



1

2

3

4

**Document Number: DSP1027**

**Date: 2009-12-14**

**Version: 2.0.0**

## 5 **Power State Management Profile**

6 **Document Type: Specification**

7 **Document Status: DMTF Standard**

8 **Document Language: E**

9

10 Copyright Notice

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

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

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26 withdrawn or modified after publication, and shall be indemnified and held harmless by any party  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

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

32

# CONTENTS

34	Foreword .....	5
35	Introduction .....	6
36	1 Scope .....	7
37	2 Normative References.....	7
38	3 Terms and Definitions .....	7
39	4 Symbols and Abbreviated Terms .....	9
40	5 Synopsis.....	9
41	6 Description .....	9
42	7 Implementation.....	10
43	7.1 CIM_PowerManagementService .....	10
44	7.2 CIM_PowerManagementCapabilities .....	10
45	7.3 CIM_AssociatedPowerManagementService.PowerState.....	11
46	7.4 Representing Power State Changes .....	12
47	7.5 Representing In-Progress Power State Transitions .....	13
48	7.6 Representing Available Requested Power States.....	13
49	8 Methods.....	14
50	8.1 CIM_PowerManagementService.RequestPowerStateChange( ).....	14
51	8.2 Profile Conventions for Operations.....	18
52	8.3 CIM_PowerManagementService .....	18
53	8.4 CIM_PowerManagementCapabilities .....	18
54	8.5 CIM_AssociatedPowerManagementService .....	18
55	8.6 CIM_ElementCapabilities .....	19
56	8.7 CIM_HostedService .....	19
57	9 Use Cases.....	19
58	9.1 Object Diagrams .....	20
59	9.2 Determine the Power State of the Computer System.....	22
60	9.3 Find the Power Management Service for a Computer System .....	22
61	9.4 Find All the Computer Systems for a Power Management Service .....	22
62	9.5 Change the Power State of the Computer System.....	22
63	9.6 Determine Whether the Power Cycle Is Supported for a Computer System.....	22
64	9.7 Execute Power Cycle (Off–Soft) within a Given Time .....	22
65	9.8 Execute Power Cycle (Off–Soft Graceful) .....	23
66	9.9 Display Power States That Can Potentially Be Requested .....	23
67	9.10 Determine the Available Power States That Can Be Requested .....	24
68	9.11 Change the Power State of the Computer System Based on Available Power States .....	24
69	10 CIM Elements.....	24
70	10.1 CIM_PowerManagementCapabilities .....	25
71	10.2 CIM_PowerManagementService .....	25
72	10.3 CIM_AssociatedPowerManagementService .....	25
73	10.4 CIM_ElementCapabilities .....	26
74	10.5 CIM_HostedService .....	26
75	10.6 CIM_RegisteredProfile.....	26
76	ANNEX A (informative) Change Log.....	27
77		

78 **Figures**

79	Figure 1 – Power State Management Profile: Class Diagram .....	10
80	Figure 2 – Registered Profile .....	20
81	Figure 3 – Power Control Instance Diagram: Monolithic System .....	20
82	Figure 4 – Power Control Instance Diagram: Monolithic System with Service Processor .....	21
83	Figure 5 – Power Control Instance Diagram: Modular System with Chassis Service Processor .....	21

84

85

86 **Tables**

87

88	Table 1 – Related Profiles .....	9
89	Table 2 – PowerStatesSupported and PowerChangeCapabilities Values .....	11
90	Table 3 – PowerState Values and ACPI States .....	12
91	Table 4 – CIM_PowerManagementService.RequestPowerStateChange( ) Method: Return Code Values	14
92	Table 5 – CIM_PowerManagementService.RequestPowerStateChange( ) Method: Parameters .....	14
93	Table 6 – PowerState Parameter Values .....	15
94	Table 7 – Operations: CIM_AssociatedPowerManagementService .....	18
95	Table 8 – Operations: CIM_ElementCapabilities .....	19
96	Table 9 – Operations: CIM_HostedService .....	19
97	Table 10 – CIM Elements: Power State Management Profile .....	24
98	Table 11 – Class: CIM_PowerManagementCapabilities .....	25
99	Table 12 – Class: CIM_PowerManagementService .....	25
100	Table 13 – Class: CIM_AssociatedPowerManagementService .....	25
101	Table 14 – Class: CIM_ElementCapabilities .....	26
102	Table 15 – Class: CIM_HostedService .....	26
103	Table 16 – Class: CIM_RegisteredProfile .....	26

104

105

## Foreword

106 The *Power State Management Profile* (DSP1027) was prepared by the Physical Platform Profiles Working  
107 Group and the Server Management Working Group of the DMTF.

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

### 110 Acknowledgments

111 The authors wish to acknowledge the following people.

#### 112 Editors:

- 113 • Hemal Shah – Broadcom Corporation
- 114 • RadhaKrishna R. Dasari – Dell
- 115 • Jeff Hilland – HP

#### 116 Contributors:

- 117 • Jon Hass – Dell
- 118 • Khachatur Papanyan – Dell
- 119 • Richard Landau – Dell
- 120 • RadhaKrishna R. Dasari – Dell
- 121 • Aaron Merkin – IBM
- 122 • Jeff Lynch – IBM
- 123 • Jeff Hilland – HP
- 124 • Christina Shaw – HP
- 125 • Perry Vincent – Intel
- 126 • John Leung – Intel
- 127 • Mike Dutch – Symantec
- 128 • Hemal Shah – Broadcom Corporation

129

## Introduction

130 The information in this specification should be sufficient for a provider or consumer of this data to identify  
131 unambiguously the classes, properties, methods, and values that must be instantiated and manipulated to  
132 describe and control the power state and hardware management for a computer system using the DMTF  
133 Common Information Model (CIM) core and extended model definitions. The target audience for this  
134 specification is implementers who are writing CIM-based providers or consumers of management  
135 interfaces that represent the component described in this document.

136

# Power State Management Profile

## 137 1 Scope

138 The *Power State Management Profile* describes the classes, associations, properties, and methods used  
139 to manage the power of a computer system.

## 140 2 Normative References

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

144 *Advanced Configuration and Power Interface Specification*, 3.0, September 2, 2004,  
145 <http://www.acpi.info/Downloads/ACPIspec30.pdf>

146 DMTF DSP0004, *CIM Infrastructure Specification 2.5*,  
147 [http://www.dmtf.org/standards/published\\_documents/DSP0004\\_2.5.pdf](http://www.dmtf.org/standards/published_documents/DSP0004_2.5.pdf)

148 DMTF DSP0200, *CIM Operations over HTTP 1.3*,  
149 [http://www.dmtf.org/standards/published\\_documents/DSP0200\\_1.3.pdf](http://www.dmtf.org/standards/published_documents/DSP0200_1.3.pdf)

150 DMTF DSP1001, *Management Profile Specification Usage Guide 1.0*,  
151 [http://www.dmtf.org/standards/published\\_documents/DSP1001\\_1.0.pdf](http://www.dmtf.org/standards/published_documents/DSP1001_1.0.pdf)

152 DMTF DSP1033, *Profile Registration Profile 1.0*,  
153 [http://www.dmtf.org/standards/published\\_documents/DSP1033\\_1.0.pdf](http://www.dmtf.org/standards/published_documents/DSP1033_1.0.pdf)

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

## 156 3 Terms and Definitions

157 For the purposes of this document, the terms and definitions in [DSP1033](#) and [DSP1001](#) and the following  
158 terms and definitions apply.

### 159 3.1

#### 160 **can**

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

### 162 3.2

#### 163 **cannot**

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

### 165 3.3

#### 166 **conditional**

167 indicates requirements to be followed strictly in order to conform to the document when the specified  
168 conditions are met

- 169 **3.4**  
170 **mandatory**  
171 indicates requirements to be followed strictly in order to conform to the document and from which no  
172 deviation is permitted
- 173 **3.5**  
174 **may**  
175 indicates a course of action permissible within the limits of the document
- 176 **3.6**  
177 **need not**  
178 indicates a course of action permissible within the limits of the document
- 179 **3.7**  
180 **optional**  
181 indicates a course of action permissible within the limits of the document
- 182 **3.8**  
183 **referencing profile**  
184 indicates a profile that owns the definition of this class and can include a reference to this profile in its  
185 "Referenced Profiles" table
- 186 **3.9**  
187 **shall**  
188 indicates requirements to be followed strictly in order to conform to the document and from which no  
189 deviation is permitted
- 190 **3.10**  
191 **shall not**  
192 indicates requirements to be followed strictly in order to conform to the document and from which no  
193 deviation is permitted
- 194 **3.11**  
195 **should**  
196 indicates that among several possibilities, one is recommended as particularly suitable, without  
197 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 198 **3.12**  
199 **should not**  
200 indicates that a certain possibility or course of action is deprecated but not prohibited
- 201 **3.13**  
202 **unspecified**  
203 indicates that this profile does not define any constraints for the referenced CIM element or operation
- 204 **3.14**  
205 **Immediate Power State Change**  
206 indicates the power state transition that will be initiated immediately
- 207 **3.15**  
208 **Pending Power State Change**  
209 indicates the power state transition that will be initiated sometime in the future



210 **4 Symbols and Abbreviated Terms**

211 The following abbreviations are used in this document.

212 **4.1**

213 **ACPI**

214 Advanced Configuration and Power Interface

215 **4.2**

216 **CIM**

217 Common Information Model

218 **5 Synopsis**

219 **Profile Name:** Power State Management

220 **Version:** 2.0.0

221 **Organization:** DMTF

222 **CIM Schema Version:** 2.23

223 **Central Class:** CIM\_PowerManagementService

224 **Scoping Class:** CIM\_ComputerSystem

225 The *Power State Management Profile* extends the management capability of the referencing profiles by  
 226 adding the capability to describe and manage the power state of computer systems.

227 CIM\_PowerManagementService shall be the Central Class of this profile. The instance of  
 228 CIM\_PowerManagementService shall be the Central Instance of this profile. CIM\_ComputerSystem shall  
 229 be the Scoping Class of this profile. The instance of CIM\_ComputerSystem with which the Central  
 230 Instance is associated through an instance of CIM\_HostedService shall be the Scoping Instance of this  
 231 profile.

232 Table 1 identifies profiles on which this profile has a dependency.

233 **Table 1 – Related Profiles**

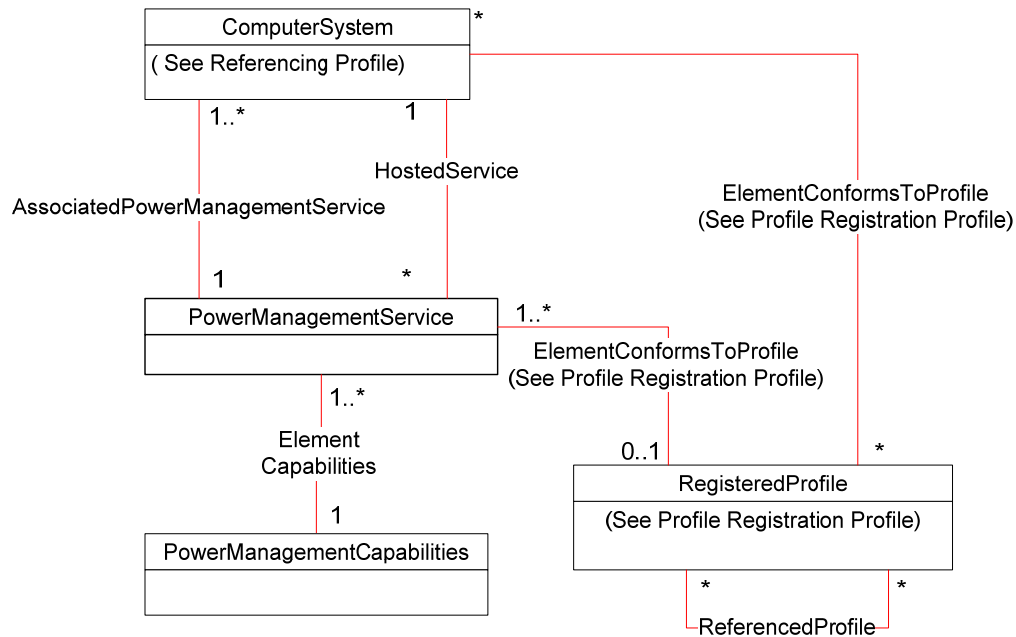
Profile Name	Organization	Version	Requirement	Description
Profile Registration	DMTF	1.0	Mandatory	

234 **6 Description**

235 The *Power State Management Profile* defines the behavior of the power management service and related  
 236 classes used to describe and control power state and hardware reset management for a computer  
 237 system. The profile describes the classes, property values, and methods that constitute a Pending Power  
 238 State Change and an Immediate Power State Change.

239 The CIM\_ComputerSystem class is not part of this profile but is shown for clarification in all the class and  
 240 instance diagrams.

241 Figure 1 represents the class schema of the *Power State Management Profile* and shows the elements of  
 242 the *Power State Management Profile*, as well as the dependent relationships between the elements of  
 243 *Power State Management Profile* and the referencing profiles. For simplicity, the prefix CIM\_ has been  
 244 removed from the names of the classes.



245

246

Figure 1 – Power State Management Profile: Class Diagram

## 247 7 Implementation

248 This section details the requirements related to the arrangement of instances and their properties for  
 249 implementations of this profile. Methods are listed in section 8 (“Methods”), and properties are listed in  
 250 section 10 (“CIM Elements”).

### 251 7.1 CIM\_PowerManagementService

252 At least one instance of CIM\_PowerManagementService shall be associated with one or more instances  
 253 of CIM\_ComputerSystem through an instance of CIM\_AssociatedPowerManagementService. The  
 254 managed system that is hosting the power management service, represented by an instance of  
 255 CIM\_ComputerSystem, shall be associated with CIM\_PowerManagementService through the  
 256 CIM\_HostedService association.

#### 257 7.1.1 CIM\_PowerManagementService.ElementName

258 The ElementName property shall be formatted as a free-form string of variable length (pattern “..\*”).

### 259 7.2 CIM\_PowerManagementCapabilities

260 One CIM\_PowerManagementCapabilities instance shall be associated with one or more instances of  
 261 CIM\_PowerManagementService through the CIM\_ElementCapabilities association.

262 **7.2.1 CIM\_PowerManagementCapabilities.PowerChangeCapabilities**

263 The PowerChangeCapabilities property array is used to represent the power state related capabilities of  
 264 the instances of CIM\_ComputerSystem associated with the CIM\_PowerManagementService instances  
 265 with which the CIM\_PowerManagementCapabilities instance is associated. This property is also used to  
 266 indicate support for client management of the power state through the  
 267 CIM\_PowerManagementService.RequestPowerStateChange() method. When the  
 268 RequestPowerStateChange() method is supported, the PowerChangeCapabilities property array shall  
 269 contain the value 3 (Power State Settable).

270 When the PowerStatesSupported property contains the value in the “PowerStatesSupported Value”  
 271 column, the PowerChangeCapabilities property shall contain the value specified in the  
 272 “PowerChangeCapabilities Value” column.

273 **Table 2 – PowerStatesSupported and PowerChangeCapabilities Values**

PowerStatesSupported Value	PowerChangeCapabilities Value
5 (Power Cycle (Off - Soft))	4 (Power Cycling Supported)
9 (Power Cycle (Off-Hard))	6 (Off Hard Power Cycling Supported)
10 (Master Bus Reset)	7 (HW Reset Supported)
11 (Diagnostic Interrupt (NMI))	7 (HW Reset Supported)
12 (Off - Soft Graceful)	8 (Graceful Shutdown Supported)
13 (Off - Hard Graceful)	8 (Graceful Shutdown Supported)
14 (Master Bus Reset Graceful)	7 (HW Reset Supported) and 8 (Graceful Shutdown Supported)
15 (Power Cycle (Off - Soft Graceful))	4 (Power Cycling Supported) and 8 (Graceful Shutdown Supported)
16 (Power Cycle (Off - Hard Graceful))	6 (Off Hard Power Cycling Supported) and 8 (Graceful Shutdown Supported)

274 **7.2.2 CIM\_PowerManagementCapabilities.ElementName**

275 The ElementName property shall be formatted as a free-form string of variable length (pattern “.\*”).

276 **7.2.3 CIM\_PowerManagementCapabilities.PowerStatesSupported**

277 The PowerStatesSupported property array is used to represent the power states that are supported by  
 278 the associated computer system.

279 **7.2.4 CIM\_PowerManagementCapabilities.RequestedPowerStatesSupported**

280 The RequestedPowerStatesSupported property is an array that contains the supported requested power  
 281 states for the instance of CIM\_PowerManagementService. This property shall contain the values to be  
 282 used as the PowerState parameter in the RequestPowerStateChange() (see 8.1). This property  
 283 represents a subset of the power states modeled by the property PowerStatesSupported.

284 **7.3 CIM\_AssociatedPowerManagementService.PowerState**

285 The PowerState property indicates the current power state of the associated computer system  
 286 represented by an instance of CIM\_ComputerSystem. The PowerState property shall have one of the  
 287 values specified in the PowerStatesSupported property of the instance of  
 288 CIM\_PowerManagementCapabilities that is associated with the instance of

289 CIM\_PowerManagementService that is referenced by the CIM\_AssociatedPowerManagementService  
290 association.

291 The RequestPowerStateChange() method of the CIM\_PowerManagementService shall be used to  
292 change the value of the PowerState property.

### 293 7.3.1 Power States Values

294 Table 3 specifies the correspondence between CIM\_AssociatedPowerManagementService.PowerState  
295 property values and standard ACPI power states. The value of the PowerState property shall have the  
296 same meaning as the corresponding ACPI state in Table 3. Note that it is not necessary for the managed  
297 system to actually support the ACPI specification. The PowerState values not represented in Table 3 do  
298 not have any corresponding ACPI power states.

299 **Table 3 – PowerState Values and ACPI States**

PowerState enum Value	Description	Corresponding ACPI State
2 (On)	System is fully on.	G0 (S0)
3 (Sleep - Light)	System is in Standby or Sleep state.	G1 (S1 or S2)
4 (Sleep -Deep)	System is in Standby or Sleep state.	G1 (S3)
6 (Off - Hard)	System is powered off except for the real-time clock, power consumption is zero.	G3
7 (Hibernate (Off - Soft))	System is in hibernation. System context and OS image was written to non-volatile storage. System and devices are powered off.	G1 (S4)
8 (Off - Soft)	System is powered off where the system consumes a minimal amount of power..	G2 (S5)

### 300 7.4 Representing Power State Changes

301 The CIM\_AssociatedPowerManagementService.RequestedPowerState property indicates the requested  
302 power state of the associated computer system.

303 The CIM\_AssociatedPowerManagementService.PowerOnTime property indicates the date-time that the  
304 power state change indicated by the RequestedPowerState property was or will be initiated. When the  
305 PowerOnTime property is non-Null, the value shall be a date-time and shall not specify a time interval. A  
306 value of Null for the PowerOnTime property shall indicate that the last power state change was initiated  
307 immediately or shall indicate that the last requested time to initiate the power state change is unknown.

308 When the Pending Power State Change exists for the instance of CIM\_ComputerSystem that is  
309 referenced by the CIM\_AssociatedPowerManagementService association, the RequestedPowerState  
310 property shall have the value of 2 (On), 3 (Sleep - Light), 4 (Sleep -Deep), 5 (Power Cycle (Off - Soft)), 6  
311 (Off - Hard), 7 (Hibernate (Off - Soft)), 8 (Off - Soft), 9 (Power Cycle (Off-Hard)), 10 (Master Bus Reset),  
312 11 (Diagnostic Interrupt (NMI)), 12 (Off - Soft Graceful), 13 (Off - Hard Graceful), 14 (Master Bus Reset  
313 Graceful), 15 (Power Cycle (Off - Soft Graceful)), or 16 (Power Cycle (Off - Hard Graceful)) and the value  
314 of the PowerOnTime property shall identify a date-time in the future.

315 When a Power State Change is in progress for the instance of CIM\_ComputerSystem that is referenced  
316 by the CIM\_AssociatedPowerManagementService association, the TransitioningToPowerState property  
317 shall have the value of 2 (On), 3 (Sleep - Light), 4 (Sleep -Deep), 5 (Power Cycle (Off - Soft)), 6 (Off -  
318 Hard), 7 (Hibernate (Off - Soft)), 8 (Off - Soft), 9 (Power Cycle (Off-Hard)), 10 (Master Bus Reset), 11  
319 (Diagnostic Interrupt (NMI)), 12 (Off - Soft Graceful), 13 (Off - Hard Graceful), 14 (Master Bus Reset  
320 Graceful), 15 (Power Cycle (Off - Soft Graceful)), or 16 (Power Cycle (Off - Hard Graceful)).

321 The RequestedPowerState, TransitioningToPowerState, and PowerOnTime properties are affected by  
322 the invocation of the CIM\_PowerManagementService.RequestPowerStateChange() method; see 8.1.

## 323 **7.5 Representing In-Progress Power State Transitions**

324 The representation of In-Progress power state transitions can be optionally supported. The  
325 TransitioningToPowerState property is used to represent current power state transition in progress.

326 If the In-Progress power state transitions are not modeled, then the  
327 CIM\_AssociatedPowerManagementService.TransitioningToPowerState property shall be NULL.

328 If the In-Progress power state transitions are modeled, then the  
329 AssociatedPowerManagementService.TransitioningToPowerState shall be non-NULL.

330 If the CIM\_AssociatedPowerManagementService.TransitioningToPowerState is non-NULL, and a power  
331 state transition is not in progress, the  
332 CIM\_AssociatedPowerManagementService.TransitioningToPowerState property shall have the value 19  
333 (No Change).

334 If the CIM\_AssociatedPowerManagementService.TransitioningToPowerState is non-NULL, does not  
335 have the value 19 (No Change) which represents a state transition in progress, the  
336 CIM\_AssociatedPowerManagementService.PowerState property shall have the value 0 (Unknown).

## 337 **7.6 Representing Available Requested Power States**

338 The representation of available requested power states can be optionally supported. The  
339 AvailableRequestedPowerStates property is an array that contains the currently available power states  
340 that can be used as the PowerState parameter of the  
341 CIM\_PowerManagementService.RequestPowerStateChange( ) method for the instance of  
342 CIM\_PowerManagementService.

343 If available requested power states are not modeled, then the  
344 CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates property shall be NULL.

345 If available requested power states are modeled, then the  
346 CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates property shall be non-  
347 NULL.

348 If CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates is non-NULL, it shall  
349 contain zero or more of the values contained in the  
350 CIM\_PowerManagementCapabilities.RequestedPowerStatesSupported property of the instance of  
351 CIM\_PowerManagementCapabilities associated with the CIM\_PowerManagementService instance,  
352 where zero number of values indicates that there are no available requested power states.

353 The CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates shall not contain any  
354 values that are not contained in the  
355 CIM\_PowerManagementCapabilities.RequestedPowerStatesSupported property of the instance of  
356 CIM\_PowerManagementCapabilities associated with the CIM\_PowerManagementService instance.

357 Each value shall be contained in the  
358 CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates property only if an  
359 invocation of the CIM\_PowerManagementService.RequestPowerStateChange() method where the  
360 PowerState parameter equals the value would complete successfully.

## 361 8 Methods

362 This section details the requirements for supporting intrinsic operations and extrinsic methods for the CIM  
363 elements defined by this profile.

### 364 8.1 CIM\_PowerManagementService.RequestPowerStateChange( )

365 The RequestPowerStateChange() method is used to set the power state that the user wants for the  
366 target computer system and when that system should be put into the new state. The  
367 PowerChangeCapabilities property array of the associated instance of  
368 CIM\_PowerManagementCapabilities is used to represent the capabilities of the  
369 RequestPowerStateChange() method. When this method is supported, the PowerChangeCapabilities  
370 property shall contain the value 3 (Power State Settable).

371 RequestPowerStateChange() method return code values shall be as specified in Table 4.  
372 RequestPowerStateChange() method parameters are specified in Table 5.

373 Invoking the RequestPowerStateChange() method multiple times could result in earlier requests being  
374 overwritten or lost.

375 No standard messages are defined for this method.

376 **Table 4 – CIM\_PowerManagementService.RequestPowerStateChange( ) Method: Return Code**  
377 **Values**

Value	Description
0	The initiation of Pending/Immediate Power State Change was successful.
1	Method is not supported in the implementation.
2	Error occurred
4096	Job started: REF returned to started CIM_ConcreteJob

378 **Table 5 – CIM\_PowerManagementService.RequestPowerStateChange( ) Method: Parameters**

Qualifiers	Name	Type	Description/Values
IN	PowerState	uint16	See 8.1.3.
IN	ManagedElement	CIM_ComputerSystem REF	See 8.1.4.
IN	Time	Datetime	See 8.1.5.
OUT	Job	CIM_ConcreteJob REF	See 8.1.6.
IN	TimeoutPeriod	Datetime	See 8.1.7.

#### 379 8.1.1 Establishing a Pending Power State Change

380 The RequestPowerStateChange() method can be invoked with the Time parameter specified, which will  
381 result in establishing the Pending Power State Change. The Pending Power State Change will be  
382 reflected in the PowerOnTime and RequestedPowerState properties of the instance of  
383 CIM\_AssociatedPowerManagementService that references the CIM\_PowerManagementService and the  
384 instance of CIM\_ComputerSystem that is represented by the ManagedElement parameter.

385 The TimeoutPeriod and Time parameters shall not be supported for the same invocation of the  
386 RequestPowerStateChange() method. When the TimeoutPeriod and Time parameters are specified for  
387 the same method invocation, the method shall return a value of 2.

388 When the method invocation is to establish the Pending Power State Change, the method may return the  
 389 Job output parameter and return a value of 4096. When the method invocation returns the Job output  
 390 parameter, the status of the referenced CIM\_Job instance shall reflect the status of the attempt to  
 391 establish the Pending Power State Change. When the method invocation does not return the Job output  
 392 parameter, the method completion shall be synchronous with the establishment of the Pending Power  
 393 State Change.

### 394 **8.1.2 Initiating an Immediate Power State Change**

395 The RequestPowerStateChange() method may be invoked without the Time parameter, which will result  
 396 in the immediate initiation of a power state change. This section describes requirements for when the  
 397 Time parameter is not specified.

398 When the method invocation is to initiate the Immediate Power State Change, the method may return the  
 399 Job output parameter and a return code value of 4096. When the method invocation returns the Job  
 400 output parameter, the status of the referenced CIM\_Job instance shall reflect the status of the initiated  
 401 power state change request. When the method invocation does not return the Job output parameter, the  
 402 method completion shall be synchronous with the initiation of the Immediate Power State Change.

### 403 **8.1.3 PowerState**

404 The PowerState parameter indicates the desired power state of the computer system. When the value  
 405 used for the PowerState parameter is not equal to one of the values in the PowerStatesSupported  
 406 property array of the associated instance of CIM\_PowerManagementCapabilities, the method shall return  
 407 2. When the value used for the PowerState parameter is not equal to one of the values in the  
 408 RequestedPowerStatesSupported property of the associated instance of  
 409 CIM\_PowerManagementCapabilities, the method shall return 2.

410 When the value 5 (Power Cycle (Off - Soft)) or the value 15 (Power Cycle (Off - Soft Graceful)) is  
 411 supported for the PowerState parameter, the PowerChangeCapabilities property array of the associated  
 412 instance of CIM\_PowerManagementCapabilities shall contain the value 4 (Power Cycling Supported).

413 When the value 9 (Power Cycle (Off-Hard)) or the value 16 (Power Cycle (Off-Hard Graceful)) is  
 414 supported for the PowerState parameter, the PowerChangeCapabilities property array of the associated  
 415 instance of CIM\_PowerManagementCapabilities shall contain the value 6 (Off Hard Power Cycling  
 416 Supported).

417 When the values 10 (Master Bus Reset) or 11 (Diagnostic Interrupt (NMI)) are supported for the  
 418 PowerState parameter, the PowerChangeCapabilities property array of the associated instance of  
 419 CIM\_PowerManagementCapabilities shall contain the value 7 (HW Reset Supported).

420 When the value 12 (Power Off - Soft Graceful), 13 (Power Off - Hard Graceful), 14 (Master Bus Reset  
 421 Graceful), 15 (Power Cycle (Off - Soft Graceful)), or 16 (Power Cycle (Off - Hard Graceful)), is supported  
 422 for the PowerState parameter, the PowerManagementCapabilities property array of the associated  
 423 instance of CIM\_PowerManagementCapabilities shall contain the value 8 (Graceful Shutdown  
 424 Supported).

425 When the CIM\_PowerManagementService.RequestPowerStateChange( ) method returns a value of 0 or  
 426 4096, the RequestedPowerState property of the instance of CIM\_AssociatedPowerManagementService  
 427 that references the CIM\_PowerManagementService instance and the CIM\_ComputerSystem instance  
 428 indicated by the ManagedElement parameter shall be set to the value of the PowerState parameter of the  
 429 method.

430 The values of CIM\_PowerManagementService.RequestPowerStateChange( ) method PowerState  
 431 parameter shall have the meaning specified in Table 6.

### 432 **Table 6 – PowerState Parameter Values**

PowerState enum Value	Description
2 (Power On)	Initiate the transition of the system to full on state (corresponding ACPI state G0/S0).
3 (Sleep - Light)	Initiate the transition of the system to standby or sleep state (corresponding ACPI state G1/S1 or G1/S2).
4 (Sleep - Deep)	Initiate the transition of the system to standby or sleep state (corresponding ACPI state G1/S3).
5 (Power Cycle (Off Soft))	Transition the system to off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power, followed by a transition to on state (corresponding ACPI state G0/S0).
6 (Power Off - Hard)	Initiate the transition of the system to power off state (corresponding ACPI state G3), in which the power consumption is zero except for the real-time clock.
7 (Hibernate)	Transition the system to hibernation state (corresponding ACPI state G1/S4) – write system context to non-volatile storage, power off the system and devices.
8 (Power Off - Soft)	Initiate the transition of the system to off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power.
9 (Power Cycle (Off Hard))	Transition the system to power off state (corresponding ACPI state G3), in which the power consumption is zero except for the real-time clock, followed by a transition to on state (corresponding ACPI state G0/S0).
10 (Master Bus Reset)	Perform hardware reset on the system.
11 (Diagnostic Interrupt (NMI))	Assert an NMI on the system.
12 (Power Off - Soft Graceful)	Perform an orderly transition to power off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power.
13 (Power Off - Hard Graceful)	Perform an orderly transition to power off state (corresponding ACPI state G3), in which the power consumption is zero except for the real-time clock.
14 (Master Bus Reset Graceful)	Perform an orderly shutdown of the system followed by hardware reset.
15 (Power Cycle (Off - Soft Graceful))	Perform an orderly transition of the system to power off state (corresponding ACPI state G2/S5), in which the system consumes a minimal amount of power, followed by a transition to on state (corresponding ACPI state G0/S0).



PowerState enum Value	Description
16 (Power Cycle (Off - Hard Graceful))	Perform an orderly transition of the system to power off state (corresponding ACPI state G3), in which the power consumption is zero except for the real-time clock, followed by a transition to on state (corresponding ACPI state G0/S0).

434

435 **8.1.4 ManagedElement**

436 The ManagedElement parameter indicates the reference to the instance of CIM\_ComputerSystem that  
 437 represents the target computer system whose power state is to be set.

438 If the instance of CIM\_ComputerSystem is not associated with the instance of  
 439 CIM\_PowerManagementService through the CIM\_AssociatedPowerManagementService association, the  
 440 RequestPowerStateChange() method shall return 2 (Error Occurred).

441 **8.1.5 Time**

442 The Time parameter is used to set the power state of the managed system at a certain time and can be  
 443 used only to set the power state to On or Power Cycle. The Time parameter shall be supported when the  
 444 PowerChangeCapabilities property array of the associated instance of  
 445 CIM\_PowerManagementCapabilities contains the value 5 (Timed Power On Supported). The Time  
 446 parameter shall not be supported when the PowerState parameter has any value other than 2 (Power  
 447 On), 5 (Power Cycle (Off Soft)) 9 (Power Cycle (Off Hard)), 15 (Power Cycle (Off-Soft Graceful)), or 16  
 448 (Power Cycle (Off-Hard Graceful)). When the Time parameter is specified and is not supported, the  
 449 method shall return a value of 2.

450 When the Time parameter is specified and the method returns a value of 0, the PowerOnTime property of  
 451 the CIM\_AssociatedPowerManagementService association that references the CIM\_ComputerSystem  
 452 instance identified by the ManagedElement parameter and references the  
 453 CIM\_PowerManagementService instance shall have the date-time value that indicates when the  
 454 computer system will undergo the power state change indicated by the PowerState parameter. When the  
 455 Time parameter complies with the interval format of the Datetime data type, the interval value indicated  
 456 by the Time parameter shall be interpreted relative to the current date-time and the calculated absolute  
 457 date-time shall be the value of the PowerOnTime property. When the Time parameter complies with the  
 458 timestamp format of the Datetime data type, the PowerOnTime property shall have the value of the Time  
 459 parameter.

460 When the Time parameter is either Null or 0, an immediate initiation of the power state change shall  
 461 occur.

462 **8.1.6 Job**

463 The Job is an OUT parameter. It is a reference to the instance of CIM\_Job that represents the job or task  
 464 that may be started by the invocation of the RequestPowerStateChange() method.

465 The method may return the Job output parameter and a return code value of 4096 when the parameters  
 466 for the method have been validated, regardless of whether the method will create a Pending Power State  
 467 Change or an Immediate Power State Change.

468 **8.1.7 TimeoutPeriod**

469 The TimeoutPeriod parameter specifies the maximum amount of time that the client allows the  
 470 RequestPowerStateChange() method to complete execution.

471 If the TimeoutPeriod parameter is specified and the value is not in the interval format of the Datetime data  
 472 type, the method shall return a value of 2. If the TimeoutPeriod parameter is specified and the  
 473 implementation is able to determine if the power state change will take more time than the TimeoutPeriod  
 474 parameter, the method shall return a value of 2. A value of 0 or Null for the TimeoutPeriod shall indicate  
 475 that no timeout requirements exist.

## 476 8.2 Profile Conventions for Operations

477 For each profile class (including associations), the implementation requirements for operations, including  
 478 those in the following default list, are specified in class-specific subclauses of this clause.

479 The default list of operations is as follows:

- 480 • GetInstance
- 481 • Associators
- 482 • AssociatorNames
- 483 • References
- 484 • ReferenceNames
- 485 • EnumerateInstances
- 486 • EnumerateInstanceNames

## 487 8.3 CIM\_PowerManagementService

488 All operations in the default list in 8.2 shall be implemented as defined in [DSP0200](#).

489 NOTE: Related profiles may define additional requirements on operations for the profile class.

## 490 8.4 CIM\_PowerManagementCapabilities

491 All operations in the default list in 8.2 shall be implemented as defined in [DSP0200](#).

492 NOTE: Related profiles may define additional requirements on operations for the profile class.

## 493 8.5 CIM\_AssociatedPowerManagementService

494 Table 7 lists implementation requirements for operations. If implemented, these operations shall be  
 495 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 7, all operations in  
 496 the default list in 8.2 shall be implemented as defined in [DSP0200](#).

497 NOTE: Related profiles may define additional requirements on operations for the profile class.

498 **Table 7 – Operations: CIM\_AssociatedPowerManagementService**

Operation	Requirement	Messages
ModifyInstance	Optional. See 8.5.1.	None
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

499 **8.5.1 CIM\_AssociatedPowerManagementService—ModifyInstance**

500 When the ModifyInstance operation is supported for an instance of  
 501 CIM\_AssociatedPowerManagementService, the ModifyInstance operation shall not modify the following  
 502 properties:

- 503 • PowerState
- 504 • OtherPowerState
- 505 • PowerOnTime
- 506 • RequestedPowerState

507 These properties can be affected by the invocation of the RequestPowerStateChange() method; see 8.1.

508 **8.6 CIM\_ElementCapabilities**

509 Table 8 lists implementation requirements for operations. If implemented, these operations shall be  
 510 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 8, all operations in  
 511 the default list in 8.2 shall be implemented as defined in [DSP0200](#).

512 NOTE: Related profiles may define additional requirements on operations for the profile class.

513 **Table 8 – Operations: CIM\_ElementCapabilities**

Operation	Requirement	Messages
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

514 **8.7 CIM\_HostedService**

515 Table 9 lists implementation requirements for operations. If implemented, these operations shall be  
 516 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 9, all operations in  
 517 the default list in 8.2 shall be implemented as defined in [DSP0200](#).

518 NOTE: Related profiles may define additional requirements on operations for the profile class.

519 **Table 9 – Operations: CIM\_HostedService**

Operation	Requirement	Messages
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

520 **9 Use Cases**

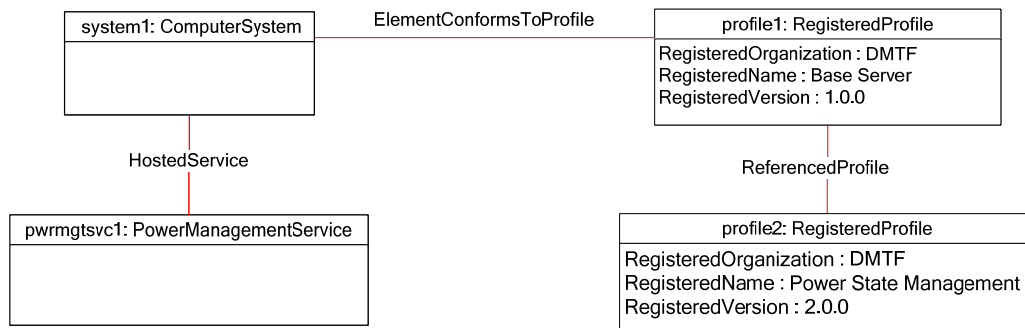
521 This section contains object diagrams and use cases for the *Power State Management Profile*.

522 **9.1 Object Diagrams**

523 This section contains object diagrams for the *Power State Management Profile*. For simplicity, the prefix  
 524 CIM\_ has been removed from the names of the classes in the diagrams.

525 **9.1.1 Advertising the Profile Conformance**

526 Figure 2 represents a possible instantiation of the *Power State Management Profile*. In this instantiation,  
 527 the managed system, system1, hosts a power management service, pwrmtgsvc1. system1 is also the  
 528 scoping instance for pwrmtgsvc1. Thus, following the CIM\_ElementConformsToProfile association to  
 529 profile1 and then the referenced CIM\_ReferencedProfile association to profile2, the client can retrieve  
 530 profile2. profile2 will show the version of the current *Power State Management Profile* implementation.

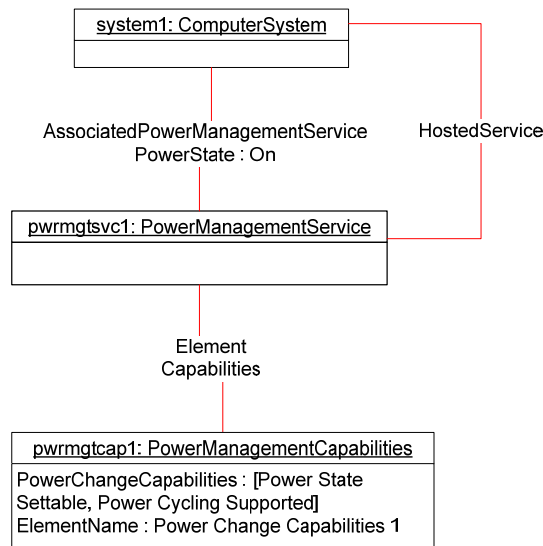


531

532 **Figure 2 – Registered Profile**

533 **9.1.2 Monolithic System**

534 Figure 3 shows the CIM instances required to control power for a single, monolithic system, system1.  
 535 system1 hosts the power management service, pwrmtgsvc1, which manages the power for system1.



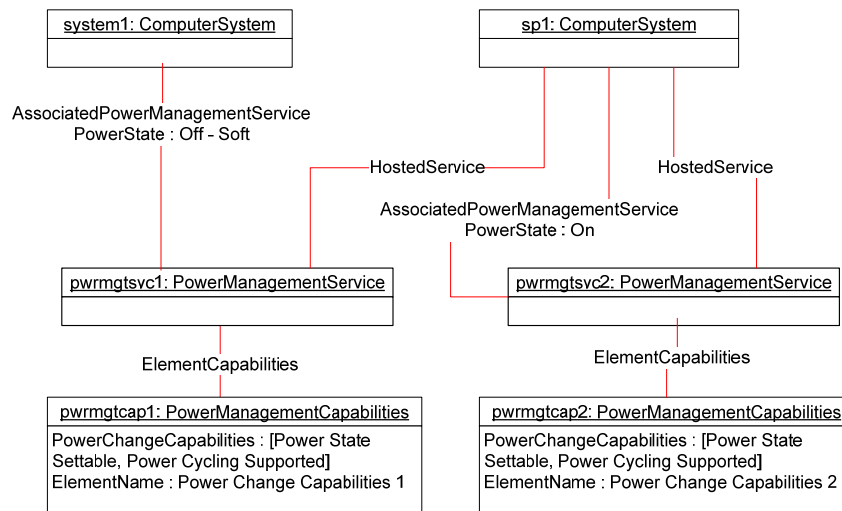
536

537 **Figure 3 – Power Control Instance Diagram: Monolithic System**

538 **9.1.3 Monolithic System with Service Processor**

539 Figure 4 shows the CIM instances required to control power for a monolithic system with an attached  
 540 service processor. The power management service, pwrmtgsvc1, hosted by the service processor, sp1, is  
 541 responsible for managing the power of the system, system1. Optionally, the service processor may host  
 542 another power management service, pwrmtgsvc2, to control its own power.

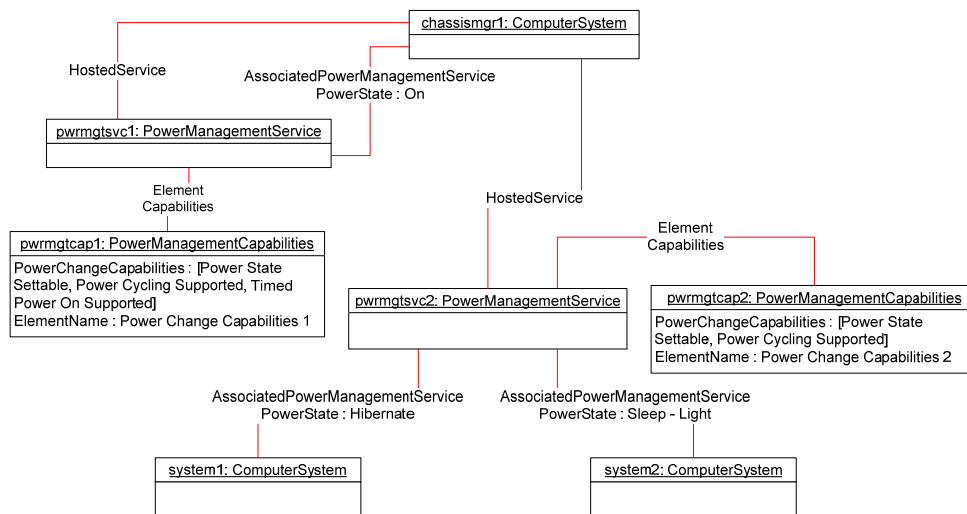
543 A service processor in this sense may be an add-in remote management component or an integrated  
 544 baseboard management controller.



545  
 546 **Figure 4 – Power Control Instance Diagram: Monolithic System with Service Processor**

547 **9.1.4 Modular System with Chassis Service Processor**

548 Figure 5 shows the CIM instances required to represent a modular computer system. The chassis  
 549 manager, chassismgr1, hosts one or more power management services (pwrmtgsvc2) to control the  
 550 power of all the blade systems. Optionally, the chassis manager may host another power management  
 551 service (pwrmtgsvc1) to control its own power.



552  
 553 **Figure 5 – Power Control Instance Diagram: Modular System with Chassis Service Processor**

## 554 **9.2 Determine the Power State of the Computer System**

555 A client can determine the power state of the computer system as follows:

556 For the instance of CIM\_ComputerSystem that represents the given computer system, select the  
557 referencing instance of CIM\_AssociatedPowerManagementService.

558 The PowerState property of the referencing instance of CIM\_AssociatedPowerManagementService  
559 represents the power state of the computer system.

## 560 **9.3 Find the Power Management Service for a Computer System**

561 A client can find the power management service for a computer system as follows:

562 For the instance of CIM\_ComputerSystem that represents the given computer system, select the instance  
563 of CIM\_PowerManagementService that represents the power management service for the computer  
564 system through the CIM\_AssociatedPowerManagementService association.

## 565 **9.4 Find All the Computer Systems for a Power Management Service**

566 A client can find all the computer systems for a power management service as follows:

567 For the instance of CIM\_PowerManagementService that represents the given power management  
568 service, select all of the instances of CIM\_ComputerSystem that are associated with it through the  
569 CIM\_AssociatedPowerManagementService association.

## 570 **9.5 Change the Power State of the Computer System**

571 A client can change the power state of the computer system as follows:

- 572 1) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
573 CIM\_PowerManagementService that represents the service that manages that system by using  
574 the CIM\_AssociatedPowerManagementService association.
- 575 2) Invoke the RequestPowerStateChange() method of the instance of  
576 CIM\_PowerManagementService with an argument that contains the PowerState action  
577 appropriate to the operation.

## 578 **9.6 Determine Whether the Power Cycle Is Supported for a Computer System**

579 A client can determine whether Power Cycle is supported for a computer system as follows:

- 580 1) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
581 CIM\_PowerManagementService using the CIM\_AssociatedPowerManagementService  
582 association.
- 583 2) Using the instance of CIM\_PowerManagementService, navigate to the instance of  
584 CIM\_PowerManagementCapabilities through the CIM\_ElementCapabilities association.

585 If the PowerChangeCapabilities property array contains the value 4 (Power Cycling Supported), Power  
586 Cycle shall be supported for the computer system.

## 587 **9.7 Execute Power Cycle (Off-Soft) within a Given Time**

588 A client can execute Power Cycle (Off-Soft) within a given time as follows:

- 589 1) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
 590 CIM\_PowerManagementService using the CIM\_AssociatedPowerManagementService  
 591 association.
- 592 2) Invoke the RequestPowerStateChange() method of the instance of  
 593 CIM\_PowerManagementService with the Power State argument set to 5 (Power Cycle (Off-  
 594 Soft)) and the TimeoutPeriod argument set to "t".

## 595 9.8 Execute Power Cycle (Off-Soft Graceful)

596 A client can determine whether Power Cycle and Graceful Shutdown is supported for a computer system  
 597 as follows:

- 598 1) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
 599 CIM\_PowerManagementService using the CIM\_AssociatedPowerManagementService  
 600 association.
- 601 2) Using the instance of CIM\_PowerManagementService, navigate to the instance of  
 602 CIM\_PowerManagementCapabilities through the CIM\_ElementCapabilities association.

603 If the PowerChangeCapabilities property array contains the value 4 (Power Cycling Supported) and 8  
 604 (Graceful Shutdown Supported), Power Cycle and Graceful Shutdown shall be supported for the  
 605 computer system.

606 If the Power Cycle and Graceful Shutdown is supported, then a client can execute Power Cycle (Off-Soft  
 607 Graceful) as follows:

- 608 1) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
 609 CIM\_PowerManagementService using the CIM\_AssociatedPowerManagementService  
 610 association.
- 611 2) Invoke the RequestPowerStateChange() method of the instance of  
 612 CIM\_PowerManagementService with the Power State argument set to 15 (Power Cycle (Off-  
 613 Soft Graceful))

## 614 9.9 Display Power States That Can Potentially Be Requested

615 A client can display the potential power states that can be requested on the computer system as follows:

- 616 1) For the instance of CIM\_ComputerSystem that represents the given computer system, select  
 617 the referencing instance of CIM\_AssociatedPowerManagementService.
- 618 2) Using the instance of CIM\_PowerManagementService, navigate to the instance of  
 619 CIM\_PowerManagementCapabilities through the CIM\_ElementCapabilities association.
- 620 3) The RequestedPowerStatesSupported property of the instance of  
 621 CIM\_PowerManagementCapabilities represents the power states that can potentially be  
 622 requested on the computer system.
- 623 4) The CIM\_AssociatedPowerManagementService.AvailableRequestedPowerStates property  
 624 contains a subset of power state values from the  
 625 CIM\_PowerManagementCapabilities.RequestedPowerStatesSupported property. This subset  
 626 represents currently available power state values for power state change requests, and it may  
 627 change dynamically based on the current state of the computer system. A client application  
 628 should use these properties to provide some visible differentiation between the available and  
 629 unavailable power state values.

## 630 9.10 Determine the Available Power States That Can Be Requested

631 A client can determine the available power states that that can be requested on the computer system as  
632 follows:

633 For the instance of CIM\_ComputerSystem that represents the given computer system, select the  
634 referencing instance of CIM\_AssociatedPowerManagementService.

635 The AvailableRequestedPowerStates property of the referencing instance of  
636 CIM\_AssociatedPowerManagementService represents the power states that can be currently requested  
637 on the computer system.

## 638 9.11 Change the Power State of the Computer System Based on Available Power 639 States

640 A client can change the power state of the computer system based on the current power state and the  
641 available power states that can be requested as follows:

- 642 1) For the instance of CIM\_ComputerSystem that represents the given computer system, select  
643 the referencing instance of CIM\_AssociatedPowerManagementService.
- 644 2) Navigate from the target instance of CIM\_ComputerSystem to the instance of  
645 CIM\_PowerManagementService that represents the service that manages that system by using  
646 the CIM\_AssociatedPowerManagementService association.
- 647 3) Invoke the RequestPowerStateChange() method of the instance of  
648 CIM\_PowerManagementService with an argument that contains the PowerState with a value  
649 that is one of the values in the AvailableRequestedPowerStates property of the  
650 CIM\_AssociatedPowerManagementService instance.

## 651 10 CIM Elements

652 Table 10 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be  
653 implemented as described in Table 10. Sections 7 ("Implementation") and 8 ("Methods") may impose  
654 additional requirements on these elements.

655 **Table 10 – CIM Elements: Power State Management Profile**

Element Name	Requirement	Description
<b>Classes</b>		
PowerManagementCapabilities	Mandatory	See 7.2 and 10.1.
PowerManagementService	Mandatory	See 7.1 and 10.2.
AssociatedPowerManagementService	Mandatory	See 10.3.
ElementCapabilities	Mandatory	See 10.4.
HostedService	Mandatory	See 10.5.
RegisteredProfile	Mandatory	See 10.6.
<b>Indications</b>		
None defined in this profile		



656 **10.1 CIM\_PowerManagementCapabilities**

657 CIM\_PowerManagementCapabilities represents the power management capabilities of a computer  
658 system. Table 11 contains the requirements for elements of this class.

659 **Table 11 – Class: CIM\_PowerManagementCapabilities**

Elements	Requirement	Notes
InstanceID	Mandatory	<b>Key</b>
PowerChangeCapabilities	Mandatory	See 7.2.1.
ElementName	Mandatory	See 7.2.2.
PowerStatesSupported	Mandatory	See 7.2.3.
RequestedPowerStatesSupported	Mandatory	See 7.2.4.

660 **10.2 CIM\_PowerManagementService**

661 CIM\_PowerManagementService represents the power management service responsible for controlling  
662 the power of a computer system. Table 12 contains the requirements for elements of this class.

663 **Table 12 – Class: CIM\_PowerManagementService**

Elements	Requirement	Notes
CreationClassName	Mandatory	<b>Key</b>
Name	Mandatory	<b>Key</b>
ElementName	Mandatory	See 7.1.1.
RequestPowerStateChange( )	Conditional	See 8.1.

664 **10.3 CIM\_AssociatedPowerManagementService**

665 CIM\_AssociatedPowerManagementService associates the CIM\_ComputerSystem instance that  
666 represents the target computer system with the CIM\_PowerManagementService instance that represents  
667 the service responsible for controlling the power of a computer system. Table 13 contains the  
668 requirements for elements of this class.

669 **Table 13 – Class: CIM\_AssociatedPowerManagementService**

Elements	Requirement	Notes
ServiceProvided	Mandatory	<b>Key</b> Cardinality 1
UserOfService	Mandatory	<b>Key</b> Cardinality *
PowerState	Mandatory	See 7.3.
RequestedPowerState	Conditional	See 7.4.
PowerOnTime	Conditional	See 7.4.
TransitioningToPowerState	Optional	See 7.5.
AvailableRequestedPowerStates	Optional	See 7.6.

670 **10.4 CIM\_ElementCapabilities**

671 CIM\_ElementCapabilities associates the CIM\_PowerManagementService instance that represents the  
 672 service responsible for controlling the power of a computer system with the  
 673 CIM\_PowerManagementCapabilities instance that represents the power management capabilities of a  
 674 computer system. Table 14 contains the requirements for elements of this class.

675 **Table 14 – Class: CIM\_ElementCapabilities**

Elements	Requirement	Notes
ManagedElement	Mandatory	This property shall be a reference to the instance of CIM_PowerManagementService. Cardinality 1..*
Capabilities	Mandatory	This property shall be a reference to the instance of CIM_PowerManagementCapabilities. Cardinality 1

676 **10.5 CIM\_HostedService**

677 CIM\_HostedService associates the CIM\_ComputerSystem instance with the  
 678 CIM\_PowerManagementService instance that it hosts. Table 15 contains the requirements for elements  
 679 of this class.

680 **Table 15 – Class: CIM\_HostedService**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to the instance of CIM_ComputerSystem. Cardinality 1..*
Dependent	Mandatory	This property shall be a reference to the instance of CIM_PowerManagementService. Cardinality *

681 **10.6 CIM\_RegisteredProfile**

682 CIM\_RegisteredProfile is defined by the [Profile Registration Profile](#). The requirements denoted in  
 683 Table 16 are in addition to those mandated by the [Profile Registration Profile](#).

684 **Table 16 – Class: CIM\_RegisteredProfile**

Elements	Requirement	Notes
RegisteredName	Mandatory	This property shall have a value of "Power State Management".
RegisteredVersion	Mandatory	This property shall have a value of "2.0.0".
RegisteredOrganization	Mandatory	This property shall have a value of 2 (DMTF).

685 NOTE: Previous versions of this document included the suffix "Profile" for the RegisteredName value. If  
 686 implementations querying for the RegisteredName value find the suffix "Profile", they should ignore the suffix, with  
 687 any surrounding white spaces, before any comparison is done with the value as specified in this document.

688  
689  
690  
691

## ANNEX A (informative)

### Change Log

Version	Date	Description
1.0.0b	2006/07/11	Preliminary Standard version.
1.0.0c	2007/01/30	Preliminary Standard refresh. Updated CIM schema version from 2.11 to 2.15 to reflect the correct schema that contains all the properties that the profile references.
1.0.0	2008/04/11	Final Standard version.
1.0.2	2008/12/12	Added RequestedPowerStatesSupported property to PowerManagementCapabilities.
2.0.0	2009-12-14	DMTF Standard Release. Added TransitioningToPowerState and AvailableRequestedPowerStates properties to CIM_AssociatedPowerManagementService. Fixed Table 3 on ACPI to PowerState property mapping. Added a table on the meaning of PowerState parameter of RequestPowerStateChange( ) method. Addressed PPP WG ballot and TC ballot comments.

692  
693