

## [MS-RDPEGFX]: Remote Desktop Protocol: Graphics Pipeline Extension

This topic lists the Errata found in [MS-RDPEGFX] since it was last published. Since this topic is updated frequently, we recommend that you subscribe to these RSS or Atom feeds to receive update notifications.



Errata are subject to the same terms as the Open Specifications documentation referenced.

Errata below are for Protocol Document Version [V9.0 – 2015/10/16](#).

| <b>Errata Published *</b> | <b>Description</b>   |
|---------------------------|--|
| 2016/04/18                | <p>In several sections, clarified how the width and height of the MPEG-4 AVC/H.264 codec bitstream should be aligned and cropped. Also clarified the chroma subframe behavior in the "A representation of a YUV444 macroblock as two YUV240p macroblocks" figure.</p> <p>In Section 2.2.4.4, RFX_AVC420_BITMAP_STREAM, changed from:</p> <p>The RFX_AVC420_BITMAP_STREAM structure encapsulates regions of a graphics frame compressed using the MPEG-4 AVC/H.264 codec in YUV420p mode (as specified in [ITU-H.264-201201]) and conforming to the byte stream format specified in [ITU-H.264-201201] Annex B. The data compressed using these techniques is transported in the bitmapData field of the RD PGFX_WIRE_TO_SURFACE_PDU_1 (section 2.2.2.1) message or encapsulated in the RFX_AVC444_BITMAP_STREAM structure (section 2.2.4.5).</p> <p>...</p> <p>Changed to:</p> <p>The RFX_AVC420_BITMAP_STREAM structure encapsulates regions of a graphics frame compressed using the MPEG-4 AVC/H.264 codec in YUV420p mode (as specified in [ITU-H.264-201201]) and conforming to the byte stream format specified in [ITU-H.264-201201] Annex B. The data compressed using these techniques is transported in the bitmapData field of the RD PGFX_WIRE_TO_SURFACE_PDU_1 (section 2.2.2.1) message or encapsulated in the RFX_AVC444_BITMAP_STREAM structure (section 2.2.4.5).</p> <p>Note that the width and height of the MPEG-4 AVC/H.264 codec bitstream MUST be aligned to a multiple of 16 and MUST be cropped by the region mask specified in the regionRects field that is embedded in the avc420MetaData field.</p> <p>...</p> <p>In Section 3.3.8.3.2, YUV420p Stream Combination, changed from:</p> <p>...</p> <p>For macroblocks that are in rectangles in a received chroma subframe (refer to the regionRects field of the corresponding RFX_AVC420_METABLOCK), color conversion MUST use the Y, U, and V components from the last corresponding rectangle in a luma subframe together with the current chroma subframe.</p> |

| Errata Published * | Description  |
|--------------------|--|
|                    | <p>The following reverse filter must be applied to <math>\tilde{U}_{444}(2x,2y)</math> and <math>\tilde{V}_{444}(2x,2y)</math> prior to color conversion:</p> $U_{444}(2x,2y) = \tilde{U}_{444}(2x,2y) * 4 - U_{444}(2x + 1,2y) - U_{444}(2x,2y + 1) - U_{444}(2x + 1,2y + 1)$ $V_{444}(2x,2y) = \tilde{V}_{444}(2x,2y) * 4 - V_{444}(2x + 1,2y) - V_{444}(2x,2y + 1) - V_{444}(2x + 1,2y + 1)$ <p>Changed to:<br/>...</p> <p>For macroblocks that are in rectangles in a received chroma subframe (refer to the regionRects field of the corresponding RFX_AVC420_METABLOCK), color conversion MUST use the Y, U, and V components from the last corresponding rectangle in a luma subframe together with the current chroma subframe.</p> <p>The following reverse filter must be applied to <math>\tilde{U}_{444}(2x,2y)</math> and <math>\tilde{V}_{444}(2x,2y)</math> prior to color conversion:</p> $U_{444}(2x,2y) = \tilde{U}_{444}(2x,2y) * 4 - U_{444}(2x + 1,2y) - U_{444}(2x,2y + 1) - U_{444}(2x + 1,2y + 1)$ $V_{444}(2x,2y) = \tilde{V}_{444}(2x,2y) * 4 - V_{444}(2x + 1,2y) - V_{444}(2x,2y + 1) - V_{444}(2x + 1,2y + 1)$ <p>Note that the ranges for x and y in the chroma subframe (auxiliary view) are based on 16x16 macroblock sizes, and the view in the figure captioned "A representation of a YUV444 macroblock as two YUV240p macroblocks" shows interleaving in the chroma subframe for B4 and B5 on an 8-line basis. Color conversion MUST be performed for the entire macroblock, after which the region mask in regionRects MUST be applied. The use of 2x or 2y denotes even pixels, while (2x+1) or (2y+1) denotes odd pixels.</p> |
| 2015/12/11         | <p>Field names were corrected in three sections.</p> <p>In sections 2.2.4.2.1.5.4 RFX_PROGRESSIVE_TILE_FIRST and 2.2.4.2.1.5.5 RFX_PROGRESSIVE_TILE_UPGRADE, the field name was changed from progQuantVals to quantProgVals.</p> <p>In section 3.3.5.17 Processing an RDPGFX_CACHE_IMPORT_REPLY_PDU message, the field name was changed from entriesToImport to importedEntriesCount.</p>  |

\*Date format: YYYY/MM/DD