# SMASH Implementation Requirements

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# Foreword

The *SMASH Implementation Requirements* (DSP0217) was prepared by the Server Management Working Group of the DMTF.

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# Introduction

This specification describes the conformance requirements for implementing the System Management Architecture for Server Hardware (SMASH) version 1.0.0.

1          # SMASH Implementation Requirements

2          ## 1    Scope

3    This document specifies the requirements for implementing the System Management Architecture for
4    Server Hardware (SMASH) version 1.0. This document specifies those requirements by defining which
5    other DMTF Specifications are required, conditional, and optional. In clause 4, the mandatory
6    specifications to be implemented are defined. In clause 5, the optional and conditional specifications are
7    defined.

8          ## 2    Normative References

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

12         ### 2.1    Approved References

13   DMTF DSP0214, *Server Management Command Line Protocol Specification 1.0*,
14   http://www.dmtf.org/standards/published_documents/DSP0214_1.0.pdf

15   DMTF DSP0215, *Server Management Managed Element (SM ME) Specification 1.0*,
16   http://www.dmtf.org/standards/published_documents/DSP0215_1.0.pdf

17   DMTF DSP0216, *SM CLP to CIM Common Mapping Specification 1.0*,
18   http://www.dmtf.org/standards/published_documents/DSP0216_1.0.pdf

19   DMTF DSP0800, *Base Server Profile SM CLP Command Mapping Specification 1.0*,
20   http://www.dmtf.org/standards/published_documents/DSP0800_1.0.pdf

21   DMTF DSP0801, *CLP Service Profile SM CLP Command Mapping Specification 1.0*,
22   http://www.dmtf.org/standards/published_documents/DSP0801_1.0.pdf

23   DMTF DSP0802, *SMASH Collections Profile SM CLP Command Mapping Specification 1.0*,
24   http://www.dmtf.org/standards/published_documents/DSP0802_1.0.pdf

25   DMTF DSP0803, *SM CLP Admin Domain Profile SM CLP Command Mapping Specification 1.0*,
26   http://www.dmtf.org/standards/published_documents/DSP0803_1.0.pdf

27   DMTF DSP0804, *Modular System Profile SM CLP Command Mapping Specification 1.0*,
28   http://www.dmtf.org/standards/published_documents/DSP0804_1.0.pdf

29   DMTF DSP0805, *Sensors Profile SM CLP Command Mapping Specification 1.0*,
30   http://www.dmtf.org/standards/published_documents/DSP0805_1.0.pdf

31   DMTF DSP0806, *Device Tray Profile SM CLP Command Mapping Specification 1.0*,
32   http://www.dmtf.org/standards/published_documents/DSP0806_1.0.pdf

33   DMTF DSP0807, *Pass-Through Module Profile SM CLP Command Mapping Specification 1.0*,
34   http://www.dmtf.org/standards/published_documents/DSP0807_1.0.pdf

35   DMTF DSP0808, *CPU Profile SM CLP Command Mapping Specification 1.0*,
36   http://www.dmtf.org/standards/published_documents/DSP0808_1.0.pdf

37    DMTF DSP0809, *System Memory Profile SM CLP Command Mapping Specification 1.0*,
38    http://www.dmtf.org/standards/published_documents/DSP0809_1.0.pdf

39    DMTF DSP0810, *Record Log Profile SM CLP Command Mapping Specification 1.0*,
40    http://www.dmtf.org/standards/published_documents/DSP0810_1.0.pdf

41    DMTF DSP0811, *Simple Identity Management Profile SM CLP Command Mapping Specification 1.0*,
42    http://www.dmtf.org/standards/published_documents/DSP0811_1.0.pdf

43    DMTF DSP0812, *Physical Asset Profile SM CLP Command Mapping Specification 1.0*,
44    http://www.dmtf.org/standards/published_documents/DSP0812_1.0.pdf

45    DMTF DSP0813, *Boot Control Profile SM CLP Command Mapping Specification 1.0*,
46    http://www.dmtf.org/standards/published_documents/DSP0813_1.0.pdf

47    DMTF DSP0814, *Fan Profile SM CLP Command Mapping Specification 1.0*,
48    http://www.dmtf.org/standards/published_documents/DSP0814_1.0.pdf

49    DMTF DSP0815, *Ethernet Port Profile SM CLP Command Mapping Specification 1.0*,
50    http://www.dmtf.org/standards/published_documents/DSP0815_1.0.pdf

51    DMTF DSP0817, *IP Interface Profile SM CLP Command Mapping Specification 1.0*,
52    http://www.dmtf.org/standards/published_documents/DSP0817_1.0.pdf

53    DMTF DSP0818, *DHCP Client Profile SM CLP Command Mapping Specification 1.0*,
54    http://www.dmtf.org/standards/published_documents/DSP0818_1.0.pdf

55    DMTF DSP0819, *DNS Client Profile SM CLP Command Mapping Specification 1.0*,
56    http://www.dmtf.org/standards/published_documents/DSP0819_1.0.pdf

57    DMTF DSP0820, *Telnet Service Profile SM CLP Command Mapping Specification 1.0*,
58    http://www.dmtf.org/standards/published_documents/DSP0820_1.0.pdf

59    DMTF DSP0821, *SSH Service Profile SM CLP Command Mapping Specification 1.0*,
60    http://www.dmtf.org/standards/published_documents/DSP0821_1.0.pdf

61    DMTF DSP0822, *Power Supply Profile SM CLP Command Mapping Specification 1.0*,
62    http://www.dmtf.org/standards/published_documents/DSP0822_1.0.pdf

63    DMTF DSP0823, *Power State Management Profile SM CLP Command Mapping Specification 1.0*,
64    http://www.dmtf.org/standards/published_documents/DSP0823_1.0.pdf

65    DMTF DSP0824, *Service Processor Profile SM CLP Command Mapping Specification 1.0*,
66    http://www.dmtf.org/standards/published_documents/DSP0824_1.0.pdf

67    DMTF DSP0825, *Shared Device Management Profile SM CLP Command Mapping Specification 1.0*,
68    http://www.dmtf.org/standards/published_documents/DSP0825_1.0.pdf

69    DMTF DSP0826, *Software Inventory Profile SM CLP Command Mapping Specification 1.0*,
70    http://www.dmtf.org/standards/published_documents/DSP0826_1.0.pdf

71    DMTF DSP0827, *Software Update Profile SM CLP Command Mapping Specification 1.0*,
72    http://www.dmtf.org/standards/published_documents/DSP0827_1.0.pdf

73    DMTF DSP0828, *Text Console Redirection Profile SM CLP Command Mapping Specification 1.0*,
74    http://www.dmtf.org/standards/published_documents/DSP0828_1.0.pdf

75    DMTF DSP0830, *Role Based Authorization Profile SM CLP Command Mapping Specification 1.0*,
76    http://www.dmtf.org/standards/published_documents/DSP0830_1.0.pdf

77    DMTF DSP1004, *Base Server Profile 1.0*,
78    http://www.dmtf.org/standards/published_documents/DSP1004_1.0.pdf

79    DMTF DSP1005, *CLP Service Profile 1.0*,
80    http://www.dmtf.org/standards/published_documents/DSP1005_1.0.pdf

81    DMTF DSP1006, *SMASH Collections Profile 1.0*,
82    http://www.dmtf.org/standards/published_documents/DSP1006_1.0.pdf

83    DMTF DSP1007, *SM CLP Admin Domain Profile 1.0*,
84    http://www.dmtf.org/standards/published_documents/DSP1007_1.0.pdf

85    DMTF DSP1008, *Modular System Profile 1.0*,
86    http://www.dmtf.org/standards/published_documents/DSP1008_1.0.pdf

87    DMTF DSP1009, *Sensors Profile 1.0*,
88    http://www.dmtf.org/standards/published_documents/DSP1009_1.0.pdf

89    DMTF DSP1010, *Record Log Profile 1.0*,
90    http://www.dmtf.org/standards/published_documents/DSP1010_1.0.pdf

91    DMTF DSP1011, *Physical Asset Profile 1.0*,
92    http://www.dmtf.org/standards/published_documents/DSP1011_1.0.pdf

93    DMTF DSP1012, *Boot Control Profile 1.0*,
94    http://www.dmtf.org/standards/published_documents/DSP1012_1.0.pdf

95    DMTF DSP1013, *Fan Profile 1.0*,
96    http://www.dmtf.org/standards/published_documents/DSP1013_1.0.pdf

97    DMTF DSP1014, *Ethernet Port Profile 1.0*,
98    http://www.dmtf.org/standards/published_documents/DSP1014_1.0.pdf

99    DMTF DSP1015, *Power Supply Profile 1.0*,
100   http://www.dmtf.org/standards/published_documents/DSP1015_1.0.pdf

101   DMTF DSP1016, *Telnet Service Profile 1.0*,
102   http://www.dmtf.org/standards/published_documents/DSP1016_1.0.pdf

103   DMTF DSP1017, *SSH Service Profile 1.0*,
104   http://www.dmtf.org/standards/published_documents/DSP1017_1.0.pdf

105   DMTF DSP1018, *Service Processor Profile 1.0*,
106   http://www.dmtf.org/standards/published_documents/DSP1018_1.0.pdf

107   DMTF DSP1019, *Device Tray Profile 1.0*,
108   http://www.dmtf.org/standards/published_documents/DSP1019_1.0.pdf

109   DMTF DSP1020, *Pass-Through Module Profile 1.0*,
110   http://www.dmtf.org/standards/published_documents/DSP1020_1.0.pdf

111   DMTF DSP1021, *Shared Device Management Profile 1.0*,
112   http://www.dmtf.org/standards/published_documents/DSP1021_1.0.pdf

113   DMTF DSP1022, *CPU Profile 1.0*,
114   http://www.dmtf.org/standards/published_documents/DSP1022_1.0.pdf

115   DMTF DSP1023, *Software Inventory Profile 1.0*,
116   http://www.dmtf.org/standards/published_documents/DSP1023_1.0.pdf

117    DMTF DSP1024, *Text Console Redirection Profile 1.0*,
118    http://www.dmtf.org/standards/published_documents/DSP1024_1.0.pdf

119    DMTF DSP1025, *Software Update Profile 1.0*,
120    http://www.dmtf.org/standards/published_documents/DSP1025_1.0.pdf

121    DMTF DSP1026, *System Memory Profile 1.0*,
122    http://www.dmtf.org/standards/published_documents/DSP1026_1.0.pdf

123    DMTF DSP1027, *Power State Management Profile 1.0,*
124    http://www.dmtf.org/standards/published_documents/DSP1027_1.0.pdf

125    DMTF DSP1034, *Simple Identity Management Profile 1.0*,
126    http://www.dmtf.org/standards/published_documents/DSP1034_1.0.pdf

127    DMTF DSP1036, *IP Interface Profile 1.0*,
128    http://www.dmtf.org/standards/published_documents/DSP1036_1.0.pdf

129    DMTF DSP1037, *DHCP Client Profile 1.0*,
130    http://www.dmtf.org/standards/published_documents/DSP1037_1.0.pdf

131    DMTF DSP1038, *DNS Client Profile 1.0*,
132    http://www.dmtf.org/standards/published_documents/DSP1038_1.0.pdf

133    DMTF DSP1039, *Role Based Authorization Profile 1.0*,
134    http://www.dmtf.org/standards/published_documents/DSP1039_1.0.pdf

135    ## 2.2    Other References

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


138    # 3    Terms and Definitions

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

140    **3.1**
141    **can**
142    used for statements of possibility and capability, whether material, physical, or causal

143    **3.2**
144    **cannot**
145    used for statements of possibility and capability, whether material, physical, or causal

146    **3.3**
147    **conditional**
148    indicates requirements to be followed strictly in order to conform to the document when the specified
149    conditions are met

150    **3.4**
151    **mandatory**
152    indicates requirements to be followed strictly in order to conform to the document and from which no
153    deviation is permitted

154 **3.5**

155 **may**

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

157 **3.6**

158 **need not**

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

160 **3.7**

161 **optional**

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

163 **3.8**

164 **shall**

165 indicates requirements to be followed strictly in order to conform to the document and from which no
166 deviation is permitted

167 **3.9**

168 **shall not**

169 indicates requirements to be followed in order to conform to the document and from which no deviation is
170 permitted

171 **3.10**

172 **should**

173 indicates that among several possibilities, one is recommended as particularly suitable, without
174 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required

175 **3.11**

176 **should not**

177 indicates that a certain possibility or course of action is deprecated but not prohibited

178 # 4  Mandatory Specification Requirements

179 The following specifications shall be implemented:

180 • DMTF DSP0214*, Server Management Command Line Protocol Specification,* 1.0

181 • DMTF DSP0215, *Server Management Managed Element Addressing Specification,* 1.0

182 • DMTF DSP0216, *SM CLP to CIM Common Mapping Specification,* 1.0

183 • DMTF DSP1005, *CLP Service Profile*, 1.0

184 # 5  Conditional Specification Requirements

185 This section details the requirements for profiles and their associated mapping specifications.

186 At least one of the following profiles shall be implemented:

187 • DMTF DSP1004, *Base Server Profile,* 1.0

188 • DMTF DSP1008, *Modular System Profile,* 1.0

189 • DMTF DSP1018, *Service Processor Profile,* 1.0

190  ## 5.1    Base Server Profile

191  The *Base Server Profile* may be implemented. If the *Base Server Profile* is implemented, the following
192  requirements specified in the remainder of this section shall be met.

193  The optional behavior of implementing the *SMASH Collections Profile* specified in the *Base Server Profile*
194  shall be implemented. The *Base Server Profile SM CLP Command Mapping Specification* shall be
195  implemented.

196  ## 5.2    Boot Control Profile

197  The *Boot Control Profile* may be implemented. If the *Boot Control Profile* is implemented, the following
198  requirements specified in the remainder of this section shall be met.

199  The *Boot Control Profile SM CLP Command Mapping Specification* shall be implemented.

200  ## 5.3    Service Processor Profile

201  The *Service Processor Profile* may be implemented. If the *Service Processor Profile* is implemented, the
202  following requirements specified in the remainder of this section shall be met.

203  The optional behavior of implementing the *SMASH Collections Profile* specified in the *Service Processor*
204  *Profile* shall be implemented. The *Service Processor Profile SM CLP Command Mapping Specification*
205  shall be implemented.

206  ## 5.4    CLP Service Profile

207  The *CLP Service Profile* shall be implemented.

208  Either the optional behavior of implementing the *SSH Service Profile* specified in the *CLP Service Profile*
209  or the optional behavior of implementing the *Telnet Service Profile* specified in the *CLP Service Profile*
210  should be implemented. The *CLP Service Profile SM CLP Command Mapping Specification* shall be
211  implemented.

212  ## 5.5    CPU Profile

213  The *CPU Profile* may be implemented. If the *CPU Profile* is implemented, the following requirements
214  specified in the remainder of this section shall be met.

215  The *CPU Profile SM CLP Command Mapping Specification* shall be implemented.

216  ## 5.6    Device Tray Profile

217  The *Device Tray Profile* may be implemented. If the *Device Tray Profile* is implemented, the following
218  requirements specified in the remainder of this section shall be met.

219  The *Device Tray Profile SM CLP Command Mapping Specification* shall be implemented.

220  ## 5.7    DHCP Client Profile

221  The *DHCP Client Profile* may be implemented. If the *DHCP Client Profile* is implemented, the following
222  requirements specified in the remainder of this section shall be met.

223  The *DHCP Client Profile SM CLP Command Mapping Specification* shall be implemented.

224 ## 5.8 DNS Client Profile

225 The *DNS Client Profile* may be implemented. If the *DNS Client Profile* is implemented, the following
226 requirements specified in the remainder of this section shall be met.

227 The *DNS Client Profile SM CLP Command Mapping Specification* shall be implemented.

228 ## 5.9 Ethernet Port Profile

229 The *Ethernet Port Profile* may be implemented. If the *Ethernet Port Profile* is implemented, the following
230 requirements specified in the remainder of this section shall be met.

231 The *Ethernet Port Profile SM CLP Command Mapping Specification* shall be implemented.

232 ## 5.10 Fan Profile

233 The *Fan Profile* may be implemented. If the *Fan Profile* is implemented, the following requirements
234 specified in the remainder of this section shall be met.

235 The *Fan Profile SM CLP Command Mapping Specification* shall be implemented.

236 ## 5.11 IP Interface Profile

237 The *IP Interface Profile* may be implemented. If the *IP Interface Profile* is implemented, the following
238 requirements specified in the remainder of this section shall be met.

239 The *IP Interface Profile SM CLP Command Mapping Specification* shall be implemented.

240 ## 5.12 Modular System Profile

241 The *Modular System Profile* may be implemented. If the *Modular System Profile* is implemented, the
242 following requirements specified in the remainder of this section shall be met.

243 The *Modular System Profile SM CLP Command Mapping Specification* shall be implemented.

244 ## 5.13 Pass-Through Module Profile

245 The *Pass-Through Module Profile* may be implemented. If the *Pass-Through Module Profile* is
246 implemented, the following requirements specified in the remainder of this section shall be met.

247 The *Pass-Through Module Profile SM CLP Command Mapping Specification* shall be implemented.

248 ## 5.14 Physical Asset Profile

249 The *Physical Asset Profile* may be implemented. If the *Physical Asset Profile* is implemented, the
250 following requirements specified in the remainder of this section shall be met.

251 The *Physical Asset Profile SM CLP Command Mapping Specification* shall be implemented.

252 ## 5.15 Power State Management Profile

253 The *Power State Management Profile* may be implemented. If the *Power State Management Profile* is
254 implemented, the following requirements specified in the remainder of this section shall be met.

255 The *Power State Management Profile SM CLP Command Mapping Specification* shall be implemented.

## 256    5.16    Power Supply Profile

257    The *Power Supply Profile* may be implemented. If the *Power Supply Profile* is implemented, the following
258    requirements specified in the remainder of this section shall be met.

259    The *Power Supply Profile SM CLP Command Mapping Specification* shall be implemented.

## 260    5.17    Record Log Profile

261    The *Record Log Profile* may be implemented. If the *Record Log Profile* is implemented, the following
262    requirements specified in the remainder of this section shall be met.

263    The *Record Log Profile SM CLP Command Mapping Specification* shall be implemented.

## 264    5.18    Role Based Authorization Profile

265    The *Role Based Authorization Profile* may be implemented. If the *Role Based Authorization Profile* is
266    implemented, the following requirements specified in the remainder of this section shall be met.

267    The *Role Based Authorization Profile SM CLP Command Mapping Specification* shall be implemented.

## 268    5.19    Sensors Profile

269    The *Sensors Profile* may be implemented. If the *Sensors Profile* is implemented, the following
270    requirements specified in the remainder of this section shall be met.

271    The *Sensors Profile SM CLP Command Mapping Specification* shall be implemented.

## 272    5.20    Shared Device Management Profile

273    The *Shared Device Management Profile* may be implemented. If the *Shared Device Management Profile*
274    is implemented, the following requirements specified in the remainder of this section shall be met.

275    The *Shared Device Management Profile SM CLP Command Mapping Specification* shall be implemented.

## 276    5.21    Simple Identity Management Profile

277    The *Simple Identity Management Profile* may be implemented. If the *Simple Identity Management Profile*
278    is implemented, the following requirements specified in the remainder of this section shall be met.

279    The *Simple Identity Management Profile SM CLP Command Mapping Specification* shall be implemented.

## 280    5.22    SM CLP Admin Domain Profile

281    The *SM CLP Admin Domain Profile* is mandatory in the *CLP Service Profile*. Therefore, it will always be
282    implemented.

283    The *SM CLP Admin Domain Profile SM CLP Command Mapping Specification* shall be implemented.

## 284    5.23    SMASH Collections Profile

285    The *SMASH Collections Profile* will be implemented for autonomous profiles and is mandatory in the *CLP*
286    *Service Profile*. Therefore, it will always be implemented.

287    The *SMASH Collections Profile SM CLP Command Mapping Specification* shall be implemented.

288  ## 5.24    Software Inventory Profile

289  The *Software Inventory Profile* may be implemented. If the *Software Inventory Profile* is implemented, the
290  following requirements specified in the remainder of this section shall be met.

291  The *Software Inventory Profile SM CLP Command Mapping Specification* shall be implemented.

292  ## 5.25    Software Update Profile

293  The *Software Update Profile* may be implemented. If the *Software Update Profile* is implemented, the
294  following requirements specified in the remainder of this section shall be met.

295  The *Software Update Profile SM CLP Command Mapping Specification* shall be implemented.

296  ## 5.26    SSH Service Profile

297  The *SSH Service Profile* may be implemented. If the *SSH Service Profile* is implemented, the following
298  requirements specified in the remainder of this section shall be met.

299  The *SSH Service Profile SM CLP Command Mapping Specification* shall be implemented.

300  ## 5.27    System Memory Profile

301  The *System Memory Profile* may be implemented. If the *System Memory Profile* is implemented, the
302  following requirements specified in the remainder of this section shall be met.

303  The *System Memory Profile SM CLP Command Mapping Specification* shall be implemented.

304  ## 5.28    Telnet Service Profile

305  The *Telnet Service Profile* may be implemented. If the *Telnet Service Profile* is implemented, the following
306  requirements specified in the remainder of this section shall be met.

307  The *Telnet Service Profile SM CLP Command Mapping Specification* shall be implemented.

308  ## 5.29    Text Console Redirection Profile

309  The *Text Console Redirection Profile* may be implemented. If the *Text Console Redirection Profile* is
310  implemented, the following requirements specified in the remainder of this section shall be met.

311  The *Text Console Redirection Profile SM CLP Command Mapping Specification* shall be implemented.

312

313                                                        # ANNEX A
314                                                        (informative)
315
316
317                                                  # Change Log

| Version | Date | Author | Description |
|---------|------|--------|-------------|
| 1.0.0a | 11/02/2006 | | Preliminary Standard |
| 1.0.0 | 10/14/2009 | | DMTF Standard Release |

318 # Bibliography

319 DMTF DSP2001, *Systems Management Architecture for Server Hardware (SMASH) Command Line*
320 *Protocol (CLP) Architecture White Paper 2.0*,
321 http://www.dmtf.org/standards/published_documents/DSP2001_2.0.pdf

322

323