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## 5   **Pass-Through Module Profile**

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91

## Foreword

92 The *Pass-Through Module Profile* (DSP1020) was prepared by the Server Management Working Group  
93 and the Physical Platform Profiles Working Group.

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

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109

## Introduction

- 110 The information in this specification should be sufficient for a provider or consumer of this data to identify  
111 unambiguously the classes, properties, methods, and values that shall be instantiated and manipulated to  
112 represent and manage a pass-through module of a modular system that is modeled using the DMTF CIM  
113 core and extended model definitions.
- 114 The target audience for this specification is implementers who are writing CIM-based providers or  
115 consumers of management interfaces that represent the component described in this document.

116

# Pass-Through Module Profile

117

## 1 Scope

118  
119  
120

The *Pass-Through Module Profile* is a component profile for modeling pass-through modules of modular systems. A pass-through module acts as a conduit for network connectivity for components within a modular system without performing any higher order network protocol function.

121

## 2 Normative References

122  
123  
124

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

125

### 2.1 Approved References

126  
127

DMTF DSP0004, *CIM Infrastructure Specification 2.3*,  
[http://www.dmtf.org/standards/published\\_documents/DSP0004\\_2.3.pdf](http://www.dmtf.org/standards/published_documents/DSP0004_2.3.pdf)

128  
129

DMTF DSP0200, *CIM Operations over HTTP 1.2*,  
[http://www.dmtf.org/standards/published\\_documents/DSP0200\\_1.2.pdf](http://www.dmtf.org/standards/published_documents/DSP0200_1.2.pdf)

130  
131

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

132  
133

DMTF DSP1011 *Physical Asset Profile 1.0*,  
[http://www.dmtf.org/standards/published\\_documents/DSP1011\\_1.0.pdf](http://www.dmtf.org/standards/published_documents/DSP1011_1.0.pdf)

134  
135

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

136

### 2.2 Other References

137  
138

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

139

## 3 Terms and Definitions

140

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

141  
142

### 3.1

**can**

143

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

144  
145

### 3.2

**cannot**

146

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

147  
148

### 3.3

**conditional**

149  
150

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

- 151   **3.4**  
152   **mandatory**  
153   indicates requirements to be followed strictly in order to conform to the document and from which no  
154   deviation is permitted
- 155   **3.5**  
156   **may**  
157   indicates a course of action permissible within the limits of the document
- 158   **3.6**  
159   **need not**  
160   indicates a course of action permissible within the limits of the document
- 161   **3.7**  
162   **optional**  
163   indicates a course of action permissible within the limits of the document
- 164   **3.8**  
165   **referencing profile**  
166   indicates a profile that owns the definition of this class and can include a reference to this profile in its  
167   "Referenced Profiles" table
- 168   **3.9**  
169   **shall**  
170   indicates requirements to be followed strictly in order to conform to the document and from which no  
171   deviation is permitted
- 172   **3.10**  
173   **shall not**  
174   indicates requirements to be followed strictly in order to conform to the document and from which no  
175   deviation is permitted
- 176   **3.11**  
177   **should**  
178   indicates that among several possibilities, one is recommended as particularly suitable, without  
179   mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 180   **3.12**  
181   **should not**  
182   indicates that a certain possibility or course of action is deprecated but not prohibited
- 183   

## 4 Symbols and Abbreviated Terms
- 184   The following symbols and abbreviations are used in this document.
- 185   **4.1**  
186   **CIM**  
187   Common Information Model

## 188 **5 Synopsis**

189 **Profile Name:** Pass-Through Module

190 **Version:** 1.0.0

191 **Organization:** DMTF

192 **CIM Schema Version:** 2.22

193 **Central Class:** CIM\_PassThroughModule

194 **Scoping Class:** CIM\_ComputerSystem

195 The *Pass-Through Module Profile* extends management capability to include support for pass-through  
196 modules of modular systems.

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

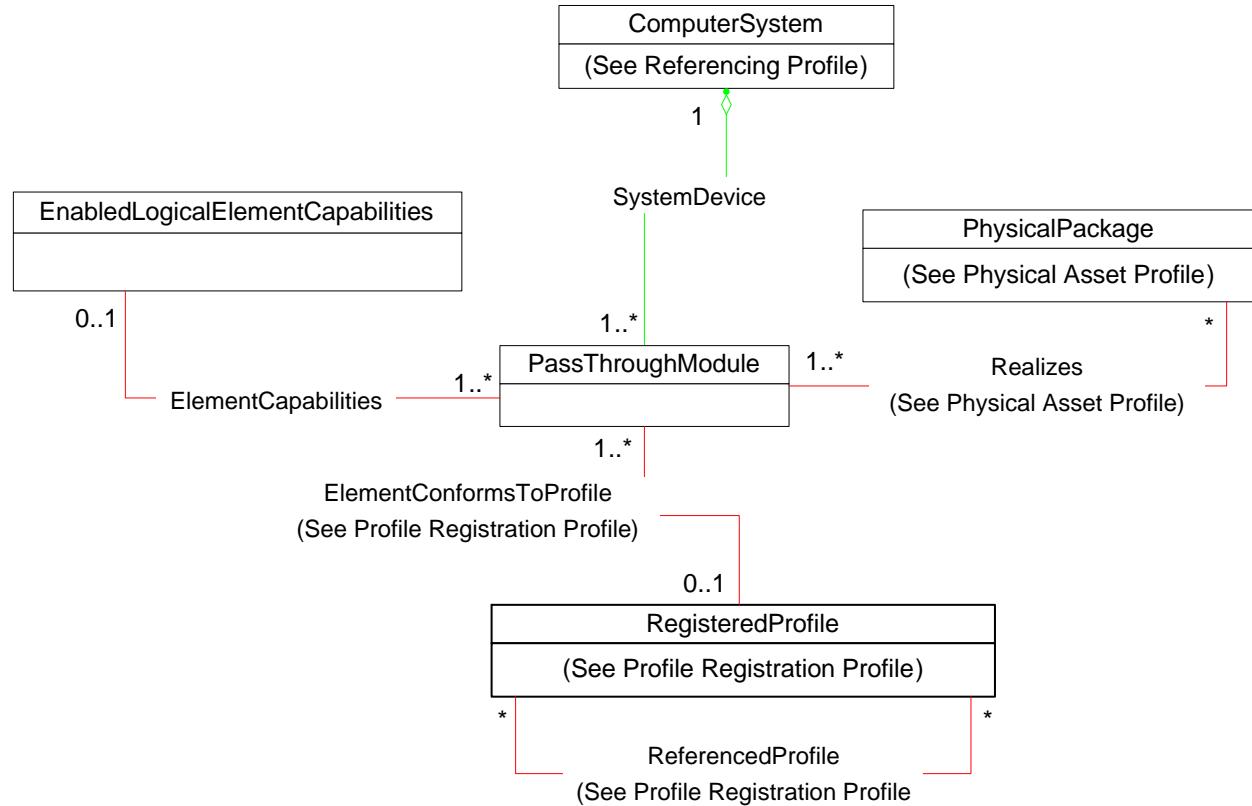
198 **Table 1 – Referenced Profiles**

| Profile Name                         | Organization | Version | Description |
|--------------------------------------|--------------|---------|-------------|
| <a href="#">Profile Registration</a> | DMTF         | 1.0     | Mandatory   |
| <a href="#">Physical Asset</a>       | DMTF         | 1.0     | Optional    |

## 199 **6 Description**

200 The *Pass-Through Module Profile* describes pass-through modules of modular systems. A pass-through  
201 module is a device that is a replacement for physical cables and allows internal network physical ports in  
202 a chassis or rack to be accessible from the external network. A pass-through module may be a fixed  
203 internal-port-to-external-port relationship or a configurable mapping of internal ports to output ports  
204 through a cross-point switching function.

205 Figure 1 represents the class schema for the *Pass-Through Module Profile*. For simplicity, the prefix CIM\_  
 206 has been removed from the names of the classes.



207

208 **Figure 1 – Pass-Through Module Profile: Class Diagram**

## 209 **7 Implementation Requirements**

210 This section details the requirements related to the arrangement of instances and their properties for  
 211 implementations of this profile. Required methods are listed in section 8, and properties are listed in  
 212 section 10.

### 213 **7.1 CIM\_PassThroughModule**

214 An instance of CIM\_PassThroughModule shall represent the pass-through module.

#### 215 **7.1.1 Pass-Through Module State Management Is Supported—Conditional**

216 When management of the state of a pass-through module is supported, exactly one instance of  
 217 CIM\_EnabledLogicalElementCapabilities shall be associated with the CIM\_PassThroughModule instance  
 218 through an instance of CIM\_ElementCapabilities.

219 Support for managing the state of the pass-through module is optional behavior. This section describes  
 220 the CIM elements and behaviors that shall be implemented when this behavior is supported.

221 **7.1.1.1 CIM\_EnabledLogicalElementCapabilities**

222 When state management is supported, exactly one instance of CIM\_EnabledLogicalElement capabilities  
223 shall be associated with the CIM\_PassThroughModule instance through an instance of the  
224 CIM\_ElementCapabilities association.

225 **7.1.1.1.1 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported**

226 The RequestedStatesSupported property may contain zero or more of the following values: 2 (Enabled),  
227 3 (Disabled), or 11 (Reset).

228 **7.1.1.2 CIM\_PassThroughModule.RequestedState**

229 When the CIM\_PassThroughModule.RequestStateChange() method is successfully invoked, the value of  
230 the RequestedState property shall be the value of the RequestedState parameter. If the method is not  
231 successfully invoked, the value of the RequestedState property is indeterminate.

232 The CIM\_PassThroughModule.RequestedState property shall have one of the values specified in the  
233 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported property or 5 (No Change).

234 **7.1.1.3 CIM\_PassThroughModule.EnabledState**

235 When the RequestedState parameter has a value of 2 (Enabled) or 3 (Disabled) and the  
236 CIM\_PassThroughModule.RequestStateChange() method completes successfully, the value of the  
237 EnabledState property shall equal the value of the CIM\_PassThroughModule.RequestedState property.

238 If the method does not complete successfully, the value of the EnabledState property is indeterminate.

239 The EnabledState property shall have the value 2 (Enabled), 3 (Disabled), or 5 (Not Applicable).

240 **7.1.2 Pass-Through Module State Management Is Not Supported**

241 This section describes the CIM elements and behaviors that shall be implemented when management of  
242 the Pass-Through Module state is not supported.

243 **7.1.2.1 CIM\_EnabledLogicalElementCapabilities**

244 When state management is not supported, exactly one instance of  
245 CIM\_EnabledLogicalElementCapabilities may be associated with the CIM\_PassThroughModule instance  
246 through an instance of the CIM\_ElementCapabilities association.

247 **7.1.2.1.1 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported**

248 The CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported property shall not contain any  
249 values.

250 **7.1.2.2 CIM\_PassThroughModule.RequestedState**

251 The RequestedState property shall have the value 12 (Not Applicable).

252 **7.1.2.3 CIM\_PassThroughModule.EnabledState**

253 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), or 5 (Not  
254 Applicable).

**255 7.1.3 Modifying ElementName Is Supported—Conditional**

256 The CIM\_PassThroughModule.ElementName property may support being modified by the ModifyInstance  
257 operation. See section 8.6.1.1. This behavior is conditional. This section describes the CIM elements and  
258 behavior requirements when an implementation supports client modification of the  
259 CIM\_PassThroughModule.ElementName property.

**260 7.1.3.1 CIM\_EnabledLogicalElementCapabilities**

261 An instance of CIM\_EnabledLogicalElementCapabilities shall be associated with the  
262 CIM\_PassThroughModule instance through an instance of CIM\_ElementCapabilities.

**263 7.1.3.1.1 CIM\_EnabledLogicalElementCapabilities.ElementNameEditSupported**

264 The ElementNameEditSupported property shall have a value of TRUE when the implementation supports  
265 client modification of the CIM\_PassThroughModule.ElementName property.

**266 7.1.3.1.2 CIM\_EnabledLogicalElement.MaxElementNameLen**

267 The MaxElementNameLen property shall be implemented.

**268 7.1.4 Modifying ElementName Is Not Supported**

269 This section describes the CIM elements and behaviors that shall be implemented when the  
270 CIM\_PassThroughModule.ElementName property does not support being modified by the ModifyInstance  
271 operation.

**272 7.1.4.1 CIM\_EnabledLogicalElementCapabilities**

273 An instance of CIM\_EnabledLogicalElementCapabilities may be associated with the  
274 CIM\_PassThroughModule instance through an instance of CIM\_ElementCapabilities.

**275 7.1.4.1.1 CIM\_EnabledLogicalElementCapabilities.ElementNameEditSupported**

276 The ElementNameEditSupported property shall have a value of FALSE when the implementation does  
277 not support client modification of the CIM\_PassThroughModule.ElementName property.

**278 7.1.4.1.2 CIM\_EnabledLogicalElement.MaxElementNameLen**

279 The MaxElementNameLen property may be implemented. The MaxElementNameLen property is  
280 irrelevant in this context.

**281 7.2 Management of Port Assignments**

282 An implementation may support management of port assignments.

**283 7.2.1 CIM\_PassThroughModule.IsProgrammable**

284 When an implementation supports management of port assignments, the IsProgrammable property of the  
285 CIM\_PassThroughModule instance shall have a value of TRUE.

**286 7.2.2 Mapping Ports through the AssignPorts Method**

287 Support for mapping ports on the CIM\_PassThroughModule instance through the AssignPorts() method  
288 is conditional behavior. When the IsProgrammable property has a value of TRUE, the AssignPorts()  
289 method shall be implemented and shall be supported.

## 290    8 Methods

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

### 293    8.1 Method: CIM\_PassThroughModule.AssignPorts()

294    Invocation of the CIM\_PassThroughModule.AssignPorts() method creates a mapping or removes a  
 295    mapping between an internal and external port pair.

296    Detailed requirements of the AssignPorts() method are specified in Table 2 and Table 3.

297    No standard messages are defined.

298    **Table 2 – CIM\_PassThroughModule.AssignPorts() Method: Return Code Values**

| Value | Description                        |
|-------|------------------------------------|
| 0     | Request was successfully executed. |
| 1     | Method is unsupported.             |
| 2     | Error occurred                     |

299    **Table 3 – CIM\_PassThroughModule.AssignPorts() Method: Parameters**

| Qualifiers | Name         | Type    | Description/Values                                                                                     |
|------------|--------------|---------|--------------------------------------------------------------------------------------------------------|
| IN         | Mapped       | Boolean | If TRUE, the ports will be mapped to each other. If FALSE, the ports will be unmapped from each other. |
| IN         | InternalPort | uint16  | Identifies the internal port to be mapped                                                              |
| IN         | ExternalPort | uint16  | Identifies the external port to be mapped                                                              |

### 300    8.2 Method: CIM\_PassThroughModule.RequestStateChange()

301    Invocation of the CIM\_PassThroughModule.RequestStateChange() method changes the element's state  
 302    to the value specified in the RequestedState parameter. The 2 (Enabled) and 3 (Disabled) values of the  
 303    RequestedState parameter shall correspond to enabling or disabling the module represented by the  
 304    instance of CIM\_PassThroughModule on or off accordingly.

305    See section 7.1.1.2 for information about the effect of this method on the RequestedState property.

306    The method shall be considered successful if the availability of the module upon completion of the  
 307    method corresponds to the desired availability indicated by the RequestedState parameter. An actual  
 308    change in state is not necessary for the method to be considered successful as long as the resultant state  
 309    is equal to the requested state. Upon successful completion of the method, the Return Value shall be 0  
 310    (zero).

311    See section 7.1.2.3 for information about the effect of this method on the EnabledState property.

312    Detailed requirements of the RequestStateChange() method are specified in Table 4 and Table 5.

313    No standard messages are defined.

314    Invoking the CIM\_PassThroughModule.RequestStateChange() method multiple times could result in  
 315    earlier requests being overwritten or lost.

316

**Table 4 – CIM\_PassThroughModule.RequestStateChange() Method: Return Code Values**

| <b>Value</b> | <b>Description</b>                                   |
|--------------|------------------------------------------------------|
| 0            | Request was successfully executed.                   |
| 2            | Error occurred                                       |
| 0x1000       | Job started: REF returned to started CIM_ConcreteJob |

317

**Table 5 – CIM\_PassThroughModule.RequestStateChange() Method: Parameters**

| <b>Qualifiers</b> | <b>Name</b>    | <b>Type</b>         | <b>Description/Values</b>                                                                                                                                                 |
|-------------------|----------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IN, REQ           | RequestedState | uint16              | Valid state values:<br>2 (Enabled)<br>3 (Disabled)<br>11 (Reset)                                                                                                          |
| OUT               | Job            | CIM_ConcreteJob REF | Returned if job started                                                                                                                                                   |
| IN, REQ           | TimeoutPeriod  | datetime            | Client specified maximum amount of time<br>the transition to a new state is supposed to<br>take:<br>0 or NULL – No time requirements<br><interval> – Maximum time allowed |

### 318 **8.3 Profile Conventions for Operations**

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

321 The default list of operations is as follows:

- 322 • GetInstance
- 323 • Associators
- 324 • AssociatorNames
- 325 • References
- 326 • ReferenceNames
- 327 • EnumerateInstances
- 328 • EnumerateInstanceNames

### 329 **8.4 CIM\_ElementCapabilities**

330 Table 6 lists implementation requirements for operations. If implemented, these operations shall be  
 331 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 6, all operations in  
 332 the default list in 8.3 shall be implemented as defined in [DSP0200](#).

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

334

**Table 6 – Operations: CIM\_ElementCapabilities**

| <b>Operation</b> | <b>Requirement</b> | <b>Messages</b> |
|------------------|--------------------|-----------------|
| Associators      | Unspecified        | None            |
| AssociatorNames  | Unspecified        | None            |
| References       | Unspecified        | None            |
| ReferenceNames   | Unspecified        | None            |

**335 8.5 CIM\_EnabledLogicalElementCapabilities**336 All operations in the default list in 8.3 shall be implemented as defined in [DSP0200](#).

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

**338 8.6 CIM\_PassThroughModule**339 Table 7 lists implementation requirements for operations. If implemented, these operations shall be  
340 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 7, all operations in  
341 the default list in 8.3 shall be implemented as defined in [DSP0200](#).

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

**343 Table 7 – Operations: CIM\_PassThroughModule**

| <b>Operation</b> | <b>Requirement</b>           | <b>Messages</b> |
|------------------|------------------------------|-----------------|
| ModifyInstance   | Optional. See section 8.6.1. | None            |

**344 8.6.1 CIM\_PassThroughModule—ModifyInstance Operation**345 This section details the specific requirements for the ModifyInstance operation that is applied to an  
346 instance of CIM\_PassThroughModule.**347 8.6.1.1 CIM\_PassThroughModule.ElementName Property**348 When an instance of CIM\_EnabledLogicalElementCapabilities is associated with the  
349 CIM\_PassThroughModule instance and the  
350 CIM\_EnabledLogicalElementCapabilities.ElementNameEditSupported property has a value of TRUE, the  
351 implementation shall allow the ModifyInstance operation to change the value of the ElementName  
352 property of the CIM\_PassThroughModule instance. The ModifyInstance operation shall enforce the length  
353 restriction specified in the MaxElementNameLen property of the CIM\_EnabledLogicalElementCapabilities  
354 instance.355 When an instance of CIM\_EnabledLogicalElementCapabilities is not associated with the  
356 CIM\_PassThroughModule instance, or the ElementNameEditSupported property of the  
357 CIM\_EnabledLogicalElementCapabilities has a value of FALSE, the implementation shall not allow the  
358 ModifyInstance operation to change the value of the ElementName property of the  
359 CIM\_PassThroughModule instance.**360 8.7 CIM\_SystemDevice**361 Table 8 lists implementation requirements for operations. If implemented, these operations shall be  
362 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 8, all operations in  
363 the default list in 8.3 shall be implemented as defined in [DSP0200](#).

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

365

**Table 8 – Operations: CIM\_SystemDevice**

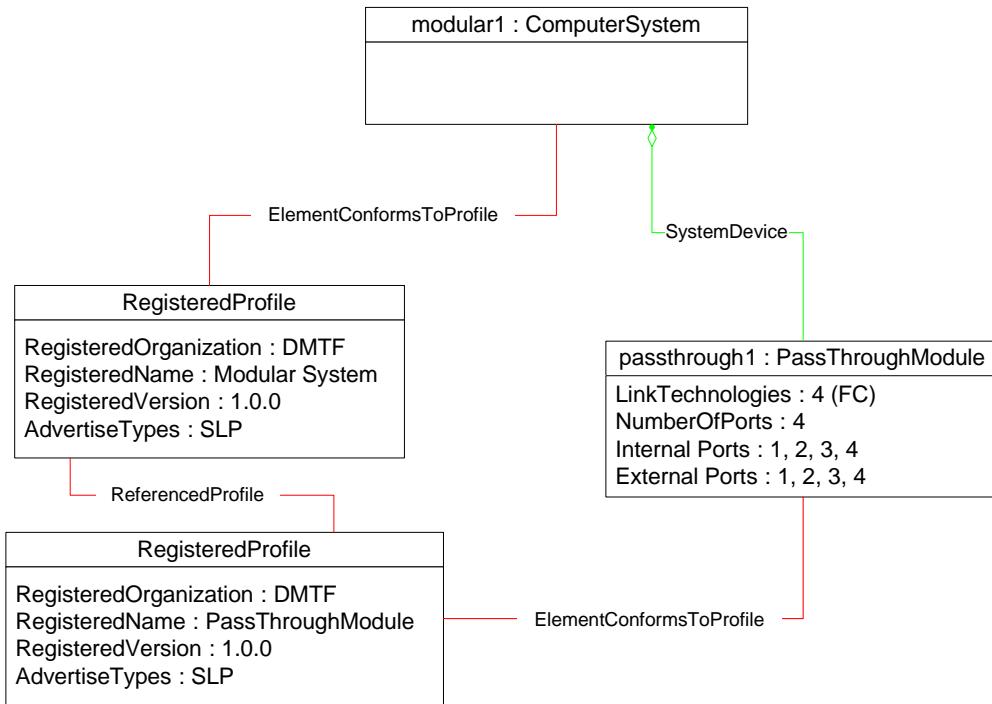
| Operation       | Requirement | Messages |
|-----------------|-------------|----------|
| Associators     | Unspecified | None     |
| AssociatorNames | Unspecified | None     |
| References      | Unspecified | None     |
| ReferenceNames  | Unspecified | None     |

## 366 9 Use Cases

367 This section outlines the use cases specific to pass-through modules. Use cases for functionality that is  
 368 not specific to modular systems are documented in the profiles for that functionality. Use cases are  
 369 informative and not intended to define the requirements for conformance.

### 370 9.1 Object Diagrams

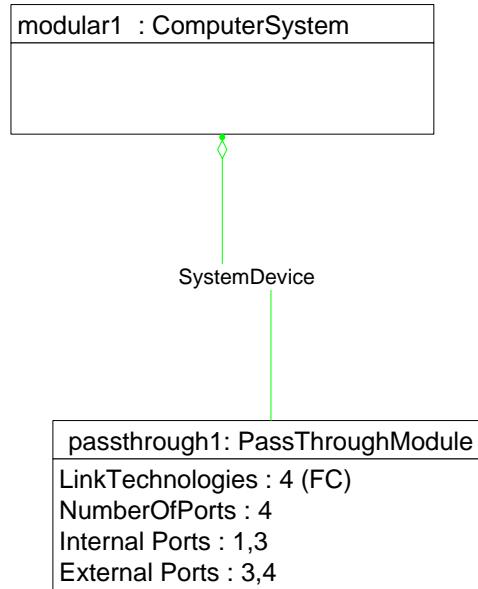
371 The object diagram in Figure 2 illustrates a single pass-through module installed in a modular system.  
 372 *passthrough1* is conformant with the *Pass-Through Module Profile* as indicated by the  
 373 *CIM\_ElementConformsToProfile* association that references the instance. This instance of  
 374 *CIM\_PassThroughModule* represents a four-port, fiber-channel pass-through module. The internal and  
 375 external ports are directly mapped, as indicated by the corresponding array positions for each internal  
 376 and external port index.



377

**Figure 2 – Instance Diagram**

378 The object diagram in Figure 3 illustrates a single pass-through module installed in a modular system.  
 379 *passthrough1* is a four-port, fiber-channel pass-through module. Internal port 1 is mapped to external port  
 380 3. Internal port 3 is mapped to external port 4. Internal ports 2 and 4 and external ports 1 and 2 are not  
 381 mapped.  
 382



383

384

**Figure 3 – Port Mappings Crossed****9.2 Determine Pass-Through Module Link Technology**

386 A client can determine the link technology or technologies supported by a pass-through module by  
 387 querying the value of the CIM\_PassThroughModule.LinkTechnologies property.

**9.3 Determine Pass-Through Module Port Mappings**

389 A client can determine which internal ports are mapped to which external ports as follows:

- 390 1) Query the value of the CIM\_PassThroughModule.InternalPorts property.
- 391 2) Query the value of the CIM\_PassThroughModule.ExternalPorts property.
- 392 3) Compare the corresponding array indices of each property.

393 The port number at array index  $x$  of the InternalPorts property will be mapped to the port number at array  
 394 index  $x$  of the ExternalPorts property.

**9.4 Determine Whether Port Mappings Are Configurable**

396 A client can determine whether port mappings are configurable by querying the value of the  
 397 IsProgrammable property of the CIM\_PassThroughModule instance. A value of TRUE indicates that the  
 398 ports are configurable and the AssignPorts() method will be supported.

**9.5 Manage Port Mappings on a Pass-Through Module**

400 A client can manage the port mappings on an instance of CIM\_PassThroughModule as follows:

- 401 1) Verify that port mappings are configurable as described in section 9.4.
- 402 2) If port mappings are configurable, invoke the AssignPorts() method with the target internal port,  
 403 external port, and a flag that indicates whether the ports should be mapped or unmapped from  
 404 each other.

405    **9.6 Determining If ElementName Can Be Modified**

406    For a given instance of CIM\_PassThroughModule, a client can determine whether it can modify the  
 407    ElementName as follows:

- 408    1) Find the CIM\_EnabledLogicalElementCapabilities instance that is associated with the target  
 409    instance.
- 410    2) Query the value of the ElementNameEditSupported property of the  
 411    CIM\_EnabledLogicalElementCapabilities instance. If the value is TRUE, the client can modify  
 412    the ElementName property of the target instance.

413    **9.7 Determining If State Management Is Supported**

414    For a given instance of CIM\_PassThroughModule, a client can determine whether state management is  
 415    supported as follows:

- 416    1) Find the CIM\_EnabledLogicalElementCapabilities instance that is associated with the target  
 417    instance.
- 418    2) Query the value of the RequestedStatesSupported property. If at least one value is specified,  
 419    state management is supported.

420    **10 CIM Elements**

421    Table 9 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be  
 422    implemented as described in Table 9. Sections 7 (“Implementation Requirements”) and 8 (“Methods”)  
 423    may impose additional requirements on these elements.

424    **Table 9 – Required CIM Elements: Pass-Through Module Profile**

| Element Name                          | Requirement | Notes             |
|---------------------------------------|-------------|-------------------|
| <b>Classes</b>                        |             |                   |
| CIM_ElementCapabilities               | Conditional | See section 10.1. |
| CIM_EnabledLogicalElementCapabilities | Optional    | See section 10.2. |
| CIM_PassThroughModule                 | Mandatory   | See section 10.3. |
| CIM_RegisteredProfile                 | Mandatory   | See section 10.4. |
| CIM_SystemDevice                      | Mandatory   | See section 0.    |
| <b>Indications</b>                    |             |                   |
| None defined in this profile          |             |                   |

425 **10.1 CIM\_ElementCapabilities**

426 CIM\_ElementCapabilities is used to associate CIM\_PassThroughModule with the instance of  
 427 CIM\_EnabledLogicalElementCapabilities that describes the capabilities of the pass-through module.  
 428 CIM\_ElementCapabilities is conditional on the instantiation of CIM\_EnabledLogicalElementCapabilities.

429 Table 10 provides information about the properties of CIM\_ElementCapabilities.

430 **Table 10 – Class: CIM\_ElementCapabilities**

| Properties     | Requirement | Notes                                                                                        |
|----------------|-------------|----------------------------------------------------------------------------------------------|
| ManagedElement | Mandatory   | Shall reference the Central Instance<br>Cardinality 1..*                                     |
| Capabilities   | Mandatory   | Shall reference the instance of<br>CIM_EnabledLogicalElementCapabilities<br>Cardinality 0..1 |

431 **10.2 CIM\_EnabledLogicalElementCapabilities**

432 CIM\_EnabledLogicalElementCapabilities represents the capabilities of the pass-through module.  
 433 Table 11 provides information about the properties of CIM\_EnabledLogicalElementCapabilities.

434 **Table 11 – Class: CIM\_EnabledLogicalElementCapabilities**

| Properties               | Requirement | Notes                                 |
|--------------------------|-------------|---------------------------------------|
| InstanceID               | Mandatory   | None                                  |
| RequestedStatesSupported | Mandatory   | See sections 7.1.1.1.1 and 7.1.2.1.1. |
| ElementNameEditSupported | Mandatory   | See sections 7.1.3.1.1 and 7.1.4.1.1. |
| MaxElementNameLen        | Conditional | See sections 7.1.3.1.2 and 7.1.4.1.2. |

435 **10.3 CIM\_PassThroughModule**

436 CIM\_PassThroughModule represents a pass-through module. Table 12 provides information about the  
437 properties of CIM\_PassThroughModule.

438

**Table 12 – Class: CIM\_PassThroughModule**

| Properties and Methods  | Requirement | Notes                                                                                                                                                                |
|-------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LinkTechnologies        | Mandatory   | None                                                                                                                                                                 |
| OtherLinkTechnologies   | Conditional | When an array index of LinkTechnologies contains the value "Other", the same array index of this property shall contain a value that identifies the link technology. |
| Is Programmable         | Mandatory   | None                                                                                                                                                                 |
| NumberOfPorts           | Mandatory   | None                                                                                                                                                                 |
| InternalPorts           | Mandatory   | None                                                                                                                                                                 |
| ExternalPorts           | Mandatory   | None                                                                                                                                                                 |
| SystemCreationClassName | Mandatory   | None                                                                                                                                                                 |
| SystemName              | Mandatory   | None                                                                                                                                                                 |
| CreationClassName       | Mandatory   | None                                                                                                                                                                 |
| DeviceID                | Mandatory   | None                                                                                                                                                                 |
| EnabledState            | Mandatory   | See sections 7.1.1.3 and 7.1.2.3.                                                                                                                                    |
| RequestedState          | Mandatory   | See sections 7.1.1.2 and 7.1.2.2.                                                                                                                                    |
| RequestStateChange()    | Conditional | See section 8.2.                                                                                                                                                     |
| AssignPorts()           | Conditional | See sections 7.2 and 8.1.                                                                                                                                            |

439 **10.4 CIM\_RegisteredProfile**

440 CIM\_RegisteredProfile identifies the *Pass-Through Module Profile* in order for a client to determine  
441 whether an instance of CIM\_ComputerSystem is conformant with this profile. The CIM\_RegisteredProfile  
442 class is defined by the [Profile Registration Profile](#). With the exception of the mandatory values specified  
443 for the properties in Table 13, the behavior of the CIM\_RegisteredProfile instance is in accordance with  
444 the constraints specified in the [Profile Registration Profile](#).

445

**Table 13 – Class: CIM\_RegisteredProfile**

| Properties             | Requirement | Notes                                                      |
|------------------------|-------------|------------------------------------------------------------|
| RegisteredName         | Mandatory   | This property shall have a value of "Pass-Through Module". |
| RegisteredVersion      | Mandatory   | This property shall have a value of "1.0.0".               |
| RegisteredOrganization | Mandatory   | This property shall have a value of 2 (DMTF).              |

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

449

**450 10.5 CIM\_SystemDevice**

451 CIM\_SystemDevice is used to associate an instance of CIM\_PassThroughModule with an instance of  
452 CIM\_ComputerSystem that represents a modular enclosure. Table 14 provides information about the  
453 properties of CIM\_SystemDevice.

454

**Table 14 – Class: CIM\_SystemDevice**

| Properties     | Requirement | Notes                                                                           |
|----------------|-------------|---------------------------------------------------------------------------------|
| GroupComponent | Mandatory   | This property shall be a reference to the Scoping Instance.<br>Cardinality 1    |
| PartComponent  | Mandatory   | This property shall be a reference to the Central Instance.<br>Cardinality 1..* |

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## ANNEX A (informative)

### Change Log

| Version | Date      | Description           |
|---------|-----------|-----------------------|
| 1.0.0   | 6/16/2009 | DMTF Standard Release |

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461