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Text Console Redirection Profile

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146 # Foreword

147 The *Text Console Redirection Profile* (DSP1024) was prepared by the Server Management Working
148 Group of the DMTF.

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

151   Introduction

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

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

158 # Text Console Redirection Profile

159 # 1   Scope

160 The *Text Console Redirection Profile* extends the management capabilities of referencing profiles and
161 provides the capability to manage text console redirections provided by the system.

162 # 2   Normative References

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

166 ## 2.1   Approved References

167 DMTF DSP0200, *CIM Operations over HTTP 1.2.0*

168 DMTF DSP0004, *CIM Infrastructure Specification 2.3.0*

169 DMTF DSP1000, *Management Profile Specification Template*

170 DMTF DSP1001, *Management Profile Specification Usage Guide*

171 DMTF DSP1033, *Profile Registration Profile*

172 ## 2.2   Other References

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

175 *Common Information Model (CIM) Specification*, version 2.2, June 14, 1999,
176 http://www.dmtf.org/spec/cims.html

177 Unified Modeling Language (UML) from the Open Management Group (OMG), http://www.uml.org

178 IETF RFC2234, *Augmented BNF for Syntax Specifications: ABNF*, http://www.ietf.org/rfc/rfc2234.txt

179 # 3   Terms and Definitions

180 For the purposes of this document, the following terms and definitions apply. For the purposes of this
181 document, the terms and definitions given in DSP1033 and DSP1001 also apply.

182 **3.1**
183 **can**
184 used for statements of possibility and capability, whether material, physical, or causal

185 **3.2**
186 **cannot**
187 used for statements of possibility and capability, whether material, physical, or causal

3.3
conditional

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

3.4
mandatory

indicates requirements to be followed strictly to conform to the document and from which no deviation is permitted

3.5
may

indicates a course of action permissible within the limits of the document

3.6
need not

indicates a course of action permissible within the limits of the document

3.7
optional

indicates a course of action permissible within the limits of the document

3.8
referencing profile

indicates a profile that owns the definition of this class and can include a reference to this profile in its "Referenced Profiles" table

3.9
shall

indicates requirements to be followed strictly to conform to the document and from which no deviation is permitted

3.10
shall not

indicates requirements to be followed strictly to conform to the document and from which no deviation is permitted

3.11
should

indicates that among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required

3.12
should not

indicates that a certain possibility or course of action is deprecated but not prohibited

3.13
unspecified

indicates that this profile does not define any constraints for the referenced CIM element or operation

227 **3.14**
228 **Original Destination**
229 the destination of a Text Console Flow before being redirected, modeled as an instance of
230 CIM_LogicalDevice, such as a serial port

231 **3.15**
232 **Session**
233 a Text Console Redirection Session

234 **3.16**
235 **Service**
236 a Text Console Redirection Service

237 **3.17**
238 **Singular Text Console Redirection**
239 a Text Console Redirection in which the MaxCurrentEnabledSAPs property of the
240 CIM_TextRedirectionService instance has a value of 1

241 **3.18**
242 **Text Console Flow**
243 the bidirectional text console stream that originally flows to the Original Destination, and may be
244 redirected to a new Text Console Flow destination, which is modeled as an instance of
245 CIM_ProtocolEndpoint

246 **3.19**
247 **Text Console Redirection**
248 refers to a text console redirection service session; this is composed of an instance of
249 CIM_TextRedirectionService, an instance of CIM_TextRedirectionSAP, and the instance of the
250 CIM_ServiceAccessBySAP between the two

251 **3.20**
252 **Text Console Redirection Session**
253 the instance of CIM_TextRedirectionSAP that is part of a Text Console Redirection Session

254 **3.21**
255 **Text Console Redirection Service**
256 the instance of CIM_TextRedirectionService that is part of a Text Console Redirection Session

257 # 4   Symbols and Abbreviated Terms

258 The following abbreviation is used in this document.

259 **4.1**
260 **SAP**
261 Service Access Point

262 **4.2**
263 **SOL**
264 Serial-over-LAN

5   Synopsis

Profile Name: Text Console Redirection

Version: 1.0.1

Organization: DMTF

CIM Schema version: 2.17.0

Central Class: CIM_TextRedirectionService

Scoping Class: CIM_ComputerSystem

The *Text Console Redirection Profile* extends the management capability of the referencing profiles by adding the capability to describe information about text console redirections.

CIM_TextRedirectionService shall be the Central Class of this   profile. The instance of CIM_TextRedirectionService shall be the Central Instance of this profile.

CIM_ComputerSystem shall be the Scoping Class of this profile. The instance of CIM_ComputerSystem with which the Central Instance is associated through an instance of CIM_HostedService shall be the Scoping Instance of this profile.

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

Table 1 – Related Profiles

Profile Name	Organization	Version	Requirement	Description
Profile Registration	DMTF	1.0	Mandatory	

6   Description

The *Text Console Redirection Profile* describes the necessary elements needed to provide the capability to manage the redirection of a Text Console Flow. The profile could manage the following text redirection capabilities of typical computer systems:

- Systems can have multiple sources of bidirectional Text Console Flows that can be redirected.

- Before being redirected, the Text Console Flow has an Original Destination, which is typically a local serial port to which a terminal is connected in order to access the Text Console Flow.

- A Text Console Flow can be redirected to one or more destinations. A destination can be another serial port or a network port. The network port facilitates remote access to the text console and is known as serial-over-LAN (SOL).

- The redirection of a Text Console Flow can be accomplished while still delivering the Text Console Flow to its Original Destination.

- A redirected Text Console Flow can be terminated by embedding a special character sequence into the Text Console Flow.

A Text Console Redirection comprises a Text Console Redirection Service, a Text Console Redirection Session, and the relationship between them.

- The Text Console Redirection Service, also referred to as *Service* in this profile, is represented by an instance of CIM_TextRedirectionService.

- The Text Console Redirection Session, also referred to as *Session* in this profile, is represented by an instance of CIM_TextRedirectionSAP.

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301 • The relationship between the Service and Session is represented by an instance of
302 CIM_ServiceAccessBySAP.

303 A Text Console Redirection can be in an active, inactive, or available state. When the Text Console
304 Redirection is active, the Text Console Flow is being actively redirected to a remote console.

305 The state management of a Text Console Redirection can be performed using two mechanisms. The first
306 mechanism is through state management of the Session only. The second mechanism is through state
307 management of both the Service and the Session.

308 When state management of the Service is possible, the Service can be in an enabled or disabled state.
309 When state management of the Session is possible, the Session can be in an enabled, disabled, or
310 enabled-but-offline state.

311 An instance of CIM_TextRedirectionService can be associated with an instance of a concrete subclass of
312 CIM_LogicalDevice that represents the Original Destination of the redirected Text Console Flow.
313 Examples of Original Destinations are serial ports or pseudo-ttys.

314 An instance of CIM_TextRedirectionSAP can be associated with an instance of CIM_ProtocolEndpoint
315 that represents the endpoint where the redirected Text Console Flow can be accessed.

316 Figure 1 presents the class diagram for the *Text Console Redirection Profile*. For simplicity, the prefix
317 *CIM_* has been removed from the names of the classes.

318
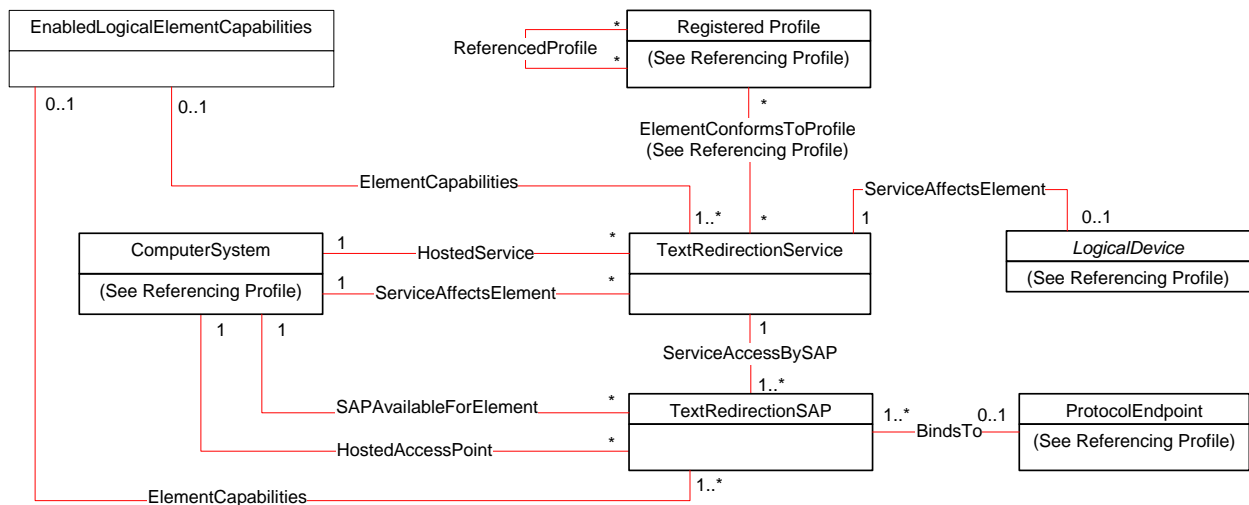
319 **Figure 1 – Text Console Redirection Profile: Class Diagram**

320 # 7 Implementation

321 This section details the requirements related to the arrangement of instances and their properties for
322 implementations of this profile. Section 8 describes the class methods required by the profile.

323 ## 7.1 Representing a Text Console Redirection

324 A Text Console Redirection comprises an instance of CIM_TextRedirectionService, an instance of
325 CIM_TextRedirectionSAP, and an instance of the CIM_ServiceAccessBySAP association.

326 An instance of CIM_ServiceAccessBySAP shall be used to associate the instance of
327 CIM_TextRedirectionService with the instance of CIM_TextRedirectionSAP.

328   The CIM_ServiceAccessBySAP association's Antecedent property shall reference the
329   CIM_TextRedirectionService instance, and its Dependent property shall reference the
330   CIM_TextRedirectionSAP instance.

7.2   Representing the Text Console Redirection Service

332   An instance of CIM_TextRedirectionService shall be used to represent the Text Console Redirection
333   Service, or Service.

334   An instance of the CIM_HostedService association shall associate each instance of
335   CIM_TextRedirectionService with a hosting CIM_ComputerSystem instance.

336   The CIM_HostedService association's Antecedent property shall reference the CIM_ComputerSystem
337   instance, and its Dependent property shall reference the CIM_TextRedirectionService instance.

7.2.1   Representing the Original Destination

339   The instance of CIM_TextRedirectionService may be associated through an instance of
340   CIM_ServiceAffectsElement to at most one instance of a concrete subclass of CIM_LogicalDevice that
341   represents the Original Destination.

342   The CIM_ServiceAffectsElement association's Antecedent property shall reference the instance of a
343   concrete subclass of CIM_LogicalDevice, and its Dependent property shall reference the instance of
344   CIM_TextRedirectionService.

7.2.2   Representing the System in Which the Original Destination Resides

346   The instance of CIM_TextRedirectionService shall be associated through an instance of
347   CIM_ServiceAffectsElement with an instance of CIM_ComputerSystem that represents the system in
348   which the Original Destination resides.

349   The CIM_ServiceAffectsElement association's Antecedent property shall reference the
350   CIM_ComputerSystem instance, and its Dependent property shall reference the
351   CIM_TextRedirectionService instance.

7.2.3   Text Console Sharing Mode

353   When a Text Console Flow is redirected, the redirection may be exclusive or shared. Shared redirection
354   means the Original Destination of the text console is still receiving the Text Console Flow. Exclusive
355   redirection means that the Original Destination is no longer receiving the Text Console Flow.

356   The CIM_TextRedirectionService.SharingMode property shall designate whether a text console
357   redirection is exclusive or shared. A value of 2 (Exclusive) for the SharingMode property shall indicate
358   exclusive redirection. A value of 3 (Shared) for the SharingMode property shall indicate shared
359   redirection.

7.2.4   Maximum Number of Concurrent Redirections

361   A Text Console Flow may be redirected to multiple access points; however, the number of concurrent
362   redirections may be limited. The limitation could be the result of hardware or software resource limitations.

363   The CIM_TextRedirectionService.MaxCurrentEnabledSAPs property shall contain the maximum number
364   of instances of CIM_TextRedirectionSAP whose EnabledState property is set to 2 (Enabled), which may
365   be associated with the instance of CIM_TextRedirectionService. The Original Destination shall not be
366   counted as one of the redirected text consoles.

367   A Singular Text Console Redirection is a redirection whose instance of CIM_TextRedirectionService has
368   a MaxCurrentEnabledSAPs property with a value of 1.

369 **7.2.5 CIM_TextRedirectionService.ElementName**

370 The ElementName property shall be formatted as a free-form string of variable length (pattern ".*").

371 The ElementName property may support being modified by the ModifyInstance operation. See section
372 8.12.1.1. This behavior is conditional. The following sections describe the CIM elements and behavior
373 required to determine whether an implementation supports client modification of the ElementName
374 property.

375 **7.2.5.1 Modifying ElementName Is Supported—Conditional**

376 This section describes the CIM elements and behavior requirements when an implementation supports
377 client modification of the CIM_TextRedirectionService.ElementName property.

378 An instance of CIM_EnabledLogicalElementCapabilities shall be associated with the
379 CIM_TextRedirectionService instance through an instance of CIM_ElementCapabilities.

380 The CIM_EnabledLogicalElementCapabilities.ElementNameEditSupported property shall have a value of
381 TRUE.

382 The CIM_EnabledLogicalElementCapabilities.MaxElementNameLen property shall be implemented.

383 **7.2.5.2 Modifying ElementName Is Not Supported**

384 This section describes the CIM elements and behaviors that shall be implemented when the
385 CIM_TextRedirectionService.ElementName does not support being modified by the ModifyInstance
386 operation.

387 An instance of CIM_EnabledLogicalElementCapabilities may be associated with the
388 CIM_TextRedirectionService instance through an instance of CIM_ElementCapabilities.

389 When an instance of CIM_EnabledLogicalElementCapabilities exists, its ElementNameEditSupported
390 property shall have a value of FALSE.

391 When an instance of CIM_EnabledLogicalElementCapabilities exists, its MaxElementNameLen property
392 may be implemented. The MaxElementNameLen property is irrelevant in this context.

393 **7.2.6 CIM_RedirectionService.RedirectionServiceType**

394 The CIM.TextRedirectionService.RedirectionServiceType property shall be set to 2 (Text).

395 **7.3 Representing the Text Console Redirection Session**

396 An instance of CIM_TextRedirectionSAP shall be used to represent the Text Console Redirection
397 Session, or Session.

398 The Session is associated with computer systems through two associations. One is the computer system
399 whose Text Console Flow is being redirected. The other is the computer system that contains the
400 endpoint where the redirected Text Console Flow can be accessed.

401 The instance of CIM_TextRedirectionSAP shall be associated through an instance of
402 CIM_SAPAvailableForElement with an instance of CIM_ComputerSystem that represents the computer
403 system whose Text Console Flow is being redirected.

404 The CIM_SAPAvailableForElement association's ManagedElement property shall reference the
405 CIM_ComputerSystem instance, and its AvailableSAP property shall reference the
406 CIM_TextRedirectionSAP instance.

407 The instance of CIM_TextRedirectionSAP shall be associated through an instance of
408 CIM_HostedAccessPoint with an instance of CIM_ComputerSystem that represents the computer system
409 that contains the endpoint where the redirect Text Console Flow can be accessed.

410 The CIM_HostedAccessPoint association's Antecedent property shall reference the
411 CIM_ComputerSystem instance, and its Dependent property shall reference the
412 CIM_TextRedirectionSAP instance.

7.3.1   Representing the Destination of the Redirected Text Console Flow

414 The instance of CIM_TextRedirectionSAP may be associated through an instance of CIM_BindsTo to one
415 instance of CIM_ProtocolEndpoint that represents the endpoint where the redirected Text Console Flow
416 is accessed.

417 The CIM_BindsTo association's Antecedent property shall reference the CIM_ProtocolEndpoint instance,
418 and its Dependent property shall reference the CIM_TextRedirectionSAP instance.

7.3.2   Text Console Flow Format

420 The redirected Text Console Flow can be formatted. Examples of the Text Console Flow formats are raw
421 character stream and terminal mode. In raw-character-stream format, the characters have no special
422 meaning. In terminal-mode format, the characters have special meaning (for example, backspace).

423 The format of the redirection Text Console Flow shall be designated by the
424 CIM_TextRedirectionSAP.TextFlowType property.

425 When the redirected Text Console Flow format is a raw character stream, the
426 CIM_TextRedirectionSAP.TextFlowType property shall be set to a value of 2 (Character Stream).

427 When the redirected Text Console Flow format is in terminal mode, the
428 CIM_TextRedirectionSAP.TextFlowType property shall be set to a value of 3 (Terminal Mode).

429 When the redirected Text Console Flow format is other than a raw character stream or a terminal mode,
430 the CIM_TextRedirectionSAP.TextFlowType property shall be set to a value of 1 (Other) and the value of
431 CIM_TextRedirectionSAP.OtherTextFlowType shall contain a string that describes the format.

7.3.3   Terminate a Redirected Text Console

433 A redirected text console session may be terminated through state management of the Text Console
434 Redirection Session (see section 7.4).

435 A redirected text console session can also be terminated from within the Text Console Flow by issuing a
436 specific sequence of characters.

437 When a redirected text console supports being terminated by a specific sequence of characters within the
438 redirected Text Console Flow, the CIM_TextRedirectionSAP.SessionTerminateSequence shall contain
439 the string that terminates the redirected Text Console Flow.

7.3.4   CIM_TextRedirectionSAP.ElementName

441 The ElementName property shall be formatted as a free-form string of variable length (pattern ".*").

442 The ElementName property may support being modified by the ModifyInstance operation. See section
443 8.13.1.1. This behavior is conditional. The following sections describe the CIM elements and behavior
444 required to determine whether an implementation supports client modification of the ElementName
445 property.

446 **7.3.4.1   Modifying ElementName Is Supported—Conditional**

447 This section describes the CIM elements and behavior requirements when an implementation supports
448 client modification of the CIM_TextRedirectionSAP.ElementName property.

449 An instance of CIM_EnabledLogicalElementCapabilities shall be associated with the
450 CIM_TextRedirectionSAP instance through an instance of CIM_ElementCapabilities.

451 The CIM_EnabledLogicalElementCapabilities.ElementNameEditSupported property shall have a value of
452 TRUE.

453 The CIM_EnabledLogicalElementCapabilities.MaxElementNameLen property shall be implemented.

454 **7.3.4.2   Modifying ElementName Is Not Supported**

455 This section describes the CIM elements and behaviors that shall be implemented when the
456 CIM_TextRedirectionSAP.ElementName does not support being modified by the ModifyInstance
457 operation.

458 An instance of CIM_EnabledLogicalElementCapabilities may be associated with the
459 CIM_TextRedirectionSAP instance through an instance of CIM_ElementCapabilities.

460 When an instance of CIM_EnabledLogicalElementCapabilities exists, its ElementNameEditSupported
461 property shall have a value of FALSE.

462 When an instance of CIM_EnabledLogicalElementCapabilities exists, its MaxElementNameLen property
463 may be implemented. The MaxElementNameLen property is irrelevant in this context.

7.4   State Management of a Text Console Redirection

465 A Text Console Redirection shall have the state *inactive*, *available*, or *active*.

466 • The Text Console Redirection is *inactive* when the Text Console Flow is not being redirected to the
467   Session.

468 • The Text Console Redirection is *available* when the Text Console Flow is being redirected to the
469   Session, but the session is not actively being used.

470 • The Text Console Redirection is *active* when the Text Console Flow is being actively redirected to
471   the Session and the session is actively being used.

472 The state of a Text Console Redirection shall be determined by the state of the instance of
473 CIM_TextRedirectionService and the state of the instance of CIM_TextRedirectionSAP (Session) that are
474 associated though an instance of CIM_ServiceAccessBySAP.

475 The Text Console Redirection shall be in an active state when the state of CIM_TextRedirectionService is
476 2 (Enabled) and the state of the CIM_TextRedirectionSAP is 2 (Enabled).

477 The Text Console Redirection shall be in an available state when the state of
478 CIM_TextRedirectionService is 2 (Enabled) and the state of the CIM_TextRedirectionSAP is 6 (Enabled
479 but Offline).

480 Otherwise, the Text Console Redirection shall be inactive.

481 The state management of the Text Console Redirection may be performed using state management of
482 the Session only, or state management of both the Service and the Session.

483 The state management of the Service is discussed in section 7.5. The state management of the Session
484 is discussed in section 7.6.

7.5 State Management of a Text Console Redirection Service (Optional)

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

7.5.1 Text Console Redirection Service State Management Is Supported—Conditional

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

7.5.1.1 CIM_EnabledLogicalElementCapabilities

When state management of the Service is supported, exactly one instance of CIM_EnabledLogicalElementCapabilities shall be associated with the instance of CIM_TextRedirectionService through an instance of CIM_ElementCapabilities.

The CIM_ElementCapabilities association's ManagedElement property shall reference the CIM_TextRedirectionService instance, and its Capabilities property shall reference the CIM_EnabledLogicalElementCapabilities instance.

7.5.1.1.1 CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported

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

7.5.1.2 CIM_TextRedirectionService.RequestedState

When the CIM_TextRedirectionService.RequestStateChange( ) method is successfully invoked, the value of the RequestedState property shall be the value of the RequestedState parameter. If the method is not successfully invoked, the value of the RequestedState property is indeterminate.

The CIM_TextRedirectionService.RequestedState property shall have one of the values specified in the CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property or a value of 0 (Unknown).

7.5.1.3 CIM_TextRedirectionService.EnabledState

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

When the RequestedState parameter has a value of 2 (Enabled) or 3 (Disabled) and the CIM_TextRedirectionService.RequestStateChange( ) method completes successfully, the value of the EnabledState property shall equal the value of the CIM_TextRedirectionService.RequestedState property.

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

7.5.2 Text Console Redirection Service State Management Is Not Supported

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

7.5.2.1 CIM_EnabledLogicalElementCapabilities

When state management is not supported, an instance of CIM_EnabledLogicalElementCapabilities may be associated with the CIM_TextRedirectionService instance through an instance of CIM_ElementCapabilities.

522 The CIM_ElementCapabilities association's ManagedElement property shall reference the
523 CIM_TextRedirectionService instance, and its Dependent property shall reference the
524 CIM_EnabledLogicalElementCapabilities instance.

7.5.2.1.1   CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported

525

526 The CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property shall not contain any
527 values.

7.5.2.2   CIM_TextRedirectionService.RequestedState

528

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

7.5.2.3   CIM_TextRedirectionService.EnabledState

530

531 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), or 0
532 (Unknown). The value 0 (Unknown) may be set when non-CIM instrumentation has manipulated the
533 instance of CIM_TextRedirectionService.

7.6   State Management of a Text Console Redirection Session (Optional)

534

535 Support for managing the state of a Text Console Redirection Session is optional behavior. The following
536 sections describe the CIM elements and behaviors that allow the client to determine whether state
537 management of the Session is supported.

7.6.1   Session State Management Is Supported—Conditional

538

539 This section describes the CIM elements and behaviors that shall be implemented when state
540 management of the Session is supported.

7.6.1.1   CIM_EnabledLogicalElementCapabilities

541

542 When state management of the Session is supported, exactly one instance of
543 CIM_EnabledLogicalElementCapabilities shall be associated with each instance of
544 CIM_TextRedirectionSAP through an instance of CIM_ElementCapabilities.

545 The CIM_ElementCapabilities association's ManagedElement property shall reference the
546 CIM_TextRedirectionSAP instance, and its Dependent property shall reference the
547 CIM_EnabledLogicalElementCapabilities instance.

7.6.1.1.1   CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported

548

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

7.6.1.2   CIM_TextRedirectionSAP.RequestedState

551

552 When the CIM_TextRedirectionSAP.RequestStateChange( ) method is successfully invoked, the value of
553 the RequestedState property shall be the value of the RequestedState parameter. If the method is not
554 successfully invoked, the value of the RequestedState property is indeterminate.

555 The CIM_TextRedirectionSAP.RequestedState property shall have one of the values specified in the
556 CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property or a value of 0 (Unknown).

7.6.1.3   CIM_TextRedirectionSAP.EnabledState

557

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

560 When the RequestedState parameter has a value of 2 (Enabled), 3 (Disabled), or 6 (Offline) and the
561 CIM_TextRedirectionSAP.RequestStateChange( ) method completes successfully, the value of the
562 EnabledState property shall equal the value of the CIM_TextRedirectionSAP.RequestedState property.

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

7.6.2   Text Console Redirection Session State Management Is Not Supported

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

7.6.2.1   CIM_EnabledLogicalElementCapabilities

568 When state management is not supported, an instance of CIM_EnabledLogicalElementCapabilities may
569 be associated with the CIM_TextRedirectionSAP instance through an instance of
570 CIM_ElementCapabilities. The existence of the CIM_ElementCapabilities instance is conditional on the
571 existence of the CIM_EnabledLogicalElementCapabilities instance.

572 The CIM_ElementCapabilities association's ManagedElement property shall reference the
573 CIM_TextRedirectionSAP instance, and its Dependent property shall reference the
574 CIM_EnabledLogicalElementCapabilities instance.

7.6.2.1.1   CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported

576 The CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property shall not contain any
577 values.

7.6.2.2   CIM_TextRedirectionSAP.RequestedState

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

7.6.2.3   CIM_TextRedirectionSAP.EnabledState

581 The EnabledState property shall have one of the following values: 2 (Enabled), 3 (Disabled), 5 (Not
582 Applicable), or 6 (Enabled but Offline). The value 5 (Not Applicable) may be set when non-CIM
583 instrumentation has manipulated the instance of CIM_TextRedirectionSAP.

8   Methods

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

8.1   CIM_TextRedirectionService.RequestStateChange( )

588 Invocation of the RequestStateChange( ) method changes the element's state to the value specified in the
589 RequestedState parameter. The 2 (Enabled) and 3 (Disabled) values of the RequestedState parameter
590 shall correspond to the enabled and disabled states of the Text Console Redirection Service,
591 respectively.

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

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

594 No standard messages are defined.

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

597 **Table 2 – CIM_TextRedirectionService.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.

598 **Table 3 – CIM_TextRedirectionService.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

8.1.1 CIM_TextRedirectionService.RequestStateChange( )—Conditional Support

600 When an instance of CIM_EnabledLogicalElementCapabilities is associated with the
601 CIM_TextRedirectionService instance and the
602 CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property contains at least one
603 value, the CIM_TextRedirectionService.RequestStateChange( ) method shall be implemented and
604 supported. The CIM_TextRedirectionService.RequestStateChange( ) method shall not return a value of 1
605 (Not Supported).

8.2 CIM_TextRedirectionSAP.RequestStateChange( )

607 Invocation of the RequestStateChange( ) method changes the element's state to the value specified in the
608 RequestedState parameter. The 2 (Enabled), 3 (Disabled), and 6 (Enabled but Offline) values of the
609 RequestedState parameter shall correspond to enabled, disabled, and enabled-but-offline states for the
610 Session, respectively.

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

612 No standard messages are defined.

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

615 **Table 4 – CIM_TextRedirectionSAP.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.

616 **Table 5 – CIM_TextRedirectionSAP.RequestStateChange( ) Method: Parameters**

Qualifiers	Name	Type	Description/Values
IN	RequestedState	uint16	Valid state values: 2 (Enabled) 3 (Disabled) 6 (Offline)
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

617 ### 8.2.1   CIM_TextRedirectionSAP.RequestStateChange( )—Conditional Support

618 When an instance of CIM_EnabledLogicalElementCapabilities is associated with the
619 CIM_TextRedirectionSAP instance and the
620 CIM_EnabledLogicalElementCapabilities.RequestedStatesSupported property contains at least one
621 value, the CIM_TextRedirectionSAP.RequestStateChange( ) method shall be implemented and
622 supported. The CIM_TextRedirectionSAP.RequestStateChange( ) method shall not return a value of
623 1 (Not Supported).

624 ### 8.2.2   Enabling a Singular Text Console Redirection

625 When the instance of CIM_TextRedirectionSAP is associated with an instance of
626 CIM_TextRedirectionService whose MaxCurrentEnabledSAPs property has a value of 1, the method shall
627 exhibit the following additional behavior.

628 When the CIM_TextRedirectionSAP.RequestedState parameter has a value of 2 (Enabled) and the
629 CIM_TextRedirectionSAP.RequestStateChange( ) method completes successfully, the value of the
630 EnabledState property of all other instances of CIM_TextRedirectionSAP associated with the instance of
631 CIM_TextRedirectionService shall be set to 6 (Enabled but Offline).

632 ## 8.3   Profile Conventions for Operations

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

638 The default list of operations is as follows:

639 • GetInstance

640 • Associators

641 • AssociatorNames

642 • References

643 • ReferenceNames

644 • EnumerateInstances

645 • EnumerateInstanceNames

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

648 **8.4   CIM_BindsTo**

649 Table 6 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or
650 shall not be supported.

651 **Table 6 – Operations: CIM_BindsTo**

Operation	Requirement	Messages
GetInstance	Mandatory	None

652 **8.5   CIM_DeviceSAPImplementation**

653 Table 7 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or
654 shall not be supported.

655 **Table 7 – Operations: CIM_DeviceSAPImplementation**

Operation	Requirement	Messages
GetInstance	Mandatory	None

656 **8.6   CIM_ElementCapabilities**

657 Table 8 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or
658 shall not be supported.

659 **Table 8 – Operations: CIM_ElementCapabilities**

Operation	Requirement	Messages
GetInstance	Mandatory	None

660 **8.7   CIM_EnabledLogicalElementCapabilities**

661 Table 9 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or
662 shall not be supported.

663 **Table 9 – Operations: CIM_EnabledLogicalElementCapabilities**

Operation	Requirement	Messages
GetInstance	Mandatory	None
Associators	Mandatory	None
AssociatorNames	Mandatory	None
References	Mandatory	None
ReferenceNames	Mandatory	None
EnumerateInstances	Mandatory	None
EnumerateInstanceNames	Mandatory	None

8.8 CIM_HostedService

Table 10 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or shall not be supported.

Table 10 – Operations: CIM_HostedService

Operation	Requirement	Messages
GetInstance	Mandatory	None

8.9 CIM_HostedAccessPoint

Table 11 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or shall not be supported.

Table 11 – Operations: CIM_HostedAccessPoint

Operation	Requirement	Messages
GetInstance	Mandatory	None

8.10 CIM_ServiceAffectsElement

Table 12 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or shall not be supported.

Table 12 – Operations: CIM_ServiceAffectsElement

Operation	Requirement	Messages
GetInstance	Mandatory	None

8.11 CIM_ServiceAccessBySAP

Table 13 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or shall not be supported.

Table 13 – Operations: CIM_ServiceAccessBySAP

Operation	Requirement	Messages
GetInstance	Mandatory	None

680 **8.12 CIM_TextRedirectionService**

681 Table 14 lists operations that either have special requirements beyond those from <u>DSP0200 version 1.2</u>
682 or shall not be supported.

683 **Table 14 – Operations: CIM_TextRedirectionService**

Operation	Requirement	Messages
GetInstance	Mandatory	None
ModifyInstance	Optional	See section 8.12.1.
Associators	Mandatory	None
AssociatorNames	Mandatory	None
References	Mandatory	None
ReferenceNames	Mandatory	None
EnumerateInstances	Mandatory	None
EnumerateInstanceNames	Mandatory	None

684 **8.12.1 CIM_TextRedirectionService—ModifyInstance**

685 This section details the specific requirements for the ModifyInstance operation applied to an instance of
686 CIM_TextRedirectionService.

687 **8.12.1.1 CIM_TextRedirectionService.ElementName Property**

688 When an instance of CIM_EnabledLogicalElementCapabilities is associated with the
689 CIM_TextRedirectionService instance and the
690 CIM_EnabledLogicalElementCapabilities.ElementNameEditSupported property has a value of TRUE, the
691 implementation shall allow the ModifyInstance operation to change the value of the ElementName
692 property of the CIM_TextRedirectionService instance. The ModifyInstance operation shall enforce the
693 length restriction specified in the MaxElementNameLen property of the
694 CIM_EnabledLogicalElementCapabilities instance.

695 When no instance of CIM_EnabledLogicalElementCapabilities is associated with the
696 CIM_TextRedirectionService instance, or the ElementNameEditSupported property of the
697 CIM_EnabledLogicalElementCapabilities instance has a value of FALSE, the implementation shall not
698 allow the ModifyInstance operation to change the value of the ElementName property of the
699 CIM_TextRedirectionService instance.

8.13 CIM_TextRedirectionSAP

Table 15 lists operations that either have special requirements beyond those from DSP0200 version 1.2 or shall not be supported.

Table 15 – Operations: CIM_TextRedirectionSAP

Operation	Requirement	Messages
GetInstance	Mandatory	None
ModifyInstance	Optional	See section 8.13.1.
Associators	Mandatory	None
AssociatorNames	Mandatory	None
References	Mandatory	None
ReferenceNames	Mandatory	None
EnumerateInstances	Mandatory	None
EnumerateInstanceNames	Mandatory	None

8.13.1 CIM_TextRedirectionSAP—ModifyInstance

This section details the specific requirements for the ModifyInstance operation applied to an instance of CIM_TextRedirectionSAP.

8.13.1.1 CIM_TextRedirectionSAP.ElementName Property

When an instance of CIM_EnabledLogicalElementCapabilities is associated with the CIM_TextRedirectionSAP instance and the CIM_EnabledLogicalElementCapabilities.ElementNameEditSupported property has a value of TRUE, the implementation shall allow the ModifyInstance operation to change the value of the ElementName property of the CIM_TextRedirectionSAP instance. The ModifyInstance operation shall enforce the length restriction specified in the MaxElementNameLen property of the CIM_EnabledLogicalElementCapabilities instance.

When no instance of CIM_EnabledLogicalElementCapabilities is associated with the CIM_TextRedirectionSAP instance, or the ElementNameEditSupported property of the CIM_EnabledLogicalElementCapabilities instance has a value of FALSE, the implementation shall not allow the ModifyInstance operation to change the value of the ElementName property of the CIM_TextRedirectionSAP instance.

9 Use Cases

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

9.1 Advertising the Profile Conformance

Figure 2 shows how instances of CIM_RegisteredProfile are used to identify the version of the *Text Console Redirection Profile* with which an instance of CIM_TextRedirectionService and its associated instances conform.

An instance of CIM_RegisteredProfile exists for each profile that is instrumented in the system. One instance of CIM_RegisteredProfile identifies the DMTF *Base Server Profile*, version 1.0.0. The other instance identifies the *Text Console Redirection Profile*, version 1.0.0. The Central Instance is the CIM_TextRedirectionService. The Scoping Instance is the CIM_ComputerSystem instance.

731 This instance of CIM_ComputerSystem conforms with the *Base Server Profile* version 1.0.0 as indicated
732 by the CIM_ElementConformsToProfile association with the CIM_RegisteredProfile instance.

733 This instance of CIM_TextRedirectionService conforms with the *Text Console Redirection Profile* version
734 1.0.0 as indicated by the CIM_ElementConformsToProfile association with the CIM_RegisteredProfile
735 instance.
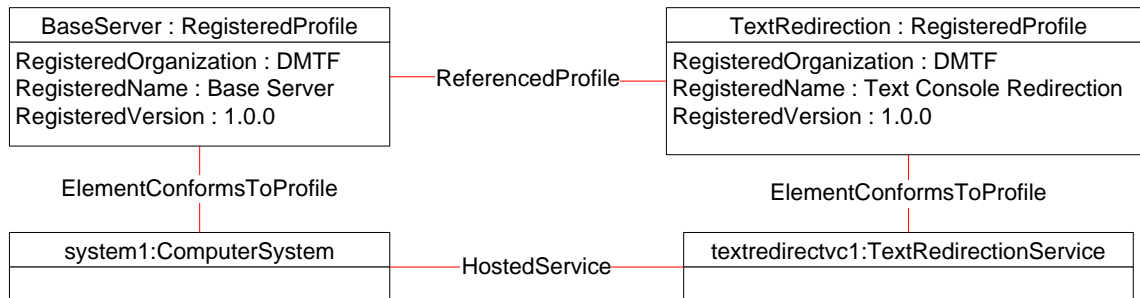
736

737 **Figure 2 – Registered Profile**

9.2   Object Diagrams for a Monolithic Server

739 Figure 3 shows a monolithic server, system1, which has a text console redirection service that can
740 redirect the text console from the serial port to the network port. Both the serial port and the network port
741 are part of system1 and are modeled by the instances of CIM_SystemDevice.

742 The text console session is represented with a source (textredirectsvc1), a destination (textredirectsap1),
743 and the instance of the CIM_ServiceAccessBySAP association between them. The Text Console
744 Redirection Service (textredirectsvc1) is hosted on system1 as represented by the CIM_HostedService
745 association between system1 and textredirectsvc1. The service (textredirectsvc1) affects system1 as
746 represented by the CIM_ServiceAffectsElement association between system1 and textredirectsvc1. This
747 association signifies that system1 is the source of the text console that can be redirected.
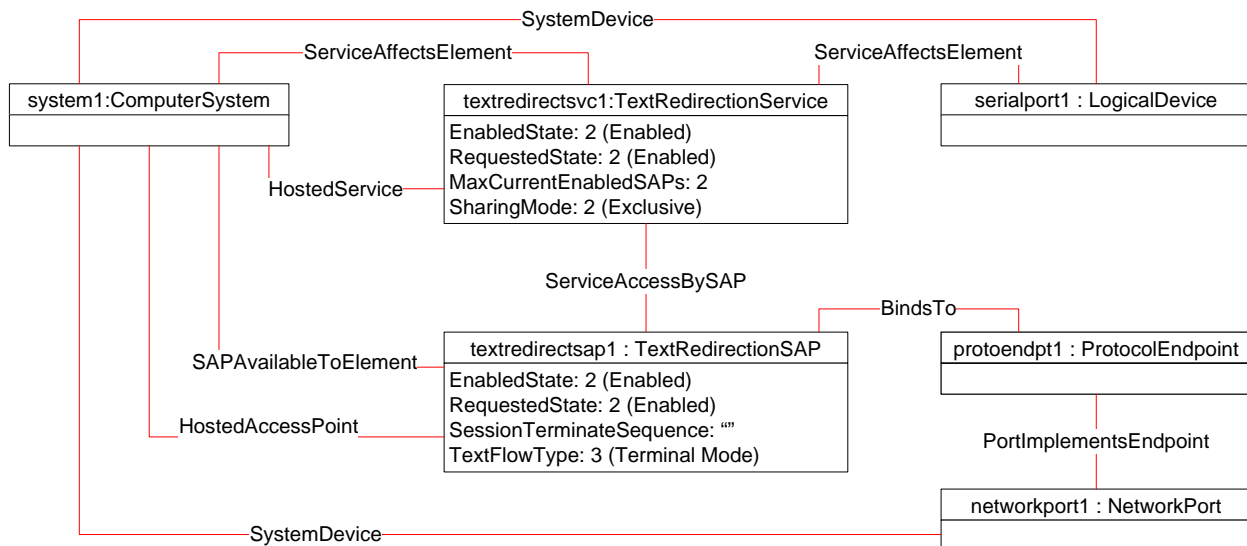
748

749 **Figure 3 – Monolithic System**

750 The service also affects serialport1 as represented by the CIM_ServiceAffectsElement association
751 between serialport1 and textredirectsvc1. serialport1 is an instance of CIM_LogicalDevice. This
752 association signifies that serialport1 is the Original Destination of a text console that can be redirected.

753 The Text Console Redirection Session (textredirectsap1) is hosted on system1 as represented by the
754 CIM_HostedAccessPoint association between system1 and textredirectsap1. The Session
755 (textredirectsap1) provides a SAP for system1 as represented by the CIM_SAPAvailableForElement
756 association between system1 and textredirectsap1.

757 From textredirectsap1, the CIM_BindsTo association can be traversed to the CIM_ProtocolEndpoint
758 (protoendpt1). Note that the CIM_ProtocolEndpoint can represent any protocol endpoint, such as SSH,
759 Telnet or TCP. From protoendpt1, the CIM_PortImplementsEndpoint association can be traversed to the
760 network port (networkport1), a device on system1.

761 The Text Console Redirection specified by textredirectsvc1 and textredirectsap1 is active because the
762 state of the textredirectsvc1 is 2 (Enabled) and the state of the textredirectsap1 is 2 (Enabled).

763 Figure 4 shows a monolithic server, system1, which has a text console redirection service that can
764 redirect the text console from the serial port (serialport1) to another serial port (serialport2) on the system.
765 Both the serial ports are part of system1 and are modeled by the instances of CIM_SystemDevice.

766
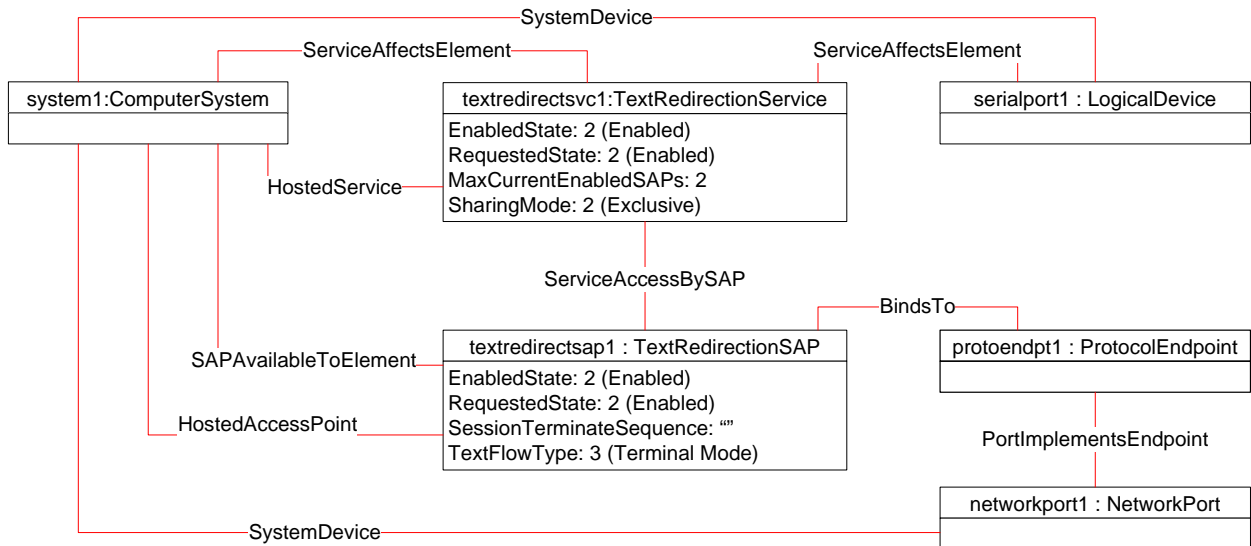
Figure 4 – Monolithic System—Serial to Serial

9.3   Object Diagram for Monolithic Server with Service Processor

769 Figure 5 shows a monolithic server with a service processor.

770 The diagram is similar to Figure 3, but Figure 5 contains an instance of CIM_ComputerSystem, sp1, that
771 represents the service processor, which has a network port.

772 The Text Console Redirection Service (textredirectsvc1) is hosted on sp1 as represented by the
773 CIM_HostedService association between sp1 and textredirectsvc1.

774 The service affects system1 as represented by the CIM_ServiceAffectsElement association between
775 system1 and textredirectsvc1. This association signifies that system1 is the source of the text console that
776 can be redirected.

777   The service also affects serialport1 as represented by the CIM_ServiceAffectsElement association
778   between serialport1 and textredirectsvc1. This association signifies that serialport1 is the Original
779   Destination of a text console that can be redirected.

780   The Text Console Redirection Session (textredirectsap1) is hosted on sp1 as represented by the
781   CIM_HostedAccessPoint association between sp1 and textredirectsap1. The Session (textredirectsap1)
782   provides a SAP for system1 as represented by the CIM_SAPAvailableForElement association between
783   system1 and textredirectsap1.

784   From textredirectsap1, the CIM_BindsTo association can be traversed to the CIM_ProtocolEndpoint
785   (protoendpt1). From protoendpt1, the CIM_PortImplementsEndpoint association can be traversed to the
786   network port (networkport1), a device on sp1.

787   The Text Console Redirection specified by textredirectsvc1 and textredirectsap1 is active because the
788   state of the textredirectsvc1 is 2 (Enabled) and the state of the textredirectsap1 is 2 (Enabled).
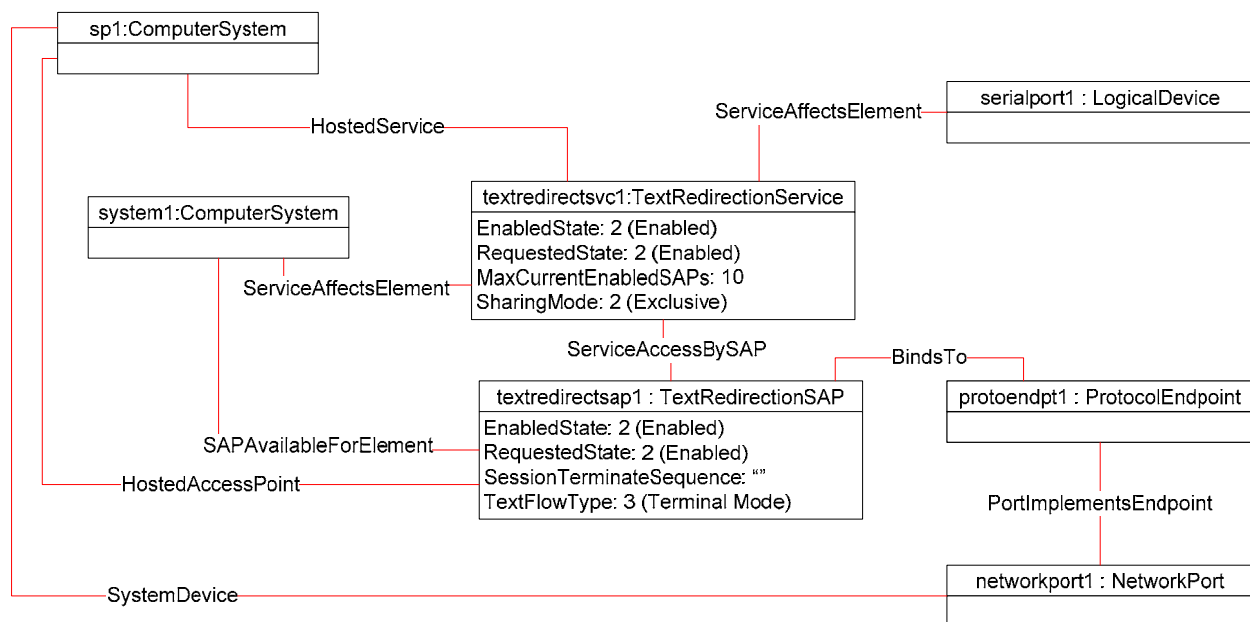
789

790   **Figure 5 – Monolithic System with Service Processor**

9.4   Object Diagram for a Modular System

792   The Figure 6 shows a modular system that can redirect the serial port on a blade to the network port of
793   the chassis management module (CMM) or the network port of the blade. The CMM is represented by an
794   instance of CIM_ComputerSystem, chassismgr1. The blade is represented by an instance of
795   CIM_ComputerSystem, blade1.

796   The Text Console Redirection Service (textredirectsvc1) is hosted on chassismgr1 as represented by the
797   CIM_HostedService association between chassismgr1 and textredirectsvc1. The service affects blade1
798   as represented by the CIM_ServiceAffectsElement association between blade1 and textredirectsvc1. This
799   association signifies that blade1 is the source of the text console that can be redirected.

800   The service also affects serialport1 as represented by the CIM_ServiceAffectsElement association
801   between serialport1 and textredirectsvc1. This association signifies that serialport1 is the Original
802   Destination of a text console that can be redirected. The instance serialport1 is associated to blade1
803   through an instance of CIM_SystemDevice.

HostedAccessPoint

chassismgr1:ComputerSystem

HostedService

textredirectsvc1:TextRedirectionService
EnabledState: 2 (Enabled)
RequestedState: 2 (Enabled)
MaxCurrentEnabledSAPs: 1
SharingMode: 2 (Exclusive)

ServiceAffectsElement

serialport1 : LogicalDevice

ServiceAffectsElement

SystemDevice

ServiceAccessBySAP

ServiceAccessBySAP

blade1:ComputerSystem

textredirectsap1 : TextRedirectionSAP
EnabledState: 2 (Enabled)
RequestedState: 2 (Enabled)
SessionTerminateSequence: ""
TextFlowType: 3 (Terminal Mode)

textredirectsap2 : TextRedirectionSAP
EnabledState: 3 (Disabled)
RequestedState: 3 (Disabled)
SessionTerminateSequence: ""
TextFlowType: 3 (Terminal Mode)

HostedAccessPoint

SAPAvailableToElement

SAPAvailableToElement

BindsTo

BindsTo

protoendpt1 : ProtocolEndpoint

protoendpt2 : ProtocolEndpoint

PortImplementsEndpoint

PortImplementsEndpoint

networkport1 : NetworkPort

networkport2 : NetworkPoint

SystemDevice

SystemDevice

Figure 6 – Modular System

Two Text Console Redirection Sessions exist: textredirectsap1 and textredirectsap2. Each is associated with the Service through an instance of CIM_ServiceAccessBySAP.

One Text Console Redirection Session (textredirectsap1) is hosted on blade1, as represented by the CIM_HostedAccessPoint association between blade1 and textredirectsap1. The Session (textredirectsap1) provides a SAP for blade1, as represented by the CIM_SAPAvailableForElement association between blade1 and textredirectsap1.

From textredirectsap1, the CIM_BindsTo association can be traversed to the CIM_ProtocolEndpoint (protoendpt1). From protoendpt1, the CIM_PortImplementsEndpoint association can be traversed to the network port (networkport1), a device on blade1.

The other Text Console Redirection Session (textredirectsap2) is hosted on chassismgr1 as represented by the CIM_HostedAccessPoint association between chassismgr1 and textredirectsap2. The Session (textredirectsap2) also provides a SAP for blade1, as represented by the CIM_SAPAvailableForElement association between blade1 and textredirectsap2.

From textredirectsap2, the CIM_BindsTo association can be traversed to the CIM_ProtocolEndpoint (protoendpt2). From protoendpt2, the CIM_PortImplementsEndpoint association can be traversed to the network port (networkport2), a device on chassismgr1.

823 Note that both textredirectsap1 and textredirectsap2 are associated with blade1 through the
824 CIM_SAPAvailableForElement association, because blade1 is the source of the text console redirection
825 regardless of whether the SAP is hosted on the blade1 or chassismgrr1.

826 In the figure, the Text Console Redirection specified by textredirectsvc1 and textredirectsap1 is active
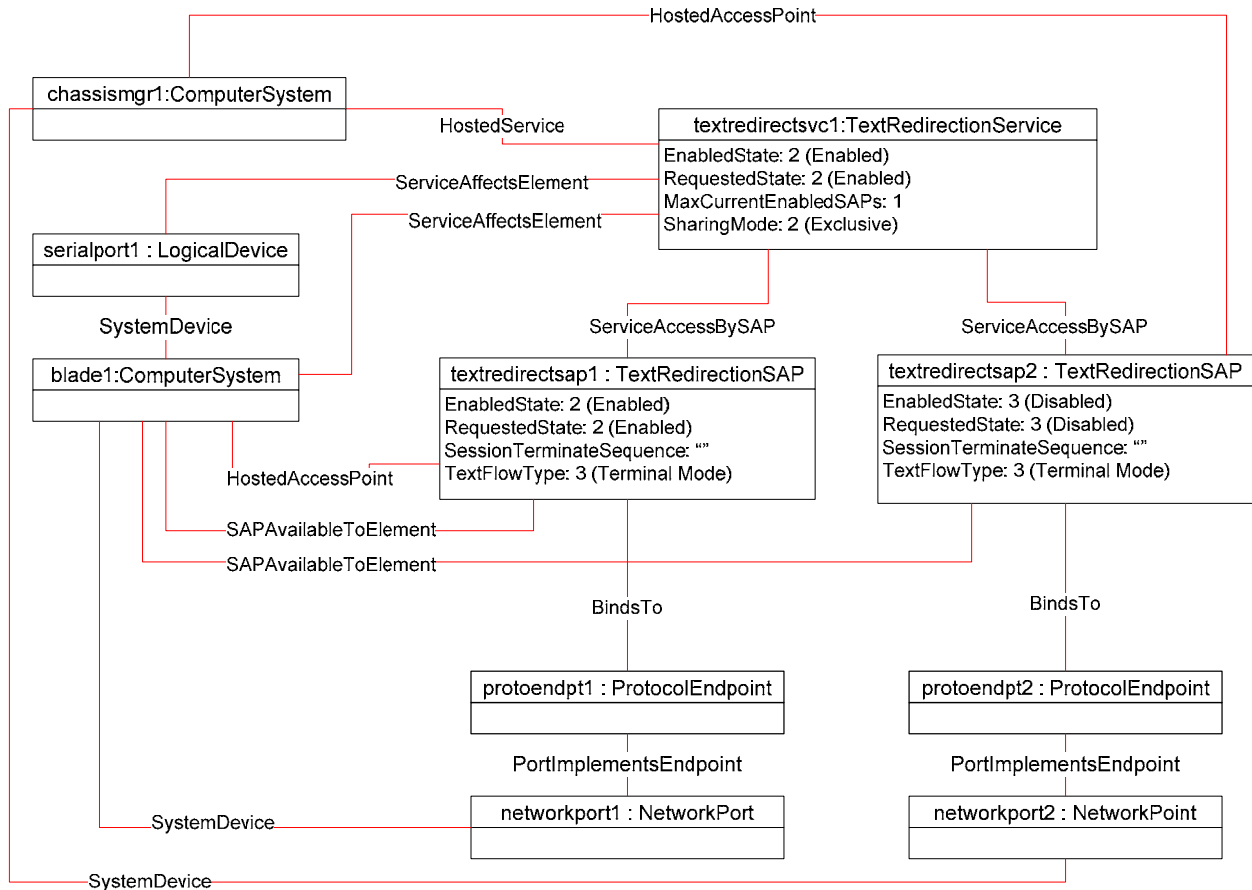827 because the state of textredirectsvc1 is 2 (Enabled) and the state of textredirectsap1 is 2 (Enabled). The
828 state of textredirectsap2 is 3 (Disabled), which means that the session specified by textredirectsvc1 and
829 textredirectsap2 is not permitted to be made active.

830 9.5 Determine Whether a System Has Text Consoles That Can Be Redirected

831 A client can determine whether a computer system of interest has text consoles that can be redirected as
832 follows:

833 1) Start at the instance of CIM_ComputerSystem that represents the computer system whose text
834 consoles are of interest.

835 2) Enumerate the instances of the CIM_TextRedirectionService that are associated with the
836 CIM_ComputerSystem instance through an instance of CIM_ServiceAffectsElement.

837 If the enumeration is zero, the computer system has no text console that can be redirected.

838 Otherwise, the computer system has at least one text console that can be redirected. Each
839 instance of CIM_TextRedirectionService represents a Service on the computer system.

840 9.6 Determine Whether a Serial Port Can Be Redirected

841 A client can determine whether a serial port of interest can be redirected as follows:

842 1) Start at the instance of CIM_LogicalDevice that represents the serial port of interest.

843 2) Enumerate the instances of the CIM_TextRedirectionService that are associated with the
844 CIM_LogicalDevice through an instance of CIM_ServiceAffectsElement.

845 If the enumeration is zero, the serial port cannot be redirected.

846 Otherwise, the serial port of interest is the Original Destination for at least one Text Console
847 Redirection. Each Text Console Redirection can be found by using the
848 CIM_TextRedirectionService instance as the Service.

849 9.7 Find the Text Console Redirection Services for a Computer System

850 A client can determine the Text Console Redirection Service on a computer system of interest as follows:

851 1) Start at the instance of CIM_ComputerSystem that represents the computer system of interest.

852 2) Enumerate the instances of the CIM_TextRedirectionService that are associated with the
853 CIM_ComputerSystem through an instance of CIM_ServiceAffectsElement.

854 Each instance of CIM_TextRedirectionService is a Text Console Redirection Service for the
855 computer system of interest.

856 9.8 Find the Original Destinations on a Computer System

857 A client can determine the sources of Text Console Flows (or Original Destinations) on a computer
858 system of interest as follows:

859 1) Start at the instance of CIM_ComputerSystem that represents the computer system of interest.

860 2) Determine the Text Console Redirection Services for the computer system by using the use
861 case in section 9.7.

862   3) From each instance of CIM_TextRedirectionService found, determine if an instance of
863   CIM_LogicalDevice is associated with the instance of CIM_TextRedirectionService through an
864   instance of CIM_ServiceAffectsElement.

865   If an instance of CIM_LogicalDevice does not exist, there may be no further information to
866   determine the Original Destination of the Text Console Redirection Service.

867   Each instance of CIM_LogicalDevice found is an Original Destination for the computer system
868   of interest.

9.9   Find the Text Console Redirection Sessions for a Service

870   A client can determine the Text Console Redirection Sessions for a Service of interest as follows:

871   1) Start at the instance of CIM_TextRedirectionService of interest. (The instance can be found
872   using the use case in section 9.6.)

873   2) Enumerate the instances of CIM_TextRedirectionSAP that are associated through an instance
874   of CIM_ServiceAccessBySAP.

875   3) Each instance of CIM_TextRedirectionSAP is a Text Console Redirection Session for the
876   computer system of interest.

9.10   Find the Destinations for the Redirected Text Console Flow for a Service

878   A client can determine the text console redirection destinations redirected from a Service of interest as
879   follows:

880   1) Start at the instance of CIM_TextRedirectionService of interest. (The instance can be found
881   using the use case in section 9.6.)

882   2) Determine the Text Console Redirection Sessions using the use case in section 9.9.

883   3) From each instance of CIM_TextRedirectionSAP, determine an instance of a subclass of
884   CIM_ProtocolEndpoint is associated with the instance of CIM_TextRedirectionSAP through an
885   instance of CIM_BindsTo.

886   If an instance of CIM_ProtocolEndpoint does not exist, there may be no further information to
887   determine the Destination of the Text Console Redirection Session.

888   4) Otherwise, for each instance of CIM_ProtocolEndpoint found, traverse the
889   CIM_PortImplementsEndpoint association to the instance of CIM_NetworkPort or
890   CIM_LogicalDevice.

891   Each instance of CIM_NetworkPort or CIM_LogicalDevice is a destination of the redirected Text
892   Console Flow for the Service.

9.11   Find a Text Console Redirection

894   Finding a Text Console Redirection involves finding the Text Console Redirection Service and the Text
895   Console Redirection Session.

896   A client can find a Text Console Redirection as follows:

897   1) Use the steps described in section 9.7 to find the CIM_TextRedirectionService instance of
898   interest.

899   2) Use the steps described in section 9.9 to find the CIM_TextRedirectionSAP instance of interest.

900   The instance of CIM_TextRedirectionService and instance of CIM_TextRedirectionSAP are
901   components the Text Console Redirection of interest.

902 **9.12 Determine Whether the CLP Session Is Being Used as the Redirected Text**
903 **Console Destination**

904 A client can determine whether the CLP session is being used as a destination for redirected Text
905 Console Flow as follows:

906   1) Start at the instance of CIM_CLPProtocolEndpoint that represents the protocol endpoint used
907   for the CLP session.

908   2) Enumerate the CIM_BindsTo associations that reference an instance of
909   CIM_TextRedirectionSAP.

910   If the enumeration returns zero, the redirected text console does not use the CLP session.

911   Otherwise, each Text Console Redirection Session found uses the CLP session as the
912   destination for a redirection Text Console Flow when activated.

913 **9.13 Determine the Type of Text Console Redirection State Management**
914 **Supported**

915 A client can determine whether a Text Console Redirection is managed through the state of Session only
916 or through the states of both the Service and Session, as follows:

917   1) Start at the instance of CIM_TextRedirectionService that is a part of the Text Console
918   Redirection of interest.

919   2) Determine whether an instance of CIM_ElementCapabilities exists that associates the instance
920   of CIM_TextRedirectionService with an instance of CIM_EnabledLogicalElementCapabilities.

921   If the instance does not exist, the Text Console Redirection Session is managed through the
922   state of the Session only.

923   3) Otherwise, on the instance of CIM_EnabledLogicalElementCapabilities found, query the value
924   of the RequestedStateSupported property array.

925   If the RequestedStatesSupported property array contains no values, the Text Console
926   Redirection is managed through the state of the Session only.

927   Otherwise, the Text Console Redirection can be managed through the state of both
928   the Service and the Session.

929 **9.14 Activate a Text Console Redirection Session—Session Only**

930 When the Text Console Redirection is managed through the state of the Session only, a client can start a
931 text console redirection as follows:

932   1) Start at the instance of the CIM_TextRedirectionSAP that is a component of the Text Console
933   Redirection of interest.

934   2) Invoke the RequestStateChange( ) method with the RequestedState parameter set to 2
935   (Enabled).

936   3) Verify that the CIM_TextRedirectionSAP.EnabledState property is set to a value of 2 (Enabled).

937   The Text Console Redirection is now active.

938 Figure 7 shows an initial state of the Text Console Redirection as inactive because the state of
939 textredirectsvc1 is 2 (Enabled), but the state of textredirectsap1 is 6 (Enabled but Offline). The preceding
940 steps change the state of textredirectsap1 to 2 (Enabled), thereby activating the Text Console Redirection
941 specified by textredirectsvc1 and textredirectsap1. The diagram of the active Text Console Redirection
942 will look like Figure 3.

SystemDevice

system1:ComputerSystem — **ServiceAffectsElement** — textredirectsvc1:TextRedirectionService — **ServiceAffectsElement** — serialport1 : LogicalDevice

textredirectsvc1:TextRedirectionService
EnabledState: 2 (Enabled)
RequestedState: 2 (Enabled)
MaxCurrentEnabledSAPs: 2
SharingMode: 2 (Exclusive)

HostedService

ServiceAccessBySAP

BindsTo

SAPAvailableToElement — textredirectsap1 : TextRedirectionSAP — protoendpt1 : ProtocolEndpoint

textredirectsap1 : TextRedirectionSAP
EnabledState: 2 (Enabled but Offline)
RequestedState: 2 (Enabled but Offline)
SessionTerminateSequence: ""
TextFlowType: 3 (Terminal Mode)

HostedAccessPoint

PortImplementsEndpoint

serialport2 : LogicalDevice

SystemDevice

943

944 **Figure 7 – Initial State of a Redirection Managed Through the Session State Only**

945 ## 9.15 Activate a Singular Text Console Redirection

946 When the Text Console Redirection is a Singular Text Console Redirection, a client can atomically
947 activate a Text Console Redirection and deactivate a previously activated Text Console Redirection (see
948 section 8.2.2).

949 This behavior is accomplished as follows:

950   1) Start at the instance of the CIM_TextRedirectionSAP that is a component of the Text Console
951   Redirection of interest.

952   2) Invoke the RequestStateChange( ) method with the RequestedState parameter set to 2
953   (Enabled).

954   3) Verify that the CIM_TextRedirectionSAP.EnabledState property is set to a value of 2 (Enabled).

955   The Text Console Redirection is now active and any previously active session is now inactive.

956 Figure 8 shows the object diagram of the initial state of a Singular Text Console Redirection. Note that the
957 MaxCurrentEnabledSAPs property of textredirectsvc1 is 1, by definition. The state of the Singular Text
958 Console Redirection, specified by textredirectsvc1 and textredirectsap1, is active because the state of
959 textredirectsvc1 is 2 (Enabled), but the state of textredirectsap1 is 2 (Enabled).

960 The preceding steps change the state of the textredirectsap1 to 6 (Enabled but Offline) and the state of
961 the textredirectsap2 to 2 (Enabled). The result is that the Text Console Redirection specified by
962 textredirectsvc1 and textredirectsap2 is active, while the Text Console Redirection specified by
963 textredirectsvc1 and textredirectsap1 is inactive.
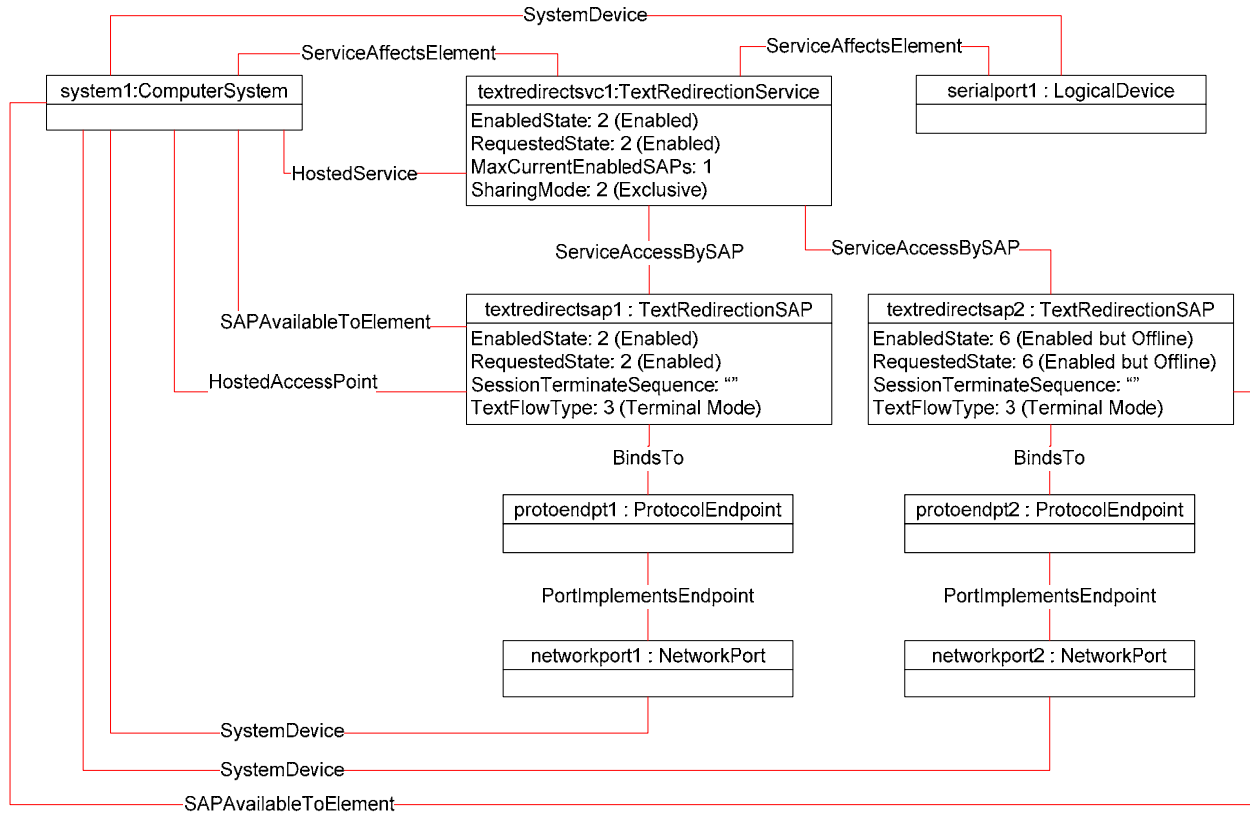
964

965 **Figure 8 – Initial State of a Singular Text Console Redirection**

966 Figure 9 shows the final state of the Singular Text Console Redirection when the call to the
967 RequestStateChange( ) method completes successfully.

SystemDevice

ServiceAffectsElement ─── ServiceAffectsElement

| system1:ComputerSystem | textredirectsvc1:TextRedirectionService | serialport1 : LogicalDevice |

textredirectsvc1:TextRedirectionService
EnabledState: 2 (Enabled)
RequestedState: 2 (Enabled)
MaxCurrentEnabledSAPs: 1
SharingMode: 2 (Exclusive)

HostedService

ServiceAccessBySAP ─── ServiceAccessBySAP

SAPAvailableToElement

HostedAccessPoint

textredirectsap1 : TextRedirectionSAP
EnabledState: 2 (Enabled but Offline)
RequestedState: 2 (Enabled but Offline)
SessionTerminateSequence: ""
TextFlowType: 3 (Terminal Mode)

textredirectsap2 : TextRedirectionSAP
EnabledState: 6 (Enabled)
RequestedState: 6 (Enabled)
SessionTerminateSequence: ""
TextFlowType: 3 (Terminal Mode)

BindsTo   BindsTo

| protoendpt1 : ProtocolEndpoint | protoendpt2 : ProtocolEndpoint |

PortImplementsEndpoint   PortImplementsEndpoint

| networkport1 : NetworkPort | networkport2 : NetworkPort |

SystemDevice
SystemDevice
SAPAvailableToElement

968

Figure 9 – Final State of a Singular Text Console Redirection

9.16 Stop All Text Console Redirections Associated with the Source—Session Only

In the following use case, it is assumed that the client knows the instance of CIM_TextRedirectionService that specifies the Text Console Redirection Service of interest.

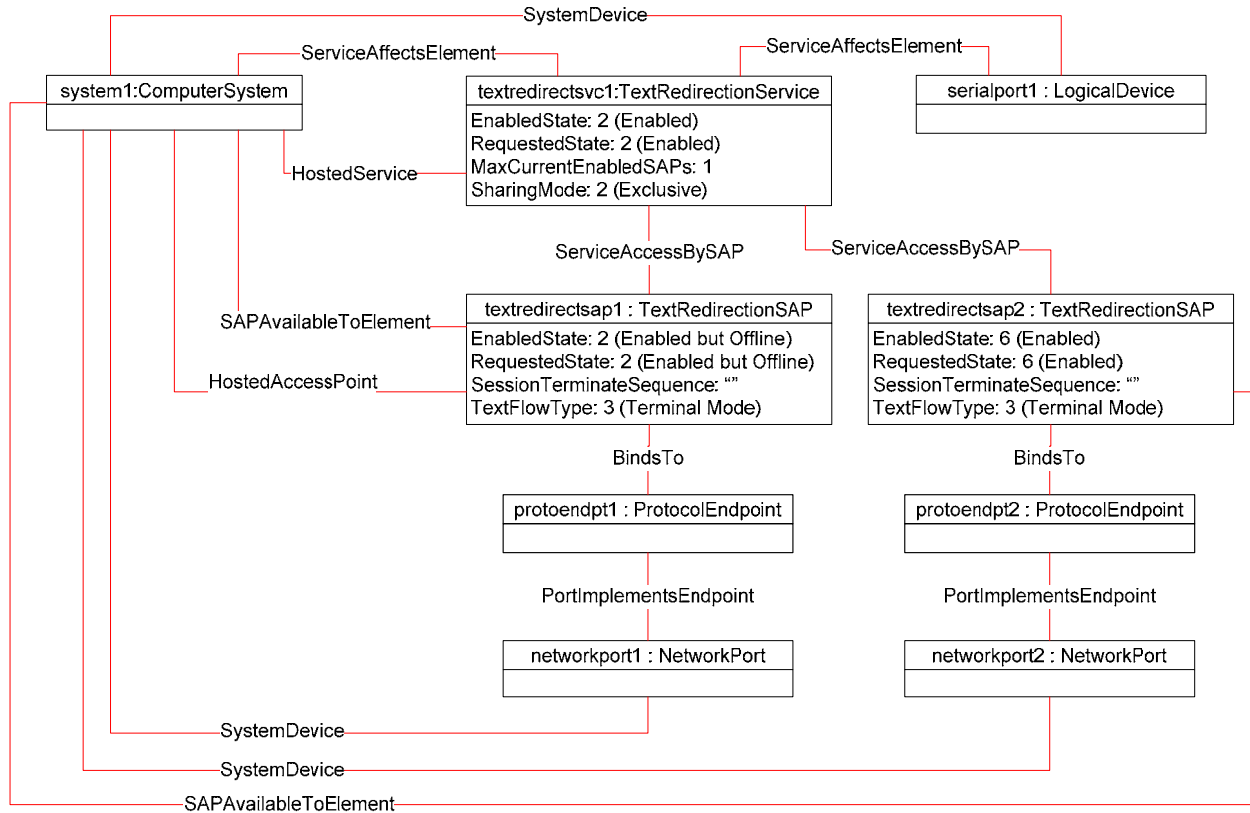When the Text Console Redirection is managed through the state of the Session only, a client can stop all Text Console Redirection as follows:

1) Start at the instance of the CIM_TextRedirectionService that represents the Text Console Redirection of interest.

2) Enumerate the instances of CIM_TextRedirectionSAP that are associated with the instance of CIM_TextRedirectionService through an instance of CIM_ServiceAccessBySAP.

3) For each instance of CIM_TextRedirectionSAP found, query the value of the EnabledState property.

4) If the state of the CIM_TextRedirectionSAP is 2 (Enabled), invoke the RequestStateChange( ) method with the RequestedState parameter set to 6 (Offline).

5) Verify that the CIM_TextRedirectionSAP.EnabledState property is set to a value of 6 (Enabled but Offline).

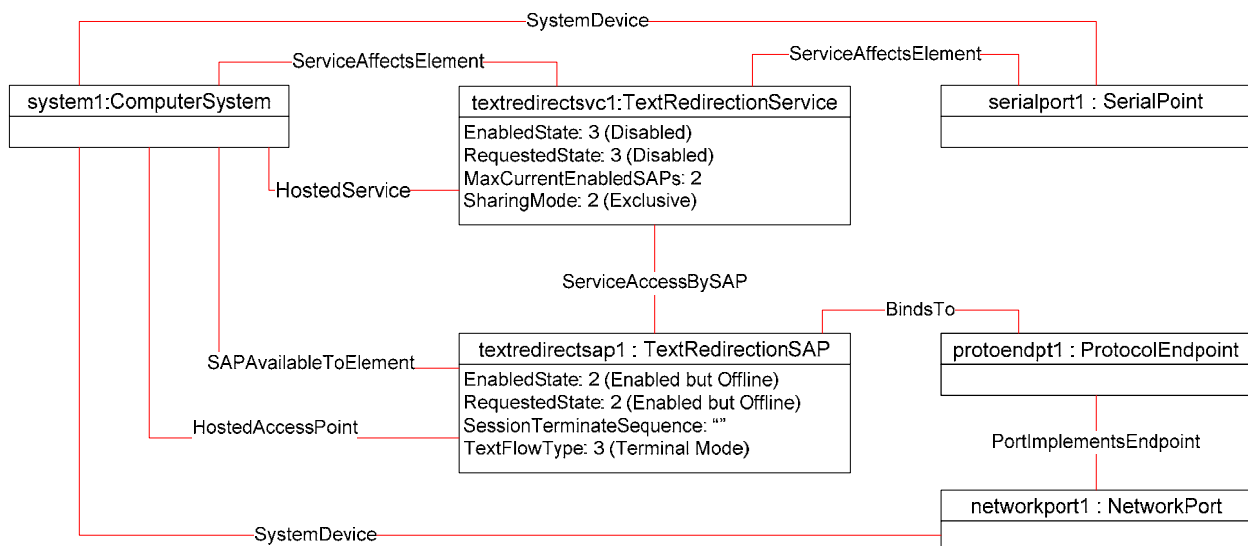Each Text Console Redirection redirected from the Service is now inactive.

987   **9.17   Activate a Text Console Redirection —Service andSession State**
988   **Management**

989   When the Text Console Redirection is managed through the states of both the Service and Session, a
990   client can start a text console redirection as follows:

991   1)   Start at the CIM_TextRedirectionService instance of interest.

992   2)   Invoke the RequestStateChange( ) method with the RequestedState parameter set to 2
993   (Enabled).

994   3)   Verify that the CIM_TextRedirectionService.EnabledState property is set to a value of 2
995   (Enabled).

996   4)   Invoke the CIM_TextRedirectionSAP.RequestStateChange( ) method with the RequestedState
997   parameter set to 2 (Enabled).

998   5)   Verify that the CIM_TestRedirectionSAP.EnabledState property is set to a value of 2 (Enabled).

999   The Text Console Redirection is now active.

1000   Figure 10 shows the initial state of the Text Console Redirection as inactive because the state of
1001   textredirectsvc1 is 3 (Disabled) and the state of textredirectsap1 is 6 (Enabled but Offline). The preceding
1002   steps change the state of textredirectsap1 to 2 (Enabled) and the state of textredirectsvc1 to 2 (Enabled),
1003   thereby activating the Text Console Redirection specified by textredirectsvc1 and textredirectsap1. The
1004   diagram of the active Text Console Redirection would look like Figure 3.

1005

1006   **Figure 10 – Initial State of a Redirection Managed Through the Service State and Session State**

1007   **9.18   Stop All Text Console Redirections Associated with the Service —Service**
1008   **and Session State Management**

1009   When the Text Console Redirection is managed through the states of both the Service and Session, a
1010   client can stop all Text Console Redirections associated with the Service as follows:

1011   1)   Start at the instance of the CIM_TextRedirectionService that represents the Text Console
1012   Redirection of interest.

| 1013 | 2) | Change the state of the CIM_TextRedirectionService instance by invoking the |
| 1014 | | RequestStateChange( ) method with the RequestedState parameter set to 3 (Disabled). |

| 1015 | | All Text Console Redirections with the CIM_TextRedirectionService as the Service are now |
| 1016 | | inactive. |

9.19 Find the Number of Active Text Redirection Access Points

1018 A client can find the number of active text redirection sessions for a Service of interest as follows:

| 1019 | 1) | Start at the CIM_TextRedirectionService instance of interest. |

| 1020 | 2) | Query the value of the EnabledState property. |

| 1021 | | If the EnabledState property is 3 (Disabled), the number of active text redirection sessions is |
| 1022 | | zero. |

| 1023 | 3) | If the EnabledState property is 2 (Enabled), find all instances of CIM_TextRedirectionSAP |
| 1024 | | associated through an instance of CIM_ServiceAccessBySAP. |

| 1025 | 4) | For each found CIM_TextRedirectionSAP instance, query the value of the EnabledState |
| 1026 | | property. |

| 1027 | 5) | Count all the CIM_TextRedirectionSAP.EnabledState properties whose value is 2 (Enabled). |

9.20 Determine Whether CIM_TextRedirectionService.ElementName Can Be Modified

1030 A client can determine whether the ElementName property can be modified as follows:

| 1031 | 1) | Start at the instance of CIM_TextRedirectionService. |

| 1032 | 2) | Find the CIM_EnabledLogicalElementCapabilities instance with which it is associated by |
| 1033 | | traversing the CIM_ElementCapabilities association. |

| 1034 | 3) | Query the value of the ElementNameEditSupported property of the |
| 1035 | | CIM_EnabledLogicalElementCapabilities instance. |

1036		If the value is TRUE, the CIM_TextRedirectionService.ElementName property can be modified
1037		by a client. If no instance of CIM_EnabledLogicalElementCapabilities is associated with the
1038		CIM_TextRedirectionService instance, modifying the
1039		CIM_TextRedirectionService.ElementName property is not supported.

10 CIM Elements

1041 Table 16 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be
1042 implemented as described in Table 16. Sections 7 ("Implementation") and 8 ("Methods") may impose
1043 additional requirements on these elements.

1044 **Table 16 – CIM Elements: Text Console Redirection Profile**

Element Name	Requirement	Description
CIM_RegisteredProfile	Mandatory	See section 10.1.
CIM_BindsTo	Optional	See section 10.2.
CIM_ElementCapabilities	Optional	Referencing CIM_TextRedirectionService. See section 10.3.
CIM_ElementCapabilities	Optional	Referencing CIM_TextRedirectionSAP. See section 10.4.
CIM_EnabledLogicalElementCapabilities	Optional	Associated to CIM_TextRedirectionService. See section 10.5.
CIM_EnabledLogicalElementCapabilities	Optional	Associated to CIM_TextRedirectionSAP. See section 10.6.
CIM_HostedAccessPoint	Mandatory	See section 10.7.
CIM_HostedService	Mandatory	See section 10.8.
CIM_ServiceAffectsElement	Mandatory	See section 10.9.
CIM_ServiceAccessBySAP	Mandatory	See section 10.10.
CIM_ServiceAffectsElement	Mandatory	Referencing CIM_ComputerSystem. See section 10.11.
CIM_ServiceAffectsElement	Optional	Referencing CIM_LogicalDevice. See section 10.12.
CIM_TextRedirectionService	Mandatory	See section 10.13.
CIM_TextRedirectionSAP	Mandatory	See section 10.14.

1045 **10.1 CIM_RegisteredProfile**

1046 CIM_RegisteredProfile identifies the *Text Console Redirection Profile* in order for a client to determine
1047 whether an instance of CIM_ComputerSystem conforms with this profile. The CIM_RegisteredProfile
1048 class is defined by the *Profile Registration Profile*. With the exception of the mandatory values specified
1049 for the properties in Table 17, the behavior of the CIM_RegisteredProfile instance is in accordance with
1050 the *Profile Registration Profile*.

1051 **Table 17 – Class: CIM_RegisteredProfile**

Elements	Requirement	Notes
RegisteredName	Mandatory	This property shall have a value of "Text Console Redirection".
RegisteredVersion	Mandatory	This property shall have a value of "1.0.1".
RegisteredOrganization	Mandatory	This property shall have a value of 2 (DMTF).

10.2 CIM_BindsTo

The CIM_BindsTo association is used to relate the CIM_TextRedirectionSAP instance to the
CIM_ProtocolEndpoint instance that is the destination of the redirected text console. Table 18 contains
the requirements for elements of this class.

Table 18 – Class: CIM_BindsTo

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ProtocolEndpoint class. See section 7.3.1. Cardinality is "0..1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionSAP. See section 7.3.1. Cardinality is "1..*".

10.3 CIM_ElementCapabilities Relating CIM_TextRedirectionService to CIM_EnabledLogicalElementCapabilities

The CIM_ElementCapabilities association is used to relate an instance of
CIM_EnabledLogicalElementCapabilities with an instance of CIM_TextRedirectionService. Table 19
contains the requirements for elements of this class.

Table 19 – Class: CIM_ElementCapabilities Referencing CIM_TextRedirectionService

Elements	Requirement	Notes
ManagedElement	Mandatory	This property shall be a reference to an instance of CIM_TextRedirectionService. See sections 7.5.1.1 and 7.5.2.1. Cardinality is "1..*".
Capabilities	Mandatory	This property shall be a reference to an instance of CIM_EnabledLogicalElementCapabilities. See sections 7.5.1.1 and 7.5.2.1. Cardinality is "0..1".

10.4 CIM_ElementCapabilities Relating CIM_TextRedirectionSAP to CIM_EnabledLogicalElementCapabilities

The CIM_ElementCapabilities association is used to relate an instance of
CIM_EnabledLogicalElementCapabilities with an instance of CIM_TextRedirectionSAP. Table 20 contains
the requirements for elements of this class.

Table 20 – Class: CIM_ElementCapabilities Referencing CIM_TextRedirectionSAP

Elements	Requirement	Notes
ManagedElement	Mandatory	This property shall be a reference to an instance of CIM_TextRedirectionSAP. See sections 7.6.1.1 and 7.6.2.1. Cardinality is "1..*".
Capabilities	Mandatory	This property shall be a reference to an instance of CIM_EnabledLogicalElementCapabilities. See sections 7.6.1.1 and 7.6.2.1. Cardinality is "0..1".

1069 **10.5 CIM_EnabledLogicalElementCapabilities Associated with**
1070 **CIM_TextRedirectionService**

1071 CIM_EnabledLogicalElementCapabilities indicates support for managing the Text Console Redirection
1072 Service. Table 21 contains the requirements for elements of this class.

1073 **Table 21 – Class: CIM_EnabledLogicalElementCapabilities Associated with**
1074 **CIM_TextRedirectionService**

Elements	Requirement	Notes
InstanceID	Mandatory	**Key**
ElementName	Mandatory	**Key**
RequestedStatesSupported	Mandatory	See sections 7.5.1.1 and 7.5.2.1.
ElementNameEditSupported	Mandatory	See sections 7.2.5.1 and 7.2.5.2.
MaxElementNameLen	Conditional	See sections 7.2.5.1 and 7.2.5.2.

1075 **10.6 CIM_EnabledLogicalElementCapabilities Associated with**
1076 **CIM_TextRedirectionSAP**

1077 CIM_EnabledLogicalElementCapabilities indicates support for managing the Text Console Redirection
1078 Session. Table 22 contains the requirements for elements of this class.

1079 **Table 22 – Class: CIM_EnabledLogicalElementCapabilities Associated with**
1080 **CIM_TextRedirectionSAP**

Elements	Requirement	Notes
InstanceID	Mandatory	**Key**
ElementName	Mandatory	**Key**
RequestedStatesSupported	Mandatory	See sections 7.6.1.1 and 7.6.2.1.
ElementNameEditSupported	Mandatory	See sections 7.3.4.1 and 7.3.4.2.
MaxElementNameLen	Conditional	See sections 7.3.4.1 and 7.3.4.2.

1081 **10.7 CIM_HostedAccessPoint**

1082 The CIM_HostedAccessPoint association is used to relate the CIM_TextRedirectionSAP instance to the
1083 CIM_ComputerSystem instance to which the text console is redirected. Table 23 contains the
1084 requirements for elements of this class.

1085 **Table 23 – Class: CIM_HostedAccessPoint**

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See section 7.3. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionSAP. See section 7.3. Cardinality is "*".

10.8 CIM_HostedService

The CIM_HostedService association is used to relate the CIM_TextRedirectionService instance to the CIM_ComputerSystem instance on which it is hosted. Table 24 contains the requirements for elements of this class.

Table 24 – Class: CIM_HostedService

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem class. See section 7.2. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionService. See section 7.2. Cardinality is "*".

10.9 CIM_SAPAvailableForElement

The CIM_ServiceAccessBySAP association is used to relate the instance of CIM_ComputerSystem to the instances of CIM_TextRedirectionSAP that are available as access points for the redirected text console. Table 25 contains the requirements for elements of this class.

Table 25 – Class: CIM_SAPAvailableForElement

Elements	Requirement	Notes
AvailableSAP	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionSAP class. See section 7.3. Cardinality is "*".
ManagedElement	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem. See section 7.3. Cardinality is "1".

10.10 CIM_ServiceAccessBySAP

The CIM_ServiceAccessBySAP association is used to relate the instance of CIM_TextRedirectionService with the instances of CIM_TextRedirectionSAP that are enabled by the service. Table 26 contains the requirements for elements of this class.

Table 26 – Class: CIM_ServiceAccessBySAP

Elements	Requirement	Notes
Antecedent	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionService class. See section 7.17.1. Cardinality is "1".
Dependent	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionSAP. See section 7.17.1. Cardinality is "1..*".

1101 **10.11 CIM_ServiceAffectsElement Relating CIM_TextRedirectionService to**
1102 **CIM_ComputerSystem**

1103 The CIM_ServiceAffectsElement association is used to relate the instance of
1104 CIM_TextRedirectionService to the instance of CIM_ComputerSystem that represents the source of the
1105 Text Console Flow. Table 27 contains the requirements for elements of this class.

1106 **Table 27 – Class: CIM_ServiceAffectsElement Referencing CIM_ComputerSystem**

Elements	Requirement	Notes
AffectingElement	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionService class. See section 7.1. Cardinality is "*".
AffectedElement	Mandatory	This property shall be a reference to an instance of the CIM_ComputerSystem. See section 7.1. Cardinality is "1".

1107 **10.12 CIM_ServiceAffectsElement Relating CIM_TextRedirectionService to a**
1108 **Concrete Subclass of CIM_LogicalDevice**

1109 The CIM_ServiceAffectsElement association is used to relate the instance of
1110 CIM_TextRedirectionService to the instance of a concrete class of CIM_LogicalDevice that represents the
1111 source of the Text Console Flow. Table 28 contains the requirements for elements of this class.

1112 **Table 28 – Class: CIM_ServiceAffectsElement Referencing CIM_LogicalDevice**

Elements	Requirement	Notes
AffectingElement	Mandatory	This property shall be a reference to an instance of the CIM_TextRedirectionService class. See section 7.2.2. Cardinality is "1".
AffectedElement	Mandatory	This property shall be a reference to an instance of CIM_LogicalDevice. See section 7.2.2. Cardinality is "0..1".

10.13 CIM_TextRedirectionService

The CIM_TextRedirectionService class represents the ability to manage the text console redirection capabilities of a computer system. Table 29 contains the requirements for elements of this class.

Table 29 – Class: CIM_TextRedirectionService

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	**Key**
SystemName	Mandatory	**Key**
CreationClassName	Mandatory	**Key**
Name	Mandatory	**Key**
ElementName	Mandatory	See section 7.2.5.
MaxCurrentEnabledSAPs	Mandatory	See section 7.2.4.
EnabledState	Mandatory	See section 7.5.
RequestedState	Mandatory	See section 7.5.
SharingMode	Mandatory	See section 7.2.3.
RedirectionServiceType	Mandatory	See section 7.2.6.

10.14 CIM_TextRedirectionSAP

The CIM_TextRedirectionSAP class represents a text console redirection capability that is possible on a computer system. Table 30 contains the requirements for elements of this class.

Table 30 – Class: CIM_TextRedirectionSAP

Elements	Requirement	Notes
SystemCreationClassName	Mandatory	**Key**
SystemName	Mandatory	**Key**
Name	Mandatory	**Key**
CreationClassName	Mandatory	**Key**
ElementName	Mandatory	See section 7.3.4.
EnabledState	Mandatory	See section 7.6.1.3.
RequestedState	Mandatory	See section 7.6.1.2.
SessionTerminateSequence	Mandatory	See section 7.3.3.
TextFlowType	Mandatory	See section 7.3.2.
OtherTextFlowType	Conditional	See section 7.3.2.

1121   **ANNEX A**

1122   **(informative)**

1123

1124   **Change Log**

Version	Date	Description
1.0.0a	2006/10/19	Initial Preliminary Release
1.0.0	2007/10/19	Initial Final Release

1125