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5 **Indicator LED Profile**

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96

97

Foreword

98 The *Indicator LED Profile* (DSP1074) was prepared by the Server Management Working Group and the
99 Physical Platform Profiles Working Group of the DMTF.

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113

114

Introduction

115 The information in this specification should be sufficient for a provider or consumer of this data to identify
116 unambiguously the classes, properties, methods, and values that shall be instantiated and manipulated to
117 represent and manage indicator LEDs of managed system elements. The target audience for this
118 specification is implementers who are writing Common Information Model (CIM) based providers or
119 consumers of management interfaces that represent the component described in this document.

120

Indicator LED Profile

121 1 Scope

122 The *Indicator LED Profile* extends the management capability of referencing profiles by adding the
123 capability to represent indicator LEDs of managed systems. Associations with the LED's physical aspects
124 and profile-implementation information are modeled in this profile.

125 2 Normative References

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

129 2.1 Approved References

130 DMTF DSP0200, *CIM Operations over HTTP 1.3*,
131 http://www.dmtf.org/standards/published_documents/DSP0200_1.3.pdf

132 DMTF DSP0004, *CIM Infrastructure Specification 2.5*,
133 http://www.dmtf.org/standards/published_documents/DSP0004_2.5.pdf

134 DMTF DSP1001, *Management Profile Specification Usage Guide 1.0*,
135 http://www.dmtf.org/standards/published_documents/DSP1001_1.0.pdf

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

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

140 DMTF DSP1033, *Profile Registration Profile 1.0*,
141 http://www.dmtf.org/standards/published_documents/DSP1033_1.0.pdf

142 IETF RFC 5234, *Augmented BNF for Syntax Specifications: ABNF*, January 2008,
143 <http://www.ietf.org/rfc/rfc5234.txt>

144 2.2 Other References

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

147 3 Terms and Definitions

148 For the purposes of this document, the following terms and definitions apply. For the purposes of this
149 document, the terms and definitions given in [DSP1033](#) and [DSP1001](#) also apply.

150 3.1

151 **can**

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

- 153 **3.2**
154 **cannot**
155 used for statements of possibility and capability, whether material, physical, or causal
- 156 **3.3**
157 **conditional**
158 indicates requirements to be followed strictly to conform to the document if the specified conditions are
159 met
- 160 **3.4**
161 **mandatory**
162 indicates requirements to be followed strictly to conform to the document and from which no deviation is
163 permitted
- 164 **3.5**
165 **may**
166 indicates a course of action permissible within the limits of the document
- 167 **3.6**
168 **need not**
169 indicates a course of action permissible within the limits of the document
- 170 **3.7**
171 **optional**
172 indicates a course of action permissible within the limits of the document
- 173 **3.8**
174 **referencing profile**
175 indicates a profile that owns the definition of this class and can include a reference to this profile in its
176 "Referenced Profiles" table
- 177 **3.9**
178 **shall**
179 indicates requirements to be followed strictly to conform to the document and from which no deviation is
180 permitted
- 181 **3.10**
182 **shall not**
183 indicates requirements to be followed strictly to conform to the document and from which no deviation is
184 permitted
- 185 **3.11**
186 **should**
187 indicates that among several possibilities, one is recommended as particularly suitable, without
188 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 189 **3.12**
190 **should not**
191 indicates that a certain possibility or course of action is deprecated but not prohibited
- 192 **3.13**
193 **unspecified**
194 indicates that this profile does not define any constraints for the referenced CIM element
195

196 4 Symbols and Abbreviated Terms

197 The following symbols and abbreviations are used in this document.

198 4.1

199 LED

200 Light Emitting Diode

201 5 Synopsis

202 **Profile Name:** Indicator LED

203 **Version:** 1.0.0

204 **Organization:** DMTF

205 **CIM Schema version:** 2.22

206 **Central Class:** CIM_IndicatorLED

207 **Scoping Class:** CIM_ComputerSystem

208 The *Indicator LED Profile* extends the management capability of referencing profiles by adding the
209 capability to represent indicator LEDs of managed elements. This profile includes a specification of
210 indicator LEDs and a grammar for describing LED behavior. Also specified are associations with physical
211 information and advertisement of profile version information.

212 CIM_IndicatorLED shall be the Central Class of this profile. The instance of CIM_IndicatorLED shall be
213 the Central Instance of this profile. CIM_ComputerSystem shall be the Scoping Class of this profile. The
214 instance of CIM_ComputerSystem with which the Central Instance is associated through an instance of
215 CIM_SystemDevice shall be the Scoping Instance of this profile.

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

217

Table 1 – Referenced Profiles

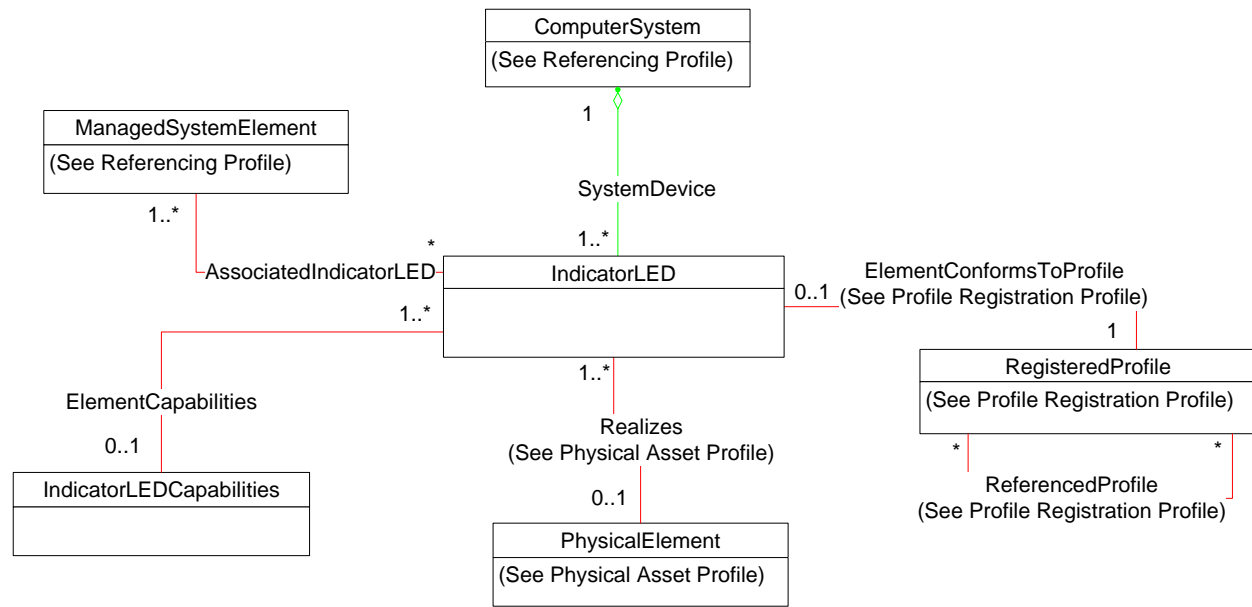
Profile Name	Organization	Version	Description
Profile Registration	DMTF	1.0	Mandatory
Physical Asset	DMTF	1.0	Optional. See section 7.4.

218 6 Description (Informative)

219 The *Indicator LED Profile* describes indicator LEDs and a grammar for describing LED behavior. Also
220 specified are associations with physical information and advertisement of profile version information.

221 Figure 1 represents the class schema for the *Indicator LED Profile*. The CIM_IndicatorLED class
222 represents an indicator LED of the system. The CIM_IndicatorLEDCapabilities class describes the
223 capabilities of the LED.

224 For simplicity, the prefix *CIM_* has been removed from the names of the classes.



225

226

Figure 1 – Indicator LED Profile: Class Diagram

227 7 Implementation

228 This section details the requirements related to the arrangement of instances and properties of instances
229 for implementations of this profile.

230 7.1 Representing an Indicator LED

231 This clause defines requirements for representing an indicator LED.

232 7.1.1 General Requirements

233 An instance of CIM_IndicatorLED shall represent each modeled indicator LED.

234 7.1.2 Controlling LED Behavior

235 This clause describes the properties that control indicator LED behavior.

236 7.1.2.1 CIM_IndicatorLED.ActivationState

237 The ActivationState property shall have one of the values listed in the SupportedActivationStates property
238 of the associated instance of CIM_IndicatorLEDCapabilities, the value 0 (Unknown), or the value 1
239 (Other).

240 7.1.2.2 CIM_IndicatorLED.IndicatedCondition

241 The IndicatedCondition property shall have one of the values listed in the SupportedIndicatedConditions
242 property of the associated instance of CIM_IndicatorLEDCapabilities, the value 0 (Unknown), the value 1
243 (Other), or the value 2 (Not Applicable).

244 7.1.2.3 CIM_IndicatorLED.ControlMode

245 The ControlMode property shall have one of the values listed in the SupportedControlModes property of
246 the associated instance of CIM_IndicatorLEDCapabilities, the value 0 (Unknown), or the value 1 (Other).

247 **7.1.2.4 CIM_IndicatorLED.Color**

248 The Color property shall have one of the values listed in the SupportedColors property of the associated
249 instance of CIM_IndicatorLEDCapabilities, the value 0 (Unknown), the value 1 (Other), or the value 2 (Not
250 Applicable).

251 **7.1.3 Control Pattern (Conditional)**

252 Complex or detailed behavior for an indicator LED may be modeled using the
253 CIM_IndicatorLED.ControlPattern property. This behavior is conditional. If the
254 CIM_IndicatorLEDCapabilities.SupportedControlPattern property contains at least one value for the
255 instance of CIM_IndicatorLEDCapabilities that is associated with the instance of CIM_IndicatorLED, the
256 CIM_IndicatorLED.ControlPattern property shall be implemented. If the CIM_IndicatorLED.ActivationState
257 property does not have the value 5 (Control Pattern), the ControlPattern property may be NULL. If the
258 CIM_IndicatorLED.ActivationState property has the value 5 (Control Pattern), the ControlPattern property
259 shall not be NULL.

260 **7.2 Representing Capabilities of an Indicator LED (Optional)**

261 The capabilities of an indicator LED may be modeled. This behavior is optional.

262 If the instance of CIM_IndicatorLED supports more than one value for the Color property, the instance of
263 CIM_IndicatorLED shall be associated with exactly one instance of CIM_IndicatorLEDCapabilities through
264 the CIM_ElementCapabilities association.

265 If the instance of CIM_IndicatorLED supports more than one value for the ActivationState property, the
266 instance of CIM_IndicatorLED shall be associated with exactly one instance of
267 CIM_IndicatorLEDCapabilities through the CIM_ElementCapabilities association.

268 If the instance of CIM_IndicatorLED supports more than one value for the IndicatedCondition property,
269 the instance of CIM_IndicatorLED shall be associated with exactly one instance of
270 CIM_IndicatorLEDCapabilities through the CIM_ElementCapabilities association.

271 If the instance of CIM_IndicatorLED supports more than one value for the ControlPattern property, the
272 instance of CIM_IndicatorLED shall be associated with exactly one instance of
273 CIM_IndicatorLEDCapabilities through the CIM_ElementCapabilities association.

274 If the instance of CIM_IndicatorLED supports more than one value for the ControlMode property, the
275 instance of CIM_IndicatorLED shall be associated with exactly one instance of
276 CIM_IndicatorLEDCapabilities through the CIM_ElementCapabilities association.

277 **7.3 Relating an Indicator LED to a Managed System Element**

278 Each instance of CIM_IndicatorLED shall be associated with at least one instance of
279 CIM_ManagedSystemElement through the CIM_AssociatedIndicatorLED association.

280 **7.4 Representing the Physical Packaging (Optional)**

281 Support for representing the physical packaging of the indicator LED is optional. If the physical packaging
282 of the indicator LED is modeled, it shall be modeled using the [Physical Asset Profile](#).

283 **7.5 DMTF Grammar for Control Pattern**

284 This clause describes the constraints for expressing a control pattern using the default grammar specified
285 by this profile.

286 7.5.1 General Requirements

287 If a control pattern is expressed using the grammar defined by this profile, the control pattern shall comply
288 with the DMTFControlPattern production in 7.5.2.

289 If the grammar for expressing control patterns described by this profile is supported, the
290 CIM_IndicatorLEDCapabilities.SupportedControlPatterns property shall contain the value
291 "DMTF:DSP1074:ControlPattern1.0.0" for the instance of CIM_IndicatorLEDCapabilities that is
292 associated with the instance of CIM_IndicatorLED.

293 The legal value substitutions for ColorValue shall be "off" or the corresponding value of the Values
294 qualifier for a value contained in the CIM_IndicatorLEDCapabilities.SupportedColors property for the
295 instance of CIM_IndicatorLEDCapabilities that is associated with the instance of CIM_IndicatorLED.

296 If the color keyword is followed by the string "off", the LED shall not be lit. If the color keyword is followed
297 by a supported color for the LED, the LED shall be lit in that color.

298 The value of the Duration production shall be interpreted as a duration expressed in milliseconds for the
299 LED to be lit or unlit.

300 The value of the RepeatOccurrences property shall be interpreted as the number of times to repeat the
301 pattern enclosed within the repeat/endrepeat pair, where a value of "infinite" indicates that the pattern
302 shall be repeated indefinitely.

303 A control pattern shall be executed exactly once. To achieve recurring behavior, it is necessary to specify
304 the desired behavior by using the repeat production.

305 EXAMPLE: DMTF:DSP1074:ControlPattern1.0.0 repeat infinite color blue 5 color off 5 color blue 10 color off 5
306 endrepeat.

307 This will cause the LED to alternate long and short blinks in a blue color indefinitely.

308 EXAMPLE: DMTF:DSP1074:ControlPattern1.0.0 repeat 15 color blue 10 color off 5 color red 10 color off 5
309 endrepeat.

310 This will cause the LED to alternate blinking blue and red 15 times.

311 7.5.2 Grammar

312 This clause details the grammar for values of ControlPattern if formatted using the conventions defined by
313 this profile. The rules for production and notation are those defined in [RFC 5234](#).

314 DMTFControlPattern = "DMTF:DSP1074:ControlPattern1.0.0" Sequence

315 Sequence = 1*(" Repeat / Multistate)

316 Repeat = "repeat" " " RepeatOccurrences " " Multistate " " "endrepeat"

317 RepeatOccurrences = "infinite" / 1*DIGIT

318 Multistate = Singlestate *(" " Singlestate)

319 Singlestate = "color" " " ColorValue " " Duration

320 ColorValue = 1*ALPHA / "off"

321 Duration = 1*DIGIT

322 8 Methods

323 This section details the requirements for supporting intrinsic operations for the CIM elements defined by
324 this profile. No extrinsic methods are defined by this profile.

325 8.1 Profile Conventions for Operations

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

328 The default list of operations is as follows:

- 329 • GetInstance
- 330 • Associators
- 331 • AssociatorNames
- 332 • References
- 333 • ReferenceNames
- 334 • EnumerateInstances
- 335 • EnumerateInstanceNames

336 8.2 CIM_AssociatedIndicatorLED

337 Table 2 lists implementation requirements for operations. If implemented, these operations shall be
338 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 2, all operations in
339 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

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

341 **Table 2 – Operations: CIM_AssociatedIndicatorLED**

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

342 8.3 CIM_ElementCapabilities

343 Table 3 lists implementation requirements for operations. If implemented, these operations shall be
344 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 3, all operations in
345 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

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

347 **Table 3 – Operations: CIM_ElementCapabilities**

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

348 8.4 CIM_IndicatorLEDCapabilities

349 All operations in the default list in 8.1 shall be implemented as defined in [DSP0200](#).

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

351 8.5 CIM_IndicatorLED

352 Table 4 lists implementation requirements for operations. If implemented, these operations shall be
 353 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 4, all operations in
 354 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

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

356 **Table 4 – Operations: CIM_IndicatorLED**

Operation	Requirement	Messages
ModifyInstance	Optional. See 8.5.1.	None

357 8.5.1 CIM_IndicatorLED—ModifyInstance Operation

358 This clause details the specific requirements for the ModifyInstance operation that is applied to an
 359 instance of CIM_IndicatorLED.

360 If the CIM_IndicatorLED.ControlMode property has the value 2 (Automatic), the ModifyInstance operation
 361 shall not modify the following properties:

- 362 • IndicatedCondition
- 363 • Color
- 364 • ActivationState
- 365 • ControlPattern

366 If the CIM_IndicatorLED.ControlMode property has the value 3 (Manual), the ModifyInstance operation
 367 may modify the preceding properties.

368 8.6 CIM_SystemDevice

369 Table 5 lists implementation requirements for operations. If implemented, these operations shall be
 370 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 5, all operations in
 371 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

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

373 **Table 5 – Operations: CIM_SystemDevice**

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

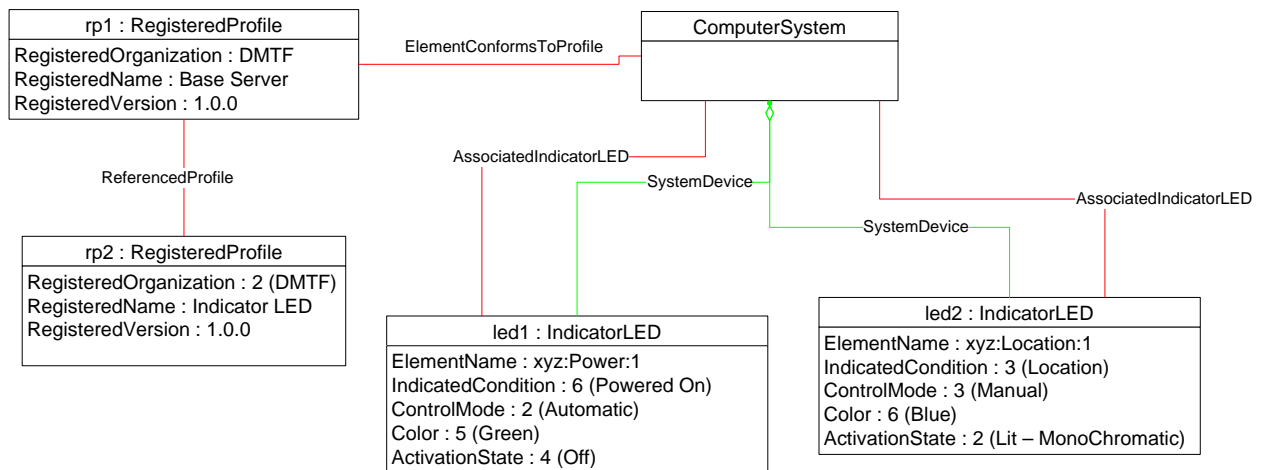
374 **9 Use Cases (Informative)**

375 This section contains object diagrams and use cases for the *Indicator LED Profile*.

376 **9.1 Object Diagrams**

377 The object diagram in Figure 2 shows an implementation of the *Indicator LED Profile*. The
 378 CIM_RegisteredProfile class is used to identify the version of the *Indicator LED Profile* with which the
 379 instances of CIM_IndicatorLED are conformant. An instance of CIM_RegisteredProfile exists for each
 380 profile that is instrumented in the system. One instance of CIM_RegisteredProfile identifies the DMTF
 381 [Base Server Profile](#), version 1.0.0. The other instance identifies the DMTF *Indicator LED Profile*, version
 382 1.0.0.

383 Two instances of CIM_IndicatorLED are implemented, representing two LEDs in the system. led1 is used
 384 to indicate whether the system is currently powered on. It is controlled by the management subsystem of
 385 the system. The LED is currently not lit; therefore, a client could infer that the system is not powered on.
 386 led2 is a location LED used to identify the system and differentiate it from nearby systems. This LED is
 387 controlled by a management client. It is currently lit.



388
389 **Figure 2 – Object Diagram**

390 **9.2 Determine Whether the LED May Be Manually Controlled, Is Automatically**
 391 **Controlled, or Can Be Put into Test**

392 A client may determine the type of control supported by an instance of CIM_IndicatorLED as follows:

- 393 1) Starting with the instance of CIM_IndicatorLED, query for an instance of
 394 CIM_IndicatorLEDCapabilities that is associated through an instance of
 395 CIM_ElementCapabilities.
- 396 2) If an instance of CIM_IndicatorLEDCapabilities is associated, query the
 397 CIM_IndicatorLEDCapabilities.SupportedControlModes property for the set of control modes
 398 supported.
- 399 3) If an instance of CIM_IndicatorLEDCapabilities is not associated, query the
 400 CIM_IndicatorLED.ControlMode property. This property indicates the single control mode
 401 supported by the indicator LED.

402 **9.3 Configure an LED for Manual Control**

403 A client may configure an LED for manual control as follows:

- 404 1) Use the steps in 9.2 to determine if the manual control mode is supported.
- 405 2) If the manual control mode is supported and the CIM_IndicatorLED.ControlMode property does
406 not have the value 3 (Manual), modify the control mode property to have the value 3 (Manual).

407 **9.4 Find All Indicator LEDs Associated with a Managed System Element**

408 A client may find the LEDs that indicate one or more conditions for a managed system element as
409 follows:

- 410 1) Starting with the instance of CIM_ManagedSystemElement, query for instances of
411 CIM_IndicatorLED that are associated through an instance of CIM_AssociatedIndicatorLED.

412 **9.5 Determine Managed System Elements for Which the LED Indicates a 413 Condition**

414 A client may determine the managed system elements for which the LED indicates a condition as follows:

- 415 1) Starting with the instance of CIM_IndicatorLED, query for instances of
416 CIM_ManagedSystemElement that are associated through an instance of
417 CIM_AssociatedIndicatorLED.

418 **9.6 Determine the Conditions Indicated by the LED**

419 A client may determine the conditions indicated by an instance of CIM_IndicatorLED as follows:

- 420 1) Starting with the instance of CIM_IndicatorLED, query for an instance of
421 CIM_IndicatorLEDCapabilities that is associated through an instance of
422 CIM_ElementCapabilities.
- 423 2) If an instance of CIM_IndicatorLEDCapabilities is associated, query the
424 CIM_IndicatorLEDCapabilities.SupportedIndicatedConditions property for the set of indicated
425 conditions.
 - 426 a) If the property contains the value 1 (Other), query the corresponding array position of the
427 CIM_IndicatorLEDCapabilities.OtherSupportedIndicatedConditionDescriptions property.
- 428 3) If an instance of CIM_IndicatorLEDCapabilities is not associated, query the
429 CIM_IndicatorLED.IndicatedCondition property. This property provides the single condition
430 indicated by the indicator LED.
 - 431 a) If the CIM_IndicatorLED.IndicatedCondition property contains the value 1 (Other), query
432 the CIM_IndicatorLED.OtherIndicatedConditionDescription property.

433 **9.7 Determine the Current Status of the LED**

434 A client may determine the current status of an indicator LED as follows:

- 435 1) Starting with the instance of CIM_IndicatorLED, query the ActivationState property.
- 436 2) If the value of the ActivationState property is 5 (ControlPattern), query the ControlPattern
437 property. Otherwise, the ActivationState property indicates the current state of the indicator
438 LED.

439 **9.8 Determine the Supported Colors of the LED**

440 A client may determine the colors supported by an instance of CIM_IndicatorLED as follows:

- 441 1) Starting with the instance of CIM_IndicatorLED, query for an instance of
442 CIM_IndicatorLEDCapabilities that is associated through an instance of
443 CIM_ElementCapabilities.
- 444 2) If an instance of CIM_IndicatorLEDCapabilities is associated, query the
445 CIM_IndicatorLEDCapabilities.SupportedColors property for the set of colors supported.
 - 446 a) If the property contains the value 1 (Other), query the corresponding array position of the
447 CIM_IndicatorLEDCapabilities.OtherSupportedColorDescriptions property.
- 448 3) If an instance of CIM_IndicatorLEDCapabilities is not associated, query the
449 CIM_IndicatorLED.Color property. This property indicates the single color supported by the
450 indicator LED.
 - 451 a) If the CIM_IndicatorLED.Color property contains the value 1 (Other), query the
452 CIM_IndicatorLED.OtherColorDescription property.

453 **9.9 Determine Supported Activation States for an LED**

454 A client may determine the activation states supported by an instance of CIM_IndicatorLED as follows:

- 455 1) Starting with the instance of CIM_IndicatorLED, query for an instance of
456 CIM_IndicatorLEDCapabilities that is associated through an instance of
457 CIM_ElementCapabilities.
- 458 2) If an instance of CIM_IndicatorLEDCapabilities is associated, query the
459 CIM_IndicatorLEDCapabilities.SupportedActivationStates property for the set of activation
460 states supported.
- 461 3) If an instance of CIM_IndicatorLEDCapabilities is not associated, query the
462 CIM_IndicatorLED.ActivationState property. This property indicates the single activation state
463 supported by the indicator LED.

464 **9.10 Turn on an LED**

465 A client may turn on an LED as follows:

- 466 1) Starting with the instance of CIM_IndicatorLED, place the indicator LED into manual control
467 mode using the steps in 9.3.
- 468 2) Use the steps in 9.9 to determine if 2 (Lit – Monochromatic) is a supported activation state.
- 469 3) If 2 (Lit – Monochromatic) is a supported activation state, modify the
470 CIM_IndicatorLED.ActivationState property to have the value 2 (Lit – Monochromatic).
- 471 4) If 2 (Lit – Monochromatic) is not a supported activation state, the LED does not support being
472 turned on directly. This behavior may be supported through a control pattern supported by the
473 indicator LED.

474 **9.11 Configure a Control Pattern for an LED**

475 Given an instance of CIM_IndicatorLED, a client can configure a control pattern for an LED as follows:

- 476 1) Query for an associated instance of CIM_IndicatorLEDCapabilities.
477 If an instance is not found, the only supported control pattern (if any) is the current value of the
478 CIM_IndicatorLED.ControlPattern property.

- 479 2) Query the CIM_IndicatorLEDCapabilities.SupportedControlPatterns property. If the property
 480 contains values that identify grammars or behaviors of which the client has a priori knowledge,
 481 the client is able to configure the control pattern.
- 482 3) If the desired control pattern is a named behavior supported by the LED, the client may use the
 483 ModifyInstance operation to modify the CIM_IndicatorLED.ControlPattern property to have the
 484 value that identifies the named behavior.
- 485 4) If the desired control pattern is not a named behavior but can be expressed by the client using a
 486 grammar supported by the indicator LED, the client can construct a string value expressing the
 487 desired behavior and use the ModifyInstance operation to modify the
 488 CIM_IndicatorLED.ControlPattern property to have the value that describes the behavior.

489 10 CIM Elements

490 Table 6 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be
 491 implemented as described in Table 6. Sections 7 (“Implementation”) and 8 (“Methods”) may impose
 492 additional requirements on these elements.

493 **Table 6 – CIM Elements: Indicator LED Profile**

Element Name	Requirement	Description
Classes		
CIM_AssociatedIndicatorLED	Mandatory	See 10.1.
CIM_ElementCapabilities	Mandatory	See 10.2.
CIM_IndicatorLEDCapabilities	Mandatory	See 10.3.
CIM_IndicatorLED	Mandatory	See 10.4.
CIM_RegisteredProfile	Mandatory	See 10.5.
CIM_SystemDevice	Mandatory	See 10.6.
Indications		
None defined in this profile		

494 10.1 CIM_AssociatedIndicatorLED

495 CIM_AssociatedIndicatorLED is used to associate one or more instances of
 496 CIM_ManagedSystemElement with an instance of CIM_IndicatorLED. Table 7 contains the requirements
 497 for elements of this class.

498 **Table 7 – Class: CIM_AssociatedIndicatorLED**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be an instance of CIM_ManagedSystemElement. Cardinality 1..*
Dependent	Mandatory	This property shall be an instance of CIM_IndicatorLED. Cardinality *

499 **10.2 CIM_ElementCapabilities**

500 CIM_ElementCapabilities is used to associate an instance of CIM_IndicatorLEDCapabilities with an
 501 instance of CIM_IndicatorLED. Table 8 contains the requirements for elements of this class.

502 **Table 8 – Class: CIM_ElementCapabilities**

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

503 **10.3 CIM_IndicatorLEDCapabilities**

504 CIM_IndicatorLEDCapabilities is used to indicate support for managing the state of the indicator LED.
 505 Table 9 contains the requirements for elements of this class.

506 **Table 9 – Class: CIM_IndicatorLEDCapabilities**

Elements	Requirement	Notes
InstanceID	Mandatory	None
SupportedIndicatedConditions	Mandatory	None
OtherSupportedIndicatedCondition Descriptions	Conditional	This property shall be non-NULL if SupportedIndicatedConditions has the value 1 (Other) in any array position.
SupportedColors	Mandatory	None
OtherSupportedColorDescriptions	Conditional	This property shall be non-NULL if SupportedColors has the value 1 (Other) in any array position.
SupportedControlModes	Mandatory	None
SupportedActivationStates	Mandatory	None
SupportedControlPatterns	Conditional	None

507 **10.4 CIM_IndicatorLED**

508 CIM_IndicatorLED represents the logical aspects of an indicator LED. Table 10 contains the requirements
 509 for elements of this class.

510 **Table 10 – Class: CIM_IndicatorLED**

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	None
CreationClassName	Mandatory	None
SystemName	Mandatory	None
DeviceId	Mandatory	None
ElementName	Mandatory	pattern ("+.")
IndicatedCondition	Mandatory	None

Elements	Requirement	Notes
OtherIndicatedCondition	Conditional	This property shall have pattern ("+.") if IndicatedCondition has the value 1 (Other).
Color	Mandatory	See 7.1.2.4.
OtherColorDescription	Conditional	This property shall have pattern ("+.") if Color has the value 1 (Other).
ControlMode	Mandatory	See 7.1.2.3.
DefaultActivationState	Mandatory	None
ActivationState	Mandatory	See 7.1.2.1.
ControlPattern	Conditional	See 7.1.3.

511 10.5 CIM_RegisteredProfile

512 CIM_RegisteredProfile identifies the *Indicator LED Profile* in order for a client to determine whether an
 513 instance of CIM_IndicatorLED is conformant with this profile. The CIM_RegisteredProfile class is defined
 514 by the [Profile Registration Profile](#). With the exception of the mandatory values specified for the elements
 515 in Table 11, the behavior of the CIM_RegisteredProfile instance is in accordance with the constraints
 516 specified in the [Profile Registration Profile](#).

517 **Table 11 – Class: CIM_RegisteredProfile**

Elements	Requirement	Description
RegisteredName	Mandatory	This property shall have a value of "Indicator LED".
RegisteredVersion	Mandatory	This property shall have a value of "1.0.0".
RegisteredOrganization	Mandatory	This property shall have a value of 2 (DMTF).

518 10.6 CIM_SystemDevice

519 CIM_SystemDevice is used to associate an instance of CIM_IndicatorLED with the instance of
 520 CIM_ComputerSystem to which the CIM_IndicatorLED instance is scoped.

521 **Table 12 – Class: CIM_SystemDevice**

Elements	Requirement	Notes
GroupComponent	Mandatory	This property shall be a reference to an instance of CIM_ComputerSystem. Cardinality 1
PartComponent	Mandatory	This property shall be a reference to CIM_IndicatorLED. Cardinality 1..*

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ANNEX A
(informative)
Change Log

Version	Date	Description
1.0.0a	5/15/2007	Preliminary Standard 1.0.0a
1.0.0	6/17/2009	DMTF Standard Release

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