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NVM Express Technical Proposal for New Feature

Technical Proposal ID	6020a – Management Endpoint Buffer Enhancements
Change Date	02/15/2021
Builds on Specification	NVM Express Management Interface 1.1

Technical Proposal Author(s)

Name	Company
Mike Allison, Myron Loewen	Intel Corporation

This TP is to align the behavior of the MEB bit to be consistent with the behavior defined by the CIAP bit (TP 6010) for non-command messages and in-band tunneling.

Revision History

Revision Date	Change Description
06/08/2020	First published draft
06/08/2020	Updated wording from John Geldman.
06/15/2020	Added figures 42 and 48 to be updated with MEB bit.
07/13/2020	Member review ready
08/17/2020	Clarified the parameter in error when a Invalid Parameter Error Response occurs.
09/27/2020	Integrated into the NVMe Management Interface Specification, Revision 1.1.
09/28/2020	Fixed the title of section 3.1.1
11/4/2020	Incorporated new phases for Invalid Parameter Error Responses.
12/17/2020	Deleted repeated phrase "shall be returned". Accepted all changes and removed all comments for 30 day member review.
02/15/2021	Integrated into the NVMe Management Interface Specification, Revision 1.1.
02/22/2021	Removed all comments, accepted all changes, and converted references/cross-references to text.

Description of Specification Changes

Editor's note: These changes are applied on top of NVMe-MI 1.1.

Modify a portion of Figure 18 in section 3.1.1 as shown below:

3.1.1 Messages Fields

...

Figure 18: NVMe-MI Message Fields

Byte	Description															
...																
2	<table><tr><th>Bits</th><th>Description</th></tr><tr><td>7:1</td><td>Reserved</td></tr><tr><td rowspan="3">0</td><td>Management Endpoint Buffer (MEB): This bit indicates whether the Message Data in a Command Message is contained in the Message Data field of this NVMe-MI Message or in the Management Endpoint Buffer. Refer to section 3.1.</td></tr><tr><td><table><tr><th>Value</th><th>Description</th></tr><tr><td>0b</td><td>The Message Data is contained in the Message Data of this NVMe-MI Message.</td></tr><tr><td>1b</td><td>The Message Data is contained in the Management Endpoint Buffer.</td></tr></table></td></tr><tr><td colspan="2"><p>This bit is only valid for Command Messages sent using the out-of-band mechanism and is reserved for all other types of NVMe-MI Messages.</p><p>If this bit is set to '1' for any type of NVMe-MI Message received by a Management Endpoint other than a Command Message, then an Invalid Parameter Error Response with the PEL field indicating this bit shall be returned.</p><p>If this bit is set to '1' in the in-band tunneling mechanism, then an Invalid Parameter Error Response with the PEL field indicating this bit shall be returned.</p></td></tr></table>	Bits	Description	7:1	Reserved	0	Management Endpoint Buffer (MEB): This bit indicates whether the Message Data in a Command Message is contained in the Message Data field of this NVMe-MI Message or in the Management Endpoint Buffer. Refer to section 3.1.	<table><tr><th>Value</th><th>Description</th></tr><tr><td>0b</td><td>The Message Data is contained in the Message Data of this NVMe-MI Message.</td></tr><tr><td>1b</td><td>The Message Data is contained in the Management Endpoint Buffer.</td></tr></table>	Value	Description	0b	The Message Data is contained in the Message Data of this NVMe-MI Message.	1b	The Message Data is contained in the Management Endpoint Buffer.	<p>This bit is only valid for Command Messages sent using the out-of-band mechanism and is reserved for all other types of NVMe-MI Messages.</p> <p>If this bit is set to '1' for any type of NVMe-MI Message received by a Management Endpoint other than a Command Message, then an Invalid Parameter Error Response with the PEL field indicating this bit shall be returned.</p> <p>If this bit is set to '1' in the in-band tunneling mechanism, then an Invalid Parameter Error Response with the PEL field indicating this bit shall be returned.</p>	
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Modify the following figures to include the MEB bit in bit 0 of byte 2 of Command Messages:

- *Figure 42*
- *Figure 48*