[MS-RDPERP]: Remote Desktop Protocol: Remote Programs Virtual Channel Extension

Errata below are for Protocol Document Version V29.0 – 2020/03/04.

Errata Published*	Description
2020/07/06	In Section 4.1.1.1 New or Existing Windows, added the 'TS_WINDOW_ORDER_HEADER' prefix to 'WindowId'. Changed from: ``` 2e -> TS_WINDOW_ORDER_HEADER::Header (1 Byte) 81 00 -> TS_WINDOW_ORDER_HEADER::OrderSize (2 Bytes) 9e df 08 19 -> TS WINDOW ORDER HEADER::FieldsPresentFlags (4 Bytes) 58 01 12 00 -> WindowId 00 00 00 00 -> OwnerWindowId 00 00 cf 14 -> Style 00 01 00 00 -> ExtendedStyle 05 -> ShowState ``` Changed to: ``` 2e -> TS WINDOW ORDER HEADER::Header (1 Byte) 81 00 -> TS WINDOW ORDER HEADER::OrderSize (2 Bytes) 9e df 08 19 -> TS_WINDOW_ORDER_HEADER::FieldsPresentFlags (4 Bytes) 58 01 12 00 -> TS_WINDOW_ORDER_HEADER::WindowId (4 Bytes) 00 00 00 00 -> OwnerWindowId 00 00 cf 14 -> Style 00 01 00 00 -> ExtendedStyle 05 -> ShowState ``` In Section 4.1.1.2 Deleted Window, added the 'TS_WINDOW_ORDER_HEADER' prefix to 'WindowId'. Changed from: ``` 00000000 2e 0b 00 00 00 00 21 24 00 03 00......!$... 2e -> TS_WINDOW_ORDER_HEADER::Header (1 Byte) 0b 00 -> TS_WINDOW_ORDER_HEADER::OrderSize (2 Bytes) 00 00 00 21 -> TS WINDOW ORDER HEADER::FieldsPresentFlags (4 Bytes) (WINDOW_ORDER_TYPE_WINDOW | WINDOW_ORDER_STATE_DELETED) ```

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| | ```
24 00 03 00 -> WindowId                                   (4 Bytes)
```<br><br>Changed to:<br><br>```
 00000000 2e 0b 00 00 00 00 21 24 00 03 00......!$...

 2e -> TS_WINDOW_ORDER_HEADER::Header                        (1 Byte)
 0b 00 -> TS WINDOW ORDER HEADER::OrderSize                  (2
Bytes)
 00 00 00 21 -> TS_WINDOW_ORDER_HEADER::FieldsPresentFlags   (4
Bytes)
       (WINDOW ORDER TYPE WINDOW | WINDOW ORDER STATE DELETED )
 24 00 03 00 -> TS WINDOW ORDER HEADER::WindowId             (4
Bytes)
```<br><br>In Section 4.4.1 S_RAIL_ORDER_SYSPARAM, added the 'TS_HIGHCONTRAST::' prefix to 'Flags', 'ColorSchemeLength', and 'ColorSchema'.<br><br>Changed from:<br><br>```
 03 00 -> TS_RAIL_PDU_HEADER::orderType = TS_RAIL_ORDER_SYSPARAM(3) (2
Bytes)
 12 00 -> TS_RAIL_PDU_HEADER::orderLength   = 18               (2
Bytes)
 43 00 00 00 -> SystemParam: SPI_SETHIGHCONTRAST              (4
Bytes)
 7e 00 00 00 -> Flags: 0x7e   (4 Bytes)
 02 00 00 00 -> ColorSchemeLength: 2    (4 Bytes)
 00 00 -> ColorScheme: 0                         (2 Bytes)
```<br><br>Changed to:<br><br>```
 03 00 -> TS_RAIL_PDU_HEADER::orderType = TS_RAIL_ORDER_SYSPARAM(3) (2
Bytes)
 12 00 -> TS_RAIL_PDU_HEADER::orderLength   = 18               (2
Bytes)
 43 00 00 00 -> SystemParam: SPI_SETHIGHCONTRAST              (4
Bytes)
 7e 00 00 00 -> TS_HIGHCONTRAST::Flags: 0x7e                  (4
Bytes)
 02 00 00 00 -> TS-HIGHCONTRAST::ColorSchemeLength: 2         (4
Bytes)
 00 00 -> TS HIGHCONTRAST::ColorScheme: 0                     (2
Bytes)
``` |
| 2020/07/06 | In Section 2.2.1.3.1.2.1 New or Existing Window, removed the extraneous space from 'FIELD_ RESIZE'

Changed from: |

Errata Published*	Description
	WindowRightResizeMargin (4 bytes): An unsigned 32-bit integer specifying the width of the transparent hit-testable margin along the right edge of the window. Any mouse, pen or touch input within this margin SHOULD be sent to the server.
	This field is present only if the WINDOW_ORDER_FIELD_ RESIZE_MARGIN_X flag is set in the FieldsPresentFlags field of TS_WINDOW_ORDER_HEADER.
	Resize margins SHOULD be used to extend the window geometry (defined by the WindowOffsetX, WindowOffsetY, WindowWidth and WindowHeight fields) and are not included in the window boundaries.
	WindowTopResizeMargin (4 bytes): An unsigned 32-bit integer specifying the height of the transparent hit-testable margin along the top edge of the window. Any mouse, pen or touch input within this margin SHOULD be sent to the server.
	This field is present only if the WINDOW_ORDER_FIELD_ RESIZE_MARGIN_Y flag is set in the FieldsPresentFlags field of TS_WINDOW_ORDER_HEADER.
	Resize margins SHOULD be used to extend the window geometry (defined by the WindowOffsetX, WindowOffsetY, WindowWidth and WindowHeight fields) and are not included in the window boundaries.
	Changed to:
	WindowRightResizeMargin (4 bytes): An unsigned 32-bit integer specifying the width of the transparent hit-testable margin along the right edge of the window. Any mouse, pen or touch input within this margin SHOULD be sent to the server.
	This field is present only if the WINDOW_ORDER_FIELD_RESIZE_MARGIN_X flag is set in the FieldsPresentFlags field of TS_WINDOW_ORDER_HEADER.
	Resize margins SHOULD be used to extend the window geometry (defined by the WindowOffsetX, WindowOffsetY, WindowWidth and WindowHeight fields) and are not included in the window boundaries.
	WindowTopResizeMargin (4 bytes): An unsigned 32-bit integer specifying the height of the transparent hit-testable margin along the top edge of the window. Any mouse, pen or touch input within this margin SHOULD be sent to the server.
	This field is present only if the WINDOW_ORDER_FIELD_RESIZE_MARGIN_Y flag is set in the FieldsPresentFlags field of TS_WINDOW_ORDER_HEADER.
	Resize margins SHOULD be used to extend the window geometry (defined by the WindowOffsetX, WindowOffsetY, WindowWidth and WindowHeight fields) and are not included in the window boundaries.
	In Section 2.2.1.3.1.2.3 Cached Icon, capitalized field names cacheEntry and cacheId.
	Changed from:
	The Cached Icon Window Information Order is generated by the server when a new or existing window sets or updates the icon in its title bar or in the Alt-Tab dialog box. If the icon information was transmitted by the server in a previous Window Information Order or Notification Icon Information Order in the same session, and the icon was cacheable (that is, the server specified a cacheEntry and cacheId for the icon), the server reports the icon cache entries to avoid sending duplicate information.
	Changed to:
	The Cached Icon Window Information Order is generated by the server when a new or existing window sets or updates the icon in its title bar or in the Alt-Tab dialog box. If the icon information was transmitted by the server in a previous Window Information Order or Notification Icon Information Order in the same session, and the icon was cacheable (that is, the server specified a CacheEntry and CacheId for the icon), the server reports the icon cache entries to avoid sending duplicate information.
	In Section 2.2.1.3.1.2.3 Cached Icon, revised 'TS_CACHED ICON_INFO' to 'TS_CACHED_ICON_INFO'.

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	Changed from:
	CachedIcon (3 bytes): Three bytes. TS_CACHED ICON_INFO structure. Describes a cached icon on the client.
	Changed to:
	CachedIcon (3 bytes): Three bytes. TS_CACHED_ICON_INFO (section 2.2.1.2.4) structure. Describes a cached icon on the client.
	In Section 4.1.1.6 Non-Monitored Desktop, revised title from 'Non-monitored Desktop'
	Changed from:
	4.1.1.6 Non-monitored Desktop
	Changed to:
	4.1.1.6 Non-Monitored Desktop
	In Section 3.2.5.1.8 Processing Desktop Information Orders, revised 'non-monitored desktop' to 'Non-Monitored Desktop' to reflect section title change.
	Changed from:
	● Upon receipt of a Desktop Information Order for a non-monitored desktop, as specified in section 2.2.1.3.3.2.2, the client SHOULD discard all of the existing RAIL windows and Notify Icons.
	Changed to:
	● Upon receipt of a Desktop Information Order for a Non-Monitored Desktop packet, as specified in section 2.2.1.3.3.2.2, the client SHOULD discard all of the existing RAIL windows and Notify Icons.

*Date format: YYYY/MM/DD