[MS-WDHCE]: Wi-Fi Display Protocol Hardware Cursor Extension

This topic lists the Errata found in the Windows Protocols Technical Specifications, Overview Documents, and Reference documents since they were 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.

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Errata below are for Protocol Document Version V6.0 – 2021/06/25.

<table>
<tr><th>Errata Published*</th><th>Description</th></tr>
<tr><td>2022/02/08</td><td>
In Section 2.2.3, Mouse Pointer Shape Message, clarified the message structure and sequence information:

Changed from:

When the graphics driver is given a new mouse pointer shape, it sends it to the sink. The network message contains an RTP header, as specified in section 2.2, followed by a binary message in the following format.
Note Because the cursor shape packet can be bigger than the UDP packet, we split the mouse shape data into a single start mouse shape packet and potentially multiple mouse shape continuation packets. Below is the definition of the start packet.
<table>
<tr><th>Field name</th><th>Type</th><th>Details</th></tr>
<tr><td>MsgType</td><td>8 bit unsigned</td><td>The type of cursor message, valid values
0x01 Mouse cursor position update
0x02 Mouse cursor shape start
0x03 Mouse cursor shape continuation

For mouse cursor image update this will be 0x02</td></tr>
<tr><td>PacketMsgSize</td><td>16 bit unsigned</td><td>The total size of this message in bytes; for mouse pointer shape update, this includes this header and any image data that is contained within this packet; this does not include the size of any data contained within continuation packets.</td></tr>
<tr><td>TotalImageDataSize</td><td>32 bit unsigned</td><td>The total size of the image data for this cursor. Note The image data for a single cursor can be split between multiple packets.</td></tr>
<tr><td>CursorImageId</td><td>16 bit unsigned</td><td>The ID of the cursor images; this will be used to distinguish between new shapes and re-transmission of current shape</td></tr>
</table>

Changed to:

When the graphics driver is given a new mouse pointer shape, it sends one or more messages to the sink. Each message is a UDP packet beginning with an RTP header, as specified in
</td></tr>
</table>

<table>
<tr><th>Errata Published*</th><th>Description</th></tr>
<tr><td></td><td>
section 2.2. If the pointer image data fits in a single UDP packet, only one message is sent. If the image data is too large for a single UDP packet, the first packet is followed by packets containing the remaining image data.
The first packet consists of an RTP header followed by the fields in the following table, in this order:
<table>
<tr><th>Field name</th><th>Type</th><th>Details</th></tr>
<tr><td>MsgType</td><td>8 bit unsigned</td><td>The type of cursor message. This will be 0x02 to indicate that it is the start of the mouse cursor shape update messages.</td></tr>
<tr><td>PacketMsgSize</td><td>16 bit unsigned</td><td>The total size of this message (not including the RTP header) in bytes. For mouse pointer shape update messages, this includes the fields in this table and any image data contained within the packet. This excludes any data contained in continuation packets.</td></tr>
<tr><td>TotalImageDataSize</td><td>32 bit unsigned</td><td>The total size of the image data for this cursor. This includes image data in this packet plus any image data in subsequent packets. Recall that the image data for a single cursor can be split across multiple packets.</td></tr>
<tr><td>CursorImageId</td><td>16 bit unsigned</td><td>The ID of the cursor images; this will be used to distinguish between new shapes and re-transmission of current shape</td></tr>
</table>

Changed from:

Below is the definition of the shape continuation packet that is used if the cursor shape data spans more than one UDP packet.
<table>
<tr><th>Field name</th><th>Type</th><th>Details</th></tr>
<tr><td>MsgType</td><td>8 bit unsigned</td><td>The type of cursor message, valid values
0x01 Mouse cursor position update
0x02 Mouse cursor shape start
0x03 Mouse cursor shape continuation

For mouse cursor shape continuation this will be 0x03</td></tr>
<tr><td>PacketMsgSize</td><td>16 bit unsigned</td><td>The total size of this message in bytes; for mouse pointer shape update this includes this header and any image data that is contained within this packet, this does not include the size of any data contained within continuation packets.</td></tr>
<tr><td>TotalImageDataSize</td><td>32 bit unsigned</td><td>The total size of the image data for this cursor.
Note The image data for a single cursor can be split between multiple packets.</td></tr>
<tr><td>CursorImageId</td><td>16 bit unsigned</td><td>The ID of this cursor images; this will be used to distinguish between new shapes and re-transmission of current shape</td></tr>
</table>
</td></tr>
</table>

Errata Published*	Description

PacketPayloadOffset	32 bit signed	The offset into the entire mouse shape data buffer (of compressed PNG data) where the ImageData in this packet should go. This allows the sink process the packets out of order as this gives them the information needed to copy this packets part of the mouse image into the correct location in the buffer.
ImageData	8 bit unsigned array	The portion of the total cursor image data that is contained within this packet, the size of image data in this packet is PacketMsgSize-13.

The mouse shape messages MUST always start at the beginning of a UDP packet, but can span multiple UDP packets because of its variable size. In this case, an RTP header is placed at the top of each UDP package.

The mouse pointer shape messages also contain the current mouse pointer position. Just like the mouse cursor position, it is updated only once per frame during the vertical blank period. The latest image replaces any previous image.

Changed to:

If the image data does not fit into a single packet, one or more mouse cursor shape continuation packets are sent to communicate the remaining image data. Each continuation packet begins with an RTP header and is followed by the fields in the following table, in this order:

Field name	Type	Details
MsgType	8 bit unsigned	The type of cursor message. For mouse cursor shape continuation messages, this will be 0x03.
PacketMsgSize	16 bit unsigned	The total size of this message (not including the RTP header) in bytes. For mouse pointer shape continuation messages, this includes the fields in this table and any image data contained within the packet. This excludes any data contained in any subsequent continuation packets.
TotalImageDataSize	32 bit unsigned	The total size of the image data for this cursor. This includes image data in this packet plus any image data in preceding and subsequent packets. Recall that the image data for a single cursor can be split across multiple packets.
CursorImageId	16 bit unsigned	The ID of this cursor images; this will be used to distinguish between new shapes and re-transmission of current shape.
PacketPayloadOffset	32 bit signed	The offset into the entire mouse shape data buffer (of compressed PNG data) where the ImageData in this packet should go. This allows the sink process the packets out of order as this gives them the information needed to copy this packets part of the mouse image into the correct location in the buffer.
ImageData	8 bit unsigned array	The portion of the total cursor image data that is contained within this packet, the size of image data in this packet is PacketMsgSize-13.

Errata Published*	Description
	The mouse pointer shape messages also contain the current mouse pointer position. Just like the mouse cursor position, it is updated only once per frame during the vertical blank period. The latest image replaces any previous image.

*Date format: YYYY/MM/DD