

1 **Base Server and**
2 **Physical Asset Profile**

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30



Document Number: DCIM1004
Document Type: Specification
Document Status: Published
Document Language: E
Date: 2012-12-30

Version: 1.1.0

31

32

33 THIS PROFILE IS FOR INFORMATIONAL PURPOSES ONLY, AND MAY CONTAIN TYPOGRAPHICAL
34 ERRORS AND TECHNICAL INACCURACIES. THE CONTENT IS PROVIDED AS IS, WITHOUT
35 EXPRESS OR IMPLIED WARRANTIES OF ANY KIND. ABSENT A SEPARATE AGREEMENT
36 BETWEEN YOU AND DELL™ WITH REGARD TO FEEDBACK TO DELL ON THIS PROFILE
37 SPECIFICATION, YOU AGREE ANY FEEDBACK YOU PROVIDE TO DELL REGARDING THIS
38 PROFILE SPECIFICATION WILL BE OWNED AND CAN BE FREELY USED BY DELL.

39

40 © 2008 – 2012 Dell Inc. All rights reserved. Reproduction in any manner whatsoever without the express
41 written permission of Dell, Inc. is strictly forbidden. For more information, contact Dell.

42

43 *Dell* and the *DELL* logo are trademarks of Dell Inc. Other trademarks and trade names may be used in
44 this document to refer to either the entities claiming the marks and names or their products. Dell
45 disclaims proprietary interest in the marks and names of others.

46

47

CONTENTS

48			
49	1	Scope	5
50	2	Normative References.....	5
51	3	Terms and Definitions	6
52	4	Symbols and Abbreviated Terms	7
53	4.4	7	
54	5	Synopsis	7
55	6	Description	7
56	7	Implementation Description.....	10
57	7.1	DCIM_ComputerSystem – Host Computer System	10
58	7.2	DCIM_ComputerSystemPackage - Computer System Package	12
59	7.3	DCIM_CSEnabledLogicalElementCapabilities - Enabled Logical Element Capabilities	13
60	7.4	DCIM_Chassis - Chassis	14
61	7.5	DCIM_RegisteredProfile - DMTF Base Server Profile Registration	16
62	7.6	DCIM_RegisteredProfile - DMTF Physical Asset Profile Registration.....	17
63	7.7	DCIM_LCRegisteredProfile	17
64	7.8	DCIM_PhysicalPackage	18
65	7.9	DCIM_Slot.....	20
66	8	Methods.....	21
67	8.1	DCIM_ComputerSystem.RequestStateChange()	21
68	9	Use Cases	23
69	10	CIM Elements	23
70	11	Privilege and License Requirement	23
71		ANNEX A (informative) Change Log.....	24
72			

73 **Figures**

74 Figure 1 – Base Server and Physical Asset Profile ImplementationImplementation Description..... 8
75

76 **Tables**

77 Table 1 – Related Profiles 7
78 Table 2 – Class Requirements: Base Server and Physical Asset Profile 10
79 Table 3 – DCIM_ComputerSystem - Operations 11
80 Table 4 – DCIM_ComputerSystem - Properties 11
81 Table 5 – DCIM_ComputerSystemPackage - Operations 13
82 Table 6 – DCIM_ComputerSystemPackage – Properties 13
83 Table 7 – DCIM_CSEnabledLogicalElementCapabilities - Operations 14
84 Table 8 – DCIM_CSEnabledLogicalElementCapabilities - Properties 14
85 Table 9 – DCIM_Chassis - Operations 15
86 Table 10 – DCIM_Chassis - Properties 15
87 Table 11 – DCIM_RegisteredProfile - Operations 16
88 Table 12 – DCIM_RegisteredProfile Properties..... 16
89 Table 13 – DCIM_RegisteredProfile - Operations 17
90 Table 14 – DCIM_RegisteredProfile 17
91 Table 15 – DCIM_LCRegisteredProfile - Operations 18
92 Table 16 – DCIM_LCRegisteredProfile..... 18
93 Table 17 – DCIM_PhysicalPackage - Operations 19
94 Table 18 – DCIM_PhysicalPackage - Properties..... 19
95 Table 17 – DCIM_Slot - Operations 20
96 Table 18 – DCIM_Slot - Properties 21
97 Table 19 – DCIM_ComputerSystem.RequestStateChange() Method: Return Code Values 22
98 Table 20 – DCIM_ComputerSystem.RequestStateChange() Method: Parameters 22
99 Table 21 – DCIM_ComputerSystem.RequestStateChange() Method: Standard Messages 22
100 Table 22 – Privilege and License Requirements 23

101

Base Server and Physical Asset Profile

103 1 Scope

104 The *Base Server and Physical Asset Profile* is the autonomous profile that defines the classes used to
 105 describe basic server and its hardware components (FRU). The scope of this profile is limited to simple
 106 servers that are directly realized in physical components. The profiles referenced by the *Base Server*
 107 *Profile* extend the management capabilities by adding the capability to represent server configuration,
 108 boot control, provisioning, and hardware.

109 2 Normative References

110 Refer to the following documents for more information.

111 **NOTE:** For dated references, only the edition cited applies. For undated references, the latest edition of
 112 the referenced document (including any amendments) applies.

- 113 • DMTF DSP1033, *Profile Registration Profile 1.0.0*
- 114 • DMTF DSP1004, *Base Server Profile 1.0.0*
- 115 • DMTF DSP1011, *Physical Asset Profile 1.0.0*
- 116 • *Dell Lifecycle Controller Best Practices Guide 1.0*,
- 117 http://en.community.dell.com/techcenter/extras/m/white_papers/20066173.aspx
- 118 • *Dell WSMAN Licenses and Privileges 1.0*
- 119 • DMTF DSP0226, *Web Services for Management (WS-Management) Specification 1.1.0*
- 120 • DMTF DSP0227, *WS-Management CIM Binding Specification 1.0.0*
- 121 • *Dell SMBIOS Implementation Specification 2.0*
- 122 • *Dell Lifecycle Controller Best Practices Guide v1.0*, <link TBD>
- 123 • Dell Tech Center MOF Library: <http://www.delltechcenter.com/page/DCIM.Library.MOF>
- 124 • Related Managed Object Format (MOF) files:
 - 125 ○ DCIM_ComputerSystem.mof
 - 126 ○ DCIM_ComputerSystemPackage.mof
 - 127 ○ DCIM_Chassis.mof
 - 128 ○ DCIM_PhysicalPackage.mof
 - 129 ○ DCIM_Slot.mof
 - 130 ○ DCIM_SystemComponent.mof
 - 131 ○ DCIM_CSEnabledLogicalElementCapabilities.mof
 - 132 ○ DCIM_CSElementCapabilities.mof
 - 133 ○ DCIM_RegisteredProfile.mof
 - 134 ○ DCIM_ElementConformsToProfile.mof
 - 135 ○ DCIM_LCRegisteredProfile.mof
 - 136 ○ DCIM_LCElementConformsToProfile.mof

137 **3 Terms and Definitions**

138 **3.1**

139 **Conditional** – Indicates requirements to be followed strictly in order to conform to the document when the
140 specified conditions are met.

141 **3.2**

142 **Mandatory** – Indicates requirements to be followed strictly in order to conform to the document and from
143 which no deviation is permitted.

144 **3.3**

145 **May** – Indicates a course of action permissible within the limits of the document.

146 **3.4**

147 **Optional** – Indicates a course of action permissible within the limits of the document.

148 **3.5**

149 **Referencing profile** – Indicates a profile that owns the definition of this class and can include a reference
150 to this profile in its “Related Profiles” table.

151 **3.6**

152 **Shall** – Indicates requirements to be followed strictly in order to conform to the document and from which
153 no deviation is permitted.

154 **3.7**

155 **FQDD** – Fully Qualified Device Descriptor is used to identify a particular component in a system.

156 **3.8**

157 **Interop Namespace** – Interop Namespace is where instrumentation instantiates classes to advertise its
158 capabilities for client discovery.

159 **3.9**

160 **Implementation Namespace** – Implementation Namespace is where instrumentation instantiates
161 classes relevant to executing core management tasks.

162 **3.10**

163 **ENUMERATE** – Refers to WS-MAN `ENUMERATE` operation as described in Section 8.2 of
164 DSP0226_V1.1 and Section 9.1 of DSP0227_V1.0

165 **3.11**

166 **GET** – Refers to WS-MAN `GET` operation as defined in Section 7.3 of DSP00226_V1.1 and Section 7.1
167 of DSP0227_V1.0

168 **4 Symbols and Abbreviated Terms**

169 **4.1**

170 **CIM** – Common Information Model

171 **4.2**

172 **iDRAC** – Integrated Dell Remote Access Controller to perform out-of-band operations on Blades and
173 Rack and Towers.

174 **4.3**

175 **CMC** – Chassis Manager Controller to perform out-of-band operations on Blade systems.

176 **4.4**

177 **FQDD** – Fully Qualified Device Description – a user-friendly name for the object

178 **5 Synopsis**

179 **Profile Name:** Base Server and Physical Asset Profile

180 **Version:** 1.1.0

181 **Organization:** Dell

182 **CIM Schema Version:** 2.26 Experimental

183 **Dell Schema Version:** 1.0.0

184 **Interop Namespace:** root/interop

185 **Implementation Namespace:** root/dcim

186 **Central Class:** DCIM_ComputerSystem

187 **Scoping Class:** DCIM_ComputerSystem

188 The Dell Base Server and Physical Asset Profile is a component profile that contains the Dell specific
189 implementation requirements for computer system.

190 DCIM_ComputerSystem is the Central Class.

191 Table 1 **Error! Reference source not found.** lists profiles that are related to this profile.

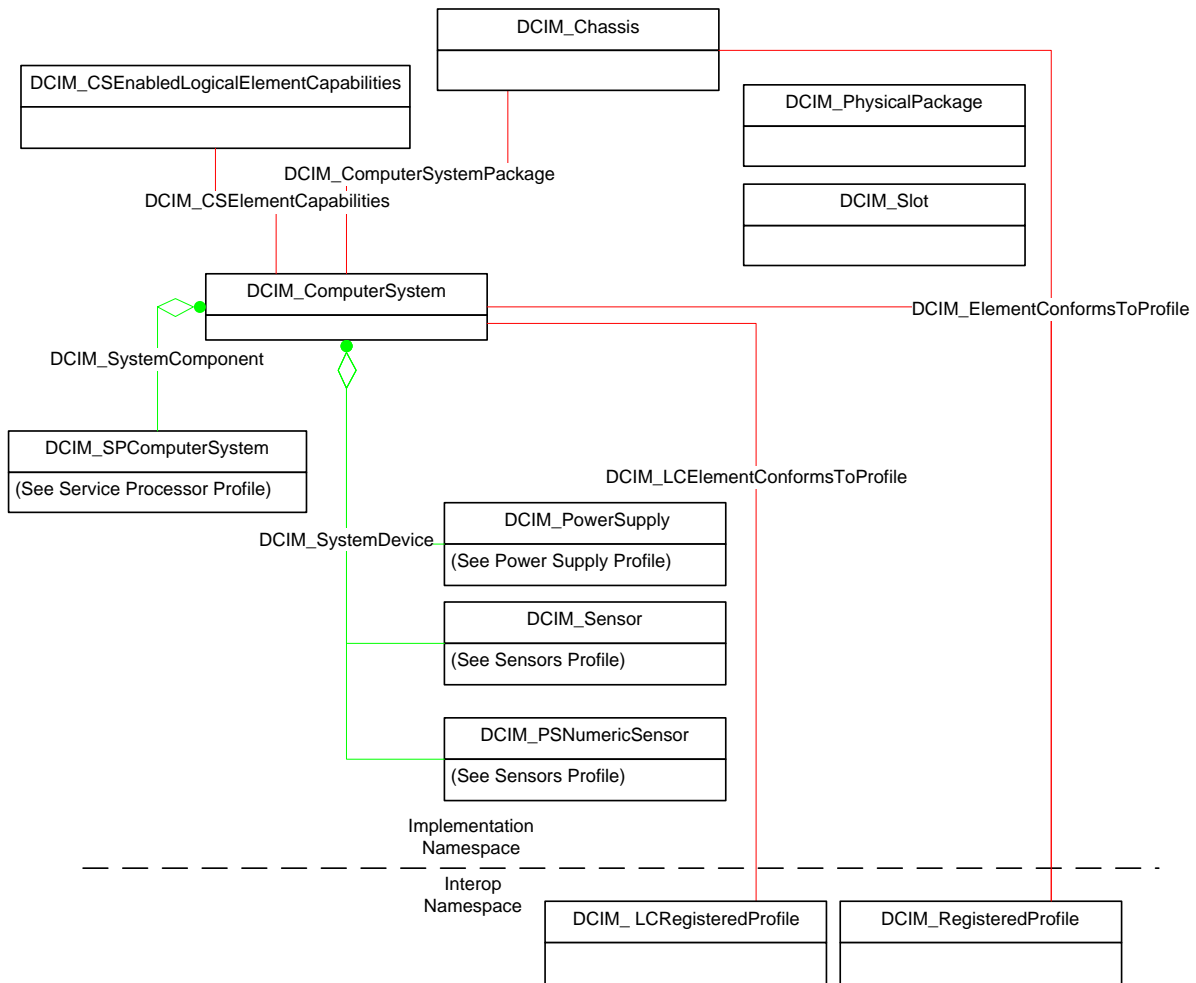
192 **Table 1 – Related Profiles**

Profile Name	Organization	Version	Relationship
Base Server Profile	DMTF	1.0	Specializes
Physical Asset Profile	DMTF	1.0	Specializes

193 **6 Description**

194 The *Base Server Profile* is an autonomous profile that defines the minimum top-level object model
195 needed to model simple server hardware and related software. Other profiles add additional management
196 objects to this basic server model to provide system configuration, boot control, and other provisioning
197 capabilities. DCIM_ComputerSystem represents the server system

198 Figure 1 presents the class schema for the BaseServer Profile.



199

200 **Figure 1 – Base Server and Physical Asset Profile ImplementationImplementation Description**

201

202 The platforms FRU information is also represented through this profile. The DCIM_PhysicalPackage class
 203 represents the FRU information of the platform’s components. The information usually includes the
 204 product name, manufacturer, version information, as well as identifiers such as part number and serial
 205 number that represent the FRU. The profile’s FRU representation includes the following components:

- 206 • Power supply
- 207 • System Planar
- 208 • NDC
- 209 • PERC
- 210 • DIMM
- 211 • MEZZ/Daughter cards
- 212 • Backplane

213 The information regarding whether devices can be added to or removed from the system hardware is
 214 represented through the profile. The DCIM_Slot Class provides the details of what type of slot it is,

215 whether the slot is occupied and the association to the device if present in that slot. The profile's slot
216 representation includes the following types of slots in a system:

- 217 • PCIe Slot
- 218 • Power Supply
- 219 • DIMM
- 220 • Processor
- 221 • SD card
- 222 • Hard disk drives (Internal and external)
- 223 • Enclosure slots (PSU, Fan etc..)

224

225 **7 Implementation Description**

226 This section describes the requirements and guidelines for implementing BaseServer Profile.

227 **Table 2 – Class Requirements: Base Server and Physical Asset Profile**

Element Name	Requirement	Description
Classes		
DCIM_ComputerSystem	Mandatory	The class is implemented in the Implementation Namespace. See section 7.1.
DCIM_ComputerSystemPackage	Mandatory	The class is implemented in the Implementation Namespace. See section 7.2.
DCIM_CSEnabledLogicalElementCapabilities	Mandatory	The class is implemented in the Implementation Namespace. See section 7.3.
DCIM_SystemComponent	Mandatory	The class is implemented in the Implementation Namespace. See section 7.1.
DCIM_CSElementCapabilities	Mandatory	The class is implemented in the Implementation Namespace. See section 7.1 and 7.3.
DCIM_Chassis	Mandatory	The class is implemented in the Implementation Namespace. See section 7.4.
DCIM_PhysicalPackage	Mandatory	The class is implemented in the Implementation Namespace. See section 7.8.
DCIM_Slot	Mandatory	The class is implemented in the Implementation Namespace. See section 7.9
DCIM_LCRegisteredProfile	Mandatory	The class is implemented in the Interop Namespace. See section 7.7.
DCIM_LCElementConformsToProfile	Mandatory	The class is implemented in both the Interop and implementation Namespaces. See section 7.7.
DCIM_RegisteredProfile	Mandatory	The class is implemented in the Interop Namespace. See section 7.6.
DCIM_ElementConformsToProfile	Mandatory	The class is implemented in both the Interop and implementation Namespaces. See section 7.6.

228 **7.1 DCIM_ComputerSystem – Host Computer System**

229 This section describes the implementation for the DCIM_ComputerSystem class. This class is instantiated
 230 in the Implementation Namespace. The DCIM_ElementConformsToProfile association(s) references the
 231 DCIM_ComputerSystem instance(s).

232 7.1.1 Resource URIs for WinRM®

233 The class Resource URI is:

234 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2 /DCIM_*
235 *ComputerSystem?__cimnamespace=root/dcim”*

236 The key properties are CreationClassName, Name.

237 The instance Resource URI for DCIM_ComputerSystem instance is:

238 *“http://schemas.dell.com/wbem/wscim/1/cim-*
239 *schema/2/DCIM_ComputerSystem?__cimnamespace=root/dcimName=svr:system+CreationClassN*
240 *ame=DCIM_ComputerSystem”*

241 7.1.2 Operations

242 The following table lists the implemented operations on DCIM_ComputerSystem.

243 **Table 3 – DCIM_ComputerSystem - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI
Invoke	Mandatory	Instance Resource URI and Method parameters
Associators	Mandatory	Instance Resource URI
References	Mandatory	Instance Resource URI

244 7.1.3 Class Properties

245 The table details the implemented properties for DCIM_ComputerSystem instance in a system. The
246 “Requirements” column shall denote whether the property is implemented (for requirement definitions,
247 see section 3). The “Additional Requirement” column shall denote either possible values for the property,
248 or requirements on the value formulation

249 **Table 4 – DCIM_ComputerSystem - Properties**

Property Name	Type	Requirement	Additional Requirement
CreationClassName	string	Mandatory	The property value shall be “DCIM_ComputerSystem”
Name	string	Mandatory	The property value shall be “svr:system”
EnabledState	uint16	Mandatory	This property value shall be one of the following: <ul style="list-style-type: none">• 2 (Enabled) – Host system is powered on• 3 (Disabled) – Host system is powered off
RequestedState	uint16	Mandatory	This property shall be 0 (Unknown).

Property Name	Type	Requirement	Additional Requirement
OperationalStatus[]	uint16	Mandatory	OperationalStatus shall indicate the current health of the computer system and its sub-components excluding storage sub-systems. Only the first element of the array shall be populated. The first element value shall be one of the following: <ul style="list-style-type: none"> • 0(Unknown) • 2(OK) • 3(Degraded) • 6(Error).
HealthState	uint16	Mandatory	HealthState shall indicate the current health of the computer system and its sub-components excluding storage sub-systems. The property value shall be one of the following: <ul style="list-style-type: none"> • 0(Unknown) • 5 (OK) • 10 (Degraded/Warning) • 25(Error)
PrimaryStatus	uint16	Mandatory	The property shall contain up-to-date information on health state of the system excluding storage sub-systems. PrimaryStatus provides a high level status value, intended to align with Red-Yellow-Green type representation of status. The property value shall be one of the following: <ul style="list-style-type: none"> • 0(Unknown) • 1(OK) • 2 (Degraded) • 3 (Error)
IdentifyingDescriptions[]	String	Mandatory	The property shall be an array of strings providing explanations and details behind the entries in the OtherIdentifyingInfo array. Each element of this array shall be related to the entry in OtherIdentifyingInfo that is located at the same index. The array property value shall be ["CIM:GUID", "CIM:Tag", "DCIM:ServiceTag"]
OtherIdentifyingInfo[]	String	Mandatory	This array property shall contain [<the platform GUID>, "mainsystemchassis", <the platform service tag>].
ElementName	String	Mandatory	ElementName property value shall be the host name of the system.
Dedicated[]	Uint16	Mandatory	This property value shall be 0 (Not Dedicated).

250 7.2 DCIM_ComputerSystemPackage - Computer System Package

251 This section describes the implementation for the DCIM_ComputerSystemPackage class. This class is
252 instantiated in the Implementation Namespace.

253 **7.2.1 Resource URIs for WinRM®**

254 The class Resource URI is:

255 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
 256 *ComputerSystemPackage?__cimnamespace=root/dcim”*

257 The key properties are Antecedent and Dependent.

258 The instance Resource URI for DCIM_ComputerSystemPackage instance is:

259 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
 260 *ComputerSystemPackage?__cimnamespace=root/dcim+Antecedent=<Reference to*
 261 *DCIM_ComputerSystem>+Dependent=<Reference to DCIM_Chassis>”*

262

263 **7.2.2 Operations**

264 The following table lists the implemented operations on DCIM_ComputerSystemPackage.

265 **Table 5 – DCIM_ComputerSystemPackage - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI

266 **7.2.3 Class Properties**

267 The following table lists the implemented properties for DCIM_ComputerSystemPackage instance in a
 268 system. The “Type” column shall denote the corresponding property type. The “Requirements” column
 269 shall denote whether the property is implemented (for requirement definitions, see section 3). The
 270 “Additional Requirement” column shall denote either possible values for the property, or requirements on
 271 the value formulation.

272 **Table 6 – DCIM_ComputerSystemPackage – Properties**

Properties Name	Type	Requirement	Additional Requirements
Antecedent	Reference	Mandatory	The property value shall reference the DCIM_ComputerSystem instance.
Dependent	Reference	Mandatory	The property value shall reference DCIM_Chassis instance.
PlatformGUID	string	Mandatory	The property value shall represent the platform GUID of the system.

273 **7.3 DCIM_CSEnabledLogicalElementCapabilities - Enabled Logical Element**
 274 **Capabilities**

275 This section describes the implementation for the DCIM_CSEnabledLogicalElementCapabilities class.
 276 This class is instantiated in the Implementation Namespace.

277 **7.3.1 Resource URIs for WinRM®**

278 The class Resource URI is

279 *“http://schemas.dell.com/wbem/wscim/1/cim-*
 280 *schema/2/DCIM_CSEnabledLogicalElementCapabilities?__cimnamespace=root/dcim”*

281 The key property is the InstanceID.

282 The instance Resource URI for DCIM_CSEnabledLogicalElementCapabilities instance is:

283 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
 284 *CSEnabledLogicalElementCapabilities?__cimnamespace=root/dcim+InstanceID=*
 285 *DCIM:ComputerCap:1”*

286

287 **7.3.2 Operations**

288 The table lists the implemented operations on DCIM_CSEnabledLogicalElementCapabilities.

289 **Table 7 – DCIM_CSEnabledLogicalElementCapabilities - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI
Associators	Mandatory	Instance Resource URI
References	Mandatory	Instance Resource URI

290 **7.3.3 Class Properties**

291 The table lists the implemented properties for DCIM_CSEnabledLogicalElementCapabilities instance in a
 292 system. The “Type” column shall denote the corresponding property type. The “Requirements” column
 293 shall denote whether the property is implemented (for requirement definitions, section 3). The “Additional
 294 Requirement” column shall denote either possible values for the property, or requirements on the value
 295 formulation.

296 **Table 8 – DCIM_CSEnabledLogicalElementCapabilities - Properties**

Property Name	Type	Requirement	Additional Requirement
InstanceID	string	Mandatory	The property value shall be “DCIM:ComputerCap:1”
RequestedStatesSupported[]	uint16	Mandatory	This array property value shall be [2(Enabled), 3(Disabled), 11(Reset)]
ElementName	string	Mandatory	The property value is “Computer System Capabilities”
ElementNameEditSupported	boolean	Mandatory	This property value shall be FALSE.

297 **7.4 DCIM_Chassis - Chassis**

298 This section describes the implementation for the DCIM_Chassis class. This class is instantiated in the
 299 Implementation Namespace.

300 **7.4.1 Resource URIs for WinRM®**

301 The class Resource URI is

302 *"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_Chassis?__cimnamespace=root/dcim"*

303 The key property is the CreationClassName and Tag.

304 The instance Resource URI for DCIM_Chassis instance is:

305 *"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
306 *Chassis?__cimnamespace=root/dcim+CreationClassName=DCIM_Chassis+Tag=mainsystemchassi*
307 *s"*

308 **7.4.2 Operations**

309 The following table details the implemented operations on DCIM_Chassis.

310 **Table 9 – DCIM_Chassis - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI

311

312 **7.4.3 Properties**

313 The table lists the implemented properties for DCIM_Chassis instance in a system. The "Type" column
314 shall denote the corresponding property type. The "Requirements" column shall denote whether the
315 property is implemented (for requirement definitions, see section 3). The "Additional Requirement"
316 column shall denote either possible values for the property, or requirements on the value formulation

317 **Table 10 – DCIM_Chassis - Properties**

Property Name	Type	Requirement	Additional Requirement
CreationClassName	string	Mandatory	This property value shall be "DCIM_Chassis"
Tag	string	Mandatory	This property value shall be "mainsystemchassis"
Manufacturer	string	Mandatory	The property shall identify the manufacturer of the platform.
Model	string	Mandatory	The property shall identify the platform model.
PartNumber	string	Mandatory	This property value shall represent the platform's part number.
SerialNumber	string	Mandatory	This property value shall represent the platform's service tag.
SKU	string	Mandatory	This property value shall represent the platform's serial number.
ChassisPackageType	uint16	Mandatory	This property value shall be 17(Main System Chassis).
ElementName	String	Mandatory	This property value shall have the format "DCIM <Model> Chassis"

PackageType	uint16	Mandatory	This property value shall be 3(Chassis/Frame) for monolithic platforms, or 16 (Blade) for blade platform.
CanBeFRUed	boolean	Mandatory	This property value shall be TRUE.
SystemID	uint16	Mandatory	This property value shall be the 3 digit Dell System ID for the platform.

318 7.5 DCIM_RegisteredProfile - DMTF Base Server Profile Registration

319 This section describes the implementation for the DCIM_RegisteredProfile class. This class shall be
320 instantiated in the Interop Namespace. The DCIM_ElementConformsToProfile association(s) shall
321 reference the DCIM_RegisteredProfile instances.

322 7.5.1 Resource URIs

323 The class Resource URI shall be "http://schemas.dmtf.org/wbem/wscim/1/cim-
324 schema/2/CIM_RegisteredProfile?__cimnamespace=root/interop"

325 The key property shall be the InstanceID property.

326 The instance Resource URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-
327 schema/2/DCIM_RegisteredProfile?__cimnamespace=root/interop+InstanceID=
328 DCIM:CSRegisteredProfile:1"

329 7.5.2 Operations

330 The following table details the implemented operations on for DCIM_RegisteredProfile.

331 **Table 11 – DCIM_RegisteredProfile - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

332 7.5.3 Class Properties

333 The table lists the implemented properties for DCIM_RegisteredProfile instance representing Base Server
334 and Physical Asset Profile implementation. The "Requirements" column shall denote whether the property
335 is implemented (for requirement definitions, see section 3.1, 3.2, and 3.4). The "Additional Requirement"
336 column shall denote either possible values for the property, or requirements on the value formulation.

337 **Table 12 – DCIM_RegisteredProfile Properties**

Property Name	Type	Requirement	Additional Requirements
InstanceID	string	Mandatory	This property value shall be "DCIM:CSRegisteredProfile:1".
RegisteredName	string	Mandatory	This property value shall be "Base Server".
RegisteredVersion	string	Mandatory	This property value shall be "1.0.0".
RegisteredOrganization	uint16	Mandatory	This property value shall be 2 (DMTF).
AdvertiseTypes[]	uint16	Mandatory	This property value shall be [1,1].
AdvertiseTypeDescriptions[]	string	Mandatory	This property value shall be ["WS-Identify", "Interop Namespace"].

338 **7.6 DCIM_RegisteredProfile - DMTF Physical Asset Profile Registration**

339 This section describes the implementation for the DCIM_RegisteredProfile class. This class shall be
340 instantiated in the Interop Namespace. The DCIM_ElementConformsToProfile association(s) shall
341 reference the DCIM_RegisteredProfile instances.

342 **7.6.1 Resource URIs**

343 The class Resource URI shall be "http://schemas.dmtf.org/wbem/wscim/1/cim-
344 schema/2/CIM_RegisteredProfile?__cimnamespace=root/interop"

345 The key property shall be the InstanceID property.

346 The instance Resource URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-
347 schema/2/DCIM_RegisteredProfile?__cimnamespace=root/interop+InstanceID=
348 DCIM:PhysicalAssetRegisteredProfile:1"

349 **7.6.2 Operations**

350 The following table details the implemented operations on for DCIM_RegisteredProfile.

351 **Table 13 – DCIM_RegisteredProfile - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

352 **7.6.3 Class Properties**

353 The following table details the implemented properties for DCIM_RegisteredProfile instance representing
354 Base Server and Physical Asset Profile implementation. The "Requirements" column shall denote
355 whether the property is implemented (for requirement definitions, section 3). The "Additional
356 Requirement" column shall denote either possible values for the property, or requirements on the value
357 formulation

358 **Table 14 – DCIM_RegisteredProfile**

Property Name	Type	Requirement	Additional Requirements
InstanceID	string	Mandatory	This property value shall be "DCIM:PhysicalAsset:1.0.0".
RegisteredName	string	Mandatory	This property value shall be "Physical Asset".
RegisteredVersion	string	Mandatory	This property value shall be "1.0.0".
RegisteredOrganization	uint16	Mandatory	This property value shall be 2 (DMTF).
AdvertiseTypes[]	uint16	Mandatory	This property value shall be [1 (Other) ,1 (Other)].
AdvertiseTypeDescriptions[]	string	Mandatory	This property value shall be ["WS-Identify", "Interop Namespace"].

359 **7.7 DCIM_LCRegisteredProfile**

360 This section describes the implementation for the DCIM_LCRegisteredProfile class. This class shall be
361 instantiated in the Interop Namespace. The DCIM_ElementConformsToProfile association(s) shall
362 reference the DCIM_LCRegisteredProfile instance.

363 **7.7.1 Resource URIs for WinRM®**

364 The class Resource URI shall be "http://schemas.dmtf.org/wbem/wscim/1/cim-
365 schema/2/CIM_RegisteredProfile?__cimnamespace=root/interop"

366 The key property shall be the InstanceID property.

367 The instance Resource URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-
368 schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID=
369 DCIM:BaseServerAndPhysicalAsset:1.0.0"

370 **7.7.2 Operations**

371 The following table details the implemented operations on for DCIM_LCRegisteredProfile.

372 **Table 15 – DCIM_LCRegisteredProfile - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI

373 **7.7.3 Class Properties**

374 The following table details the implemented properties for DCIM_LCRegisteredProfile instance
375 representing Base Server and Physical Asset Profile implementation. The "Requirements" column shall
376 denote whether the property is implemented (for requirement definitions, section 3). The "Additional
377 Requirement" column shall denote either possible values for the property, or requirements on the value
378 formulation

379 **Table 16 – DCIM_LCRegisteredProfile**

Property Name	Type	Requirement	Additional Requirements
InstanceID	string	Mandatory	This property value shall be "DCIM:BaseServerAndPhysicalAsset:1.0.0".
RegisteredName	string	Mandatory	This property value shall be "Base Server and Physical Asset".
RegisteredVersion	string	Mandatory	This property value shall be "1.1.0".
RegisteredOrganization	uint16	Mandatory	This property value shall be 1 (Other).
OtherRegisteredOrganization	string	Mandatory	This property value shall be "DCIM".
AdvertiseTypes[]	uint16	Mandatory	This property value shall be [1,1].
AdvertiseTypeDescriptions[]	string	Mandatory	This property value shall be ["WS-Identify", "Interop Namespace"].

380 **7.8 DCIM_PhysicalPackage**

381 This section describes the implementation for the DCIM_PhysicalPackage class. This class describes the
382 FRU information of the system components.

383 This class is instantiated in the Implementation Namespace.

384 **7.8.1 Resource URIs for WinRM®**

385 The class Resource URI is

386 *"http://schemas.dell.com/wbem/wscim/1/cim-*
 387 *schema/2/DCIM_PhysicalPackage?__cimnamespace=root/dcim"*

388 The key property is the CreationClassName and Tag.

389 The instance Resource URI for DCIM_PhysicalPackage instance is:

390 *"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
 391 *PhysicalPackage?__cimnamespace=root/dcim+CreationClassName=DCIM_PhysicalPackage+Tag=*
 392 *mainsystemchassis"*

393 **7.8.2 Operations**

394 The following table details the implemented operations on DCIM_PhysicalPackage.

395 **Table 17 – DCIM_PhysicalPackage - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI

396

397 **7.8.3 Properties**

398 The table lists the implemented properties for DCIM_PhysicalPackage instance in a system. The "Type"
 399 column shall denote the corresponding property type. The "Requirements" column shall denote whether
 400 the property is implemented (for requirement definitions, see section 3). The "Additional Requirement"
 401 column shall denote either possible values for the property, or requirements on the value formulation

402 **Table 18 – DCIM_PhysicalPackage - Properties**

Property Name	Type	Requirement	Additional Requirement
CreationClassName	string	Mandatory	This property value shall be "DCIM_PhysicalPackage"
DeviceFQDD	string	Mandatory	This property shall have the value of the FQDD for the device of which FRU the instance represents.
ElementName	string	Mandatory	This property value shall represent the user friendly product name of the FRU.
Manufacturer	string	Mandatory	The property shall identify the manufacturer of the FRU.
PackageType	uint16	Mandatory	This property value shall represent the FRU type. The following are examples of the values for this property value for different FRU types: <ul style="list-style-type: none"> • Power supply - 6 (Power Supply) • System Planar - 9 (Module/Card) • NDC - 9 (Module/Card) • PERC - 9 (Module/Card) • DIMM - 13 (Memory) • MEZZ/Daughter cards - 9 (Module/Card) • Backplane - 4 (Cross Connect/Backplane)

Property Name	Type	Requirement	Additional Requirement
PartNumber	string	Mandatory	The property shall represent the part number of the FRU. If the part number is not available, the value shall be set to NULL.
SerialNumber	string	Mandatory	The property shall represent the serial number of the FRU. If the serial number is not available, the value shall be set to NULL.
Tag	string	Mandatory	This property shall be the key and shall have unique value.
Version	string	Mandatory	The property shall represent the version of the FRU. If the version is not available, the value shall be set to NULL.

403 7.9 DCIM_Slot

404 This section describes the implementation for the DCIM_Slot class. This class provides overall picture of
405 the system hardware where devices can be added or removed.

406 This class is instantiated in the Implementation Namespace.

407 7.9.1 Resource URIs for WinRM®

408 The class Resource URI is

409 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_Slot?__cimnamespace=root/dcim”*

410 The key property is the CreationClassName and Tag.

411 The instance Resource URI for DCIM_Slot instance is:

412 *“http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_*
413 *Slot?__cimnamespace=root/dcim+CreationClassName=DCIM_Slot+Tag=<Tag>”*

414 7.9.2 Operations

415 The following table details the implemented operations on DCIM_Slot.

416 **Table 19 – DCIM_Slot - Operations**

Operation Name	Requirements	Required Input
Get	Mandatory	Instance Resource URI
Enumerate	Mandatory	Class Resource URI

417

418 7.9.3 Properties

419 The table lists the implemented properties for DCIM_Slot instance in a system. The “Type” column shall
420 denote the corresponding property type. The “Requirements” column shall denote whether the property is
421 implemented (for requirement definitions, see section 3). The “Additional Requirement” column shall
422 denote either possible values for the property, or requirements on the value formulation

Table 20 – DCIM_Slot - Properties

Property Name	Type	Requirement	Additional Requirement
CreationClassName	string	Mandatory	This property value shall be “DCIM_Slot”
DeviceFQDD	string	Mandatory	The property shall represent the FQDD for the device that is plugged in into the slot.
ElementName	string	Mandatory	The property shall represent the slot name.
EmptySlot	Boolean	Mandatory	The property shall represent whether the slot is empty: <ul style="list-style-type: none"> • TRUE – Empty • FALSE – Occupied
Number	uint16	Mandatory	The property shall represent the numeric slot number. If the slot number contains alphabets, this property shall be NULL and the slot number shall be obtained from property NumberDescription.
NumberDescription	string	Mandatory	The property shall represent the slot number containing alphanumeric value.
EnabledState	uint16	Mandatory	The property shall represent whether the slot is enabled. <ul style="list-style-type: none"> • 2 – Enabled • 3 – Disabled
ConnectorLayout	uint16	Mandatory	The property shall represent the slot type. Unknown length PCIe slot shall have value 18 (PCI-E). Other slot types includes: 0(Unknown), 40001(Power Supply), 40002(Fan), 40003(DIMM), 40004(Processor), 40005(SD Card), 40006(IDSDM), 40007(Physical Disk), 40008(Enclosure Fan), 40009(Enclosure Power Supply)
Tag	string	Mandatory	This property shall be the key and shall have unique value.

424 **8 Methods**

425 This section details the requirements for supporting extrinsic methods for the DCIM_ComputerSystem
 426 class.

427 **8.1 DCIM_ComputerSystem.RequestStateChange()**

428 Invoking the DCIM_ComputerSystem.RequestStateChange() method changes the element's state to the
 429 value specified in the RequestedState parameter.

- 430 • A value of 2 (Enabled) shall correspond to a request to power on the system.

- 431 • A value of 3 (Disabled) shall correspond to a request to power off the system.
- 432 • A value of 11 (Reset) shall correspond to a request to power cycle the system.

433 The method shall be successful, if upon the completion of the method the system has been requested to
 434 transition to the desired state indicated by the RequestedState parameter. An actual change in the state
 435 may not occur, even if the the method was executed sucessfully. The EnabledState property shall
 436 indicate the current state of the system.

437 Detailed requirements of the RequestStateChange() method are specified in Table 21 and Table 22.

438 Invoking the DCIM_ComputerSystem.RequestStateChange() method multiple times could result in earlier
 439 requests being overwritten or lost.

440 **Table 21 – DCIM_ComputerSystem.RequestStateChange() Method: Return Code Values**

Value	Description
0	Request was successfully executed.
2	Error occurred

441 **Table 22 – DCIM_ComputerSystem.RequestStateChange() Method: Parameters**

Qualifiers	Name	Type	Description/Values
IN, REQ	RequestedState	uint16	Valid state values : 2 (Enabled) 3 (Disabled) 11 (Reset)
OUT	MessageID	string	Error Message ID- can be used to index into Dell Message registry files
OUT	Message	string	Error Message in English corresponding to MessageID is returned if the method fails to execute
OUT	MessageArguments[]	string	Substitution variables for dynamic error messages

442 **Table 23 – DCIM_ComputerSystem.RequestStateChange() Method: Standard Messages**

MessageID (OUT parameter)	Message	MessageArguments[]
SYS002	The command failed	
SYS003	Missing parameter(s) %s	RequestedState
SYS004	Invalid parameter value for %s	RequestedState
SYS021	The command failed to set %s	RequestedState

443 **8.1.1 DCIM_ComputerSystem.RequestStateChange() Conditional Support**

444 When the DCIM_CSEnabledLogicalElementCapabilities.RequestedStatesSupported property contains at
 445 least one value, the DCIM_ComputerSystem.RequestStateChange() method shall be implemented and
 446 supported. The DCIM_ComputerSystem.RequestStateChange() method shall not return a value of 1 (Not
 447 Supported).

448 **9 Use Cases**

449 See *Lifecycle Controller (LC) Integration Best Practices Guide*.

450 **10 CIM Elements**

451 No additional details specified.

452 **11 Privilege and License Requirement**

453 The following table describes the privilege and license requirements for the listed operations . For the
 454 detailed explanation of the privileges and licenses, refer to the Dell WSMAN Licenses and Privileges
 455 specification.

456 **Table 24 – Privilege and License Requirements**

Class and Method	Operation	User Privilege Required	License Required
DCIM_ComputerSystem	ENUMERATE , GET	Login	None.
DCIM_ComputerSystem. RequestStateChange()	INVOKE	Login, System Control	None.
DCIM_ComputerSystemPackage	ENUMERATE , GET	Login	None.
DCIM_CSEnabledLogicalElementCa pabilities	ENUMERATE , GET	Login	None.
DCIM_SystemComponent	ENUMERATE , GET	Login	None.
DCIM_CSElementCapabilities	ENUMERATE , GET	Login	None.
DCIM_Chassis	ENUMERATE , GET	Login	None.
DCIM_PhysicalPackage	ENUMERATE , GET	Login	None.
DCIM_RegisteredProfile	ENUMERATE , GET	Login	None.
DCIM_ElementConformsToProfile	ENUMERATE , GET	Login	None.
DCIM_LCRegisteredProfile	ENUMERATE , GET	Login	None.
DCIM_LCElementConformsToProfile	ENUMERATE , GET	Login	None.

457

458

459

460
461
462
463
464

ANNEX A (informative)

Change Log

Version	Date	Description
1.1.0		Added CPU digital sensor. Added the DCIM_PhysicalPackage class for system component FRU representation.
1.1.0		Add DCIM_Slot
1.1.0	8/23/2012	Add DCIM_Slot.NumberDescription

465
466
467