this element.
isHostVirtualNetworkInterface		True – this is a host virtual interface (host vNIC) False – this is a virtual server NIC (VMNIC).
isMultitenantStack		True – Allows the NIC to be part of multiple virtual networks False – the opposite (this is the default)
server	Read-Only	Indicates a reference to the servers resource for the machine that is currently hosting the virtual machine to which this network interface belongs.
portSettings		See table below
privateMacAddress		Indicates the private MAC address of this network interface.
privateMacAllocationMethod		Indicates the allocation scheme of the MAC for this network interface. Valid values are Static dynamic.
serviceInsertionElements	Read-Only	Indicates an array of serviceInsertions resources that this networkInterfaces resource is part of.

Port Settings

Element name	Type	Description
macSpoofing	Optional	Specifies whether virtual machines can change the source MAC address in outgoing packets to one not assigned to them. Allowed values are "enabled" (allowing the virtual machine to use a different MAC address) and "disabled" (allowing the virtual machine to use only the MAC address assigned to it).

Element name	Type	Description
arpGuard	Optional	Specifies whether ARP guard is enabled or not. ARP guard will allow only addresses specified in ArpFilter to pass through the port. Allowed values are "enabled" or "disabled".
dhcpGuard	Optional	Specifies whether to drop DHCP messages from a virtual machine claiming to be a DHCP server. Allowed values are "enabled", which drops DHCP messages because the virtualized DHCP server is considered untrusted) or "disabled", which allows the message to be received because the virtualized DHCP server is considered to be trustworthy.
stormLimit	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 (0) means there is no limit.
portFlowLimit	Optional	Specifies the maximum number of flows that can be executed for the port. A value of blank or zero (0) means there is no limit
vmqWeight	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.
ioVWeight	Optional	Specifies whether single-root I/O virtualization (SR-IOV) is to be enabled on this virtual network adapter. The relative weight sets 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.
ioVInterruptModeration	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". If Default is chosen, the value is determined by the physical network adapter vendor's setting. If Adaptive is chosen, the interrupt moderation rate will be based on the runtime traffic pattern.
ioVQueuePairsRequested	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.
QoSSettings	Optional	The following QoS Settings can be configured; all are optional: outboundReservedValue: If outboundReservedMode is "absolute" then the value indicates the bandwidth, in Mbps, guaranteed to the virtual port for transmission (egress). If outboundReservedMode is "weight" then the value indicates the weighted portion of the bandwidth guaranteed.

Element name	Type	Description
		<p>outboundMaximumMbps: Indicates the maximum permitted send-side bandwidth, in Mbps, for the virtual port (egress).</p> <p>InboundMaximumMbps: Indicates the maximum permitted receive-side bandwidth for the virtual port (ingress) in Mbps.</p>

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](#), Common URI 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)
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 [6.11.2](#).

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](#), Common URI 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)

3.1.5.11.1.2.1 Request Body

None.

3.1.5.11.1.2.2 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-df18d4fcfcc7",
  "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-c1affee9de58",
            "resourceId": "9ff17bd3-dfe1-424c-80c9-c1affee9de58",
            "properties": {}
          },
          "accessControlList": {
            "resourceRef": "/accessControlLists/454cf89c-c545-43e4-95d1-6a26898cdd02",
            "resourceId": "454cf89c-c545-43e4-95d1-6a26898cdd02",
            "properties": {}
          },
          "loadBalancerBackendAddressPools": [],
          "loadBalancerInboundNatRules": []
        }
      }
    ],
    "dnsSettings": {},
    "privateMacAddress": "00155D52E711",
    "privateMacAllocationMethod": "Static",
    "serviceInsertionElements": [],
    "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 [6.11.2](#).

3.1.5.11.1.2.3 Processing Details

Retrieves a **networkInterfaces** resource.

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 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": [],
        "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": [],
        "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-4a51-8696-7b5c0ed1ale3",
                "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": [],
"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-beb1-3688652d34a4",
  "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-e14507c1a935/backendAddressPools/070493a5-3929-4292-80b5-0fdff61f8d39"
      }
    ],
    "loadBalancerInboundNatRules": []
  }
},
"dnsSettings": {},
"privateMacAddress": "00FFFF0033D3",
"privateMacAllocationMethod": "Static",
"serviceInsertionElements": [],
"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-7a9ae1f6492d",
  "resourceId": "5508df81-a766-48d9-a42d-7a9ae1f6492d",
  "etag": "W/\"cda45dd0-9d32-44cf-af5f-deb74a246c62\"",
  "instanceId": "8372e129-0b4f-43f1-96f7-4bd49b3e6192",
  "properties": {
    "provisioningState": "Succeeded",
    "ipConfigurations": [
      {
        "resourceRef": "/networkInterfaces/5508df81-a766-48d9-a42d-7a9ae1f6492d/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-
fclb933a1457/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": [],
"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-ASql02"
        },
        "loadBalancerBackendAddressPools": [],
        "loadBalancerInboundNatRules": []
      }
    }
  ],
  "dnsSettings": {},
  "privateMacAddress": "00FFFF003346",
  "privateMacAllocationMethod": "Static",
  "serviceInsertionElements": [],
  "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-d698-4278-8bc9-521bde580ec5",
    "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": [],
  "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": [],
"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": "2016-06-10T17:03:38.066241-07:00",
    "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": [],
"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": []
  }
},
"privateMacAddress": "00FFFF00DD4F",
"privateMacAllocationMethod": "Static",
"serviceInsertionElements": [],
"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": [],
"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-a606-36b9fe111e80",
        "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": [],
"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"
},
"isMultitenantStack": false
},
{
  "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": [],
  "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": [],
        "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 [6.11.3](#).

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](#), Common URI 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)
202 (Accept)
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 ipConfigurations

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.

It is invoked through the following URI.

```
https://<url>/networking/v1/networkInterfaces/{parentResourceId}/ipConfigurations/{resourceId}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), **parentResourceId**.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), **resourceId**.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.11.2.1.1	Create a new ipConfigurations resource or update an existing ipConfigurations resource.
GET	section 3.1.5.11.2.1.2	Get one ipConfigurations resource
GET (All)	section 3.1.5.11.2.1.3	List all ipConfigurations resources in the Network Controller
DELETE	section 3.1.5.11.2.1.4	Deletes an ipConfigurations resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
accessControlList	Optional	Indicates a reference to an accessControlList resource that defines the ACLs in and out of the IP Configuration.
loadBalancerBackendAddressPool	Optional Read-Only	Reference to backendAddressPools child resource of loadBalancers resource
loadBalancerInboundNatRules	Optional	Reference to inboundNatRules child resource of

Element name	Type	Description
		loadBalancers resource
privateIpAddress	Optional	Indicates the private IP address of the IP Configuration.
publicIpAddress	Optional	Indicates the public IP address of the IP Configuration.
serviceInsertion	Optional	Indicates a reference to a serviceInsertion resource that defines the service insertion in and out of the IP Configuration.
subnet	Read-Only	Indicates a reference to the subnet resource that the IP Configuration is connected to.

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](#), Common URI 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)
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 [6.11.4.1](#).

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](#), Common URI 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)

3.1.5.11.2.1.2.1 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/lcd5d838-b574-4bcb-b6ac-9db3fc5e5f4d"
      }
    ],
    "loadBalancerInboundNatRules": []
  }
}
```

The JSON schema for the **ipConfigurations GET** method is located in section [6.11.4.1](#).

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](#), Common URI 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)

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/c1fe8acf-cf68-45f0-bc70-f9a1cd8d3953",
      "resourceId": "c1fe8acf-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 [6.11.4.2](#).

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](#), Common URI 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)
202 (Accept)
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 operations

The **operations** resource provides the status of a specific asynchronous operation. The URL for a specific operations resource is returned in the 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}
```

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.12.1	Get an operations resource

See Asynchronous Operations, section [1.3.2](#), for more details on its usage.

The following property elements are valid:

Element name	Type	Description
Status	Read-Only	This is the status of the operations. The following are valid values "InProgress Succeeded Failed Canceled".
error	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".
error.code	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 error response.
error.message	Read-Only	Indicates the error message provided to the caller. This is used in diagnosing what caused the error. This will always be returned in case of an error response.
error.details	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 error response content if it is not returned.
error.details.code	Read-Only	Indicates the detailed error code of the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.target	Read-Only	Indicates the target of the detailed error message in the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.message	Read-Only	Indicates the detailed message of the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.innerError	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](#), Common URI 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)

3.1.5.12.1.1.1 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 operationResults

The **operationsResults** 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.

The URI for the resource is as follows

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.13.1	Get an operationResults resource.

See Asynchronous Operations, section [1.3.2](#), for more details on its usage.

The following property elements are valid:

Element name	Type	Description
Status	Read-Only	This is the status of the operations. The following are valid values "InProgress Succeeded Failed Canceled" .
error	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".
error.code	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 error response.
error.message	Read-Only	Indicates the error message provided to the caller. This is used in diagnosing what caused the error. This will always be returned in case of an error response.
error.details	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 error response content if it is not returned.
error.details.code	Read-Only	Indicates the detailed error code of the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.target	Read-Only	Indicates the target of the detailed error message in the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.message	Read-Only	Indicates the detailed message of the error response. It is ideal for diagnostics if this code is returned but it will not always be returned. It will not be in the error response content if it is not returned.
error.details.innerError	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](#), Common URI 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)

3.1.5.13.1.1.1 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 publicIpAddresses

The **publicIpAddress** resource specifies an IP Address which is publically available. This **publicIpAddress** resource is used by the **virtualGateways** resource and the **loadBalancers** resource to indicate the IP Address that can be used to communicate with the virtual network from outside it.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.14.1.1	Create a new publicIpAddresses resource or update an existing publicIpAddresses resource.
GET	section 3.1.5.14.1.2	Get one publicIpAddresses resource.
GET (All)	section 3.1.5.14.1.3	List all publicIpAddresses resources in the Network Controller.
DELETE	section 3.1.5.14.1.4	Delete a publicIpAddresses resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
ipAddress	Optional	IP address which is allocated. The caller can pass in a specific public IP address to be allocated or leave it empty.
publicIpAllocationMethod	Optional	Dynamic Static In case of static publicIpAllocationMethod, ipAddress property needs to be passed indicating the specific public IP address which needs to be allocated. In case of Dynamic publicIpAllocationMethod, the ipAddress property is not meaningful in a PUT (allocation request). In case of Dynamic, any free public IP address will be allocated to the caller.
dnsRecord	Optional	Properties of a DNS record associated with this public IP address.
IdleTimeoutInMinutes	Optional	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.
ipConfiguration	Read-Only	Reference to an ipConfigurations resource. Relative URI of the private IP address with which this public IP is associated. Private ip can be defined on NIC, loadBalancers, or gateways.

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](#), Common URI 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)
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}",
  "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": "generated-guid",
    "provisioningState": "Updating|Deleting|Failed|Succeeded|Cancelled",
    "ipAddress": "203.0.113.1", // the given IP address
    "publicIPAllocationMethod": "Static|Dynamic",
    "dnsRecord":
    {
      "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 [6.12.2](#).

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 an **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](#), Common URI 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)

3.1.5.14.1.2.1 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 [6.12.2](#).

3.1.5.14.1.2.3 Processing Details

Retrieves a **publicIpAddresses** resource.

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 [6.12.3](#).

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](#), Common URI 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)
202 (Accept)
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 servers

The server resource represents a physical server that is being controlled by the Network Controller. The network controller controls all of the physical servers that the client adds to the network.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.15.1.1	Create a new servers resource or update an existing servers resource.
GET	section 3.1.5.15.1.2	Get one servers resource
GET (All)	section 3.1.5.15.1.3	List all servers resources in the Network Controller
DELETE	section 3.1.5.15.1.4	Deletes a servers resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
connections		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.
connections.credential		Reference to a credential resource that can be used to connect to the device for management purposes.
connections.credentialType		See credentials, section 3.1.5.2 .
connections.managementAddresses		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.
model	Optional	Model number of server.
networkInterfaces[]	Optional	An array of network interfaces this server has. See the networkInterfaces resource, section 3.1.5.15.2 , for more details. These networkInterfaces 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.
os	Optional	Identifies the operating system running on the server.
rackSlot	Optional	Indicates the slot in the rack in which the server has been plugged.
serial	Optional	Indicates the serial number of the server.
vendor	Optional	Indicates the name of the server's vendor.
certificate		The encoded representation of the certificate that the Network Controller accepts when the server (host) represented by this REST resource connects to the controller.

3.1.5.15.1 HTTP Methods

3.1.5.15.1.1 PUT

This method creates a new server resource or updates an existing server resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
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 **server 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 **server 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 **server GET** response body (section [3.1.5.15.1.2.2](#)). The JSON schema is located in section [6.13.2](#).

3.1.5.15.1.1.3 Processing Details

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

3.1.5.15.1.2 GET

This method retrieves a server resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.15.1.2.1 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 [6.13.2](#).

3.1.5.15.1.2.3 Processing Details

Retrieves a server resource.

3.1.5.15.1.3 GET (All)

This method retrieves all server 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-a791-4bcl-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 [6.13.3](#).

3.1.5.15.1.3 Processing Details

Retrieves all server resources.

3.1.5.15.1.4 DELETE

This method deletes a server resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 server resource.

3.1.5.15.2 networkInterfaces

This resource represents a physical NIC on the host device.

The URI for the resource is as follows.

```
https://<url>/networking/v1/servers/{parentResourceId}/networkInterfaces/{resourceId}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.15.2.1.1	Create a new networkInterfaces resource or update an existing networkInterfaces resource.
GET	section 3.1.5.15.2.1.2	Get one networkInterfaces resource
GET (All)	section 3.1.5.15.2.1.3	List all networkInterfaces resources in the Network Controller
DELETE	section 3.1.5.15.2.1.4	Deletes a networkInterfaces resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
adminStatus	Optional	Indicates the adminStatus of the network interface.
interfaceIndex	Optional	Indicates the interface index of the network interface.
interfaceName	Optional	Indicates the name of the network interface.
interfaceSpeed	Optional	Indicates the speed of the network interface.
IpConfiguration	Optional	Indicates an array of IP configurations
IpConfiguration.ipAddress	Optional	IP address of the interface
IpConfiguration.networkPrefix	Optional	Network prefix associated with the interface IP address
IpConfiguration.defaultGateway	Optional	Default gateway associated with the interface
IpConfiguration.vlans	Optional	VLAN IDs associated with the IP address on the interface
IpConfiguration.isDhcpEnabled	Optional	Boolean flag indicating whether the IP address has been obtained using DHCP. True is IP address has been obtained using DHCP and false otherwise. Default is false.
logicalSubnets	Read-Only	Indicates an array of logicalSubnets resource that the network interface is connected to.
mac	Optional	Indicates the MAC address of the network interface.
operationalStatus	Optional	Indicates the operational status of the network interface.
vlanIds	Optional	Indicates the ID of the VLANs that the network interface is connected to.
isBMC	Optional	Boolean flag to indicate whether the interface is a BMC interface. This is 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](#), Common URI 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)
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 [6.13.2](#).

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](#), Common URI 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)

3.1.5.15.2.1.2.1 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 [6.13.2](#).

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](#), Common URI 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)

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 [6.13.3](#).

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](#), Common URI 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)
202 (Accept)
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 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}
```

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), **resourceId**.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.16.1.1	Create a new ServiceInsertions resource or update an existing ServiceInsertions resource.

HTTP method	Section	Description
GET	section 3.1.5.16.1.2	Get one ServiceInsertions resource
GET (All)	section 3.1.5.16.1.3	List all ServiceInsertions resources in the Network Controller
DELETE	section 3.1.5.16.1.4	Deletes a ServiceInsertions resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2, Common JSON Elements.
ipConfiguration	Read-Only	Indicate references to ipConfigurations resource this access control list is associated with.
priority	Required	Indicates the relative order in which the policies are processed. Priorities must be unique, and a PUT will fail if policies with duplicate priorities are specified.
type	Required	Indicate the type of service insertion. Valid value is PortMirror.
rules	Optional	Indicates an array of rules used to define what traffic will go through the service insertion.
rules.protocol	Optional	Indicates the protocol to match for this rule. Valid values are TCP UDP *. * indicates the rule will match for all protocols.
rules.sourcePortStart	Required	Indicates the starting source port to match. This value must be between 0 and 65535. Specify 0 to indicate any port.
rules.sourcePortEnd	Optional	Indicates the end of range of source ports to match. This value must be greater than the sourcePortStart element. If not specified, then only the start port is matched.
rules.destinationPortStart	Required	Indicates the starting destination port to match. This value must be between 0 and 65535. Specify 0 to indicate any port.
rules.destinationPortEnd	Optional	Indicates the end of range of destination ports to match. This value must be greater than the

Element name	Type	Description
		destinationPortStart element. If not specified, then only the start destination port is matched.
rules.sourceSubnets	Optional	Indicates an array of subnets to match as source subnet. For a single source ip address match specify as a /32 subnet.
rules.destinationSubnets	Optional	Indicates an array of subnets to match as the destination subnet. For a single source ip address match specify as a /32 subnet.
serviceInsertionElements	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.
serviceInsertionElements.description	Optional	Indicates the description of the element in the service insertion.
serviceInsertionElements.order	Required	Indicates the position in the service insertion that the element is located. This value must be unique in the serviceInsertions resource. The lowest value element will be the first element in the insertion.
serviceInsertionElements.name	Optional	User friendly name of the appliance/element.
serviceInsertionElements.networkInterface	Required	Indicates a networkInterfaces resource that is an element in the service insertion.
subnets	Read-Only	Indicates an array of references to ubnets resources with which this serviceInsertions 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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.16.1.2.1 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/80a29b25-0216-4f02-bc9a-ce41fab1b1b9",
  "resourceId": "80a29b25-0216-4f02-bc9a-ce41fab1b1b9",
  "etag": "W/\"c8336af7-3c74-42af-b23f-6096d8a26628\"",
  "instanceId": "cf8abca3-d5b5-4b40-a6e4-045c9e28763c",
  "properties": {
    "provisioningState": "Succeeded",
    "serviceInsertionRules": [
      {
        "resourceRef": "/serviceInsertions/80a29b25-0216-4f02-bc9a-ce41fab1b1b9/serviceInsertionRules/3b11aaf2-de79-44a3-8f5e-f14f009d3216",
        "resourceId": "3b11aaf2-de79-44a3-8f5e-f14f009d3216",
        "etag": "W/\"c8336af7-3c74-42af-b23f-6096d8a26628\"",
        "instanceId": "e3b39934-617b-4d8c-b920-af478c1d569f",
        "properties": {
          "provisioningState": "Succeeded",
          "description": "Http Traffic Rule",
          "protocol": "Tcp",
          "sourcePortRangeStart": 0,

```

```

        "sourcePortRangeEnd": 65535,
        "destinationPortRangeStart": 80,
        "destinationPortRangeEnd": 80,
        "sourceSubnets": [
            "*"
        ],
        "destinationSubnets": [
            "11.0.0.0/8"
        ]
    }
},
"serviceInsertionElements": [
    {
        "resourceRef": "/serviceInsertions/80a29b25-0216-4f02-bc9a-
ce41fab1b1b9/serviceInsertionElements/4a9ee40b-aa42-4b31-b8d3-d7fe3508bbb1",
        "resourceId": "4a9ee40b-aa42-4b31-b8d3-d7fe3508bbb1",
        "etag": "W/\c8336af7-3c74-42af-b23f-6096d8a26628\"",
        "instanceId": "3222b5b5-4019-4917-b857-3198a5145b0e",
        "properties": {
            "provisioningState": "Succeeded",
            "description": "My Appliance",
            "order": 1,
            "networkInterface": {
                "resourceRef": "/networkInterfaces/05e4ff39-ala2-4913-8197-0fe9eaa61eb9"
            }
        }
    }
},
"ipConfigurations": [
    ],
    "subnets": [
        {
            "resourceRef": "/virtualNetworks/ca212a4d-d280-4aef-8144-
89c558a55076/subnets/9e8b3d5c-95d5-4cea-8744-8ee55ab709ac"
        }
    ],
    "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.

```
[
{
  "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":
  {
    "priority" : 1,
    "type" : "PortMirror"

    "rules" : [
      {
        "protocol" : "tcp|udp|*",
        "sourcePortRangeStart" : 1000,
        "sourcePortRangeEnd" : 2000,
        "destinationPortRangeStart" : 1000,
        "destinationPortRangeEnd" : 2000,
        "sourceSubnets": ["192.168.0.0/32"],
        "destinationSubnets": ["192.168.1.0/32"]
      },
      {
        "protocol" : "tcp|udp|*",
        "sourcePortRangeStart" : 1000,
        "sourcePortRangeEnd" : 2000,
        "destinationPortRangeStart" : 1000,
        "destinationPortRangeEnd" : 2000,
        "sourceSubnets": ["192.168.0.0/32"],
        "destinationSubnets": ["192.168.1.0/32"]
      }
    ],
    "serviceInsertionElements": [
      {
        "order": 1,
        "name": "My Firewall Service",
        "description": "Provides the firewall service for my tenant workloads.",
        "resourceRef": "~/networkinterfaces/{resourceId}"
      }
    ]
  },
  "ipConfiguration": [
    {
```

```

        "resourceRef": "~/networkinterfaces/{resourceId}"
    }
},
"subnets": [
    {
        "resourceRef": "~/subnet/{resourceId}"
    }
]
},
{
    "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":
    {
        "priority" : 2,
        "type" : "PortMirror"

        "rules" : [
            {
                "protocol" : "tcp|udp|*",
                "sourcePortRangeStart" : 1000,
                "sourcePortRangeEnd" : 2000,
                "destinationPortRangeStart" : 1000,
                "destinationPortRangeEnd" : 2000,
                "sourceSubnets": ["192.168.0.0/32"],
                "destinationSubnets": ["192.168.1.0/32"]
            },
            {
                "protocol" : "tcp|udp|*",
                "sourcePortRangeStart" : 1000,
                "sourcePortRangeEnd" : 2000,
                "destinationPortRangeStart" : 1000,
                "destinationPortRangeEnd" : 2000,
                "sourceSubnets": ["192.168.0.0/32"],
                "destinationSubnets": ["192.168.1.0/32"]
            }
        ],
        "serviceInsertionElements": [
            {
                "order": 1,
                "name": "My Firewall Service",
                "description": "Provides the firewall service for my tenant workloads.",
                "resourceRef": "~/networkinterfaces/{resourceId}"
            }
        ],
        "ipConfiguration": [
            {
                "resourceRef": "~/networkinterfaces/{resourceId}"
            }
        ],
        "subnets": [
            {

```

```

        "resourceRef": "~/subnet/{resourceId}"
      }
    ]
  }
  .
  ]

```

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](#), Common URI 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)
202 (Accept)
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 virtualGateways

The virtualGateway 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.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), **resourceId**.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.17.1.1	Create a new virtualGateways resource or update an existing virtualGateways resource.
GET	section 3.1.5.17.1.2	Get one virtualGateways resource.
GET (All)	section 3.1.5.17.1.3	List all virtualGateways resources in the Network Controller.
DELETE	section 3.1.5.17.1.4	Delete a virtualGateways resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
gatewaySubnets	Read-Write, Required	Indicates collection of references to IPv4/IPv6 subnet of the VSID/gateway subnet that includes the gateway.
networkConnections	Read-Write, Optional	Indicates list of network connections that are configured for this virtualGateways resource. See the networkConnections resource, section 3.1.5.17.4 , for full details on this element.
vpnConfiguration.IPv4AddressPrefixes	Read-Write	Indicates collection of IPv4 address pools from which VPN clients are assigned addresses.
vpnConfiguration.IPv4AddressPrefixes	Read-Write	Indicates IPv4 prefix of the pool.
vpnConfiguration.IPv4AddressPrefixes.start	Read-Write	Starting IPv4 address of the pool. This is required if the start and end addresses do not form a subnet.

Element name	Type	Description
vpnConfiguration.IPv4AddressPrefixes.end	Read-Write	Ending IPv4 address of the pool. This is not required if the start and end addresses form a subnet.
vpnConfiguration.IPv6AddressPrefixes	Read-Write	Indicates IPv6 prefix advertised to remote access VPN clients.
vpnConfiguration.capacity	Read-Write	Aggregate bandwidth capacity of VPN Clients in Kbps.
vpnConfiguration.Realm	Read-Write	Realm used to identify tenants. E.g. contoso, Woodgrove.
bgpRouters	Read-Write, Optional	Indicates the BGP peering information. See the bgpRouters resource, section 3.1.5.17.2 , for full details on this element.
policyMaps	Read-Write, Optional	Indicates BGP policy Maps. See policyMaps resource, section 3.1.5.17.3 , for details.
GatewayPools	Read-Write, Required	Indicates a collection of references to gatewayPools 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.
routingType	Read-Only	"Dynamic" is the only support value for this field.
configurationState	Read-only	Indicates the last known running state of this Virtual Gateway.
configurationState.status	Read-only	Indicates the last known running state of this Gateway. Possible values are – Uninitialized, InProgress, Success, Warning, Failure
configurationState.DetailedInfo	Read-only	Detail information about the status. It is NULL if status is success.
configurationState.DetailedInfo.Code	Read-only	Indicates failure code. Can take values – PolicyConfigurationFailure, HostUnreachable
configurationState.DetailedInfo.Message	Read-only	Contains an error string based on the error
configurationState.lastUpdatedTime	Read-only	Indicates the time stamp when the configuration state last changed.

3.1.5.17.1 HTTP Methods

3.1.5.17.1.1 PUT

This method creates a new virtualGateway resource or updates an existing virtualGateway resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
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 virtualGateway resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.17.1.2.1 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",
    "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",
        "lastUpdateTime": "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-4771-98f9-6c1d4ffbaa1a",
      "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 **virtualGateway GET** method is located in section [6.15.2](#).

3.1.5.17.1.2.3 Processing Details

Retrieves a virtualGateway resource.

3.1.5.17.1.3 GET (All)

This method retrieves all virtualGateway resources.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)

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,
    "withdrawalSentCount": 0,
    "withdrawalReceivedCount": 0
  },
  "ipv6Route": {
    "updateSentCount": 0,
    "updateReceivedCount": 0,
    "withdrawalSentCount": 0,
    "withdrawalReceivedCount": 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"
}
]
}
}

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    ],
    "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": {

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        "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",

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"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"
      }
    }
  }
]

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    }
  ],
  "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,
            }
          }
        }
      }
    ]
  }
}

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        "saLifeTimeKiloBytes": 33552408
    },
    "mainMode": {
        "diffieHellmanGroup": "Group2",
        "encryptionAlgorithm": "DES3",
        "integrityAlgorithm": "SHA1",
        "saLifeTimeSeconds": 28800,
        "saLifeTimeKiloBytes": 33552408
    },
    "localVpnTrafficSelector": [],
    "remoteVpnTrafficSelector": []
},
"l3Configuration": {},
"ipAddresses": [],
"peerIPAddresses": [],
"routes": [
    {
        "destinationPrefix": "50.12.1.0/24",
        "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"
            }
        }
    }
]

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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/00000000-1111-0000-0012-000000000000/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-4591-4d69-8a13-163cc1f8ae2e",
        "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,

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        "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,
      "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": "11.13.0.1",
    "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",
        "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/00000000-1111-0000-0013-000000000000/subnets/00000000-1111-1111-0013-000000000002"
  }
]

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    }
  },
  {
    "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",
          "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": {

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        "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",
        "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-3eaa90ddd4f0",
    "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,

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"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": "50.15.1.0/24",
    "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",
  "lastUpdateTime": "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",

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        "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"
    }
],
"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": []
                }
            }
        ]
    }
}
}

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    },
    "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,
      "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": {

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        "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": [
            {
                "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,

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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": "11.17.0.1",
    "gateway": {
        "resourceRef": "/Gateways/CloudGw1"
    }
}
},
"bgpRouters": [
{
    "resourceRef":
"/VirtualGateways/VirtualGateway_17/BgpRouters/BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-aeacfdel8626",
    "resourceId": "BGP_VirtualGateway_17_6ec56965-4f32-4146-9413-aeacfdel8626",
    "instanceId": "6ec56965-4f32-4146-9413-aeacfdel8626",
    "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": [
            {

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    "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",
          "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"
      }
    }
  },
],

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    "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",
        "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
                }
              }
            }
          }
        ]
      }
    }
  ],

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```

    "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",
  "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"
      }
    }
  }
]

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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/00000000-1111-0000-0019-000000000000/subnets/00000000-1111-1111-0019-000000000002"
    }
  ]
}
},
{
  "resourceRef": "/VirtualGateways/VirtualGateway_2",
  "resourceId": "VirtualGateway_2",
  "etag": "W/\"17d90b70-e0f4-4153-alb0-f4910bdb46e5\"",
  "instanceId": "b04ee085-fd0d-4267-8b35-35ae504a715f",
  "properties": {
    "provisioningState": "Succeeded",
    "networkConnections": [
      {
        "resourceRef":
"/VirtualGateways/VirtualGateway_2/NetworkConnections/VirtualGateway_2_IPSEC_1",
        "resourceId": "VirtualGateway_2_IPSEC_1",
        "etag": "W/\"17d90b70-e0f4-4153-alb0-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"
            }
          ]
        }
      }
    ]
  }
}

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    ],
    "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"
    }
  }
},
"bgpRouters": [
  {
    "resourceRef":
"/VirtualGateways/VirtualGateway_2/BgpRouters/BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9clf665",
    "resourceId": "BGP_VirtualGateway_2_83e43f34-c516-46ac-ad48-755ee9clf665",
    "instanceId": "83e43f34-c516-46ac-ad48-755ee9clf665",
    "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"
  }
]
},
},

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```

{
  "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,
              "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"
          }
        }
      }
    ]
  }
}

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    },
    "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-elf2045f56",
    "resourceId": "BGP_VirtualGateway_20_557cfc53-e621-4559-bcb1-elf2045f56",
    "instanceId": "557cfc53-e621-4559-bcb1-elf2045f56",
    "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"
      }
    }
  }
],
"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": "aef9881-caba-4620-8c11-89d9e0ceeaed",
  "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": {

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    "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"
    }
  ],
  "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",

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        "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"
    }
]
},
{
    "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": {},
    }
}

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    "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"
}

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    },
    "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,

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        "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",

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"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",
    "lastUpdatedTime": "2016-06-15T23:13:41.1459839-07:00"
  },
  "sourceIPAddress": "91.1.1.4",
  "destinationIPAddress": "11.6.0.1",
  "gateway": {
    "resourceRef": "/Gateways/CloudGw1"
  }
}
},
"bgpRouters": [
  {

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        "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",
                "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/00000000-1111-0000-0006-000000000000/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",

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        "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",
            "lastUpdatedTime": "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 **virtualGateway GET ALL** method is located in section [6.15.3](#).

3.1.5.17.1.3.3 Processing Details

Retrieves all virtualGateway resources.

3.1.5.17.1.4 DELETE

This method deletes a virtualGateway resource.

It is invoked through the following URI.

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


The query parameters are specified in section [2.2.3](#), Common URI 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)
202 (Accept)
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 virtualGateway resource.

3.1.5.17.2 bgpRouters

The BGP Router resource contains the configuration needed for the Border Gateway Protocol (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}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.17.2.1.1	Create or update a bgpRouters resource.
GET	section 3.1.5.17.2.1.2	Get a bgpRouters resource.
GET (All)	section 3.1.5.17.2.1.3	List all bgpRouters resources in the Network Controller.
DELETE	section 3.1.5.17.2.1.4	Deletes a bgpRouters resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
isGenerated	Read-only	If this BGP router is automatically enabled, without making any REST calls then isGenerated is set to "true"
extAsNumber	Read/Write	Extended (4-byte) ASN of the local BGP Router in XX.YY format
routerId	Read/Write	Indicates Router ID
routerIpAddress[]	Read/Write	Indicates IP addresses to which BGP peering can be established
bgpPeers[]	Read/Write	Collection of BGP peers associated with the BGP Routers resource. See bgpPeers resource, section 3.1.5.17.2.2 , for details.
configurationState	Read-only	Indicates the last known running state of this router.
configurationState.status	Read-only	Indicates the last known running state of this router. Possible values are – Uninitialized, InProgres, Success, Warning, Failure
configurationState.DetailedInfo	Read-only	Detail information about the status. It is NULL if status is success.
configurationState.DetailedInfo.Code	Read-only	Indicates failure code. Can take values – PolicyConfigurationFailure, HostUnreachable
configurationState.DetailedInfo.Message	Read-only	Contains an error string based on the error
configurationState.lastUpdatedTime	Read-only	Indicates the time stamp when the configuration state last changed.

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](#), Common URI 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)
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": [
    ],
    "bgpNetworks": [
    ],
    "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](#), Common URI 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)

3.1.5.17.2.1.2.1 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.

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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
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 bgpPeers

This resource configures BGP peers of the **virtualGateways** resource.

The peer is identified by `remoteRouterId` and `asNumber`.

A 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 the resource is as follows.

```
https://<url>/networking/v1/virtualGateways/{grandParentResourceId}/bgpRouters/  
{parentResourceId}/bgpPeers/{resourceId}
```

grandParentResourceId: the identifier for the specific ancestor of the ancestor resource within the resource type. See section [2.2.3.1](#), `grandParentResourceId`.

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), `parentResourceId`.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), `resourceId`.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.17.2.2.1.1	Create or update a bgpPeers resource.
GET	section 3.1.5.17.2.2.1.2	Get a bgpPeers resource
GET (All)	section 3.1.5.17.2.2.1.3	List all bgpPeers resources in the Network Controller
DELETE	section 3.1.5.17.2.2.1.4	Deletes a bgpPeers resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
resourceId	Read-Only	Indicates identifier of BGP peer
asNumber	Read-Only	Indicates the ASN number of the BGP Peer.
extAsNumber	Read/Write	Indicates Extended ASN number of the BGP Peer in XX.YY format
peerIpAddress	Read/Write	IP address of the peer
connectionState	Read-Only	Status of BGP peering for this peer. Possible values are "Connected" and "Disconnected".
statistics	Read-Only	Provides statistics for this peer
statistics.tcpConnectionEstablished	Read-Only	Timestamp of TCP connection establishment for BGP
statistics.tcpConnectionClosed	Read-Only	
statistics.openMessageStats	Read-Only	
statistics.openMessageStats.lastsent	Read-Only	Last sent timestamp
statistics.openMessageStats.lastReceived	Read-Only	Last received timestamp
statistics.openMessageStats.sentCount	Read-Only	Sent count
statistics.openMessageStats.receivedCount	Read-Only	Received count
statistics.notificationMessageStats	Read-Only	
statistics.notificationMessageStats.sentCount	Read-Only	Sent count
statistics.notificationMessageStats.receivedCount	Read-Only	Received count

Element name	Type	Description
statistics.keepAliveMessageStats	Read-Only	Stats for keepalive messages
statistics. keepAliveMessageStats.lastSent	Read-Only	Last sent timestamp
statistics. keepAliveMessageStats.lastReceived	Read-Only	Last received timestamp
statistics. keepAliveMessageStats.sentCount	Read-Only	Sent count
statistics. keepAliveMessageStats.receivedCount	Read-Only	Received count
statistics.routeRefreshMessageStats	Read-Only	
statistics.routeRefreshMessageStats.sentCount	Read-Only	Sent count
statistics.routeRefreshMessageStats.receivedCount	Read-Only	Received count
statistics.updateMessageStats	Read-Only	
statistics.updateMessageStats.lastReceived	Read-Only	Last received timestamp
statistics.updateMessageStats.sentCount	Read-Only	Sent count
statistics.updateMessageStats.receivedCount	Read-Only	Received count
statistics.ipv4Route	Read-Only	Stats for IPv4 routes
statistics.ipv4Route.updateSentCount	Read-Only	Route update sent count
statistics.ipv4Route.updateReceivedCount	Read-Only	Route update received count
statistics.ipv4Route.withdrawlSentCount	Read-Only	Route withdrawal sent count
statistics.ipv4Route.withdrawlReceivedCount	Read-Only	Route withdrawal received count
statistics.ipv6Route	Read-Only	Stats for IPv6 routes
statistics.ipv6Route.updateSentCount	Read-Only	Route update sent count
statistics.ipv6Route.updateReceivedCount	Read-Only	Route update received count
statistics.ipv6Route.withdrawlSentCount	Read-Only	Route withdrawal sent count
statistics.ipv6Route.withdrawlReceivedCount	Read-Only	Route withdrawal received count
Statistics.lastUpdated	Read-Only	Time stamp when the stats were last updated
policyMapOut	Read/Write	Reference to the policy map object that is used to filter the routing updates sent to the peer.
policyMapIn	Read/Write	Reference to the policy map object that is used to filter routing updates received from the peer
isGenerated	Read-only	This flag is set to "True" for iBGP peers.

Element name	Type	Description
configurationState	Read-only	Indicates the last known running state of this peer.
configurationState.status	Read-only	Indicates the last known running state of this peer. Possible values are – Uninitialized, InProgress, Success, Warning, Failure
configurationState.DetailedInfo	Read-only	Detail information about the status. It is NULL if status is success.
configurationState.DetailedInfo.Code	Read-only	Indicates failure code. Can take values – PolicyConfigurationFailure, HostUnreachable
configurationState.DetailedInfo.Message	Read-only	Contains an error string based on the error
configurationState.lastUpdatedTime	Read-only	Indicates the time stamp when the configuration state last changed.

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](#), Common URI 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)
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](#), Common URI 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)

3.1.5.17.2.2.1.2.1 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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
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 policyMaps

The **policyMaps** resource contains the configuration needed for the routing policies for the Border Gateway Protocol (BGP) router in the virtual gateway in order to exchange routing information with peers.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualGateways/{parentResourceId}/policyMaps/{resourceId}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.17.3.1.1	Create or update a policyMaps .
GET	section 3.1.5.17.3.1.2	Get a policyMaps resource.
GET (All)	section 3.1.5.17.3.1.3	List all policyMaps resources in the Network Controller
DELETE	section 3.1.5.17.3.1.4	Delete a policyMaps resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
policyMapEntryList[]		Indicates list of policies (objects of type policyMapEntry)
policyMapEntry.policyName	Read/Write	Indicates the name of the policy.
policyMapEntry.action	Read/Write	Indicates type of policy (Deny Allow ModifyAttribute)
policyMapEntry.matchCriteria[]	Read/Write	Indicates criteria to be matched (objects of type policyMapEntryMatchCriteria)
policyMapEntry.matchCriteria.property	Read/Write	Indicates clause to be matched (MatchPrefix NextHop IgnorePrefix AsnRange Community)
policyMapEntry.matchCriteria.values	Read/Write	Indicates values for the property to be matched with the ingress / egress packet
policyMapEntry.setActions[]	Read/Write	Indicates action to be taken once there is match in criteria (objects of type policyMapEntrySetAction)
policyMapEntry.setActions.property	Read/Write	Enum that indicates the property of the egress/ingress data packet to update if match criteria specified in the entry are successfully matched with the data packet (As-Path Add-Community Remove-Community Remove-All-Community MED Clear-MED Weight Local-Pref Next-Hop)
policyMapEntry.setActions.value	Read/Write	New value of the property specified in policyMapEntry.setActions.property to updated in the ingress/egress data packet.
bgpPeersWithPolicyMapIn	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
bgpPeersWithPolicyMapOut	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](#), Common URI 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)
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-b819-9fd007a1abdf\"",
  "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](#), Common URI 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)

3.1.5.17.3.1.2.1 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-91b3-0383aelea607",
  "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](#), Common URI 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)

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](#), Common URI 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)
202 (Accept)
204 (No Content)

Status code
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 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}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.17.4.1.1	Create or update a networkConnections resource
GET	section 3.1.5.17.4.1.2	Get a networkConnections resource.
GET (All)	section 3.1.5.17.4.1.3	List all networkConnections resources in the Network Controller.
DELETE	section 3.1.5.17.4.1.4	Delete a networkConnections resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
resourceId	Required	Friendly name of the connection

Element name	Type	Description
connectionType	Read-Write	Indicates type of connection. Valid values are IPsec GRE L3
outboundKiloBitsPerSecond	Read-Write	Indicates maximum allowed outbound bandwidth in Kbps
inboundKiloBitsPerSecond	Read-Write	Indicates maximum allowed outbound bandwidth in Kbps
ipsecConfiguration	Read-Write	Details of IPsec configuration.
ipsecConfiguration.authenticationMethod	Read-Write	Indicates authentication method. PSK is the only valid value
ipsecConfiguration.sharedsecret	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 GET of networkconnection
ipsecConfiguration.mainMode	Read-Write	Main mode IPsec configuration details
ipsecConfiguration.mainMode.diffieHellmanGroup	Read-Write	Indicates Diffie Hellman group used during main mode IKE negotiation. Values: Group1 Group2 Group14 ECP256 ECP384 Group24
ipsecConfiguration.mainMode.integrityAlgorithm	Read-Write	Indicates Integrity algorithm used during main mode IKE negotiation. Values: MD5 SHA196 SHA256 SHA384
ipsecConfiguration.mainMode.encryptionAlgorithm	Read-Write	Indicates cipher algorithm used during main mode IKE negotiation. Values: DES DES3 AES128 AES192 AES256
ipsecConfiguration.mainMode.saLifeTimeSeconds	Read-Write	Indicates life time of SA in seconds
ipsecConfiguration.mainMode.saLifeTimeKilobytes	Read-Write	Indicates life time of SA in Kilobytes. Ignored by IPsec
ipsecConfiguration.quickMode	Read-Write	Quick mode IPsec configuration
ipsecConfiguration.quickMode.perfectForwardSecrecy	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 PFS24
ipsecConfiguration.quickMode.cipherTransformationConstant	Read-Write	Indicates the encryption algorithm used for data traffic. Values: None DES CBCDES DES3 CBCDES3 AES128 AES192 AES256 AES128CBC AES192CBC AES256 GCMAES128 GCMAES192 GCMAES256
ipsecConfiguration.quickMode.authenticationTransformationConstant	Read-Write	Indicates the authentication transform used for data traffic. Values: None MD596 SHA196 SHA256 GCMAES128 GCMAES192 GCMAES256
ipsecConfiguration.quickMode.saLifeTimeSeconds	Read-Write	Indicates life time of SA in seconds

Element name	Type	Description
ipsecConfiguration.quickMode.saLifeTimeKilobytes	Read-Write	Indicates life time of SA in Kilobytes
ipsecConfiguration.quickMode.idleDisconnectSeconds	Read-Write	Indicates idle time after which SA is disconnected
ipsecConfiguration.localVpnTrafficSelector	Read-Write	Indicates collection of IPsec TrafficSelectors on the hoster side.
ipsecConfiguration.localVpnTrafficSelector.Type	Read-Write	Indicates whether traffic is IPv4 or IPv6
ipsecConfiguration.localVpnTrafficSelector.ProtocolId	Read-Write	Indicates IP protocol ID (such as UDP, TCP, and ICMP).
ipsecConfiguration.localVpnTrafficSelector.PortStart	Read-Write	Indicates start of port range
ipsecConfiguration.localVpnTrafficSelector.PortEnd	Read-Write	Indicates end of port range
ipsecConfiguration.localVpnTrafficSelectorIpAddressStart	Read-Write	Indicates start of IP addresses
ipsecConfiguration.localVpnTrafficSelector.IpAddressEnd	Read-Write	Indicates end of IP addresses
ipsecConfiguration.localVpnTrafficSelector.tsPayloadId	Read-Write	??
ipsecConfiguration.remoteVpnTrafficSelector	Read-Write	Indicates collection of IPsec TrafficSelectors on the tenant side.
ipsecConfiguration.remoteVpnTrafficSelector.Type	Read-Write	Indicates whether traffic is IPv4 or IPv6
ipsecConfiguration.remoteVpnTrafficSelector.ProtocolId	Read-Write	Indicates IP protocol ID (such as UDP, TCP, and ICMP).
ipsecConfiguration.remoteVpnTrafficSelector.PortStart	Read-Write	Indicates start of port range
ipsecConfiguration.remoteVpnTrafficSelector.PortEnd	Read-Write	Indicates end of port range
ipsecConfiguration.remoteVpnTrafficSelector.IpAddressStart	Read-Write	Indicates start of IP addresses
ipsecConfiguration.remoteVpnTrafficSelector.IpAddressEnd	Read-Write	Indicates end of IP addresses
IpAddress	Read-Write	Indicates ConnectTo Address to which peers connect to and which is the source IP address in egress direction. This would be the VIP
ipAddresses	Read-Write	IP assigned in the tenant compartment for L3 interface.

Element name	Type	Description
ipAddresses.ipAddress	Read-Write	IP address for L3 interface in tenant compartment
ipAddress.prefixLength	Read-write	Prefix length of the IP address
PeerIpAddress	Read-Write	Indicates peer IP address to which connection is made.Used by L3 interface
SourceIPAddress	Read-Write	Indicates sourceIPAddress used by the tunnel. Applicable to IKEv2 and GRE.
destinationIpAddress	Read-Write	Indicates destination ip address of the tunnel. Applicable to IKEv2 and GRE.
routes[]	Read-Write	List of all the routes (static and those learned via BGP) on the network Interface. Traffic matching the routes is transmitted on the network Interface
routes.destinationPrefix	Required	Prefix with subnet of the routes
routes.nextHop	Optional	Next Hop of the routes. Is significant only for L3 connections. Has no significance for point to point connections such as IPsec & GRE
routes.metric	Optional	Indicates Metric of the route
routes.protocol	Read-Only	Indicates how the route is learnt/added (<code>static</code> <code>BGP</code>)
ConnectionStatus	Read-Write	Indicates administrative status of connection. Values: <code>enabled</code> <code>disabled</code>
ConnectionState	Read-Write	Indicates operational status of connection. Values: <code>Connected</code> <code>Disconnected</code>
statistics	Read-Only	Statistics of the connection
statistics.outboundBytes	Read-Only	Indicates number of bytes transmitted.
statistics.inboundBytes	Read-Only	Indicates number of bytes received.
statistics.rxTotalPacketsDropped	Read-Only	Indicates number of packets dropped in ingress direction
statistics.txTotalPacketsDropped	Read-Only	Indicates number of packets dropped in egress direction
statistics.txRateKbps	Read-Only	Indicates rate at which traffic is going out in Kbps
statistics.rxRateKbps	Read-Only	Indicates rate at which traffic is coming in in Kbps
statistics.txRateLimitedPacketsDropped	Read-Only	Indicates number of packets dropped in egress direction due to rate limiting.
statistics.rxRateLimitedPacketsDropped	Read-Only	Indicates number of packets dropped in ingress direction due to rate limiting.
statistics.lastUpdated	Read-Only	Indicates the time the statistics were last updated
ConnectionUpTime	Read-Only	Indicates operations up time of the connection in seconds
ConnectionErrorReason	Read-Only	Indicates the reason for not being able to connect

Element name	Type	Description
		after dialling in the previous attempt
unreachabilityReason	Read-Only	Indicates the reason for not being able to connect/dial in the previous attempt
greConfiguration	Read-Write	Indicates details of GRE configuration
greConfiguration.greKey	Read-Write	Indicates GRE key
l3Configuration	Read-Write	Indicates details of L3 configuration
l3Configuration.vlanSubnet	Read-Write	Reference to a logical subnet of L3 connection
gateway	ResourceReference	Reference of the gateway on which the connection exists.
configurationState	Read-only	Indicates the last known running state of this connection.
configurationState.status	Read-only	Indicates the last known running state of this connection. Possible values are – Uninitialized, InProgress, Success, Warning, Failure
configurationState.DetailedInfo	Read-only	Detail information about the status. It is NULL if status is success.
configurationState.DetailedInfo.Code	Read-only	Indicates failure code. Can take values – PolicyConfigurationFailure, HostUnreachable
configurationState.DetailedInfo.Message	Read-only	Contains an error string based on the error
configurationState.lastUpdatedTime	Read-only	Indicates the time stamp when the configuration state last changed.

3.1.5.17.4.1 HTTP Methods

3.1.5.17.4.1.1 PUT

This method creates a new networkConnection resource or updates an existing networkConnection 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](#), Common URI 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)
201 (Created)
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 **networkConnection 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 networkConnection 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](#), Common URI 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)

3.1.5.17.4.1.2.1 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\\"",
  "instanceId": "a192d851-0849-4d88-a0d5-86647f1b9efc",
  "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",
  "lastUpdateTime": "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/CloudGw1CloudGW2"
}
}
}
}}

```

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.

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](#), Common URI 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)

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-a1ea-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 networkConnection resources.

3.1.5.17.4.1.4 DELETE

This method deletes a networkConnection 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](#), Common URI 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)
202 (Accept)
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 networkConnection resource.

3.1.5.18 virtualNetworks

This resource is used to create a virtual network using HNV for tenant overlays. The default encapsulation for virtualNetworks is Virtual Extensible LAN 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.

The URI for the resource is as follows.

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

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.18.1.1	Create a new virtualNetworks resource or update an existing virtualNetworks resource.
GET	section 3.1.5.18.1.2	Get one virtualNetworks resource
GET (All)	section 3.1.5.18.1.3	List all virtualNetworks resources in the Network Controller
DELETE	section 3.1.5.18.1.4	Deletes a virtualNetworks resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
logicalNetwork	Required	Indicates a reference to the networks resource that is the underlay network which the virtual network runs on.
subnets[]	Optional	Indicates the subnets that are on the virtual network. For more details see the subnets resource, section 3.1.5.18.2 .
addressSpace	Required	Indicates the address space of the virtual network.

Element name	Type	Description
addressSpace.addressPrefixes[]	Required	Indicates the valid list of address prefixes that can make up this virtual network. The value is an array of address prefixes in the format of 0.0.0.0/0. The space cannot be shrunk if addresses are in use in a subnet belonging to the virtual network.
dhcpOptions	Optional	Indicates the DHCP options used by servers in the virtual network.
dhcpOptions.dnsServers	Optional	Indicates an array of DNS servers that are being used by the virtual network

3.1.5.18.1 HTTP Methods

3.1.5.18.1.1 PUT

Create a new virtualNetwork 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](#), Common URI 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)
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 [6.16.2](#).

3.1.5.18.1.1.3 Processing Details

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

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](#), Common URI 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)

3.1.5.18.1.2.1 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-b3b816a4blea",
      "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"
            }
          ]
        },
        {
          "status": "Failure",
          "detailedInfo": [
            {
              "source": "VirtualNetwork",
              "message": "Failed to configure the policies on the host device.",
              "code": "PolicyConfigurationFailure"
            }
          ]
        },
        {
          "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": "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-aled-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"
}
}
}

```

The JSON schema for the **virtualNetworks GET** method is located in section [6.16.2](#).

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](#), Common URI 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)

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"
              }
            ]
          },
          {
            "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": "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-adb2-6cbcddee3447f",
  "resourceId": "9c01100a-2bbc-4388-adb2-6cbcddee3447f",
  "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/7bdal749-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 [6.16.3](#).

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](#), Common URI 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)
202 (Accept)
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 subnets

The subnets resource is used to create Virtual Subnets (VSIDs) under a tenant's virtual network (RDID). The user can specify the addressPrefix to use for the subnets, the accessControl Lists 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}
```

parentResourceId: the identifier for the specific ancestor resource within the resource type. See section [2.2.3.3](#), parentResourceId.

resourceId: the identifier for the specific descendant resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.18.1.1	Create a new subnets resource or update an existing subnets resource.
GET	section 3.1.5.18.1.2	Get one subnets resource
GET (All)	section 3.1.5.18.1.3	List all subnets resources in the Network Controller
DELETE	section 3.1.5.18.1.4	Delete a subnets resource.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
addressPrefix	Required	Indicates the address prefix that defines the subnet. The value is in the format of 0.0.0.0/0. This value must not overlap with other subnets in the virtual network and must fall in the addressPrefix defined in the virtual network.
accessControlList	Optional	Indicates a reference to an accessControlLists resource that defines the ACLs in and out of the subnet.
serviceInsertion	Optional	Indicates a reference to a serviceInsertions resource that defines the service insertion to be applied to the subnet.
routeTable	Optional	Indicates a reference to a routeTable resource that defines the tenant routes to be applied to the subnet.
ipConfigurations	Read-Only	Indicates an array of references of networkInterfaces resources that are connected to the subnet.

3.1.5.18.2.1 HTTP Methods

3.1.5.18.2.1.1 PUT

This method creates a new subnet resource or updates an existing subnet 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](#), Common URI 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)
201 (Created)
412 (Precondition Failed)
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-XXXXXXXXXXXX",
  "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 [6.16.4.1](#).

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 [6.16.4.2](#).

3.1.5.18.2.1.1.3 Processing Details

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

3.1.5.18.2.1.2 GET

This method retrieves a subnet 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](#), Common URI 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)

3.1.5.18.2.1.2.1 Request Body

None.

3.1.5.18.2.1.2.2 Response Body

The format for the **subnet 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 **subnet GET** method is located in section [6.16.4.2](#).

3.1.5.18.2.1.2.3 Processing Details

Retrieves a subnet resource.

3.1.5.18.2.1.3 GET (All)

This method retrieves all subnet 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](#), Common URI 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)

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-ab576fea1c8d"
          }
        ]
      }
    }
  ]
}
```

```

        {
          "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-9650-7e13e3d31ead"
          }
        ]
      }
    }
  ],
  "nextLink": ""
}

```

The JSON schema for the **subnets GET ALL** method is located in section [6.16.4.3](#).

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 subnet 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](#), Common URI 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)
202 (Accept)
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 subnet resource.

3.1.5.19 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
```

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.19.1.1	Create a new virtualNetworkManager resource or update an existing virtualNetworkManager resource.
GET	section 3.1.5.19.1.2	Get the virtualNetworkManager resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
distributedRouterState	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".

Element name	Type	Description
networkVirtualizationProtocol	Optional	Indicates the encapsulation format String values which can be "NVGRE" or "VXLAN". The default value is "VXLAN".

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](#), Common URI 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)
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 [6.17.2](#).

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](#), Common URI 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)

3.1.5.19.1.2.1 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 [6.17.2](#).

3.1.5.19.1.2.3 Processing Details

Retrieves the **virtualNetworkManager** configuration.

3.1.5.20 virtualServers

This resource corresponds to a Virtual Machine. 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}`

resourceId: the identifier for the specific resource within the resource type. See section [2.2.3.4](#), resourceId.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.20.1.1	Create a new virtualServers resource or update an existing virtualServers resource.
GET	section 3.1.5.20.1.2	Get one virtualServers resource
GET (All)	section 3.1.5.20.1.3	List all virtualServers resources in the Network Controller
DELETE	section 3.1.5.20.1.4	Deletes a virtualServers resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
connections[]	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.
connections.credential		Indicates a reference to a credential resource that can be used to connect to the device for management purposes.
connections.credentialType		Indicates a reference to a credential resource that specifies the type of credential.
connections.managementAddresses		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.
gateway	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.
loadbalancerMux	Read-Only	Indicates a reference to the loadbalancerMux 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.

Element name	Type	Description
server	Read-Only	Indicates a reference to the servers resource this virtualServer is located on. The server reference is automatically created when a corresponding NIC arrival notification from the south bound is handled.
vmGuid	Required	Indicates the GUID of the VM object as found in the Hyper-V WMI .

3.1.5.20.1 HTTP Methods

3.1.5.20.1.1 PUT

This method creates a new virtualServer resource or updates an existing virtualServer resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)
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 **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 [6.18.1](#).

3.1.5.20.1.1.2 Response Body

The format is the same as the format for the **GET virtualServers** 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 a new virtualServers resource or updates an existing virtualServers resource.

3.1.5.20.1.2 GET

This method retrieves a virtualServer resource.

It is invoked through the following URI.

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

The query parameters are specified in section [2.2.3](#), Common URI 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)

3.1.5.20.1.2.1 Request Body

None.

3.1.5.20.1.2.2 Response Body

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

```

{
  "resourceRef": "/virtualServers/ffbf0739-7de9-4175-8333-83687fc39653",
  "resourceId": "ffbf0739-7de9-4175-8333-83687fc39653",
  "etag": "W/\\"87b4a1b5-ccdc-42e1-b7bd-897c83340890\"",
  "instanceId": "46306786-f927-42dc-8d12-9ea869497b26",
  "properties": {
    "provisioningState": "Succeeded",
    "connections": [
      {

```

```

    "managementAddresses": [
      "190.218.0.46",
      "foo"
    ],
    "credential": {
      "resourceRef": "/credentials/5eda8dd3-9fad-4f73-bb46-fa696b2ca894"
    },
    "credentialType": "X509Certificate"
  }
},
"certificate":
"MIICFjCCAYOgAwIBAgIQNHec33eFI59BpfQhRM5E5jAJBgUrDgMCHQUAMBCxFTATBgNVBAMTDDE5MC4yMTguMC40NjAe
Fw0xMjA1MTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NjAeCBnzANBghkiG9w0BA
QEFAAOBjQAwgYkCgYEAq1XZZ2AakK1/qpxnh6mZjGrza5KpoilcIkdJNHfD61bs7t0DrfZa3PPuWkMAaP9bMMBuN9QFeV
e3jh0mLnpeAAAX49sNyY1cxtVKtBYaDd2fG1vJQMMce0WQvEDj+yCN/ND0HXtJ8Icr1thqmx1HerMHorP/PcA2SjZWh7
tzC0CAwEAANrMGkwhQYDVR01BBYwFAYIKwYBBQUHAWEGCCsGAQUFBwMCMEggAlUdaQRBMD+AEMprq6gkkm6zsBHnk13n
JK+hGTAXMRUwEwYDVQQDEwwOTAuMjE4LjAuNDaCEDR3nN93hSofQaX0IUTOROYwCQYFKw4DAh0FAAOBggQBW6Nj/tzmBW
+KzmI2+YWiFex1PEVrM7ue7yVwLnelc+uH+5Eu9y1qg4DcgeIxmMYRk4AMXBqG6BBtTE9sID7seG2c0lyHyn5ZH0SPkPi
I6cnMuDLCC9YuUFEh7HN+9Vo1BjQJ7cHMrqke0nlpSuPLYSYQYSYPNE+jQPawypuDY2A==",
  "vmGuid": "051e441c-bd92-4c81-9e3d-167b2e357e60"
},
"markServerReadOnly": true,
"tags": {
  "good": "bad",
  "full": "empty",
  "num": "0"
}
}
}

```

The JSON schema for the **virtualServers GET** method is located in section [6.18.2](#).

3.1.5.20.1.2.3 Processing Details

Retrieves a virtualServer resource.

3.1.5.20.1.3 GET (All)

This method retrieves all virtualServer resources.

It is invoked through the following URI.

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

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.

3.1.5.20.1.3.1 Request Body

None.

3.1.5.20.1.3.2 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
        Fw0xMjAlMTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NzCBnzANBghkiG9w0BA
        QEFAAOBjQAwGykCgYEAwSbVTki5HaelHMDef9ugNfqsGr5ZKcUA3nwh6SQV/pJBe41jfWcVUyNhh7SVYv8TPQ1B4tNmxf
        nYbKkWh1SRdkOXJ+8DFJDODF9aFfuPUebi8U9gZhbxtfurWkflhNukAx7vpmi9+mta+POB0F27wsmuFNXwlv/JjIz6SKt
        uv2cCAwEAAANrMGkwQYDVR01BBYwFAYIKwYBBQUHAWEGCCsGAQUFBWMCMEggGAlUdaAQRBMD+AEELm0o2+hOxw9qeVual9O
        muehGTAXMRUwEwYDVQQDEwwxOTAwMjE4LjAuNDcEEJBFAPFze7QyTScKna2EiwCQYFKw4DAh0FAAOBgQBDD/zN+T4u
        7UqkuOK9Oc1i7q99kgolonOv96pUBctKMaNaTPVKNXERii7cedvihGMwSWQCBJ1JorpFZrfZ09D+tDok50EYSugx/O6ni
        VcXah4qN+TAFzGsc/N4FpX+Nge0QsLj4YX9uKUKiCjmsjfljTsX1TBWrtDOWiHkCWnLg==",
        "vmGuid": "44c1b231-b505-41b6-ac3d-5a3cddb82a5d"
      },
      "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
        Fw0xMjAlMTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NTCBnzANBghkiG9w0BA
        QEFAAOBjQAwGykCgYEAwSgIbPMq9dWg2hUYBDQFKMuv3MBOCFvmm2WH0e2c0WRexdLR0Q0etIJrv9Gxbo5RW/U53y10ZA
        bgFB58NstEHf1o+8UAUVU+tH/g2/L5KOucYa4YzGogftJKxkPJ85U1rtdxdfd+MU9K91oQWgHYElmftdq2LdQ33tfl1YFu
        T40MCawEAAANrMGkwHQYDVR01BBYwFAYIKwYBBQUHAWEGCCsGAQUFBWMCMEggGAlUdaAQRBMD+AENepbWjRjtRvYGX30TZ8
        /lShGTAXMRUwEwYDVQQDEwwxOTAwMjE4LjAuNDcEEJBFAPFze7QyTScKna2EiwCQYFKw4DAh0FAAOBgQCFR7J+1xZkf
        pLEh6lmWXTquiZJiI2av9zR6M31EKdHYM20gia1UsMEFNxbuFamJ4TTXSM4juHfE9kxJ+K5JAhQl3eRA+z6VQwrWAUKUt
        Jmg+PVuIAaatIGe+tpvRpxAEUMIxypGIC/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
Fw0xMjAlMTAwNzAwMDBaFw0yMDEyMjIwNzAwMDBaMBcxFTATBgNVBAMTDDE5MC4yMTguMC40NjAeCBnzANBGMkqhkiG9w0BA
QEFAAOBjQAwgYkCgYEAq1XZZ2AakK1/qpxnh6mZjGrza5KpoilcIkdJNHfD61bs7t0DrfZa3PPuWkMAaP9bMMBuN9QFeV
e3jh0mLnpeAAAX49sNyY1cxtVKtBYaDd2fG1vJQMMce0WQvEDj+yCN/ND0HXtJ8Icr1thqmx1HerMHOrP/PcA2SJZhWh7
tzC0CAwEAANrMGkwhQYDVR0lBBYwFAyIKwYBBQUHAwEGCCsGAQUFBwMCMEEgAlUdAQRBMD+AEmpqrq6gkkM6zsbHnk13n
JK+hGTAXMRUwEwYDVQQDEwxxOTAuMjE4LjAuNDACEDR3N93hSOfQaX0IUTOROYwCQYFKw4DAh0FAAOBgQBW6Nj/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 [6.18.3](#).

3.1.5.20.1.3.3 Processing Details

Retrieves all virtualServer resources.

3.1.5.20.1.4 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](#), Common URI 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)
202 (Accept)

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

3.1.5.20.1.4.1 Request Body

None.

3.1.5.20.1.4.2 Response Body

None.

3.1.5.20.1.4.3 Processing Details

Deletes a virtualServer resource.

3.1.5.21 Diagnostics

3.1.5.21.1 Diagnostics ConnectivityCheck

This 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`

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.21.1.1.1	Initiates a diagnostics action to check data path connectivity between two endpoints

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.
SenderIpAddress	Required	IP Address of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverIpAddress	Required	IP Address of the Receiver endpoint to which the diagnostics needs to be initiated
SenderVirtualNetwork	Optional	Virtual Network reference of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverVirtualNetwork	Optional	Virtual Network reference of the Receiver endpoint to which the diagnostics needs to be initiated
SenderLogicalNetwork	Optional	Logical Network reference of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverLogicalNetwork	Optional	Logical Network reference of the Receiver endpoint

Element name	Type	Description
		to which the diagnostics needs to be initiated
Protocol	Required	Protocol to be used for diagnostics
IcmpProtocolConfig	Optional	ICMP Protocol specific configuration
IcmpProtocolConfig.Length	Optional	Length of the ICMP packet
IcmpProtocolConfig.SequenceNumber	Optional	Sequence Number of the ICMP packet
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

3.1.5.21.1.1 HTTP Methods

3.1.5.21.1.1.1 PUT

Initiates a diagnostics action to check data path connectivity between two endpoints.

The URI for this resource is as follows.

```
https://<url>/networking/v1/diagnostics/ConnectivityCheck
```

The query parameters are specified in section [2.2.3](#), Common URI 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)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

3.1.5.21.1.1.1.1 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 [6.19.1.1](#).

3.1.5.21.1.1.1.2 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 [6.19.1.2](#)

3.1.5.21.1.1.1.3 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 [3.1.5.21.2.1.1](#).

3.1.5.21.2 Diagnostics ConnectivityCheckResults

This 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}
```

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.21.2.1.1	Retrieves the result of the previously initiated diagnostics operation
GET (All)	section 3.1.5.21.2.1.2	Lists the result of previously initiated diagnostics operation

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.
SenderIdAddress	Read-Only	IP Address of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverIpAddress	Read-Only	IP Address of the Receiver endpoint to which the diagnostics needs to be initiated
SenderVirtualNetwork	Read-Only	Virtual Network reference of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverVirtualNetwork	Read-Only	Virtual Network reference of the Receiver endpoint to which the diagnostics needs to be initiated
SenderLogicalNetwork	Read-Only	Logical Network reference of the Sender endpoint from which the diagnostics needs to be initiated
ReceiverLogicalNetwork	Read-Only	Logical Network reference of the Receiver endpoint to which the diagnostics needs to be initiated
Protocol	Read-Only	Protocol to be used for diagnostics
IcmpProtocolConfig	Read-Only	ICMP Protocol specific configuration
IcmpProtocolConfig.Length	Read-Only	Length of the ICMP packet
IcmpProtocolConfig.SequenceNumber	Read-Only	Sequence Number of the ICMP packet
OperationId	Read-Only	Operation ID for this diagnostics operation
SubmitTime	Read-Only	Submit Time of this diagnostics operation
Result	Read-Only	Result output of this diagnostics operation
Result.Status	Read-Only	Status of the diagnostics operation
Result.RoundTripTimeMSec	Read-Only	Round trip time in msec
Result.ErrorMessage	Read-Only	Error occurred while executing the operation, if any

Element name	Type	Description
Result.NodeOutput	Read-Only	Diagnostics Trace Output
Result.NodeOutput.NodeType	Read-Only	Type of the node (sender, receiver, transit)
Result.NodeOutput.NodeSequenceNumber	Read-Only	Sequence number of the node in the data path
Result.NodeOutput.TraceOutput	Read-Only	Trace Output from the node

3.1.5.21.2.1 HTTP Methods

3.1.5.21.2.1.1 GET

Retrieves the status of diagnostics connectivity check action.

The URI for this resource is as follows.

```
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)

3.1.5.21.2.1.1.1 Request Body

None.

3.1.5.21.2.1.1.2 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 [6.19.2.1](#).

3.1.5.21.2.1.1.3 Processing Details

None.

3.1.5.21.2.1.2 GET (All)

Retrieves the status of all available diagnostics connectivity check 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)

3.1.5.21.2.1.2.1 Request Body

None.

3.1.5.21.2.1.2.2 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 [6.19.2.2](#).

3.1.5.21.2.1.2.3 Processing Details

None.

3.1.5.21.3 Diagnostics SlbState

This 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`

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.21.3.1.1	Initiates a diagnostics action to check data path connectivity between two endpoints

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.
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

3.1.5.21.3.1 HTTP Methods

3.1.5.21.3.1.1 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](#), Common URI 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)
201 (Created)
412 (Precondition Failed)
500 (Internal Server Error)

3.1.5.21.3.1.1.1 Request Body

The **slbState PUT** request body is empty JSON.

```
{}
```

3.1.5.21.3.1.1.2 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 [6.19.3.1](#).

3.1.5.21.3.1.1.3 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 [3.1.5.21.4.1.1](#).

3.1.5.21.4 Diagnostics SlbStateResults

This 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}

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.21.4.1.1.1	Retrieves the result of the previously initiated diagnostics operation
GET (All)	section 3.1.5.21.4.1.1.2	Lists the result of previously initiated diagnostics operation

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.
OperationId	Read-Only	Operation ID for this diagnostics operation
SubmitTime	Read-Only	Submit Time of this diagnostics operation
Status	Read-Only	Status of the diagnostics operation
Output	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
Output.DataGroups	Read-Only	Result output group
Output.DataGroups.Name	Read-Only	Result output group name
Output.DataGroups.Description	Read-Only	Result output group description
Output.DataGroups.DataSections	Read-Only	Result output section (level 2)
Output.DataGroups.DataSections.Name	Read-Only	Result output section name
Output.DataGroups.DataSections.Description	Read-Only	Result output section description
Output.DataGroups.DataSections.DataRetrievalFailed	Read-Only	Flag to indicate if the data section retrieval failed
Output.DataGroups.DataSections.DataUnits	Read-Only	Result output data unit (level 3)
Output.DataGroups.DataSections.DataUnits.Value	Read-Only	Result output data unit value

3.1.5.21.4.1 HTTP Methods

3.1.5.21.4.1.1 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)

3.1.5.21.4.1.1.1 Request Body

None.

3.1.5.21.4.1.1.2 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-a808-9cb1aab94d8d",
  "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\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\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\nAnnouncedPrefixes
: 1\r\nAnnouncedPrefixesAggregatedRanges : \r\n
: 21.0.0.21-21.0.0.21\r\nNotYetAnnouncedPrefixesAggregatedRanges : \r\n\r\nVipEndpoints:
: \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\nDipEndpoints:
: \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\nAchievedOnHost                : True\r\nAchievedOnMux
: True\r\nDipHealthProbeEnabled            : False\r\nDipMonitoredState
: NA\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\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\nAchievedOnHost                : True\r\nAchievedOnMux
: True\r\nDipHealthProbeEnabled            : False\r\nDipMonitoredState
: NA\r\nErrorMessage                : \r\n\r\n\r\n\r\nSTATE ON MUXs:\r\n\r\nMUX
info:\r\nMuxId                : b639057c-9027-445a-8e34-
9d503cf6a344\r\nMux IPaddress            : 192.216.0.34\r\nMuxCurrentState
: Up\r\nIsMuxAlive                : True\r\nCurrentStateOfMuxInSlbm
: Healthy\r\nLastIncubationTime            : 6/21/2016 8:36:04
PM\r\n\r\n\r\nVipEndpoint                : Tcp:21.0.0.21:8570\r\nDipMap:\r\nDipInfo

```


None.

3.1.5.21.4.1.2.2 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 [6.19.4.2](#).

3.1.5.21.4.1.2.3 Processing Details

None.

3.1.5.21.5 Diagnostics NetworkControllerState

This 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
```

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.21.5.1.1	The server will generate a dump of internal data.

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page, section 2.2.2 .
resourceRef	Read-Only	Must be "/networkControllerState/NetworkControllerState"
resourceId	Read-Only	Must be "NetworkControllerState"
instanceId	Read-Only	See Common JSON Elements section 2.2.2.
Properties. provisioningState	Read-Only	See Common JSON Elements section 2.2.2.
properties. lastQueryTimeStamp	Read-Only	Timestamp of the last query operation in format MMdyyyyHHmssfff

3.1.5.21.5.1 HTTP Methods

3.1.5.21.5.1.1 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)

3.1.5.21.5.1.1.1 Request Body

The body must be '{"properties": { }}'.

3.1.5.21.5.1.1.2 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 [6.19.5.1](#).

3.1.5.21.5.1.1.3 Processing Details

None.

3.1.5.22 networkControllerStatistics

This resource provides a means to get usage and health information for a few resources:

- Health for **virtualNetworks**, **gateways**, and **loadBalancerMux**.
- Usage for **publicIPAddresses**, loadBalancer backend IPs and **macPools**.

It is invoked through the following URI.

```
https://<URL>/networking/v1/monitoring/NetworkControllerStatistics
```

url: the address of the computer on which the Network Controller is running.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.23.1.1	Map one instance ID to resource ID

The following property elements are valid:

Element name	Type	Description
resourceRef	Read-Only	See the description in section 2.2.2 , Common JSON Elements. Must be "/monitoring/NetworkControllerStatistics"
instanceId	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
Properties. provisioningState	Read-Only	
Properties. healthStatistics	Read-Only	Array of healthStatisticsItem
Properties. usageStatistics	Read-Only	Array of usageStatisticsItem

healthStatisticsItem

Element name	Type	Description
resourceType	Read-Only	Can be "VirtualNetwork", "Gateway" or "LoadBalancerMux" These correspond to the top level resources virtualNetworks, Gateways, LoadBalancerMux
totalResourceCount	Read-Only	Total count of REST resources of the type of resource specified by resourceType
healthyResourceCount	Read-Only	Count of such resources in healthy state
errorResourceCount	Read-Only	Count of such resources in an error state
warningResourceCount	Read-Only	Count of such resources in an warning state
healthUnknownCount	Read-Only	Count of such resources for which the health cannot be assessed

usageStatisticsItem

Element name	Type	Description
resourceType	Read-Only	Can be "PublicIPUtilization", "BackendIPUtilization" or "MacPoolUtilization" corresponding to publicIpAddresses resource, IPs in backendAddressPools , macPools resource
totalResourceCount	Read-Only	Total count of REST resources of the type of resource specified by <i>resourceType</i>
inUseResourceCount	Read-Only	Count of such resources that are in use

3.1.5.22.1 HTTP Methods

3.1.5.22.1.1 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](#), Common URI 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)

3.1.5.22.1.1.1 Request Body

None.

3.1.5.22.1.1.2 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 [6.20.1](#).

3.1.5.22.1.1.3 Processing Details

This method retrieves a health and usage statistics.

3.1.5.23 internalResourceInstances

This 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 of the computer on which the Network Controller is running.

instanceId: the identifier for the specific resource within the resource type. See section [2.2.2](#), common JSON Elements.

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
GET	section 3.1.5.23.1.1	Map one instance ID to resource ID
GET (All)	section 3.1.5.23.1.2	List all the mappings

The following property elements are valid:

Element name	Type	Description
resourceRef	Read-Only	See the description in section 2.2.2, Common JSON Elements. Reference relative to internalResourceInstances
resourceId	Read-Only	See the description in section 2.2.2, Common JSON Elements.
instanceId	Read-Only	See the description in section 2.2.2, Common JSON Elements.
Properties.provisioningState	Read-Only	
Properties.resourceReference	Read-Only	Actual resource reference

3.1.5.23.1 HTTP Methods

3.1.5.23.1.1 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](#), Common URI 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)

3.1.5.23.1.1.1 Request Body

None.

3.1.5.23.1.1.2 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 [6.21.1](#).

3.1.5.23.1.1.3 Processing Details

This method retrieves an instance ID to resource ID mapping.

3.1.5.23.1.2 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](#), Common URI 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)

3.1.5.23.1.2.1 Request Body

None.

3.1.5.23.1.2.2 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 [6.21.2](#).

3.1.5.23.1.2.3 Processing Details

This method retrieves all instance ID to resource ID mappings.

3.1.5.24 iDnsServer

The **iDnsServer** resource contains the configuration details for the DNS server in the internal DNS service.

The URI for the **iDnsServer** resource is as follows:

`https://<url>/networking/v1/iDnsServer/configuration`

The following HTTP methods can be performed on this resource.

HTTP method	Section	Description
PUT	section 3.1.5.24.1.1	Create the iDnsServer resource or update the existing iDnsServer resource.
GET	section 3.1.5.24.1.2	Get the iDnsServer resource.

The following property elements are valid.

Element name	Type	Description
Etag	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
provisioningState	Read-Only	See the description in section 2.2.2 , Common JSON Elements.
Connections	Required	Indicates a reference to collection of all the connections on the iDNS Server of the deployment.
Zone	Required	Indicates the DNS zone under which the tenant host DNS resource records as described in [RFC1034] section 3.6 are stored.

3.1.5.24.1 HTTP Methods

3.1.5.24.1.1 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)

3.1.5.24.1.1.1 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 [6.22.1](#).

3.1.5.24.1.1.2 Response Body

The format for the response body for the **PUT** method is the same as the **GET iDnsServer** response body (section [3.1.5.24.1.2.2](#)). The JSON schema is located in section [6.22.2](#).

3.1.5.24.1.1.3 Processing Details

Creates the **iDnsServer** resource or updates an existing **iDnsServer** resource.

3.1.5.24.1.2 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](#), Common URI 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)

3.1.5.24.1.2.1 Request Body

None.

3.1.5.24.1.2.2 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 [6.22.2](#).

3.1.5.24.1.2.3 Processing Details

Retrieves the **iDnsServer** resource.

3.1.5.25 virtualSwitchManager

The virtualSwitchManager resource is a singleton resource that configures the virtual switch properties on every server managed by the Network Controller (meaning that the NC has server resources for those machines).

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualSwitchManager/configuration
```

The following HTTP methods can be performed on this resource.

HTTP method	Description
PUT	Create a new virtualNetworkManager resource or update an existing virtualGateways resource.
GET	Get one virtualNetworkManager resource

The following property elements are valid:

Element name	Type	Description
etag	Read-Only	See the description in the Common JSON Elements page.

Element name	Type	Description
provisioningState	Read-Only	See the description in the Common JSON Elements page.
QosSettings	Optional	See table below

QosSettings

Element name	Type	Description
reservationMode		Specifies whether outboundReservedValue is applied as the absolute bandwidth (Mbps) or as a weighted value. Allowed values are "absolute" or "weight".
enableSoftwareRevervation		True to enable software qos reservation
enableHardwareLimits		Offloads Tx and Rx cap to hardware
enableHardwareREservation		Offloads bandwith reservation to hardware
linkSpeedPercentage		The percentage of the link speed to be used for calculating reservable bandwidth
defaultReservation		The default value of the reservation to be used for Nics that do not have any reservation specified (0)

3.1.5.25.1 HTTP Methods

3.1.5.25.1.1 PUT

This method updates the virtualSwitchManager resource.

It is invoked through the following URI.

```
https://<url>/networking/v1/virtualSwitchManager/configuration
```

3.1.5.25.1.1.1 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 [6.23.1](#).

3.1.5.25.1.1.2 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 [3.1.5.25.1.2.2](#)). The JSON schema is located in section [6.23.2](#).

3.1.5.25.1.1.3 Processing Details

Create or update the global virtual switch settings.

3.1.5.25.1.2 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)

3.1.5.25.1.2.1 Request Body

None.

3.1.5.25.1.2.2 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 [6.23.2](#).

3.1.5.25.1.2.3 Processing Details

Retrieves the virtualSwitchManager configuration.

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.

```
{
  "resourceId": "f54fe160-9c16-49a6-b002-1e92396aaa54",
  "properties": {
    "aclRules": [
      {
        "resourceId": "e4dc9ca4-d5b0-459c-a3e2-9212ba1db7ac",
        "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-8c8e281d3037",
        "properties": {
          "protocol": "All",
          "sourcePortRange": "0-65535",
          "destinationPortRange": "0-65535",
          "action": "Allow",
          "sourceAddressPrefix": "13.168.101.0/24",
          "destinationAddressPrefix": "*",
          "priority": "200",
          "type": "Inbound",
          "logging": "Enabled"
        }
      }
    ],
    "ipConfigurations": [],
    "subnets": [],
  }
}
```

4.2 macPools usage

The admin creates a **macPools** resource on the Network Controller.

```
PUT ~/networking/v1/macPools/macPool1
{
  "resourceId": "macPool1",
  "instanceId": "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX",
  "tags": { "key": "value" },
  "resourceMetadata": {
    {
      ...
    },
  },
  "properties": {
    "startMacAddress": "AA-BB-CC-DD-EE-FF",
  }
}
```

```
"endMacAddress": "UU-VV-WW-XX-YY-ZZ"  
}
```

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" ]
        },
        "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" ]
        },
        "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" ]
                                    },
                                    "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": {
      "$ref": "#/definitions/resourceMetadata"
    },
    "properties": {
      "type": "object",
      "properties": {
        "protocol": {
          "enum": [ "ALL", "all", "All", "TCP", "Tcp", "tcp", "UDP", "Udp", "udp", "HTTP",
"Http", "http" ]
        },
        "sourcePortRange": {
          "type": "string"
        },
        "destinationPortRange": {
          "type": "string"
        },
        "action": {
          "enum": [ "Allow", "Deny" ]
        },
        "sourceAddressPrefix": {
          "type": "string"
        },
        "destinationAddressPrefix": {
          "type": "string"
        },
        "priority": {
          "type": "string",
          "pattern": "^[1-9][0-9][0-9]+$"
        },
        "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" ]
        },
        "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": {
                    "$ref": "#/definitions/provisioningState"
                },
                "protocol": {
                    "enum": [ "All", "TCP", "UDP", "HTTP" ]
                },
                "sourcePortRange": {
                    "type": "string"
                },
                "destinationPortRange": {
                    "type": "string"
                },
                "action": {
                    "enum": [ "Allow", "Deny" ]
                },
                "sourceAddressPrefix": {
                    "type": "string"
                },
                "destinationAddressPrefix": {
                    "type": "string"
                },
                "priority": {
                    "type": "string",
                    "pattern": "^[1-9][0-9][0-9]+$"
                },
                "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 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"]
}

```

6.3 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"
    },
    "type": {
        "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"
                    }
                }
            }
        }
    }
}

```



```

    },
    "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" ]
},
"provisioningState": {
    "enum": [ "Succeeded", "Updating", "Deleting", "Failed" ]
}
},
"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"
]

```



```
}
```

6.5.5.2 GET schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for 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": {
  "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"
]
}
}

```

6.5.5.3 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"
  ]
}

```

6.5.6 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"
            },
            "outboundNatIPExemptions": {
                "type": "array",
                "items": {
                    "type": "string",
                    "format": "ipv4"
                }
            },
            "vipIpPools": {
                "type": "array",
                "items": {
                    "$ref": "#/definitions/resourceRef"
                },
                "minItems": 1
            }
        },
        "required": [
            "provisioningState",
            "loadBalancerManagerIPAddress",
            "outboundNatIPExemptions",
            "vipIpPools"
        ]
    }
},
"required": [
    "resourceRef",
    "resourceId",
    "etag",
    "instanceId",
    "properties"
]
}
}

```

6.7 loadBalancerMux

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 ALL schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for loadbalancerMuxes",
  "type": "object",

  "definitions": {
    "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}$"
    },
    "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"
]
}
}

```

6.8 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 logicalSubnets

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 macpool",
  "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
    },
    "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 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": [ "Enabled", "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" ]
          },
          "privateIPAddress": {
            "type": "string",

```



```

    },
    "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}$"
    },
    "privateMacAllocationMethod": {
      "enum": [ "Static", "Dynamic" ]
    },
    "dnsSettings": {
      "type": "object",
      "properties": {
        "DnsServers": {
          "type": "array",
          "items": {
            "type": "string",
            "format": "ipv4"
          }
        }
      }
    },
    "serviceInsertionElements": {
      "type": "array",
      "uniqueItems": true,
      "items": { "$ref": "#/definitions/resourceRef" }
    },
    "portSettings": {
      "$ref": "#/definitions/portSettings"
    }
  },
  "required": [
    "provisioningState"
  ]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "etag",
  "instanceId",
  "properties"
]
}

```

6.11.3 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": [ "Enabled", "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": {
        "$ref": "#/definitions/provisioningState"
      },
      "privateIPAllocationMethod": {
        "enum": [ "Static", "Dynamic", "Unmanaged" ]
      },
      "privateIPAddress": {
        "type": "string",
        "format": "ipv4"
      },
      "subnet": {
        "$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
  },
  "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"]
}

```

6.11.4 ipConfigurations

6.11.4.1 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"
]
}

```

6.11.4.2 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 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"
]
]
}

```

6.12.3 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" ]
    }
  }
}

```

```

},
"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"]
}

```

6.13 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"
    }
  },

```



```

    },
    "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",
  "interfaceName",
  "mac",
  "ipConfiguration",
  "vlanIds",
  "adminStatus",
  "operationalStatus",
  "interfaceIndex",
  "interfaceSpeed",
  "isBMC",
  "logicalSubnets"
]
}
},
"required": [
  "resourceRef",
  "resourceId",
  "resourceMetadata",
  "etag",
  "instanceId",
  "properties"
]
},
"required": [
  "provisioningState",
  "connections",
  "rackSlot",
  "os",
  "model",

```

```

        "vendor",
        "serial",
        "configurationState",
        "networkInterfaces"
    ]
},
"tags": {
    "additionalProperties": { "type": "string" }
}
},
"required": [
    "resourceRef",
    "resourceId",
    "resourceMetadata",
    "etag",
    "instanceId",
    "properties",
    "tags"
]
}
}

```

6.13.3 GET ALL schema

```

{
    "$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",
    "interfaceName",
    "mac",
    "ipConfiguration",
    "vlanIds",
    "adminStatus",
    "operationalStatus",
    "interfaceIndex",
    "interfaceSpeed",
    "isBMC",
    "logicalSubnets"
]
}
},
"required": [
    "resourceRef",
    "resourceId",
    "resourceMetadata",
    "etag",
    "instanceId",
    "properties"
]
},
"required": [
    "provisioningState",
    "connections",
    "rackSlot",
    "os",
    "model",
    "vendor",
    "serial",
    "configurationState",
    "networkInterfaces"
],
"tags": {
    "additionalProperties": { "type": "string" }
}
},
"required": [
    "resourceRef",
    "resourceId",
    "resourceMetadata",
    "etag",
    "instanceId",
    "properties",
    "tags"
]
},
"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 Insertion",
  "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": {
                    "description": {
                        "type": "string"
                    },
                    "order": {
                        "type": "integer"
                    }
                }
            }
        }
    },
    "required": [
        "order"
    ]
}

```

```

    }
    },
    "required": [
      "resourceId",
      "properties"
    ]
  },
  "priority": {
    "type": "integer"
  }
},
"required": [
  "serviceInsertionRules",
  "serviceInsertionElements",
  "priority"
]
}
},
"required": [
  "resourceId",
  "properties"
]
}
}

```

6.14.2 GET schema

```

{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET JSON Schema for Service Insertion",
  "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"
      },
      "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 Insertion",
"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",
"PFSSMM", "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": { }
    },
    "bgpNetworks": {
      "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",
    "bgpNetworks",
    "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",
"PFSSMM", "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": {}
    },
    "bgpNetworks": {
      "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",
    "bgpNetworks",
    "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"
        },
        "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"
        },
        "withdrawalSentCount": {
            "type": "integer"
        },
        "withdrawalReceivedCount": {
            "type": "integer"
        }
    },
    "required": [
        "updateSentCount",
        "updateReceivedCount",
        "withdrawalSentCount",
        "withdrawalReceivedCount"
    ]
}

```

```

    ],
    "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"
    },
    "withdrawalSentCount": {
      "type": "integer"
    },
    "withdrawalReceivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "updateSentCount",
    "updateReceivedCount",
    "withdrawalSentCount",
    "withdrawalReceivedCount"
  ]
},
"ipv6Route": {
  "type": "object",
  "properties": {
    "updateSentCount": {
      "type": "integer"
    },
    "updateReceivedCount": {
      "type": "integer"
    },
    "withdrawalSentCount": {
      "type": "integer"
    },
    "withdrawalReceivedCount": {
      "type": "integer"
    }
  },
  "required": [
    "updateSentCount",
    "updateReceivedCount",
    "withdrawalSentCount",
    "withdrawalReceivedCount"
  ]
},
"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

```
{
```

```

"$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 GET schema

```

{
  "$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"
]
]
}

```

6.16.3 GET ALL schema

```

{
  "$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"]
}

```

6.16.4 subnets

6.16.4.1 PUT schema

```

{
  "$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"
]
}

```

6.16.4.2 GET schema

```

{
  "$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"
]
}

```

```
}
```

6.16.4.3 GET ALL schema

```
{
  "$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"]
}
}

```

6.17 virtualNetworkManager

6.17.1 PUT schema

```

{
    "$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 GET schema

```

{
  "$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"
]
}

```

6.18 virtualServers

6.18.1 PUT schema

```
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "GET 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"
]
}
}

```

6.18.2 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"
]
}

```

6.18.3 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"]
}

```

6.19 Diagnostics

6.19.1 Diagnostics ConnectivityCheck

6.19.1.1 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"
]
}
}

```

6.19.1.2 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"
    ]
  }
}

```

6.19.2 Diagnostics ConnectivityCheckResults

6.19.2.1 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"
]
}
}

```

6.19.2.2 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"]
}
}

```

6.19.3 Diagnostics SlbState

6.19.3.1 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"
]
}

```

6.19.4 Diagnostics SlbStateResults

6.19.4.1 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"
]
}
}

```

6.19.4.2 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" ]
}

```

6.19.5 Diagnostics NetworkControllerState

6.19.5.1 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"
]
}
}

```

6.20 networkControllerStatistics

6.20.1 GET Schema

```

{
    "$schema": "http://json-schema.org/draft-04/schema#",
    "title": "PUT 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 internalResourceInstances

6.21.1 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"
  ]
}
```

6.21.2 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" ]
    },
    "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"]
  }
}

```

6.22 iDnsServer

6.22.1 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"
]
}

```

6.22.2 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"
]
}

```

6.23 virtualSwitchManager

6.23.1 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"
        },
        "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"
]
}
}

```

6.23.2 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"
]
}

```


7 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs.

Windows Server 2016 operating system

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product 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 3.1](#): In Windows implementations, the server does not paginate, and "nextLink" is always set to "".

8 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

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 or functionality.
- The removal of a document from the documentation set.

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 **Editorial** means that the formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the technical content of the document is identical to the last released version.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.
- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
1.3.3.1 Concurrent operations on the same resource	72982 : Defined SDNAPI service.	N	Content update.

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