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## **Media Redirection Profile**

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194

195

## Foreword

196 The *Media Redirection Profile* (DSP1086) was prepared by the Server Desktop Mobile Platforms Working  
197 Group of the DMTF.

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

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211

## Introduction

212 The information in this specification and referenced specifications is intended to be sufficient for a  
213 provider or consumer of this data to identify unambiguously the classes, properties, methods, and values  
214 that shall be instantiated and manipulated using the DMTF Common Information Model (CIM) core and  
215 common model definitions.

216 The target audience for this specification is implementers who are writing CIM-based providers or  
217 consumers of management interfaces that represent the components described in this document.



218

# Media Redirection Profile

## 219 1 Scope

220 The *Media Redirection Profile* extends the management capabilities of referencing profiles and provides  
221 the capability to manage Media redirections provided by the system.

## 222 2 Normative References

223 The following referenced documents are indispensable for the application of this document. For dated or  
224 versioned references, only the edition cited (including any corrigenda or DMTF update versions) applies.  
225 For references without a date or version, the latest published edition of the referenced document  
226 (including any corrigenda or DMTF update versions) applies.

### 227 2.1 Approved References

228 DMTF DSP0004, *CIM Infrastructure Specification 2.3.0*,  
229 [http://www.dmtf.org/standards/published\\_documents/DSP0004V2.3\\_final.pdf](http://www.dmtf.org/standards/published_documents/DSP0004V2.3_final.pdf)

230 DMTF DSP0200, *CIM Operations over HTTP 1.2.0*,  
231 <http://www.dmtf.org/sites/default/files/standards/documents/DSP200.html>

232 DMTF DSP1000, *Management Profile Specification Template*,  
233 [http://www.dmtf.org/standards/published\\_documents/DSP1000.pdf](http://www.dmtf.org/standards/published_documents/DSP1000.pdf)

234 DMTF DSP1001, *Management Profile Specification Usage Guide, 1.1*  
235 [http://www.dmtf.org/sites/default/files/standards/documents/DSP1001\\_1.1.1.pdf](http://www.dmtf.org/sites/default/files/standards/documents/DSP1001_1.1.1.pdf)

236 DMTF DSP1004, *Base Server Profile 1.0.0*,  
237 [http://www.dmtf.org/sites/default/files/standards/documents/DSP1004\\_1.0.0\\_0.pdf](http://www.dmtf.org/sites/default/files/standards/documents/DSP1004_1.0.0_0.pdf)

238 DMTF DSP1033, *Profile Registration Profile 1.0.0*,  
239 [http://www.dmtf.org/standards/published\\_documents/DSP1033\\_1.0.0.pdf](http://www.dmtf.org/standards/published_documents/DSP1033_1.0.0.pdf)

### 240 2.2 Other References

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

## 243 3 Terms and Definitions

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

### 246 3.1

#### 247 **can**

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

### 249 3.2

#### 250 **cannot**

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

- 252 **3.3**  
253 **conditional**  
254 indicates requirements to be followed strictly to conform to the document when the specified conditions  
255 are met
- 256 **3.4**  
257 **mandatory**  
258 indicates requirements to be followed strictly to conform to the document and from which no deviation is  
259 permitted
- 260 **3.5**  
261 **may**  
262 indicates a course of action permissible within the limits of the document
- 263 **3.6**  
264 **optional**  
265 indicates a course of action permissible within the limits of the document
- 266 **3.7**  
267 **referencing profile**  
268 indicates a profile that owns the definition of this class and can include a reference to this profile in its  
269 "Referenced Profiles" table
- 270 **3.8**  
271 **shall**  
272 indicates requirements to be followed strictly to conform to the document and from which no deviation is  
273 permitted
- 274 **3.9**  
275 **shall not**  
276 indicates requirements to be followed strictly to conform to the document and from which no deviation is  
277 permitted
- 278 **3.10**  
279 **should**  
280 indicates that among several possibilities, one is recommended as particularly suitable, without  
281 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 282 **3.11**  
283 **should not**  
284 indicates that a certain possibility or course of action is deprecated but not prohibited
- 285 **3.12**  
286 **unspecified**  
287 indicates that this profile does not define any constraints for the referenced CIM element or operation
- 288 **3.13**  
289 **Emulated Media Device**  
290 the Media device locally emulated on the managed system which can be redirected to a remote system  
291 that contains the physical Media device
- 292 **3.14**  
293 **Remote System**  
294 the system that contains the physical Media device, to which the managed system can establish a  
295 network connection for a Emulated Media Device

296 **3.15**

297 **Media Redirection**

298 an arrangement that encompasses an instance of CIM\_RedirectionService and an instance of  
299 CIM\_MediaRedirectionSAP that are joined by a CIM\_ServiceAccessBySAP association

300 **3.16**

301 **Media Redirection SAP**

302 the Service Access Point for a Media Redirection Session as modeled by an instance of  
303 CIM\_MediaRedirectionSAP that is part of a Media Redirection

304 **3.17**

305 **Media Redirection Service**

306 the instance of CIM\_RedirectionServiceRedirectionService that is part of a Media Redirection

307 **3.18**

308 **Media Redirection Session**

309 the context and elements of a particular Media Redirection SAP as modeled by an instance of  
310 CIM\_MediaRedirectionSAP

311 **4 Symbols and Abbreviated Terms**

312 The following abbreviations are used in this document.

313 **4.1**

314 **HID**

315 Human Interface Device

316 **4.2**

317 **MSD**

318 Media Storage Device

319 **4.3**

320 **SAP**

321 Service Access Point

322 **5 Synopsis**

323 **Profile Name:** Media Redirection

324 **Version:** 1.0.0

325 **Organization:** DMTF

326 **CIM Schema Version:** 2.22.0

327 **Central Class:** CIM\_RedirectionService

328 **Scoping Class:** CIM\_ComputerSystem

329 The *Media Redirection Profile* extends the management capability of the referencing profiles by adding  
330 the capability to describe information about Media redirections. A Media redirection redirects I/O  
331 transactions from a managed system's storage media subsystem to a remote storage media service. If  
332 the storage media subsystem is USB based, the *USB Redirection Profile* should be used instead of the  
333 *Media Redirection Profile*.

334 CIM\_RedirectionService shall be the Central Class of this profile. The instance of  
335 CIM\_RedirectionService shall be the Central Instance of this profile.

336 CIM\_ComputerSystem shall be the Scoping Class of this profile. The instance of CIM\_ComputerSystem  
 337 with which the Central Instance is associated through an instance of CIM\_HostedService shall be the  
 338 Scoping Instance of this profile.

339 Table 1 identifies profile on which this profile has a dependency.

340

**Table 1 – Referenced Profiles**

Profile Name	Organization	Version	Relationship	Behavior
Profile Registration	DMTF	1.0.0	Mandatory	

## 341 6 Description (Informative)

342 The *Media Redirection Profile* describes the necessary elements needed to provide the capability to  
 343 manage the redirection of Media devices. The profile could manage the following Media redirection  
 344 capabilities of typical computer systems:

- 345 • Systems can redirect a locally emulated Media device to a physical Media device or non-Media  
 346 device present on a remote system through a network session
- 347 • Each Media Redirection SAP can have multiple locally emulated Media devices.
- 348 • Systems can support multiple Media Redirection SAPs concurrently
- 349 • A Media Redirection SAP can initiate the connection to the remote system or listen for a  
 350 connection request from the remote system

351 A Media Redirection is represented by an instance of CIM\_RedirectionService and an instance of  
 352 MediaRedirectionSAP that are joined by an instance of the CIM\_ServiceAccessBySAP association.

353 A Media Redirection can be in an active, inactive, or available state. When the Media Redirection is  
 354 active, the Media devices are redirected. The state management of the Media Redirection can be  
 355 performed by managing the state of the Media Redirection SAP (as modeled by  
 356 CIM\_MediaRedirectionSAP) and the state of the Media Redirection Service (as modeled by  
 357 CIM\_RedirectionService).

358 The capabilities of a Media Redirection are represented by an instance of  
 359 CIM\_MediaRedirectionCapabilities connected to an instance of CIM\_RedirectionService by a  
 360 CIM\_ElementCapabilities association. These capabilities include such things as the type and maximum of  
 361 number devices that can be redirected and support for the RequestStateChange method.

362 Each instance of CIM\_RedirectionService is connected to an instance of CIM\_ComputerSystem that  
 363 represents the system that hosts the service by a CIM\_HostedService association. Each instance of  
 364 CIM\_RedirectionService is connected to an instance of CIM\_ComputerSystem that represents the  
 365 managed system with the storage media subsystem that is being redirected by a  
 366 CIM\_ServiceAffectsElement association. These instance(s) of CIM\_ComputerSystem may or may not be  
 367 the same instance. The instance of CIM\_ComputerSystem associated to CIM\_RedirectionService by an  
 368 instance of CIM\_HostedService represents the Media Redirection Scoping Class.

369 Each instance of CIM\_MediaRedirectionSAP is connected to an instance of CIM\_ComputerSystem that  
 370 represents the system that hosts the Media Redirection Session by a CIM\_SAPAvailableForElement  
 371 association. Each instance of CIM\_MediaRedirectionSAP is connected to an instance of  
 372 CIM\_ComputerSystem that represents the managed system with the storage media subsystem that is  
 373 being redirected by a CIM\_HostedAccessPoint association. These instance(s) of CIM\_ComputerSystem  
 374 may or may not be the same instance. The instance of CIM\_ComputerSystem associated to  
 375 CIM\_RedirectionService by an instance of CIM\_HostedService represents the Media Redirection Scoping  
 376 Class.

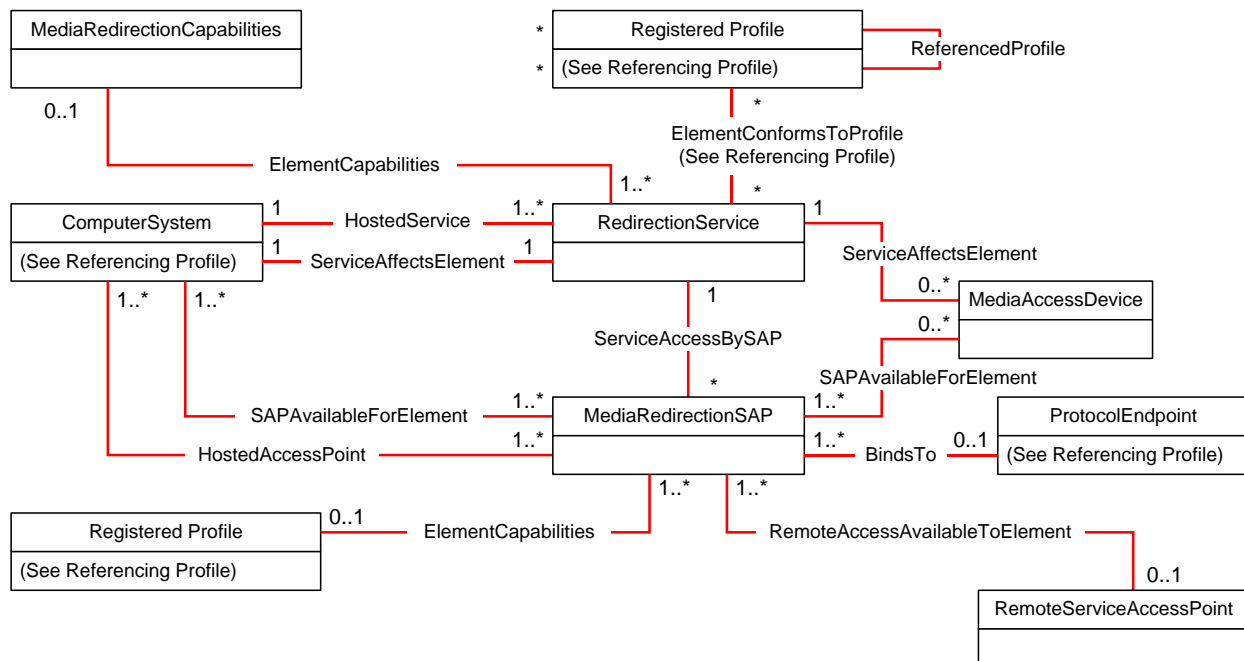
377 Each CIM\_MediaAccessDevice or subclass of CIM\_MediaAccessDevice that is redirected to a Media  
 378 redirection SAP is connected to the instance of CIM\_MediaRedirectionSAP that represents the session  
 379 by an instance of CIM\_SAPAvailableForElement.

380 If an instance of CIM\_ProtocolEndpoint exists and represents the endpoint where the Media Redirection  
 381 SAP can be accessed, then an instance of CIM\_BindsTo is used to associate the instance of  
 382 CIM\_MediaRedirectionSAP to the instance of CIM\_ProtocolEndpoint.

383 If an instance of CIM\_EnabledLogicalElementCapabilities exists and represents the capabilities of the  
 384 Media Redirection SAP, then an instance of CIM\_ElementCapabilities is used to associate the instance of  
 385 CIM\_MediaRedirectionSAP to the instance of CIM\_EnabledLogicalElementCapabilities.

386 If an instance of CIM\_RemoteServiceAccessPoint exists and represents the remote end of the Media  
 387 Redirection SAP, then an instance of CIM\_RemoteAccessAvailableForElement is used to associate the  
 388 instance of CIM\_MediaRedirectionSAP to the instance of CIM\_RemoteServiceAccessPoint.

389 Figure 1 presents the class diagram for the *Media Redirection Profile*. For simplicity, the prefix *CIM\_* has  
 390 been removed from the names of the classes.



391

392 **Figure 1 – Media Redirection Profile: Class Diagram**

### 393 7 Implementation

394 This section details the requirements related to the arrangement of instances and their properties for  
 395 implementations of this profile. Section 7.10.2 describes the class methods required by the profile.

#### 396 7.1 Representing a Media Redirection

397 A Media Redirection is represented by an instance of CIM\_RedirectionService and an instance of  
 398 CIM\_MediaRedirectionSAP connected by an instance of the CIM\_ServiceAccessBySAP association.

399 The CIM\_ServiceAccessBySAP association's Antecedent property shall reference the  
400 CIM\_RedirectionService instance, and its Dependent property shall reference the  
401 CIM\_MediaRedirectionSAP instance.

## 402 **7.2 Representing a Media Redirection Service**

403 A Media Redirection Service shall be represented by an instance of CIM\_RedirectionService.

### 404 **7.2.1 Relationship to the Computer System Hosting the Service**

405 The relationship between the Media Redirection Service and the computer system that hosts the Service  
406 shall be modeled with an instance of the CIM\_HostedService association. When used in this way, the  
407 CIM\_HostedService association's Antecedent property shall reference the CIM\_ComputerSystem  
408 instance, and its Dependent property shall reference the CIM\_RedirectionService instance.

### 409 **7.2.2 Relationship to the Computer System with the Emulated Media Devices**

410 The relationship between the Media Redirection Service and the computer system that contains one or  
411 more emulated Media Devices shall be modeled with an instance of the CIM\_ServiceAffectsElement  
412 association. When used in this way, the CIM\_ServiceAffectsElement association's AffectingElement  
413 property shall reference the CIM\_RedirectionService instance, and its AffectedElement property shall  
414 reference the CIM\_ComputerSystem instance.

### 415 **7.2.3 Relationship to the Capabilities of the Service**

416 The capabilities of a Media Redirection Service may be modeled by an instance of  
417 CIM\_MediaRedirectionCapabilities.

418 When an instance of CIM\_MediaRedirectionCapabilities exists for this purpose, its relationship to the  
419 Media Redirection Service shall be modeled with an instance of CIM\_ElementCapabilities. When used in  
420 this way, the CIM\_ElementCapabilities association's ManagedElement property shall reference the  
421 CIM\_RedirectionService, and its Capabilities property shall reference CIM\_MediaRedirectionCapabilities.

### 422 **7.2.4 CIM\_RedirectionService.RedirectionServiceType**

423 The RedirectionServiceType property shall match the value 5 (Media).

### 424 **7.2.5 Maximum Number of Concurrently Enabled Redirection SAPs**

425 The Media Redirection Service may support multiple Media Redirection SAPs; however, there may be a  
426 limitation to the number of concurrent redirections.

427 The CIM\_RedirectionService.MaxCurrentEnabledSAPs property shall contain the maximum number of  
428 instances of CIM\_MediaRedirectionSAP instances that have an EnabledState property value of 2  
429 (Enabled) that may be associated to the instance of CIM\_RedirectionService.

### 430 **7.2.6 CIM\_RedirectionService.ElementName**

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

432 The ElementName property may support being modified by the ModifyInstance operation. (See 8.17.1.1.)  
433 This behavior is conditional. The following sections describe the CIM elements and behavior required to  
434 determine whether an implementation supports client modification of the ElementName property.

#### 435 **7.2.6.1 Modifying ElementName Is Supported – Conditional**

436 This section describes the CIM elements and behavior requirements when an implementation supports  
437 client modification of the CIM\_RedirectionService.ElementName property.

438 An instance of CIM\_MediaRedirectionCapabilities shall be associated with the CIM\_RedirectionService  
439 instance through an instance of the CIM\_ElementCapabilities association.

440 The CIM\_MediaRedirectionCapabilities.ElementNameEditSupported property shall have a value of  
441 TRUE.

442 The CIM\_MediaRedirectionCapabilities.MaxElementNameLen property shall be implemented.

#### 443 **7.2.6.2 Modifying ElementName Is Not Supported**

444 This section describes the CIM elements and behaviors that shall be implemented when the  
445 CIM\_RedirectionService.ElementName does not support being modified by the ModifyInstance operation.

446 An instance of CIM\_MediaRedirectionCapabilities may be associated with the CIM\_RedirectionService  
447 instance through an instance of CIM\_ElementCapabilities.

448 When an instance of CIM\_MediaRedirectionCapabilities exists, its ElementNameEditSupported property  
449 shall have a value of FALSE.

450 When an instance of CIM\_MediaRedirectionCapabilities exists, its MaxElementNameLen property may be  
451 implemented, but the value of the MaxElementNameLen property is irrelevant in this context.

### 452 **7.3 Representing the Capabilities of a Media Redirection Service**

453 When the Media Redirection Service does not support creating Media Redirection SAPs, there may be an  
454 instance of CIM\_MediaRedirectionCapabilities associated with the instance of CIM\_RedirectionService  
455 through an instance of the CIM\_ElementCapabilities association.

456 When the Media Redirection Service does support creating Media Redirection SAPs, there shall be one  
457 instance of CIM\_MediaRedirectionCapabilities associated with the instance of CIM\_RedirectionService  
458 through an instance of the CIM\_ElementCapabilities association.

459 At most one instance of CIM\_MediaRedirectionCapabilities shall be associated with the instance of  
460 CIM\_RedirectionService.

461 The Media Redirection Service may constrain the number and type of Media Devices that can be  
462 redirected. These constraints are represented by properties in the instance of  
463 CIM\_MediaRedirectionCapabilities that is associated with the instance of CIM\_RedirectionService.

464 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
465 CIM\_RedirectionService and the Media Redirection Service does not support creating Media Redirection  
466 SAPs, the properties of CIM\_MediaRedirectionCapabilities shall reflect the pre-configured Media  
467 Redirection SAPs for that service.

468 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
469 CIM\_RedirectionService and the Media Redirection Service does support creating Media Redirection  
470 SAPs, the properties of CIM\_MediaRedirectionCapabilities shall reflect the maximum values that can be  
471 supported across all the Media Redirection SAPs that are associated with the Media Redirection Service.

#### 472 **7.3.1 Supported Devices**

473 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
474 CIM\_RedirectionService, the CIM\_MediaRedirectionCapabilities.DevicesSupported array property shall  
475 contain an enumeration that identifies the devices supported. The devices that may be supported are the  
476 devices that are modeled by the CIM\_MediaAccessDevice or a subclass of the CIM\_MediaAccessDevice  
477 class.

### 478 **7.3.2 MaxDevicesSupported**

479 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
480 CIM\_RedirectionService, the CIM\_MediaRedirectionCapabilities.MaxDevicesSupport array property shall  
481 contain the number of devices that are supported for the corresponding device that is specified in the  
482 DevicesSupported array property.

### 483 **7.3.3 SAPCapabilitiesSupported**

484 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
485 CIM\_RedirectionService, the CIM\_MediaRedirectionCapabilities.SAPCapabilitiesSupported array  
486 property shall contain values that specify the operations that are supported for the Media Redirection  
487 SAPs that exist.

488 This property can be used by the remote client to determine whether the properties of the Media  
489 Redirection SAPs can be modified.

490 When the SAPCapabilitiesSupported array property contains a value of 2 (Modify SAP), then the  
491 properties of instances of CIM\_MediaRedirectionSAP associated with the instance of  
492 CIM\_RedirectionService may be modified by "ModifyInstance".

### 493 **7.3.4 MaxDevicesPerSAP**

494 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
495 CIM\_RedirectionService, , the CIM\_MediaRedirectionCapabilities.MaxDevicesPerSAP property shall  
496 contain the a value specifying the maximum number of devices that are support by the Media Redirection  
497 Service for a single Media Redirection SAP. This value shall not exceed the value of  
498 CIM\_USBRedirectionCapabilities.MaxDevicesSupported

### 499 **7.3.5 ConnectionModesSupported**

500 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
501 CIM\_RedirectionService, the CIM\_MediaRedirectionCapabilities.ConnectionModesSupported array  
502 property shall contain values that specify which connection modes the service supports

503 This property can be used by the remote client to determine whether Media Redirection Service supports  
504 initiating connections to a remote application for Media Redirections or waits for a remote application to  
505 initiate the connection for Media Redirections.

506 When the ConnectionModesSupported array property contains a value of 2 (Listen) the Media  
507 Redirection Service supports waiting for remote applications to initiate network connections for Media  
508 Redirections.

509 When the ConnectionModesSupported array property contains a value of 3 (Connect) the Media  
510 Redirection Service supports initiating network connections to the remote applications for Media  
511 Redirections.

### 512 **7.3.6 InfoFormatsSupported**

513 The InfoFormatsSupported property may be supported. When the ConnectionModesSupported array  
514 property contains a value of 3 (Connect) the InfoFormatsSupported shall be supported. When the  
515 InfoFormatsSupported property is supported, it shall contain an enumeration of the AccessInfo formats  
516 available for the Media Redirection SAP to connect to the remote service access point modeled by  
517 CIM\_RemoteServiceAccessPoint. (See 7.7.1.2.)



### 518 **7.3.7 RequestedStatesSupported**

519 If an instance of CIM\_MediaRedirectionCapabilities is associated with the instance of  
520 CIM\_RedirectionService, the CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property  
521 shall contain zero or more of the following values: 2 (Enabled) or 3 (Disabled). (See 7.10.1.1.)

## 522 **7.4 Representing a Media Redirection SAP**

523 A Media Redirection SAP shall be represented by an instance of CIM\_MediaRedirectionSAP.

### 524 **7.4.1 Relationship to the Service**

525 The relationship between the Media Redirection SAP and a Media Redirection Service shall be modeled  
526 for each instance of CIM\_MediaRedirectionSAP that exists.

527 The relationship shall be modeled with an instance of CIM\_ServiceAccessBySAP. When used in this way,  
528 the CIM\_ServiceAccessBySAP association's Antecedent property shall reference the  
529 CIM\_RedirectionService instance, and its Dependent property shall reference the  
530 CIM\_MediaRedirectionSAP instance.

### 531 **7.4.2 Relationship to the Computer System with the Emulated Media Devices**

532 The relationship between the Media Redirection SAP and the computer system that contains one or more  
533 emulated Media Devices may be modeled.

534 The relationship shall be modeled with an instance of the CIM\_SAPAvailableForElement association.  
535 When used in this way, the CIM\_SAPAvailableForElement association's ManagedElement property shall  
536 reference the CIM\_ComputerSystem instance, and its AvailableSAP property shall reference the  
537 CIM\_MediaRedirectionSAP instance.

### 538 **7.4.3 Relationship to the Computer System with the SAP**

539 The relationship between the Media Redirection SAP and the computer system that contains the endpoint  
540 for the Media Redirection SAP shall be modeled with an instance of CIM\_HostedAccessPoint. When  
541 used in this way, the CIM\_HostedAccessPoint association's Antecedent property shall reference the  
542 CIM\_ComputerSystem instance, and its Dependent property shall reference the  
543 CIM\_MediaRedirectionSAP instance.

### 544 **7.4.4 Relationship to the Capabilities of the SAP**

545 The state management capabilities of the Media Redirection SAP may be modeled.

546 The relationship shall be modeled with an instance of CIM\_EnabledLogicalElementCapabilities.

547 When an instance of CIM\_EnabledLogicalElementCapabilities exists, the relationship between the Media  
548 Redirection SAP and the capabilities of that SAP shall be modeled with an instance of  
549 CIM\_ElementCapabilities. When used in this way, the CIM\_EnabledLogicalElementCapabilities  
550 association's ManagedElement property shall reference the CIM\_MediaRedirectionSAP, and its  
551 Capabilities property shall reference CIM\_EnabledLogicalElementCapabilities.

### 552 **7.4.5 CIM\_MediaRedirectionSAP.ElementName**

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

555 The ElementName property may support being modified by the ModifyInstance operation. (See 8.16.1.1.)  
556 This behavior is conditional. The following sections describe the CIM elements and behavior required to  
557 determine whether an implementation supports client modification of the ElementName property.

#### 558 7.4.5.1 Modifying ElementName Is Supported – Conditional

559 This section describes the CIM elements and behavior requirements when an implementation supports  
560 client modification of the CIM\_MediaRedirectionSAP.ElementName property.

561 An instance of CIM\_EnabledLogicalElementCapabilities shall be associated with the  
562 CIM\_MediaRedirectionSAP instance through an instance of the CIM\_ElementCapabilities association.

563 The CIM\_EnabledLogicalElementCapabilities.ElementNameEditSupported property shall have a value of  
564 TRUE.

565 The CIM\_EnabledLogicalElementCapabilities.MaxElementNameLen property shall be implemented.

#### 566 7.4.5.2 Modifying ElementName Is Not Supported

567 This section describes the CIM elements and behaviors that shall be implemented when the  
568 CIM\_MediaRedirectionSAP.ElementName does not support being modified by the ModifyInstance  
569 operation.

570 An instance of CIM\_EnabledLogicalElementCapabilities may be associated with the  
571 CIM\_MediaRedirectionSAP instance through an instance of CIM\_ElementCapabilities.

572 When an instance of CIM\_EnabledLogicalElementCapabilities that is associated with  
573 CIM\_MediaRedirectionSAP through an instance of CIM\_ElementCapabilities exists, its  
574 ElementNameEditSupported property shall have a value of FALSE.

575 When an instance of CIM\_EnabledLogicalElementCapabilities that is associated with  
576 CIM\_MediaRedirectionSAP through an instance of CIM\_ElementCapabilities exists, its  
577 MaxElementNameLen property may be implemented, but the MaxElementNameLen property is irrelevant  
578 in this context.

#### 579 7.4.6 Session Connection Mode

580 Two connection modes are defined for Media Redirection SAPs.

581 The Media Redirection SAP waits (listens) for an application on a Remote System to initiate a network connection for Media  
582 Redirection

- 583 • The Media Redirection SAP initiates connecting to the applications on the Remote System for  
584 Media Redirection.
- 585 • The connection mode of the Media Redirection SAP shall be represented by the  
586 CIM\_MediaRedirectionSAP.ConnectionMode property. The property shall have a value of 2  
587 (Listen) or 3 (Connect). If CIM\_MediaRedirectionCapabilities is supported, the value of the  
588 CIM\_MediaRedirectionSAP.ConnectionMode property shall be one of the values in the  
589 CIM\_MediaRedirectionCapabilities.ConnectionModesSupported property.

#### 590 7.4.7 Command Timeout

591 The Command Timeout is the amount of time that the session shall wait for a response after sending a  
592 Media command. If the Command Timeout is exceeded, the emulated Media device behaves as if the  
593 media were ejected; a Reset message is sent to the Remote System to terminate the previous command.

594 The CIM\_MediaRedirectionSAP.CommandTimeout property shall have the value of the Command  
595 Timeout.

#### 596 7.4.8 Reset Timeout

597 The Reset Timeout is the amount of time that the session shall wait after sending a Reset to the Remote  
598 System before concluding that the Remote System is not responding in a timely fashion because It may

599 be “hung” or busy. If the Reset Timeout is exceeded, the managed system closes the connection and  
600 tries to establish a new connection with the Remote System.

601 The CIM\_MediaRedirectionSAP.ResetTimeout shall have a value of the Reset Timeout.

#### 602 **7.4.9 Session Timeout**

603 The Session Timeout is the amount of time the Media Redirection SAP will wait for a Remote System to  
604 establish a new connection before the Media Device is disabled.

605 The CIM\_MediaRedirectionSAP.SessionTimeout shall have a value of the Session Timeout.

### 606 **7.5 Representing the Endpoint of a Media Redirection SAP**

607 The instance of CIM\_MediaRedirectionSAP may be associated through an instance of CIM\_BindsTo to  
608 one or more instances of CIM\_ProtocolEndpoint that represents the endpoints where the redirected  
609 Media Redirection SAP is accessed.

610 The CIM\_BindsTo association's Antecedent property shall reference the CIM\_ProtocolEndpoint instance,  
611 and its Dependent property shall reference the CIM\_MediaRedirectionSAP instance.

### 612 **7.6 Representing the Locally Emulated Media Device**

613 A locally emulated Media Device shall be represented by an instance of CIM\_MediaAccessDevice or a  
614 subclass of CIM\_MediaAccessDevice.

#### 615 **7.6.1 Relationship to the Media Redirection Service**

616 The relationship between a locally emulated Media Device and the Media Redirection Service shall be  
617 modeled with an instance of the CIM\_ServiceAffectsElement association. When used in this way, the  
618 CIM\_ServiceAffectsElement association's AffectingElement property shall reference the instance of  
619 CIM\_RedirectionService, and its AffectedElement property shall reference the instance of  
620 CIM\_MediaAccessDevice or subclass of CIM\_MediaAccessDevice.

#### 621 **7.6.2 Relationship to the Media Redirection SAP**

622 The relationship between a locally emulated Media Device and a Media Redirection SAP may be  
623 modeled.

624 The relationship shall be modeled with an instance of the CIM\_SAPAvailableForElement association.  
625 When used in this way, the CIM\_SAPAvailableForElement association's Antecedent property shall  
626 reference an instance of CIM\_MediaAccessDevice or subclass of CIM\_MediaAccessDevice, and its  
627 Dependent property shall reference the CIM\_MediaRedirectionSAP instance.

### 628 **7.7 Representing the Destination of the Media Redirection**

629 The remote destination of Media Redirection may be modeled. When modeled, the requirements  
630 specified in the following sections shall be met.

#### 631 **7.7.1 CIM\_RemoteServiceAccessPoint Instance**

632 The remote destination of the Media Redirection may be represented by an instance of  
633 CIM\_RemoteServiceAccessPoint.

634 Every instance CIM\_MediaRedirectionSAP instance that has a ConnectionMode property value of 3  
635 (Connect) shall be associated with exactly one instance of CIM\_RemoteServiceAccessPoint through an  
636 instance of the CIM\_RemoteAccessAvailableToElement association.

637 If an instance of CIM\_USBRedirectionCapabilities is associated with the CIM\_RedirectionService  
638 instance and CIM\_USBRedirectionCapabilities.ConnectionModesSupported includes both 2 (Listen) and  
639 3 (Connect) (see 7.3.5) and CIM\_USBRedirectionCapabilities.SAPCapabilitiesSupported includes 4  
640 (Modify SAP) (see 7.3.3), static pre-configured instances of CIM\_USBRedirectionSAP shall have a  
641 CIM\_RemoteAccessAvailableToElement association to an instance of CIM\_RemoteServiceAccessPoint  
642 and a CIM\_BindsTo association to an instance of CIM\_ProtocolEndpoint.

#### 643 7.7.1.1 AccessInfo

644 The CIM\_RemoteServiceAccessPoint.AccessInfo property shall have a value that corresponds to the  
645 value of the CIM\_RemoteServiceAccessPoint.InfoFormat property. The value shall contain the network  
646 location for the destination of the Media Redirection.

#### 647 7.7.1.2 InfoFormat

648 The CIM\_RemoteServiceAccessPoint.InfoFormat property shall contain the correct valuemap value for  
649 the format of the CIM\_RemoteServiceAccessPoint.AccessInfo information that designates the network  
650 location for the destination of the Media Redirection. When an instance of  
651 CIM\_MediaRedirectionCapabilities is associated with the instance of CIM\_RedirectionService and  
652 CIM\_MediaRedirectionCapabilities.InfoFormatsSupported is not empty, the value of the InfoFormat  
653 property shall be one of the values of CIM\_MediaRedirectionCapabilities.InfoFormatsSupported.

#### 654 7.7.1.3 OtherInfoFormatDescription

655 If the value of the CIM\_RemoteServiceAccessPoint.InfoFormat property is 1 (Other), the  
656 CIM\_RemoteServiceAccessPoint.OtherInfoFormatDescription property describes the format.

#### 657 7.7.1.4 AccessContext

658 The CIM\_RemoteServiceAccessPoint.AccessContext property shall have a value of 1 (Other).

#### 659 7.7.1.5 OtherAccessContext

660 The CIM\_RemoteServiceAccessPoint.OtherAccessContext property shall have a value of "Media  
661 Redirection Destination".

### 662 7.8 States of a Media Redirection

663 The state of a Media Redirection shall be determined by the states of the CIM\_RedirectionService and  
664 CIM\_MediaRedirectionSAP instances that are associated through an instance of  
665 CIM\_ServiceAccessBySAP.

666 The Media Redirection shall have the state *inactive*, *available*, or *active*:

- 667 • The Media Redirection is *active* when the Media Redirection SAP is connected to a Remote  
668 SAP. The value of the EnabledState properties in CIM\_RedirectionService and  
669 CIM\_MediaRedirectionSAP shall be 2 (Enabled) when the Media Redirection is in an active  
670 state.
- 671 • The Media Redirection is *available* when the Media Redirection SAP is available for connection  
672 at the protocol endpoint. The Media Redirection SAP is either awaiting a connection request  
673 (listen mode) or ready to initiate a connection (connect mode). When the Media Redirection  
674 SAP is in an available state, the value of the EnabledState property of CIM\_RedirectionService  
675 shall be 2 (Enabled) and the value of the EnabledState property of CIM\_MediaRedirectionSAP  
676 shall be 6 (Enabled but Offline).
- 677 • The Media Redirection is *inactive* when the Media Redirection is neither active nor available.

## 678 **7.9 State Management of a Media Redirection Service**

679 The following sections describe the CIM elements and behaviors that allow the client to determine  
680 whether state management of the Media Redirection Service is supported.

681 Support for managing the state of a Media Redirection Service is optional behavior. The following  
682 sections describe the CIM elements and behaviors that allow the client to determine whether state  
683 management of the Media Redirection Service is supported.

### 684 **7.9.1 Media Redirection Service State Management Is Supported**

685 This section describes the CIM elements and behaviors that shall be implemented when state  
686 management of the Media Redirection Service is supported.

#### 687 **7.9.1.1 CIM\_MediaRedirectionCapabilities**

688 When state management of the Service is supported, exactly one instance of  
689 CIM\_MediaRedirectionCapabilities shall be associated with the instance of CIM\_RedirectionService  
690 through an instance of CIM\_ElementCapabilities.

691 The CIM\_ElementCapabilities association's ManagedElement property shall reference the  
692 CIM\_RedirectionService instance, and its Capabilities property shall reference the  
693 CIM\_MediaRedirectionCapabilities instance.

##### 694 **7.9.1.1.1 CIM\_MediaRedirectionCapabilities.RequestedStatesSupported**

695 The RequestedStatesSupported property shall contain one or more of the following values: 2 (Enabled) or  
696 3 (Disabled).

##### 697 **7.9.1.2 CIM\_RedirectionService.RequestedState**

698 When the CIM\_RedirectionService.RequestStateChange() method is successfully invoked, the value of  
699 the RequestedState property shall be the value of the RequestedState parameter. If the method is not  
700 successfully invoked, the value of the RequestedState property is indeterminate.

701 The CIM\_RedirectionService.RequestedState property shall have one of the values specified in the  
702 CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property or a value of 0 (Unknown).

##### 703 **7.9.1.3 CIM\_RedirectionService.EnabledState**

704 The EnabledState property shall have one of the following values: 2 (Enabled) or 3 (Disabled).

705 When the RequestedState parameter has a value of 2 (Enabled) or 3 (Disabled) and the  
706 CIM\_RedirectionService.RequestStateChange() method completes successfully, the value of the  
707 EnabledState property shall equal the value of the CIM\_RedirectionService.RequestedState property.

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

### 709 **7.9.2 Media Redirection Service State Management Is Not Supported**

710 This section describes the CIM elements and behaviors that shall be implemented when management of  
711 the Media Redirection Service state is not supported.

#### 712 **7.9.2.1 CIM\_MediaRedirectionCapabilities**

713 When state management is not supported, an instance of CIM\_MediaRedirectionCapabilities may be  
714 associated with the CIM\_RedirectionService instance through an instance of CIM\_ElementCapabilities.  
715 The existence of the CIM\_ElementCapabilities instance is conditional on the existence of the  
716 CIM\_MediaRedirectionCapabilities instance.

717 The CIM\_ElementCapabilities association's ManagedElement property shall reference the  
718 CIM\_RedirectionService instance, and its Dependent property shall reference the  
719 CIM\_MediaRedirectionCapabilities instance.

#### 720 **7.9.2.1.1 CIM\_MediaRedirectionCapabilities.RequestedStatesSupported**

721 The CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property shall not contain any values.

#### 722 **7.9.2.2 CIM\_RedirectionService.RequestedState**

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

#### 724 **7.9.2.3 CIM\_RedirectionService.EnabledState**

725 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), or 0  
726 (Unknown). The EnabledState property may have a value of 5 (Not Applicable) when non-CIM  
727 instrumentation has manipulated the instance of CIM\_RedirectionService.

### 728 **7.10 State Management of a Media Redirection SAP**

729 The following sections describe the CIM elements and behaviors that allow the client to determine  
730 whether state management of the Media Redirection SAP is supported.

731 Support for managing the state of a Media Redirection SAP is optional behavior. The following sections  
732 describe the CIM elements and behaviors that allow the client to determine whether state management of  
733 the Media Redirection SAP is supported.

#### 734 **7.10.1 Media Redirection SAP State Management Is Supported – Conditional**

735 This section describes the CIM elements and behaviors that shall be implemented when state  
736 management of the Media Redirection SAP is supported.

##### 737 **7.10.1.1 CIM\_EnabledLogicalElementCapabilities**

738 When state management of the Media Redirection SAP is supported, exactly one instance of  
739 CIM\_EnabledLogicalElementCapabilities shall be associated with the instance of  
740 CIM\_MediaRedirectionSAP through an instance of CIM\_ElementCapabilities.

741 The CIM\_ElementCapabilities association's ManagedElement property shall reference the  
742 CIM\_MediaRedirectionSAP instance, and its Capabilities property shall reference the  
743 CIM\_EnabledLogicalElementCapabilities instance.

##### 744 **7.10.1.1.1 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported**

745 The RequestedStatesSupported property shall contain one or more of the following values: 2 (Enabled), 3  
746 (Disabled), or 6 (Offline).

##### 747 **7.10.1.2 CIM\_MediaRedirectionSAP.RequestedState**

748 When the CIM\_MediaRedirectionSAP.RequestStateChange( ) method is successfully invoked, the value  
749 of the RequestedState property shall be the value of the RequestedState parameter. If the method is not  
750 successfully invoked, the value of the RequestedState property is indeterminate.

751 The CIM\_MediaRedirectionSAP.RequestedState property shall have one of the values specified in the  
752 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported property or a value of 0 (Unknown).

### 753 **7.10.1.3 CIM\_MediaRedirectionSAP.EnabledState**

754 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), or 6  
755 (Enabled but Offline).

756 When the RequestedState parameter has a value of 2 (Enabled), 3 (Disabled), or 6 (Offline) and the  
757 CIM\_MediaRedirectionSAP.RequestStateChange() method completes successfully, the value of the  
758 EnabledState property shall equal the value of the CIM\_MediaRedirectionSAP.RequestedState property.

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

## 760 **7.10.2 Media Redirection SAP State Management Is Not Supported**

761 This section describes the CIM elements and behaviors that shall be implemented when management of  
762 the Session state is not supported.

### 763 **7.10.2.1 CIM\_EnabledLogicalElementCapabilities**

764 When state management is not supported, an instance of CIM\_EnabledLogicalElementCapabilities may  
765 be associated with the CIM\_MediaRedirectionSAP instance through an instance of  
766 CIM\_ElementCapabilities. The existence of the CIM\_ElementCapabilities instance is conditional on the  
767 existence of the CIM\_EnabledLogicalElementCapabilities instance.

768 The CIM\_ElementCapabilities association's ManagedElement property shall reference the  
769 CIM\_MediaRedirectionSAP instance, and its Dependent property shall reference the  
770 CIM\_EnabledLogicalElementCapabilities instance.

#### 771 **7.10.2.1.1 CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported**

772 The CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported property shall not contain any  
773 values.

### 774 **7.10.2.2 CIM\_MediaRedirectionSAP.RequestedState**

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

### 776 **7.10.2.3 CIM\_MediaRedirectionSAP.EnabledState**

777 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), 0  
778 (Unknown), or 6 (Enabled but Offline). The EnabledState property may have a value of 0 (Unknown)  
779 when non-CIM instrumentation has manipulated the instance of CIM\_MediaRedirectionSAP.

## 780 **8 Methods**

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

### 783 **8.1 CIM\_RedirectionService.RequestStateChange()**

784 Invocation of the RequestStateChange() method changes the element's state to the value specified in the  
785 RequestedState parameter. The 2 (Enabled) and 3 (Disabled) values of the RequestedState parameter  
786 shall correspond to the enabled and disabled states of the Media Redirection Service, respectively.

787 Whether the method completes successfully if there are active sessions is specific to the implementation.

788 Detailed requirements of the RequestStateChange() method are specified in Table 2 and Table 3.

789 No standard messages are defined.

790 Invoking the RequestStateChange() method multiple times could result in earlier requests being  
791 overwritten or lost.

792 **Table 2 – CIM\_RedirectionService.RequestStateChange() Method: Return Code Values**

Value	Description
0	Request was successfully executed.
1	Method is unsupported.
2	Error occurred.
4096	Job started: REF returned to started CIM_ConcreteJob.

793 **Table 3 – CIM\_RedirectionService.RequestStateChange() Method: Parameters**

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

### 794 **8.1.1 CIM\_RedirectionService.RequestStateChange() – Conditional Support**

795 When an instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
796 instance and the CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property contains at  
797 least one value, the CIM\_RedirectionService.RequestStateChange() method shall be implemented and  
798 supported. The CIM\_RedirectionService.RequestStateChange() method shall not return a value of 1 (Not  
799 Supported).

### 800 **8.2 CIM\_MediaRedirectionSAP.RequestStateChange()**

801 Invocation of the RequestStateChange() method changes the element's state to the value specified in the  
802 RequestedState parameter. The 2 (Enabled), 3 (Disabled), and 6 (Offline) values of the RequestedState  
803 parameter shall correspond to enabled, disabled, and offline requested states for the SAP, respectively.

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

805 No standard messages are defined.

806 Invoking the RequestStateChange() method multiple times could result in earlier requests being  
807 overwritten or lost.

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

Value	Description
0	Request was successfully executed.
1	Method is unsupported.



Value	Description
2	Error occurred.
4096	Job started: REF returned to started CIM_ConcreteJob.

809

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

Qualifiers	Name	Type	Description/Values
IN	RequestedState	uint16	Valid state values: 2 (Enabled) 3 (Disabled) 6 (Offline)
IN	TimeoutPeriod	datetime	Client-specified maximum amount of time the transition to a new state is supposed to take: 0 or NULL – No time requirements <interval> – Maximum time allowed
OUT	Job	CIM_ConcreteJob REF	Returned if job started

810

**8.2.1 CIM\_MediaRedirectionSAP.RequestStateChange() – Conditional Support**

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813  
814  
815  
816

When an instance of CIM\_EnabledLogicalElementCapabilities is associated with the CIM\_MediaRedirectionSAP instance and the CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported property contains at least one value, the CIM\_MediaRedirectionSAP.RequestStateChange() method shall be implemented and supported. The CIM\_MediaRedirectionSAP.RequestStateChange() method shall not return a value of 1 (Not Supported).

817

**8.3 Profile Conventions for Operations**

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Support for operations for each profile class (including associations) is specified in the following subclauses. Each subclause includes either the statement "All operations in the default list in 8.3 are supported as described by [DSP0200](#) version 1.2" or a table listing all of the operations that are not supported by this profile or where the profile requires behavior other than that described by [DSP0200](#) version 1.2.

823

The default list of operations is as follows:

824  
825  
826  
827  
828  
829  
830

- GetInstance
- Associators
- AssociatorNames
- References
- ReferenceNames
- EnumerateInstances
- EnumerateInstanceNames

831  
832

A compliant implementation shall support all of the operations in the default list for each class, unless the "Requirement" column states something other than *Mandatory*.

833 **8.4 CIM\_BindsTo**

834 Table 6 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2 or  
835 shall not be supported.

836 **Table 6 – Operations: CIM\_BindsTo**

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

837 **8.5 CIM\_ElementCapabilities**

838 Table 7 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2 or  
839 shall not be supported.

840 **Table 7 – Operations: CIM\_ElementCapabilities**

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

841 **8.6 CIM\_EnabledLogicalElementCapabilities**

842 Table 8 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2 or  
843 shall not be supported.

844 **Table 8 – Operations: CIM\_EnabledLogicalElementCapabilities**

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

845 **8.7 CIM\_HostedAccessPoint**

846 Table 9 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2 or  
847 shall not be supported.

848 **Table 9 – Operations: CIM\_HostedAccessPoint**

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

849 **8.8 CIM\_HostedService**

850 Table 10 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
851 or shall not be supported.

852 **Table 10 – Operations: CIM\_HostedService**

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

853 **8.9 CIM\_RemoteAccessAvailableToElement**

854 Table 11 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
855 or shall not be supported.

856 **Table 11 – Operations: CIM\_RemoteAccessAvailableToElement**

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

857 **8.10 CIM\_RemoteServiceAccessPoint**

858 Table 12 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
859 or shall not be supported.

860

Table 12 – Operations: CIM\_RemoteServiceAccessPoint

Operation	Requirement	Messages
ModifyInstance	Optional	See 8.10.1.
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

### 861 8.10.1 CIM\_RemoteServiceAccessPoint – ModifyInstance

862 This section details the specific requirements for the ModifyInstance operation applied to an instance of  
863 CIM\_RemoteServiceAccessPoint.

#### 864 8.10.1.1 CIM\_RemoteServiceAccessPoint.InfoFormat Property

865 When an instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
866 instance and the CIM\_MediaRedirectionCapabilities.InfoFormatsSupported is not empty, the  
867 implementation shall allow the ModifyInstance operation to change the value of the InfoFormat property of  
868 the CIM\_RemoteServiceAccessPoint instance. The new InfoFormat value shall be one of the values in  
869 CIM\_MediaRedirectionCapabilities.InfoFormatsSupported.

#### 870 8.10.1.2 CIM\_RemoteServiceAccessPoint.AccessInfo Property

871 When an instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
872 instance and the CIM\_MediaRedirectionCapabilities.InfoFormatsSupported is not empty, the  
873 implementation shall allow the ModifyInstance operation to change the value of the AccessInfo property  
874 of the CIM\_RemoteServiceAccessPoint instance.

#### 875 8.10.1.3 CIM\_RemoteServiceAccessPoint.OtherInfoFormatDescription Property

876 When an instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
877 instance and the CIM\_MediaRedirectionCapabilities.InfoFormatsSupported property has a value of 1  
878 (Other), the implementation shall allow the ModifyInstance operation to change the value of the  
879 OtherInfoFormatDescription property of the CIM\_RemoteServiceAccessPoint instance.

### 880 8.11 CIM\_SAPAvailableForElement

881 Table 13 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
882 or shall not be supported.

883

Table 13 – Operations: CIM\_SAPAvailableForElement

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

884 **8.12 CIM\_ServiceAccessBySAP**

885 Table 14 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
886 or shall not be supported.

887 **Table 14 – Operations: CIM\_ServiceAccessBySAP**

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

888 **8.13 CIM\_ServiceAffectsElement**

889 Table 15 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
890 or shall not be supported.

891 **Table 15 – Operations: CIM\_ServiceAffectsElement**

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

892 **8.14 CIM\_MediaAccessDevice**

893 Table 16 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
894 or shall not be supported.

895 **Table 16 – Operations: CIM\_MediaAccessDevice**

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

896 **8.15 CIM\_MediaRedirectionCapabilities**

897 Table 17 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
898 or shall not be supported.



925 When no instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
 926 instance, or the SAPCapabilitiesSupported property of the CIM\_MediaRedirectionCapabilities instance  
 927 does not have a value of 2 (Modify SAP), the implementation shall not allow the ModifyInstance operation  
 928 to change the value of the properties of the CIM\_MediaRedirectionSAP instance.

929 **8.17 CIM\_RedirectionService**

930 Table 19 lists operations that either have special requirements beyond those from [DSP0200](#) version 1.2  
 931 or shall not be supported.

932 **Table 19 – Operations: CIM\_RedirectionService**

Operation	Requirement	Messages
ModifyInstance	Optional	See 8.17.1.
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

933 **8.17.1 CIM\_RedirectionService – ModifyInstance**

934 This section details the specific requirements for the ModifyInstance operation applied to an instance of  
 935 CIM\_RedirectionService.

936 **8.17.1.1 CIM\_RedirectionService.ElementName Property**

937 When an instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
 938 instance and the CIM\_MediaRedirectionCapabilities.ElementNameEditSupported property has a value of  
 939 TRUE, the implementation shall allow the ModifyInstance operation to change the value of the  
 940 ElementName property of the CIM\_RedirectionService instance. The ModifyInstance operation shall  
 941 enforce the length restriction specified in the MaxElementNameLen property of the  
 942 CIM\_MediaRedirectionCapabilities instance.

943 When no instance of CIM\_MediaRedirectionCapabilities is associated with the CIM\_RedirectionService  
 944 instance or the ElementNameEditSupported property of the CIM\_MediaRedirectionCapabilities instance  
 945 has a value of FALSE, the implementation shall not allow the ModifyInstance operation to change the  
 946 value of the ElementName property of the CIM\_RedirectionService instance.

947 **9 Use Cases**

948 This section contains object diagrams and use cases specific to the *Media Redirection Profile*. The use  
 949 cases are informative and are not intended to define the requirements for conformance.

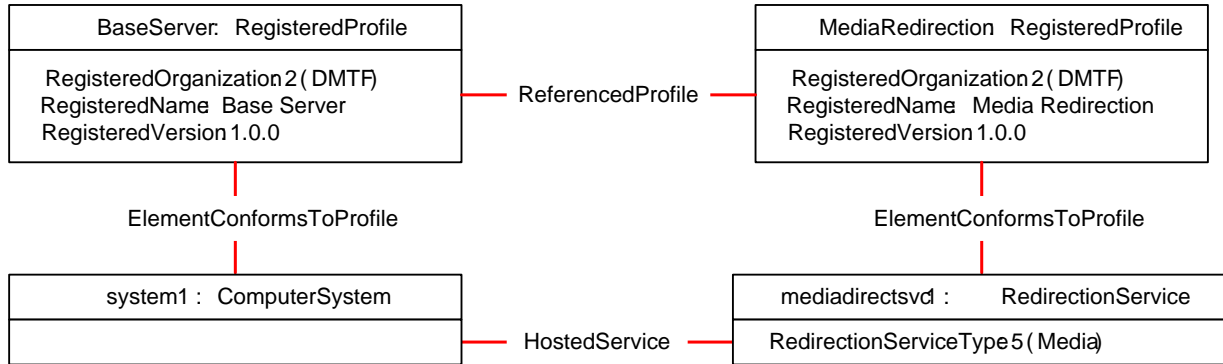
950 **9.1 Advertising the Profile Conformance**

951 Figure 2 shows how instances of CIM\_RegisteredProfile are used to identify the version of the *Media*  
 952 *Redirection Profile* with which an instance of CIM\_RedirectionService and its associated instances  
 953 conform.

954 An instance of CIM\_RegisteredProfile exists for each profile that is instrumented in the system. One  
 955 instance of CIM\_RegisteredProfile identifies the DMTF [Base Server Profile](#), version 1.0.0. The other  
 956 instance identifies the *Media Redirection Profile*, version 1.0.0. The Central Instance is the  
 957 CIM\_RedirectionService. The Scoping Instance is the CIM\_ComputerSystem instance.

958 This instance of CIM\_ComputerSystem conforms to the [Base Server Profile](#), version 1.0.0, as indicated  
 959 by the CIM\_ElementConformsToProfile association with the CIM\_RegisteredProfile instance.

960 This instance of CIM\_RedirectionService conforms to the *Media Redirection Profile*, version 1.0.0, as  
 961 indicated by the CIM\_ElementConformsToProfile association with the CIM\_RegisteredProfile instance.



962

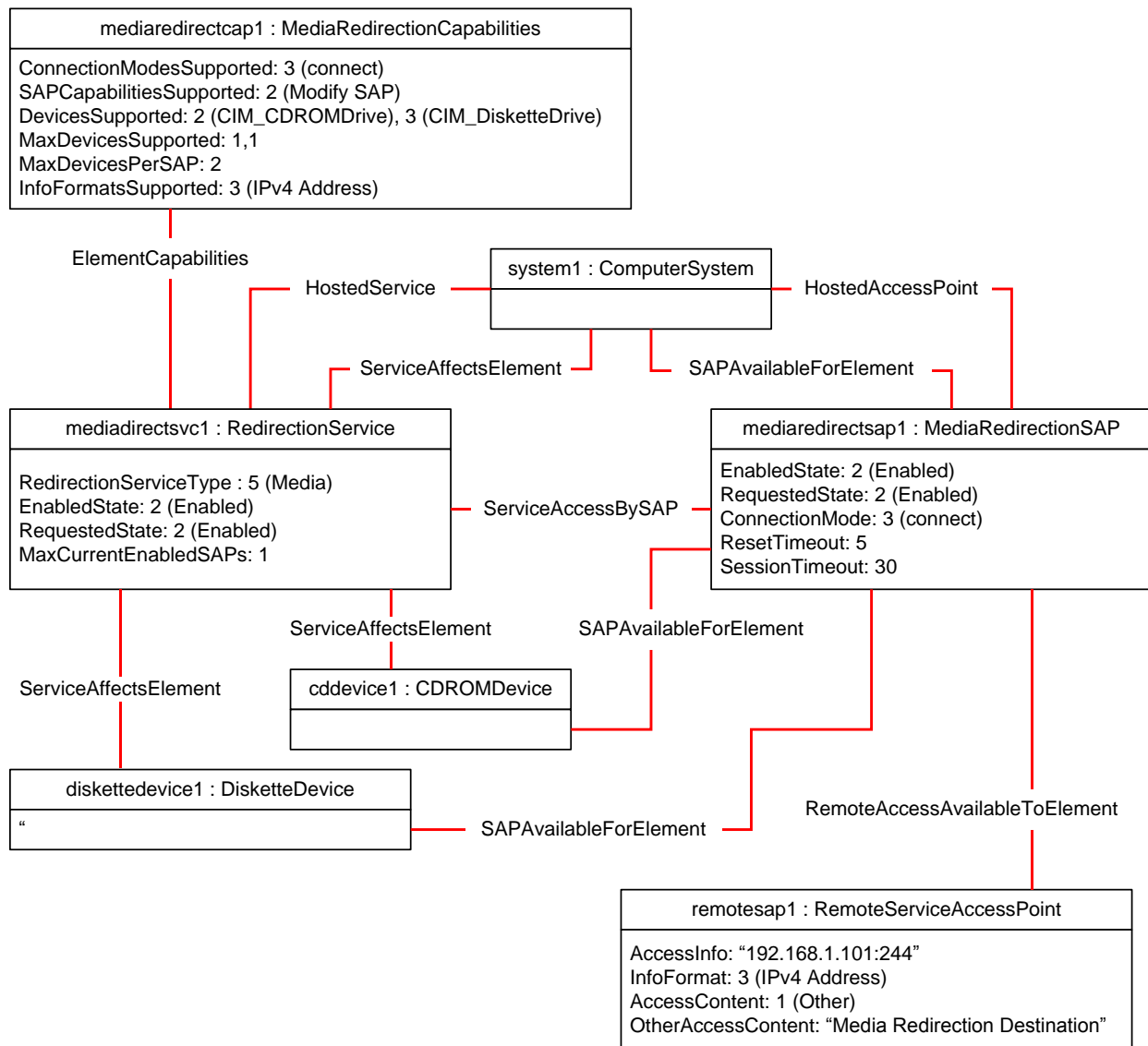
963

**Figure 2 – Registered Profile**

964 **9.2 Object Diagram for a Monolithic Server – Connect**

965 Figure 3 shows a monolithic server, system1, configured for the Media Redirection SAP to connect to the  
 966 Remote System for Redirection.





967

968

**Figure 3 – Monolithic System: Connect**

969 The Media Redirection Service is represented by mediaredirectsvc1. The Media Redirection SAP is  
 970 represented by mediaredirectsap1.

971 The instance of CIM\_MediaRedirectionCapabilities, mediaredirectcap1, describes the capabilities of the  
 972 Media Redirection Service. The SAPCapabilitiesSupported property value of 2 (Modify SAP) models that  
 973 the SAP properties can be modified.

974 The ConnectionModesSupported property models that the SAP can only be configured for “connect”  
 975 mode. The DeviceSupported property models that the Emulated CDROM and Diskette devices may be  
 976 redirected. The InfoFormatsSupported property models that the SAP can support IPv4 Addresses to  
 977 initiate the redirected session connection to the remote SAP.

978 The CIM\_ServiceAccessBySAP association between mediaredirectsvc1 and mediaredirectsap1 models  
 979 that mediaredirectsvc1 is available at mediaredirectsap1. The MediaRedirectionSAP.ConnectionMode  
 980 property is set to "connect" which models that the SAP will initiate a session to a remote SAP. The

981 instance of CIM\_RemoteServiceAccessPoint, remotesap1, has been configured with access information  
 982 needed to initiate a session with the remote SAP.

983 The CIM\_HostedService association between system1 and mediaredirectsvc1 models that the Media  
 984 Redirection Service is hosted on system1.

985 The CIM\_ServiceAffectsElement association between mediaredirectsvc1 and cddevice1 and  
 986 diskette1 models that the Media Redirection Service is configured to redirect both CD and Diskette  
 987 redirection data streams.

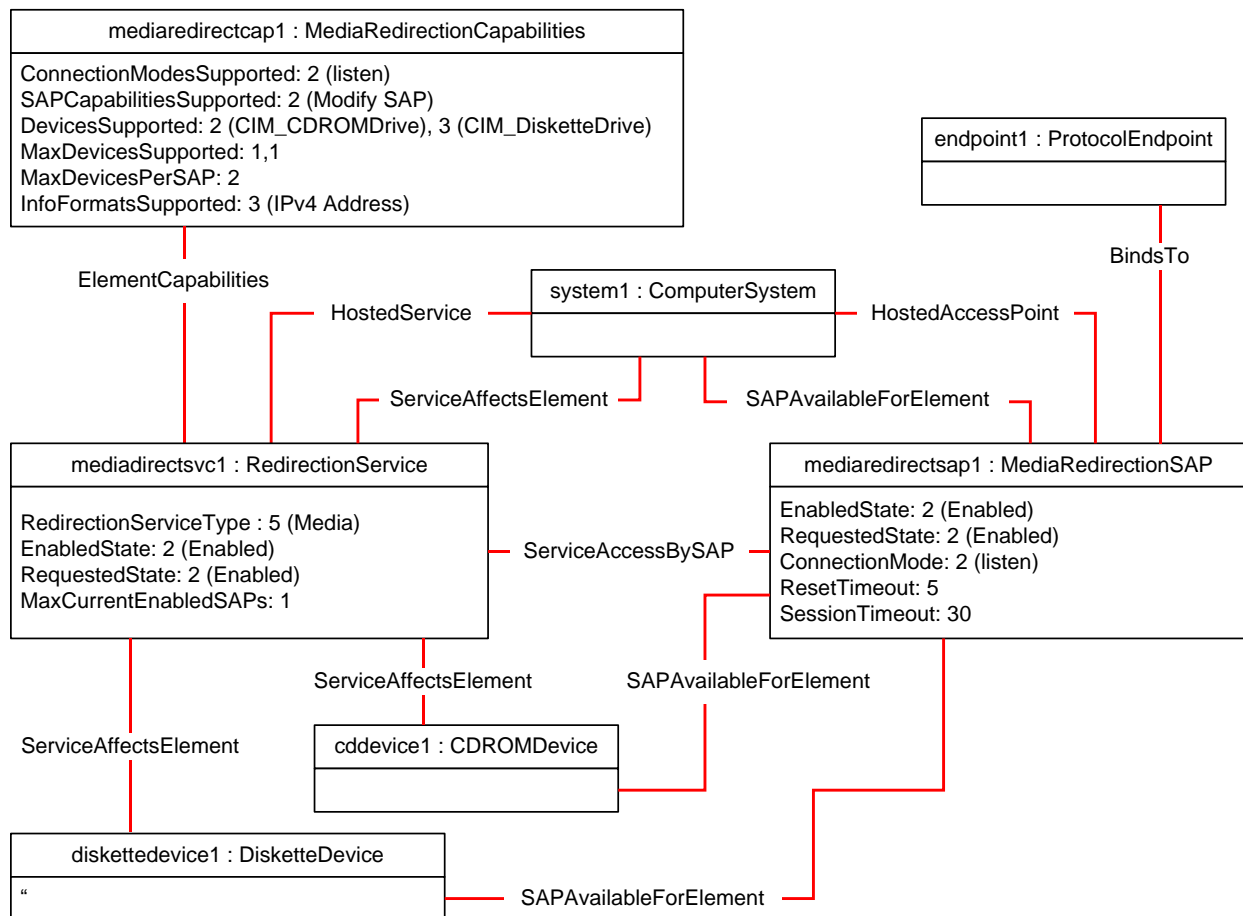
988 The CIM\_HostedAccessPoint association between mediaredirectsap1 and system1 models that  
 989 mediaredirectsap1 is hosted on system1.

990 The CIM\_SAPAvailableForElement association between system1 and mediaredirectsap1 models that  
 991 mediaredirectsap1 provides a SAP for at least one Media device residing on system1.

992 The Media Redirection is active because the state of the mediaredirectsvc1 is 2 (Enabled) and the state  
 993 of the mediaredirectsap1 is 2 (Enabled).

994 **9.3 Object Diagram for a Monolithic Server – Listen**

995 Figure 4 shows a monolithic server, system1, configured for the Media Redirection SAP to listen for a  
 996 connection request from the Remote System for Redirection.



997

998

**Figure 4 – Monolithic System: Listen**

999 The model shown is similar to that in clause 9.2 with the exceptions noted in the next paragraph.

1000 The ConnectionModesSupported property of the instance of CIM\_MediaRedirectionCapabilities shows  
1001 that the Media Redirection Service only supports the 'listen" mode for its SAPs. The  
1002 CIM\_ServiceAccessBySAP association between mediaredirectsvc1 and mediaredirectsap1 models that  
1003 the mediaredirectsvc1 is available at mediaredirectsap1. The ConnectionMode property of  
1004 CIM\_MediaRedirectionSAP is set to "listen," which models that the SAP will wait for the Remote System  
1005 to initiate a session. The instance of CIM\_ProtocolEndpoint, Endpoint1, contains the information the  
1006 Remote System needs to initiate a session with the local Media Redirection SAP.

#### 1007 **9.4 Object Diagram for a Monolithic Server – Listen or Connect Mode**

1008 Figure 5 shows a monolithic server, system1, with a Media Redirection SAP for a redirected media  
1009 storage device.

1010

1011

**Figure 5 – Monolithic System: Listen or Connect**

1012 The model shown is similar to the model description in 9.2 with the exceptions noted in the remainder of  
 1013 this section.

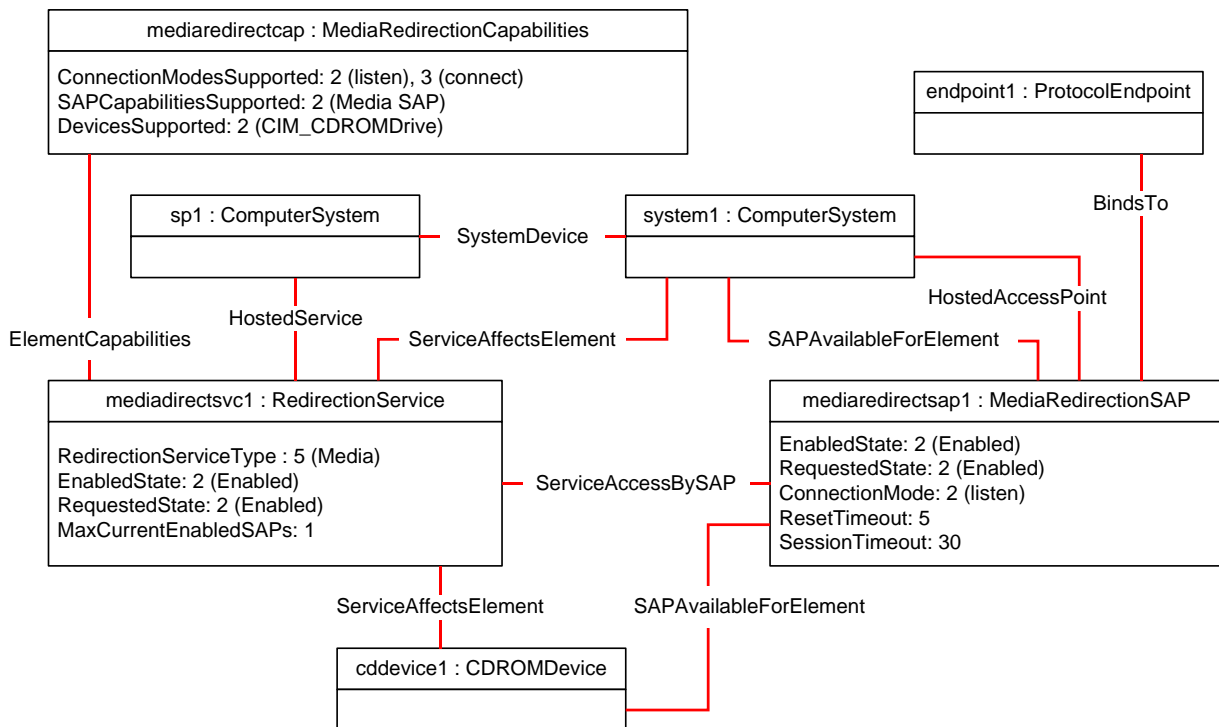
1014 The ConnectionModesSupported property of the instance of CIM\_MediaRedirectionCapabilities shows  
 1015 that the Media Redirection Service supports both the "listen" and "connect" mode for its SAPs. The  
 1016 SAPCapabilitiesSupported property of CIM\_MediaRedirectionCapabilities shows that the properties of the  
 1017 SAP may be modified. Examples of modifications include a change in the timeout properties or a  
 1018 reconfiguration of the SAP from "listen" to "connect" mode.

1019 The CIM\_ServiceAccessBySAP association between mediaredirectsvc1 and mediaredirectsap1 models  
 1020 that the mediaredirectsvc1 is available at mediaredirectsap1. Because the SAP may be configured to be  
 1021 in either "listen" or "connect" mode, it has both an instance of CIM\_ProtocolEndpoint associated to it by  
 1022 CIM\_BindsTo, and an instance of CIM\_RemoteServiceAccessPoint associated to it by  
 1023 CIM\_RemoteAccessAvailableToElement.

1024 The ConnectionMode property of CIM\_MediaRedirectionSAP has been set to "connect", so the instance  
 1025 of CIM\_RemoteServiceAccessPoint, remotesap1, has been configured with information about how to  
 1026 access the remote SAP.

1027 **9.5 Object Diagram for a Monolithic Server with Service Processor**

1028 Figure 6 shows a monolithic server with a service processor. The diagram is similar to Figure 4, but  
 1029 Figure 6 contains an instance of CIM\_ComputerSystem, sp1, that represents the service processor.



1030

1031

**Figure 6 – Monolithic System with Service Processor**

## 1032 9.6 Determine whether a System Supports Media Redirection

1033 A client can determine whether a computer system of interest supports Media Redirection as follows:

- 1034 1) Start at the instance of CIM\_ComputerSystem that represents the computer system of interest
- 1035 2) Enumerate the instances of CIM\_RedirectionService that are associated to the instance of  
1036 CIM\_ComputerSystem through an instance of the CIM\_ServiceAffectsElement association.
- 1037 3) If such an instance of CIM\_RedirectionService is not found, the computer system does not  
1038 support Media Redirection. Otherwise, the computer system does support Media Redirection.

## 1039 9.7 Identify Emulated Media Devices that Are Available through a Media 1040 Redirection SAP

1041 A client can determine the Media Redirection Media devices managed by a Service as follows:

- 1042 1) Start at the instance of CIM\_RedirectionService of interest. (The instance can be found using  
1043 the use case in 9.6.)
- 1044 2) Enumerate the instances of CIM\_MediaRedirectionSAP that are associated through an instance  
1045 of CIM\_ServiceAccessBySAP.
- 1046 3) For each instance of CIM\_MediaRedirectionSAP, enumerate the instances associated to the  
1047 CIM\_MediaRedirectionSAP through an instance of CIM\_SAPAvailableForElement.
- 1048 4) Each instance found by the enumeration represents a locally emulated Media device that is  
1049 available through a SAP.

## 1050 9.8 Determine How the Media Redirection State Is Managed

1051 A client can determine whether a Media Redirection is managed through the state of the SAP only or  
1052 through the states of both the Service and SAP, as follows:

- 1053 1) Start at the instance of CIM\_RedirectionService of interest using the use case describe in 9.6.
- 1054 2) Select the CIM\_MediaRedirectionSAP that represents the Media Redirection SAP of interest  
1055 using the use case described in 9.7.
- 1056 3) From the instance of CIM\_RedirectionService, find the instance of  
1057 CIM\_MediaRedirectionCapabilities that is associated through an instance of  
1058 CIM\_ElementCapabilities.

1059 If an instance of CIM\_MediaRedirectionCapabilities is not found, the Media Redirection cannot  
1060 be managed through the state of the Media Redirection Service.

- 1061 4) For the CIM\_MediaRedirectionCapabilities instance so found, obtain the values of the  
1062 RequestedStatesSupported property.
- 1063 5) From the instance of CIM\_MediaRedirectionSAP, find the  
1064 CIM\_EnabledLogicalElementCapabilities that is associated through an instance of  
1065 CIM\_ElementCapabilities.

1066 If an instance of CIM\_EnabledLogicalElementCapabilities is not found, the Media Redirection  
1067 cannot be managed through the state of the Media Redirection SAP.

- 1068 6) For the CIM\_EnabledLogicalElementCapabilities so found, obtain the values of the  
1069 RequestedStatesSupported property.

- 1070 7) If the CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property contains no  
1071 values and the CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported contains  
1072 no values, then no state management of the Media Redirection is possible.
- 1073 If the CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property contains no  
1074 values and the CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported contains  
1075 values, then state management of the Media Redirection is performed through state  
1076 management of the SAP only.
- 1077 If the CIM\_MediaRedirectionCapabilities.RequestedStatesSupported property contains values  
1078 and the CIM\_EnabledLogicalElementCapabilities.RequestedStatesSupported contains values,  
1079 then state management of the Media Redirection is possible through state management of both  
1080 the Service and the SAP.

## 1081 **9.9 Activate a Media Redirection – SAP State Management**

1082 When the Media Redirection is managed through the state of the Media Redirection SAP only, a client  
1083 can start a Media Redirection as follows:

- 1084 1) Start at the instance of the CIM\_MediaRedirectionSAP that is a component of the Media  
1085 Redirection SAP of interest.
- 1086 2) Invoke the RequestStateChange() method with the RequestedState parameter set to 2  
1087 (Enabled).
- 1088 3) Verify that the CIM\_MediaRedirectionSAP.EnabledState property has a value of 2 (Enabled).  
1089 The Media Redirection is now active.

## 1090 **9.10 Activate a Media Redirection – Service and SAP State Management**

1091 When the Media Redirection is managed through the states of both the Media Redirection Service and  
1092 Media Redirection SAP, a client can start a Media Redirection as follows:

- 1093 1) Start at the CIM\_RedirectionService instance of interest.
- 1094 2) Invoke the RequestStateChange() method with the RequestedState parameter has a value of 2  
1095 (Enabled).
- 1096 3) Verify that the CIM\_RedirectionService.EnabledState property has a value of 2 (Enabled).
- 1097 4) Invoke the CIM\_MediaRedirectionSAP.RequestStateChange() method with the  
1098 RequestedState parameter has a value of 2 (Enabled).
- 1099 5) Verify that the CIM\_MediaRedirectionSAP.EnabledState property has a value of 2 (Enabled).  
1100 The Media Redirection is now active.

## 1101 **9.11 Stop All Media Redirections Associated with the Service – SAP State 1102 Management**

1103 In the following use case, it is assumed that the client knows the instance of CIM\_RedirectionService of  
1104 interest.

1105 When the Media Redirection is managed through the state of the Media Redirection SAP only, a client  
1106 can stop all Media Redirections as follows:

- 1107 1) Start at the instance of the CIM\_RedirectionService that represents the Media Redirection  
1108 Service of interest.
- 1109 2) Enumerate the instances of CIM\_MediaRedirectionSAP that are associated with the instance of  
1110 CIM\_RedirectionService through an instance of CIM\_ServiceAccessBySAP.

- 1111 3) For each instance of CIM\_MediaRedirectionSAP found, query the value of the EnabledState  
1112 property.
- 1113 4) If the state of each CIM\_MediaRedirectionSAP is 2 (Enabled), invoke the  
1114 RequestStateChange( ) method with each RequestedState parameter set to 6 (Offline).
- 1115 5) Verify that each CIM\_MediaRedirectionSAP.EnabledState property has a value of 6 (Enabled  
1116 but Offline).
- 1117 All Media Redirections associated with the CIM\_RedirectionService instance are now inactive.

## 1118 9.12 Stop All Media Redirections Associated with a Service – Service and SAP 1119 State Management

1120 When the Media Redirection is managed through the states of both the Media Redirection Service and  
1121 Media Redirection SAP, a client can stop all Media Redirections associated with the Media Redirection  
1122 Service as follows:

- 1123 1) Start at the instance of the CIM\_RedirectionService that represents the Media Redirection  
1124 Service of interest.
- 1125 2) Change the state of the CIM\_RedirectionService instance by invoking the  
1126 RequestStateChange( ) method with the RequestedState parameter set to 3 (Disabled).
- 1127 All Media Redirections associated with the CIM\_RedirectionService instance are now inactive.

## 1128 9.13 Find the Number of Active Media Redirection SAPs for a Service

1129 A client can find the number of active Media Redirection SAPs for a Media Redirection Service of interest  
1130 as follows:

- 1131 1) Start at the CIM\_RedirectionService instance of interest.
- 1132 2) Query the value of the EnabledState property.
- 1133 If the EnabledState property is 3 (Disabled), the number of active Redirection SAPs is zero.
- 1134 3) If the EnabledState property is 2 (Enabled), find all instances of CIM\_MediaRedirectionSAP that  
1135 are associated with the CIM\_RedirectionService through an instance of  
1136 CIM\_ServiceAccessBySAP.
- 1137 4) For each found CIM\_MediaRedirectionSAP instance, query the value of the EnabledState  
1138 property.
- 1139 5) Count all the CIM\_MediaRedirectionSAP.EnabledState properties whose value is 2 (Enabled).

## 1140 9.14 Determine whether CIM\_RedirectionService.ElementName Can Be Modified

1141 A client can determine whether the ElementName property can be modified as follows:

- 1142 1) Start at the instance of CIM\_RedirectionService.
- 1143 2) Find the CIM\_MediaRedirectionCapabilities instance with which it is associated by traversing  
1144 the CIM\_ElementCapabilities association.
- 1145 3) Query the value of the ElementNameEditSupported property of the  
1146 CIM\_MediaRedirectionCapabilities instance.

1147 If the value is TRUE, the CIM\_RedirectionService.ElementName property can be modified by a  
1148 client. If no instance of CIM\_MediaRedirectionCapabilities is associated with the  
1149 CIM\_RedirectionService instance, modifying the CIM\_RedirectionService.ElementName  
1150 property is not supported.

1151 **10 CIM Elements**

1152 Table 20 shows the instances of CIM elements for this profile. Instances of the CIM elements shall be  
 1153 implemented as described in Table 20. Sections 7 ("Implementation") and 8 ("Methods") may impose  
 1154 additional requirements on these elements.

1155 **Table 20 – CIM Elements: Media Redirection Profile**

Element Name	Requirement	Description
CIM_RegisteredProfile	Mandatory	See 10.1.
CIM_BindsTo	Conditional	See 10.2.
CIM_ElementCapabilities	Conditional	Referencing CIM_RedirectionService. See 10.3.
CIM_ElementCapabilities	Conditional	Referencing CIM_MediaRedirectionSAP. See 10.4.
CIM_EnabledLogicalElementCapabilities	Optional	See 10.5.
CIM_HostedAccessPoint	Mandatory	See 10.6.
CIM_HostedService	Mandatory	See 10.7.
CIM_RemoteAccessAvailableToElement	Conditional	See 10.8.
CIM_RemoteServiceAccessPoint	Conditional	Conditional on the session ConnectionMode. See 7.7.1 and 10.9.
CIM_SAPAvailableForElement	Mandatory	Referencing CIM_ComputerSystem. See 10.10.
CIM_SAPAvailableForElement	Optional	Referencing CIM_MediaAccessDevice. See 10.11.
CIM_ServiceAccessBySAP	Mandatory	See 10.12.
CIM_ServiceAffectsElement	Mandatory	Referencing CIM_ComputerSystem. See 10.13.
CIM_ServiceAffectsElement	Optional	Referencing CIM_MediaAccessDevice. See 10.14.
CIM_MediaAccessDevice	Mandatory	See 10.15.
CIM_MediaRedirectionCapabilities	Optional	See 10.16.
CIM_MediaRedirectionSAP	Mandatory	See 10.17.
CIM_RedirectionService	Mandatory	See 10.18.

1156 **10.1 CIM\_RegisteredProfile**

1157 CIM\_RegisteredProfile identifies the *Media Redirection Profile* in order for a client to determine whether  
 1158 an instance of CIM\_ComputerSystem conforms to this profile. The CIM\_RegisteredProfile class is defined  
 1159 by the [Profile Registration Profile](#). With the exception of the mandatory values specified for the properties  
 1160 in Table 21, the behavior of the CIM\_RegisteredProfile instance is in accordance with the [Profile](#)  
 1161 [Registration Profile](#).



1162

**Table 21 – Class: CIM\_RegisteredProfile**

Elements	Requirement	Notes
RegisteredName	Mandatory	This property shall have a value of "Media Redirection".
RegisteredVersion	Mandatory	This property shall have a value of "1.0.0".
RegisteredOrganization	Mandatory	This property shall have a value of 2 (DMTF).

1163

**10.2 CIM\_BindsTo**

1164

The CIM\_BindsTo association is used to relate the CIM\_MediaRedirectionSAP instance to the CIM\_ProtocolEndpoint instance that represents the endpoint where the Media Redirection SAP is available. Table 22 contains the requirements for elements of this class.

1165

1166

1167

**Table 22 – Class: CIM\_BindsTo**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ProtocolEndpoint class. See 7.5. Cardinality is "0..1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See clause 7.5. Cardinality is "1..*".

1168

**10.3 CIM\_ElementCapabilities Relating CIM\_RedirectionService to CIM\_MediaRedirectionCapabilities**

1169

1170

The CIM\_ElementCapabilities association is used to relate an instance of CIM\_MediaRedirectionCapabilities to an instance of CIM\_RedirectionService. Table 23 contains the requirements for elements of this class.

1171

1172

1173

**Table 23 – Class: CIM\_ElementCapabilities Referencing CIM\_RedirectionService**

Elements	Requirement	Notes
ManagedElement	Mandatory	This property shall be a reference to an instance of CIM_RedirectionService class. See 7.2.3. Cardinality is "1..*".
Capabilities	Mandatory	This property shall be a reference to an instance of CIM_MediaRedirectionCapabilities class. See 7.2.3. Cardinality is "0..1".

1174 **10.4 CIM\_ElementCapabilities Relating CIM\_MediaRedirectionSAP to**  
 1175 **CIM\_EnabledLogicalElementCapabilities**

1176 The CIM\_ElementCapabilities association is used to relate an instance of  
 1177 CIM\_EnabledLogicalElementCapabilities to an instance of CIM\_MediaRedirectionSAP. Table 24 contains  
 1178 the requirements for elements of this class.

1179 **Table 24 – Class: CIM\_ElementCapabilities Referencing CIM\_MediaRedirectionSAP**

Elements	Requirement	Notes
ManagedElement	Mandatory	This property shall be a reference to an instance of CIM_MediaRedirectionSAP class. See 7.4.4. Cardinality is "1..*".
Capabilities	Mandatory	This property shall be a reference to an instance of CIM_EnabledLogicalElementCapabilities class. See 7.4.4. Cardinality is "0..1".

1180 **10.5 CIM\_EnabledLogicalElementCapabilities**

1181 CIM\_EnabledLogicalElementCapabilities represents the capabilities of the Media Redirection SAP. Table  
 1182 25 contains the requirements for elements of this class.

1183 **Table 25 – Class: CIM\_EnabledLogicalElementCapabilities**

Elements	Requirement	Notes
InstanceID	Mandatory	<b>Key</b>
RequestedStatesSupported	Mandatory	See 7.10.1.
ElementNameEditSupported	Mandatory	See 7.4.5.
MaxElementNameLen	Conditional	See 7.4.5. Conditional on ElementNameEditSupported

1184 **10.6 CIM\_HostedAccessPoint**

1185 The CIM\_HostedAccessPoint association is used to relate the CIM\_MediaRedirectionSAP instance to the  
 1186 CIM\_ComputerSystem instance to which the Media is redirected. Table 26 contains the requirements for  
 1187 elements of this class.

1188 **Table 26 – Class: CIM\_HostedAccessPoint**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See 7.4.3. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See 7.4.3. Cardinality is "*".

1189 **10.7 CIM\_HostedService**

1190 The CIM\_HostedService association is used to relate the CIM\_RedirectionService instance to the  
 1191 CIM\_ComputerSystem instance on which it is hosted. Table 27 contains the requirements for elements of  
 1192 this class.

1193 **Table 27 – Class: CIM\_HostedService**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See 7.2.1. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_RedirectionService class. See 7.2.1. Cardinality is "*".

1194 **10.8 CIM\_RemoteAccessAvailableToElement**

1195 The CIM\_RemoteAccessAvailableToElement association is used to relate the instance of  
 1196 CIM\_MediaRedirectionSAP to the instance of CIM\_RemoteServiceAccessPoint. Table 28 contains the  
 1197 requirements for elements of this class.

1198 **Table 28 – Class: CIM\_RemoteAccessAvailableToElement**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_RemoteServiceAccessPoint class. See 7.7.1. Cardinality is "*".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See 7.7.1. Cardinality is "1".

1199 **10.9 CIM\_RemoteServiceAccessPoint**

1200 The CIM\_RemoteServiceAccessPoint class represents the SAP on the remote system. Table 29 contains  
 1201 the requirements for elements of this class.

1202 **Table 29 – Class: CIM\_RemoteServiceAccessPoint**

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	<b>Key</b>
SystemName	Mandatory	<b>Key</b>
Name	Mandatory	<b>Key</b>
CreationClassName	Mandatory	<b>Key</b>
AccessContext	Mandatory	The property shall match the value 1 (Other).
AccessInfo	Mandatory	See 7.7.1.1.

Elements	Requirement	Notes
InfoFormat	Mandatory	See 7.7.1.2.
OtherAccessContext	Mandatory	The property shall match the value "Media Redirection Destination".
OtherInfoFormatDescription	Conditional	Conditional on InfoFormat value See 7.7.1.3.

1203 **10.10 CIM\_SAPAvailableForElement Relating CIM\_MediaRedirectionSAP to**  
 1204 **CIM\_ComputerSystem**

1205 The CIM\_SAPAvailableForElement association is used to relate the instance of CIM\_ComputerSystem on  
 1206 which the Emulated Media Devices reside to the instances of CIM\_MediaRedirectionSAP that are  
 1207 available as access points for the redirected Media Devices. Table 30 contains the requirements for  
 1208 elements of this class.

1209 **Table 30 – Class: CIM\_SAPAvailableForElement Referencing CIM\_ComputerSystem**

Elements	Requirement	Notes
AvailableSAP	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See 7.4.2. Cardinality is "*".
ManagedElement	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See 7.4.2. Cardinality is "1".

1210 **10.11 CIM\_SAPAvailableForElement Relating CIM\_MediaRedirectionSAP to**  
 1211 **CIM\_MediaAccessDevice**

1212 The CIM\_SAPAvailableForElement association is used to relate the instance of  
 1213 CIM\_MediaRedirectionSAP to the instance of CIM\_MediaAccessDevice or a subclass of  
 1214 CIM\_MediaAccessDevice that represents the Emulated Media Device that is accessible through the  
 1215 Media Redirection SAP. Table 31 contains the requirements for elements of this class.

1216 **Table 31 – Class: CIM\_SAPAvailableForElement Referencing CIM\_MediaAccessDevice**

Elements	Requirement	Notes
AvailableSAP	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See 7.6.2. Cardinality is "1".
ManagedElement	Mandatory	This property shall be a reference to an instance of the CIM_MediaAccessDevice or a subclass of CIM_MediaAccessDevice class. See 7.6.2. Cardinality is "0..*".

1217 **10.12 CIM\_ServiceAccessBySAP**

1218 The CIM\_ServiceAccessBySAP association is used to relate the instance of CIM\_RedirectionService to  
 1219 the instances of CIM\_MediaRedirectionSAP that are enabled by the service. Table 32 contains the  
 1220 requirements for elements of this class.

1221 **Table 32 – Class: CIM\_ServiceAccessBySAP**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_RedirectionService class. See 7.4.1. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_MediaRedirectionSAP class. See 7.4.1. Cardinality is "1..*".

1222 **10.13 CIM\_ServiceAffectsElement Relating CIM\_RedirectionService to**  
 1223 **CIM\_ComputerSystem**

1224 The CIM\_ServiceAffectsElement association is used to relate the instance of CIM\_RedirectionService to  
 1225 the instance of CIM\_ComputerSystem that represents the source of the Media Redirection Flow. Table 33  
 1226 contains the requirements for elements of this class.

1227 **Table 33 – Class: CIM\_ServiceAffectsElement Referencing CIM\_ComputerSystem**

Elements	Requirement	Notes
AffectingElement	Mandatory	This property shall be a reference to an instance of the CIM_RedirectionService class. See 7.2.2. Cardinality is "*".
AffectedElement	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See 7.2.2. Cardinality is "1".

1228 **10.14 CIM\_ServiceAffectsElement Relating CIM\_RedirectionService to**  
 1229 **CIM\_MediaDevice**

1230 The CIM\_ServiceAffectsElement association is used to relate the instance of CIM\_RedirectionService to  
 1231 the local emulated Media Device that can be redirected. Table 34 contains the requirements for elements  
 1232 of this class.

1233 **Table 34 – Class: CIM\_ServiceAffectsElement Referencing CIM\_MediaAccessDevice**

Elements	Requirement	Notes
AffectingElement	Mandatory	This property shall be a reference to an instance of the CIM_RedirectionService class. See 7.6.1. Cardinality is "1".
AffectedElement	Mandatory	This property shall be a reference to an instance of CIM_MediaAccessDevice or a subclass of CIM_MediaAccessDevice class. See 7.6.1. Cardinality is "0..1".

1234 **10.15 CIM\_MediaAccessDevice**

1235 CIM\_MediaDevice or a subclass of CIM\_MediaAccessDevice represents the locally emulated Media  
 1236 device that can be redirected to a remote system. Table 35 contains the requirements for elements of this  
 1237 class.

1238 **Table 35 – Class: CIM\_MediaAccessDevice**

Elements	Requirement	Notes
CreationClassName	Mandatory	<b>Key</b>
DeviceID	Mandatory	<b>Key</b>

1239 **10.16 CIM\_MediaRedirectionCapabilities**

1240 CIM\_MediaRedirectionCapabilities represents the capabilities of Media Redirection Service. Table 36  
 1241 contains the requirements for elements of this class.

1242 **Table 36 – Class: CIM\_MediaRedirectionCapabilities**

Elements	Requirement	Notes
InstanceID	Mandatory	<b>Key</b>
RequestedStatesSupported	Mandatory	See 7.3.6, 7.9.1.1 and 7.9.2.1.
ElementNameEditSupported	Mandatory	See 7.2.6.
MaxElementNameLen	Conditional	See 7.2.6. This property is Conditional on ElementNameEditSupported.
DevicesSupported[]	Mandatory	See 7.3.1.
MaxDevicesSupported[]	Mandatory	See 7.3.2.
SAPCapabilitiesSupported[]	Mandatory	See 7.3.3.
InfoFormatsSupported	Conditional	See 7.3.6. This property is Conditional on the ConnectionModesSupported array property including the value 3 (Connect).
MaxDevicesPerSAP	Mandatory	See 7.3.4.
ConnectionModesSupported[]	Mandatory	See 7.3.5.

1243 **10.17 CIM\_MediaRedirectionSAP**

1244 The CIM\_MediaRedirectionSAP class represents a Media Redirection SAP. Table 37 contains the  
 1245 requirements for elements of this class.

1246 **Table 37 – Class: CIM\_MediaRedirectionSAP**

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	<b>Key</b>
SystemName	Mandatory	<b>Key</b>
Name	Mandatory	<b>Key</b>
CreationClassName	Mandatory	<b>Key</b>

Elements	Requirement	Notes
ElementName	Mandatory	See 7.4.5.
EnabledState	Mandatory	See 7.10.1.3.
RequestedState	Mandatory	See 7.10.1.2.
ConnectionMode	Mandatory	See 7.4.6.
CommandTimeout	Mandatory	See 7.4.7
ResetTimeout	Mandatory	See 7.4.8.
SessionTimeout	Mandatory	See 7.4.9.
RequestStateChange( )	Mandatory	<b>See 8.2.</b>

1247 **10.18 CIM\_RedirectionService**

1248 The CIM\_RedirectionService class represents the ability to manage the Media redirection capabilities of a  
 1249 computer system. Table 38 contains the requirements for elements of this class.

1250 **Table 38 – Class: CIM\_RedirectionService**

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	<b>Key</b>
SystemName	Mandatory	<b>Key</b>
CreationClassName	Mandatory	<b>Key</b>
Name	Mandatory	<b>Key</b>
ElementName	Mandatory	See 7.2.6.
MaxCurrentEnabledSAPs	Mandatory	See 7.2.5.
EnabledState	Mandatory	See 7.9.1.3.
RedirectionServiceType	Mandatory	The property shall match 5 (Media).
RequestedState	Mandatory	See 7.9.1.2.
RequestStateChange( )	Mandatory	<b>Conditional on RequestedStatesSupported. See 8.1.</b>

**ANNEX A  
(informative)****Change Log**

Version	Date	Description
1.0.0	2009-06-19	
1.0.1	2014-05-22	Fix wording erratum in clause 9.4 (1589)

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