



1
2
3
4

Document Number: DSP0239

Date: 28 July 2009

Version: 1.0.0

5 **Management Component Transport Protocol**
6 **(MCTP) IDs and Codes**

7 **Document Type: Specification**
8 **Document Status: DMTF Standard**
9 **Document Language: E**

10

11 Copyright Notice

12 Copyright © 2009 Distributed Management Task Force, Inc. (DMTF). All rights reserved.

13 DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems
14 management and interoperability. Members and non-members may reproduce DMTF specifications and
15 documents, provided that correct attribution is given. As DMTF specifications may be revised from time to
16 time, the particular version and release date should always be noted.

17 Implementation of certain elements of this standard or proposed standard may be subject to third party
18 patent rights, including provisional patent rights (herein "patent rights"). DMTF makes no representations
19 to users of the standard as to the existence of such rights, and is not responsible to recognize, disclose,
20 or identify any or all such third party patent right, owners or claimants, nor for any incomplete or
21 inaccurate identification or disclosure of such rights, owners or claimants. DMTF shall have no liability to
22 any party, in any manner or circumstance, under any legal theory whatsoever, for failure to recognize,
23 disclose, or identify any such third party patent rights, or for such party's reliance on the standard or
24 incorporation thereof in its product, protocols or testing procedures. DMTF shall have no liability to any
25 party implementing such standard, whether such implementation is foreseeable or not, nor to any patent
26 owner or claimant, and shall have no liability or responsibility for costs or losses incurred if a standard is
27 withdrawn or modified after publication, and shall be indemnified and held harmless by any party
28 implementing the standard from any and all claims of infringement by a patent owner for such
29 implementations.

30 For information about patents held by third-parties which have notified the DMTF that, in their opinion,
31 such patent may relate to or impact implementations of DMTF standards, visit
32 <http://www.dmtf.org/about/policies/disclosures.php>.

33 PCI-SIG, PCIe, and the PCI HOT PLUG design mark are registered trademarks or service marks of PCI-
34 SIG.

35 All other marks and brands are the property of their respective owners.

36

37

CONTENTS

38 Foreword 4

39 Introduction 5

40 1 Scope 7

41 2 Normative References..... 7

42 2.1 Approved References 7

43 2.2 Other References..... 7

44 3 Terms and Definitions..... 8

45 4 Symbols and Abbreviated Terms..... 9

46 5 MCTP Message Type Codes 11

47 6 MCTP Physical Medium Identifiers 12

48 7 MCTP Physical Transport Binding Identifiers..... 13

49 Annex A (informative) Change Log 14

50

51 Tables

52 Table 1 – MCTP Message Types 11

53 Table 2 – MCTP Physical Medium Identifiers 12

54 Table 3 – MCTP Physical Transport Binding Identifiers 13

55

56

Foreword

57 The *Management Component Transport Protocol (MCTP) IDs and Codes* (DSP0239) was prepared by
58 the PMCI Subgroup of the Pre-OS Working Group.

59 DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems
60 management and interoperability.

61

Introduction

62 This document presents a collection of IDs and codes that are used across the Management Component
63 Transport Protocol (MCTP) and transport binding specifications.

64 The MCTP defines a communication model intended to facilitate communication between:

- 65 • Management controllers and other management controllers
- 66 • Management controllers and management devices

67 The communication model includes a message format, transport description, message exchange
68 patterns, and configuration and initialization messages.

69 The *MCTP Base Protocol Specification* (MCTP) describes the protocol and commands used for
70 communication within and initialization of an MCTP network. Associated with the *Base Protocol*
71 *Specification* are transport binding specifications that define how the MCTP base protocol and MCTP
72 control commands are implemented on a particular physical transport type and medium, such as
73 SMBus/I²C, PCI Express™ (PCIe) Vendor Defined Messaging (VDM), and so on.

74 Management Component Transport Protocol (MCTP) IDs and 75 Codes

76 1 Scope

77 The *Management Component Transport Protocol (MCTP) IDs and Codes* document provides a
78 consolidated list of major IDs and codes used across the MCTP protocol and transport binding
79 specifications. Only IDs and codes that are required by a particular specification should be included in
80 that specification. IDs and codes values for other specifications should not be repeated for reference.
81 Instead, a reference to this specification should be provided.

82 The following is an overview of the different sets of codes and identifiers (enumeration values) that are
83 specified in this document:

- 84 • **MCTP message type codes**
85 Collection of the message type codes used for MCTP messages
- 86 • **MCTP physical medium identifiers**
87 Collection of identifiers for the different types of physical media that have been defined
- 88 • **MCTP physical transport binding identifiers**
89 Collection of identifiers for the specifications that define the operation, formatting, addressing,
90 and encapsulation of MCTP packets over different physical media

91 2 Normative References

92 The following referenced documents are indispensable for the application of this document. For dated
93 references, only the edition cited applies. For undated references, the latest edition of the referenced
94 document (including any amendments) applies.

95 2.1 Approved References

96 DMTF DSP0236, *Management Component Transport Protocol (MCTP) Base Specification 1.0*, MCTP,
97 http://www.dmtf.org/standards/published_documents/DSP0236_1.0.pdf

98 DMTF DSP0237, *Management Component Transport Protocol (MCTP) SMBus²C Transporting Binding*
99 *Specification 1.0*, MCTP SMBus-I²C,
100 http://www.dmtf.org/standards/published_documents/DSP0237_1.0.pdf

101 DMTF DSP0238, *Management Component Transport Protocol (MCTP) PCIe VDM Transport Binding*
102 *Specification 1.0*, MCTP PCIe-V, http://www.dmtf.org/standards/published_documents/DSP0238_1.0.pdf

103 2.2 Other References

104 ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*,
105 <http://isotc.iso.org/livelink/livelink?func=ll&objId=4230456&objAction=browse&sort=subtype>

106 PCI-SIG, *PCI Express Base Specification 1.1*, PCIeV1.1, March 28, 2005,
107 http://www.pcisig.com/members/downloads/specifications/pciexpress/PCI_Express_Base_11.pdf

108 PCI-SIG, *PCI Express Base Specification 2.0*, PCIeV2.0, December 20, 2006,
109 http://www.pcisig.com/members/downloads/specifications/pciexpress/PCI_Express_Base_2.pdf

110 Philips Semiconductors, *The I²C-Bus Specification v2.0*, I2C, December 1998
111 http://www.nxp.com/acrobat_download/literature/9398/39340011_20.pdf

112 RMI Consortium, *Reduced Media Independent Interface (RMII) Specification v1.2*, RMII, 1997,
113 http://www.national.com/appinfo/networks/files/rmii_1_2.pdf

114 SMBus, *System Management Bus (SMBus) Specification v2.0*, SMBus, 2000,
115 <http://www.smbus.org/specs/smbus20.pdf>

116 **3 Terms and Definitions**

117 For the purposes of this document, the following terms and definitions apply.

118 **3.1**

119 **can**

120 used for statements of possibility and capability, whether material, physical, or causal

121 **3.2**

122 **cannot**

123 used for statements of possibility and capability, whether material, physical or causal

124 **3.3**

125 **conditional**

126 indicates requirements to be followed strictly to conform to the document when the specified conditions
127 are met

128 **3.4**

129 **deprecated**

130 indicates that an element or profile behavior has been outdated by newer constructs

131 **3.5**

132 **mandatory**

133 indicates requirements to be followed strictly to conform to the document and from which no deviation is
134 permitted

135 **3.6**

136 **may**

137 indicates a course of action permissible within the limits of the document

138 NOTE: An implementation that does *not* include a particular option shall be prepared to interoperate with another
139 implementation that *does* include the option, although perhaps with reduced functionality. An implementation that
140 *does* include a particular option shall be prepared to interoperate with another implementation that does *not* include
141 the option (except for the feature that the option provides).

142 **3.7**

143 **may not**

144 indicates flexibility of choice with no implied preference

145 **3.8**

146 **need not**

147 indicates a course of action permissible within the limits of the document

- 148 **3.9**
149 **not recommended**
150 indicates that valid reasons may exist in particular circumstances when the particular behavior is
151 acceptable or even useful, but the full implications should be understood and carefully weighed before
152 implementing any behavior described with this label
- 153 **3.10**
154 **obsolete**
155 indicates that an item was defined in prior specifications but has been removed from this specification
- 156 **3.11**
157 **optional**
158 indicates a course of action permissible within the limits of the document
- 159 **3.12**
160 **recommended**
161 indicates that valid reasons may exist in particular circumstances to ignore a particular item, but the full
162 implications should be understood and carefully weighed before choosing a different course
- 163 **3.13**
164 **required**
165 indicates that the item is an absolute requirement of the specification
- 166 **3.14**
167 **shall**
168 indicates requirements to be followed strictly to conform to the document and from which no deviation is
169 permitted
- 170 **3.15**
171 **shall not**
172 indicates requirements to be followed strictly to conform to the document and from which no deviation is
173 permitted
- 174 **3.16**
175 **should**
176 indicates that among several possibilities, one is recommended as particularly suitable, without
177 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 178 **3.17**
179 **should not**
180 indicates that a certain possibility or course of action is deprecated but not prohibited
- 181 **4 Symbols and Abbreviated Terms**
182 The following symbols and abbreviations are used in this document.
- 183 **4.1**
184 **I²C**
185 Inter-Integrated Circuit

186	4.2
187	IANA
188	Internet Assigned Numbers Authority
189	4.3
190	ID
191	identifier
192	4.4
193	kHz
194	kilohertz
195	4.5
196	MCTP
197	Management Component Transport Protocol
198	4.6
199	NC-SI
200	Network Controller Sideband Interface
201	4.7
202	PCI
203	peripheral component interconnect
204	4.8
205	PCIe
206	PCI Express
207	4.9
208	PLDM
209	Platform Level Data Model
210	4.10
211	RMII
212	Reduced Media Independent Interface
213	4.11
214	SMBus
215	System Management Bus
216	4.12
217	USB
218	universal serial bus
219	4.13
220	VDM
221	Vendor Defined Message

222 **5 MCTP Message Type Codes**

223 Table 1 defines the values for the Message Type field for different message types transported through
 224 MCTP.

225 NOTE: A device that supports a given message type may not support that message type equally across all busses
 226 that connect to the device.

227 **Table 1 – MCTP Message Types**

Message Type	Message Type Code	Description
MCTP Control	0x00	Messages used to support initialization and configuration of MCTP communication within an MCTP network, as specified in the MCTP Base Specification .
Platform Level Data Model	0x01	Reserved for future Platform Level Data Model (PLDM) Message Type
NC-SI over MCTP	0x02	Reserved for NC-SI over MCTP Message Type
Vendor Defined – PCI	0x7E	Message type used to support VDMs where the vendor is identified using a PCI-based vendor ID. The specification of the initial Message Header bytes for this message type is provided within this specification. The specification of the format of this message is given in the MCTP Base Specification . Otherwise, the message body content is specified by the vendor, company, or organization identified by the given vendor ID.
Vendor Defined – IANA	0x7F	Message type used to support VDMs where the vendor is identified using an IANA-based vendor ID. This format uses an "Enterprise Number" that is assigned and maintained by the Internet Assigned Numbers Authority (IANA), www.iana.org , as the means of identifying a particular vendor, company, or organization. The specification of the format of this message is given in the MCTP Base Specification . Otherwise, the message body content is specified by the vendor, company, or organization identified by the given vendor ID.
Reserved	all other	Reserved

228 **6 MCTP Physical Medium Identifiers**

229 Table 2 defines a set of numbers that correspond to different media types that can be used with MCTP.
 230 The identifier is primarily used to identify which physical addressing format is used for MCTP packets on
 231 the bus.

232 **Table 2 – MCTP Physical Medium Identifiers**

Physical Media Identifier	Description
0x00	Unspecified
0x01	SMBus 2.0 100 kHz compatible
0x02	SMBus 2.0 + I ² C 100 kHz compatible
0x03	I ² C 100 kHz compatible
0x04	I ² C 400 kHz compatible
0x05 : 0x07	Reserved
0x08	PCIe 1.1 compatible
0x09	PCIe 2.0 compatible
0x0A	PCIe 2.1 compatible
0x0B	PCIe 3.0 compatible
0x0C : 0x0E	Reserved
0x0F	PCI compatible (PCI 1.0,2.0,2.1,2.2,2.3,3.0,PCI-X 1.0, PCI-X 2.0)
0x10	USB 1.1 compatible
0x11	USB 2.0 compatible
0x12	USB 3.0 compatible
0x13 : 0x17	Reserved
0x18	RMII / NC-SI
0x20	KCS / Legacy
0x21	KCS / PCI
0x22	Serial Host / Legacy (Fixed Address Decoding)
0x23	Serial Host / PCI (Base Class 7 Subclass 0)
0x24	Asynchronous Serial (Between MCs and IMDs)
all other identifiers	Reserved

233

234 7 MCTP Physical Transport Binding Identifiers

235 Table 3 defines a set of numbers that correspond to different media types that can be used with MCTP.
 236 The identifier indicates which physical addressing format is used for MCTP packets on the bus.

237

Table 3 – MCTP Physical Transport Binding Identifiers

MCTP Physical Transport Binding Identifier	Description
0x00	Reserved
0x01	MCTP over SMBus (MCTP SMBus-I ² C)
0x02	MCTP over PCIe VDM (MCTP PCIe-V)
0x03	Reserved for MCTP over USB
0x04	MCTP over KCS
0x05	MCTP over Serial
0xFF	Vendor defined NOTE: A vendor-defined transport binding shall meet the requirements of the MCTP Base Specification (in particular, when being bridged to or from standard MCTP transport binding and media combinations).
all other identifiers	Reserved

238

239
240
241
242
243

Annex A (informative)

Change Log

Version	Date	Author	Description
1.0.0	07/28/2009		DMTF Standard Release

244