

SMASH Collections Profile

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Foreword

The *SMASH Collections Profile* (DCIM1017) was prepared by Dell CIM Review Board.

Introduction

This specification identifies the necessary classes, properties, methods, and values to be instantiated and manipulated to represent and manage SMASH collections modeled using the DMTF Common Information Model (CIM) core and extended model definitions.

This document is intended for implementers who write CIM-based providers or consumers of management interfaces representing the component described herein.

SMASH Collections Profile

1 Scope

The *SMASH Collections Profile* extends the management capability of referencing profiles by adding the ability to create collections of managed elements.

2 Normative References

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

2.1 Approved References

DMTF [DSP0200](#), *CIM Operations over HTTP 1.2.0*

DMTF [DSP0004](#), *CIM Infrastructure Specification 2.3.0*

DMTF [DSP1000](#), *Management Profile Specification Template*

DMTF [DSP1001](#), *Management Profile Specification Usage Guide*

2.2 References under Development

DMTF DSP1004, *Base Server Profile*

DMTF DSP1012, *Boot Control Profile*

DMTF DSP1018, *Chassis Manager Profile*

DMTF DSP1005, *CLP Service Profile*

DMTF DSP1022, *CPU Profile*

DMTF DSP1019, *Device Tray Profile*

DMTF DSP1037, *DHCP Client Profile*

DMTF DSP1038, *DNS Client Profile*

DMTF DSP1013, *Fan Profile*

DMTF DSP1023, *Software Inventory Profile*

DMTF DSP1025, *Software Update Profile*

DMTF DSP1036, *IP Interface Profile*

DMTF DSP1020, *Pass-Through Module Profile*

DMTF DSP1011, *Physical Asset Profile*

DMTF DSP1015, *Power Supply Profile*

DMTF DSP1033, *Profile Registration Profile*

SMASH Collections Profile

DMTF DSP1010, *Record Log Profile*

DMTF DSP1039, *Role Based Authorization Profile*

DMTF DSP1009, *Sensors Profile*

DMTF DSP1027, *Server Power State Management Profile*

DMTF DSP1021, *Shared Device Management Profile*

DMTF DSP1017, *SSH Service Profile*

DMTF DSP1026, *System Memory Profile*

DMTF DSP1016, *Telnet Service Profile*

DMTF DSP1024, *Text Console Redirection Profile*

2.3 Other References

ISO/IEC Directives, Part 2, [Rules for the structure and drafting of International Standards](#)

[Unified Modeling Language \(UML\) from the Open Management Group \(OMG\)](#)

3 Terms and Definitions

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

3.1

can

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

3.2

cannot

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

3.14**Capabilities Collection**

CIM_ConcreteCollection instance for instances of the CIM_Capabilities class

3.15**Capacities Collection**

CIM_ConcreteCollection instance for instances of the CIM_ConfigurationCapacity

3.16**Consoles Collection**

CIM_ConcreteCollection instance for instances of the CIM_TextRedirectionSAP class

3.17**Logs Collection**

CIM_ConcreteCollection instance for instances of the CIM_RecordLog class

3.18**Sensors Collection**

CIM_ConcreteCollection instance for instances of the CIM_Sensor and CIM_NumericSensor classes

3.19

Settings Collection

CIM_ConcreteCollection instance for instances of the CIM_SettingData class

4 Symbols and Abbreviated Terms

The following abbreviations are used in this document.

4.1

SMASH

Systems Management Architecture for Server Hardware

4.2

SM CLP

Server Management Command Line Protocol

4.3

SM ME

Server Management Managed Element

5 Synopsis

Profile Name: SMASH Collections Profile

Version: 1.0.0a

Organization: DMTF

CIM Schema Version: [2.11](#)

Central Class: CIM_ConcreteCollection

Scoping Class: CIM_ComputerSystem

The *SMASH Collections Profile* extends the management capability of referencing profiles by adding the capability to represent collections of managed elements for use when implementing the SM CLP or SM ME Addressing specifications.

The Central Class for the *SMASH Collections Profile* shall be the CIM_ConcreteCollection class. Each instance of CIM_ConcreteCollection shall be a Central Instance of the *SMASH Collections Profile*.

The Scoping Class for the *SMASH Collections Profile* shall be CIM_ComputerSystem. The Scoping Instance of the *SMASH Collections Profile* shall be the instance of CIM_ComputerSystem to which the Central Instances are associated through instances of CIM_OwningCollectionElement.

Table 1 identifies profiles that this profile has a dependency.

Table 1 – Referenced Profiles

Profile Name	Organization	Version	Relationship	Behavior
<i>Base Server Profile</i>	DMTF	1.0	Optional	See section 7.2.
<i>Boot Control Profile</i>	DMTF	1.0	Optional	See section 7.3.
<i>Chassis Manager Profile</i>	DMTF	1.0	Optional	See section 7.4.
<i>CLP Service Profile</i>	DMTF	1.0	Optional	See section 7.5.
<i>CPU Profile</i>	DMTF	1.0	Optional	See section 7.6.
<i>Device Tray Profile</i>	DMTF	1.0	Optional	See section 7.7.
<i>DHCP Client Profile</i>	DMTF	1.0	Optional	See section 7.8.
<i>DNS Client Profile</i>	DMTF	1.0	Optional	See section 7.9.
<i>Fan Profile</i>	DMTF	1.0	Optional	See section 7.10.
<i>Software Update Profile</i>	DMTF	1.0	Optional	See section 7.11.
<i>IP Interface Profile</i>	DMTF	1.0	Optional	See section 7.12.
<i>Pass-Through Module Profile</i>	DMTF	1.0	Optional	See section 7.13.
<i>Physical Asset Profile</i>	DMTF	1.0	Optional	See section 7.14.
<i>Power Supply Profile</i>	DMTF	1.0	Optional	See section 7.15.
<i>Profile Registration Profile</i>	DMTF	1.0	Mandatory	None
<i>Record Log Profile</i>	DMTF	1.0	Optional	See section 7.16.
<i>Role Based Authorization Profile</i>	DMTF	1.0	Optional	See section 7.17.
<i>Sensors Profile</i>	DMTF	1.0	Optional	See section 7.18.
<i>Server Power State Management Profile</i>	DMTF	1.0	Optional	See section 7.19.
<i>Shared Device Management Profile</i>	DMTF	1.0	Optional	See section 7.20.
<i>SSH Service Profile</i>	DMTF	1.0	Optional	See section 7.21.
<i>System Memory Profile</i>	DMTF	1.0	Optional	See section 7.22.
<i>Telnet Service Profile</i>	DMTF	1.0	Optional	See section 7.23.
<i>Text Console Redirection Profile</i>	DMTF	1.0	Optional	See section 7.24.

6 Description

The *SMASH Collections Profile* describes collections, the associations that scope the collections to a system, and the associations that scope managed elements have to the collections.

The *SMASH Collections Profile* defines the following collections:

- Capabilities – instances of CIM_Capabilities
- Capacities – instances of CIM_ConfigurationCapacity
- Consoles – instances of CIM_TextRedirectionSAP
- Logs – instances of CIM_RecordLog
- Sensors – instances of CIM_Sensor and CIM_NumericSensor
- Settings – instances of CIM_SettingData

Figure 1 represents the class schema for the *SMASH Collections Profile*. For simplicity, the prefix CIM_ has been removed from the class names.

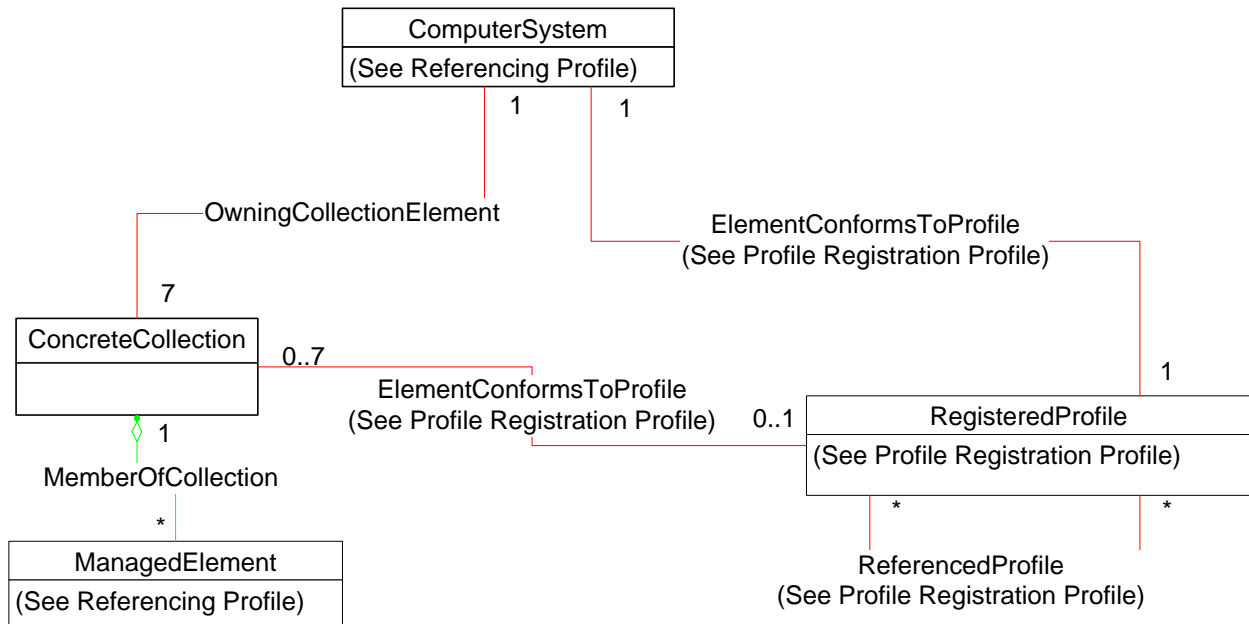


Figure 1 – SMASH Collections Profile: Class Diagram

7 Implementation Requirements

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

7.1 Collection Definitions

This section details the requirements for instances of CIM_ConcreteCollection that represent each of the SMASH collections.

7.1.1 Capabilities Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_Capabilities. This collection is the Capabilities Collection.

7.1.1.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Capabilities Collection, the value of the ElementName property shall be "Capabilities".

7.1.2 Capacities Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_ConfigurationCapacity. This collection is the Capacities Collection.

7.1.2.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Capacities Collection, the value of the ElementName property shall be "Capacities".

7.1.3 Consoles Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_TextRedirectionSAP. This collection is the Consoles Collection.

7.1.3.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Consoles Collection, the value of the ElementName property shall be "Consoles".

7.1.4 Logs Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_RecordLog. This collection is the Logs Collection.

7.1.4.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Logs Collection, the value of the ElementName property shall be "Logs".

7.1.5 Sensors Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_RecordLog. This collection is the Sensors Collection.

7.1.5.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Sensors Collection, the value of the ElementName property shall be "Sensors".

7.1.6 Settings Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_SettingData. This collection is the Settings Collection.

7.1.6.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Settings Collection, the value of the ElementName property shall be "Settings".

7.1.7 Profiles Collection

An instance of CIM_ConcreteCollection shall aggregate instances of CIM_RegisteredProfile. This collection is the Profiles Collection. There shall exist only one instance of the Profile Collection associated to the CIM_ComputerSystem, which, in turn, is associated to the CIM_AdminDomain.

7.1.7.1 CIM_ConcreteCollection.ElementName

When an instance of CIM_ConcreteCollection is the Profiles Collection, the value of the ElementName property shall be "Profiles".

7.2 Base Server Profile

When the Scoping Instance of this profile conforms to the *Base Server Profile*, the requirements defined in this section apply.

7.2.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *Base Server Profile*.

7.3 Boot Control Profile

The *Boot Control Profile* may be implemented so that the Scoping Instance of the *Boot Control Profile* is the Scoping Instance of this profile. The *Boot Control Profile* may be implemented so that an instance of CIM_ServiceAffectsElement associates the Scoping Instance of this profile with the Central Instance of the *Boot Control Profile*. When the Scoping Instance of this profile is associated with the Central Instance of the *Boot Control Profile* through the CIM_ServiceAffectsElement association, the requirements defined in this section apply.

7.3.1 Settings Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_BootConfigSetting for each instance of CIM_BootConfigSetting that is associated with the Scoping Instance of this profile through an instance of CIM_ElementSettingData.

7.4 Chassis Manager Profile

When the Scoping Instance of this profile conforms to the *Chassis Manager Profile*, the requirements defined in this section apply.

7.4.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *Chassis Manager Profile*.

7.5 CLP Service Profile

When the Scoping Instance of the *CLP Service Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.5.1 Settings Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_CLPSettingData for each instance of CIM_CLPSettingData that is instrumented for the *CLP Service Profile*.

7.5.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_CLPCapabilities for each instance of CIM_CLPCapabilities that is instrumented for the *CLP Service Profile*.

7.6 CPU Profile

When the Scoping Instance of the *CPU Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.6.1 Capabilities Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Capabilities Collection and the instance of *CIM_EnabledLogicalElementCapabilities* for each instance of *CIM_EnabledLogicalElementCapabilities* that is instrumented for the *CPU Profile*.

7.7 Device Tray Profile

When the Scoping Instance of the *Device Tray Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.7.1 Capabilities Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Capabilities Collection and the instance of *CIM_EnabledLogicalElementCapabilities* for each instance of *CIM_EnabledLogicalElementCapabilities* that is instrumented for the *Device Tray Profile*.

7.8 DHCP Client Profile

When the Scoping Instance of the *DHCP Client Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.8.1 Settings Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Settings Collection and the instance of *CIM_DHCPSettingData* for each instance of *CIM_DHCPSettingData* that is associated with the Central Instance of the *DHCP Client Profile* and is not the *PartComponent* reference of an instance of *CIM_OrderedComponent*.

7.8.2 Capabilities Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Capabilities Collection and the instance of *CIM_DHCPCapabilities* for each instance of *CIM_DHCPCapabilities* that is instrumented for the *DHCP Client Profile*.

7.9 DNS Client Profile

When the Scoping Instance of the *DNS Client Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.9.1 Settings Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Settings Collection and the instance of *CIM_DNSSettingData* for each instance of *CIM_DNSSettingData* that is associated with the Central Instance of the *DNS Client Profile* and is not the *PartComponent* reference of an instance of *CIM_OrderedComponent*.

Exactly one instance of *CIM_MemberOfCollection* shall reference the Settings Collection and the instance of *CIM_DNSGeneralSettingData* for each instance of *CIM_DNSGeneralSettingData* that is associated with the Central Instance of the *DNS Client Profile* and is not the *PartComponent* reference of an instance of *CIM_OrderedComponent*.

7.9.2 Capabilities Collection

Exactly one instance of *CIM_MemberOfCollection* shall reference the Capabilities Collection and the instance of *CIM_EnabledLogicalElementCapabilities* for each instance of *CIM_EnabledLogicalElementCapabilities* that is instrumented for the *DNS Client Profile*.

7.10 Fan Profile

When the Scoping Instance of the *Fan Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.10.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities instrumented for the *Fan Profile*.

7.11 Software Update Profile

When the Scoping Instance of the *Software Update Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.11.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_SoftwareInstallationServiceCapabilities for each instance of CIM_SoftwareInstallationServiceCapabilities that is instrumented for the *Software Update Profile*.

7.12 IP Interface Profile

When the Scoping Instance of the *IP Interface Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.12.1 Settings Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_StaticIPAssignmentSettingData for each instance of CIM_StaticIPAssignmentSettingData that is associated with the Central Instance of the *IP Interface Profile* and is not the PartComponent reference of an instance of CIM_OrderedComponent.

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_IPAssignmentSettingData for each instance of CIM_IPAssignmentSettingData that is instrumented for the *IP Interface Profile*.

7.12.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *IP Interface Profile*.

7.13 Pass-Through Module Profile

When the Scoping Instance of the *Pass-Through Module Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.13.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *Pass-Through Module Profile*.

7.14 Physical Asset Profile

When the Scoping Instance of the *Physical Asset Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.14.1 Capacities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capacities Collection and the instance of CIM_ConfigurationCapacity for each instance of CIM_ConfigurationCapacity that is instrumented for the *Physical Asset Profile*.

7.14.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_PhysicalAssetCapabilities for each instance of CIM_PhysicalAssetCapabilities that is instrumented for the *Physical Asset Profile*.

7.15 Power Supply Profile

When the Scoping Instance of the *Power Supply Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.15.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *Power Supply Profile*.

7.16 Record Log Profile

The *Record Log Profile* may be implemented such that the Scoping Instance of this profile is associated with the Central Instance of the *Record Log Profile* through the CIM_UseOfLog association. When the Scoping Instance of this profile is associated with the Central Instance of the *Record Log Profile* through the CIM_UseOfLog association, the requirements defined in this section apply.

7.16.1 Logs Collection

For each instance of CIM_RecordLog that is associated with the Scoping Instance of this profile through the CIM_UseOfLog association, exactly one instance of CIM_MemberOfCollection shall reference the Logs Collection and the instance of CIM_RecordLog.

7.17 Role Based Authorization Profile

When the Scoping Instance of the *Role Based Authorization Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.17.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_PrivilegeManagementCapabilities for each instance of CIM_PrivilegeManagementCapabilities that is instrumented for the *Role Based Authorization Profile*.

7.18 Sensors Profile

When the Scoping Instance of the *Sensors Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.18.1 Sensors Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Central Instance of the *Sensors Profile* and the Sensors Collection.

7.18.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *Sensors Profile*.

7.19 Server Power State Management Profile

When the Scoping Instance of the *Server Power State Management Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.19.1 Capabilities Collection

For each instance of CIM_PowerManagementCapabilities that is associated through an instance of CIM_ElementCapabilities with an instance of CIM_PowerManagementService, and the instance of CIM_PowerManagementService is associated with the Scoping Instance through an instance of CIM_HostedService, exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_PowerManagementCapabilities.

7.20 Shared Device Management Profile

The *Shared Device Management Profile* may be implemented such that the Scoping Instance of this profile is not the Scoping Instance of the *Shared Device Management Profile*. When an instance of CIM_LogicalDevice is associated with the Scoping Instance of this profile and the CIM_LogicalDevice instance is associated with the Central Instance of the *Shared Device Management Profile* through an instance of CIM_ServiceAffectsElement, the requirements in this section apply.

7.20.1 Capabilities Collection

For each instance of CIM_DeviceSharingCapabilities that is associated with an instance of CIM_LogicalDevice through an instance of CIM_ElementCapabilities, and the instance of CIM_LogicalDevice instance is associated with the Scoping Instance of this profile, exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_DeviceSharingCapabilities.

7.21 SSH Service Profile

When the Scoping Instance of the *SSH Service Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.21.1 Settings Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_SSHSettingData for each instance of CIM_SSHSettingData that is instrumented for the *SSH Service Profile*.

7.21.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities collection and the instance of CIM_SSHCapabilities for each instance of CIM_SSHCapabilities that is instrumented for the *SSH Service Profile*.

7.22 System Memory Profile

When the Scoping Instance of the *System Memory Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.22.1 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_EnabledLogicalElementCapabilities for each instance of CIM_EnabledLogicalElementCapabilities that is instrumented for the *System Memory Profile*.

7.23 Telnet Service Profile

When the Scoping Instance of the *Telnet Service Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.23.1 Settings Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance of CIM_TelnetSettingData for each instance of CIM_TelnetSettingData that is instrumented for the *Telnet Service Profile*.

7.23.2 Capabilities Collection

Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of CIM_TelnetCapabilities for each instance of CIM_TelnetCapabilities that is instrumented for the *Telnet Service Profile*.

7.24 Text Console Redirection Profile

When the Scoping Instance of the *Text Console Redirection Profile* is the Scoping Instance of this profile, the requirements defined in this section apply.

7.24.1 Consoles Collection

For each instance of CIM_TextRedirectionSAP that is associated with the Scoping Instance through an instance of CIM_HostedAccessPoint, exactly one instance of CIM_MemberOfCollection shall associate the instance of CIM_TextRedirectionSAP with the Consoles Collection.

7.25 Profile Registration Profile

For each instance of CIM_RegisteredProfile exactly one instance of CIM_MemberOfCollection shall associate the instance of CIM_RegisteredProfile with the Profiles Collection.

8 Methods

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

8.1 Profile Conventions for Operations

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 section 8.1 are supported as described by [DSP0200 v1.2](#)” 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 v1.2](#).

The default list of operations is as follows:

- GetInstance
- ModifyInstance
- Associators
- AssociatorNames
- References
- ReferenceNames

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*.

8.2 CIM_ConcreteCollection

All operations in the default list in section 8.1 are supported as described by [DSP0200 v1.2](#).

8.3 CIM_MemberOfCollection

Table 2 lists operations that either have special requirements beyond those from [DSP0200 v1.2](#) or shall not be supported.

Table 2 – Operations: CIM_MemberOfCollection

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

8.4 CIM_OwningCollectionElement

Table 3 lists operations that either have special requirements beyond those from [DSP0200 v1.2](#) or shall not be supported.

Table 3 – Operations: CIM_OwningCollectionElement

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

9 Use Cases

This section contains object diagrams and use cases for the *SMASH Collections Profile*.

9.1 Object Diagrams

The object diagram in Figure 2 shows how instances of CIM_RegisteredProfile identify the version of the *SMASH Collections Profile* that the instances of CIM_ConcreteCollection and their associated instances conform to. An instance of CIM_RegisteredProfile exists for each profile instrumented in the system. One instance of CIM_RegisteredProfile identifies “DMTF Base Server Profile version 1.0”. The other instance identifies “DMTF SMASH Collections Profile version 1.0”. The CIM_ConcreteCollection instances are scoped to an instance of CIM_ComputerSystem. This instance of CIM_ComputerSystem conforms to the DMTF Base Server Profile version 1.0 as indicated by the CIM_ElementConformsToProfile association to the CIM_RegisteredProfile instance.

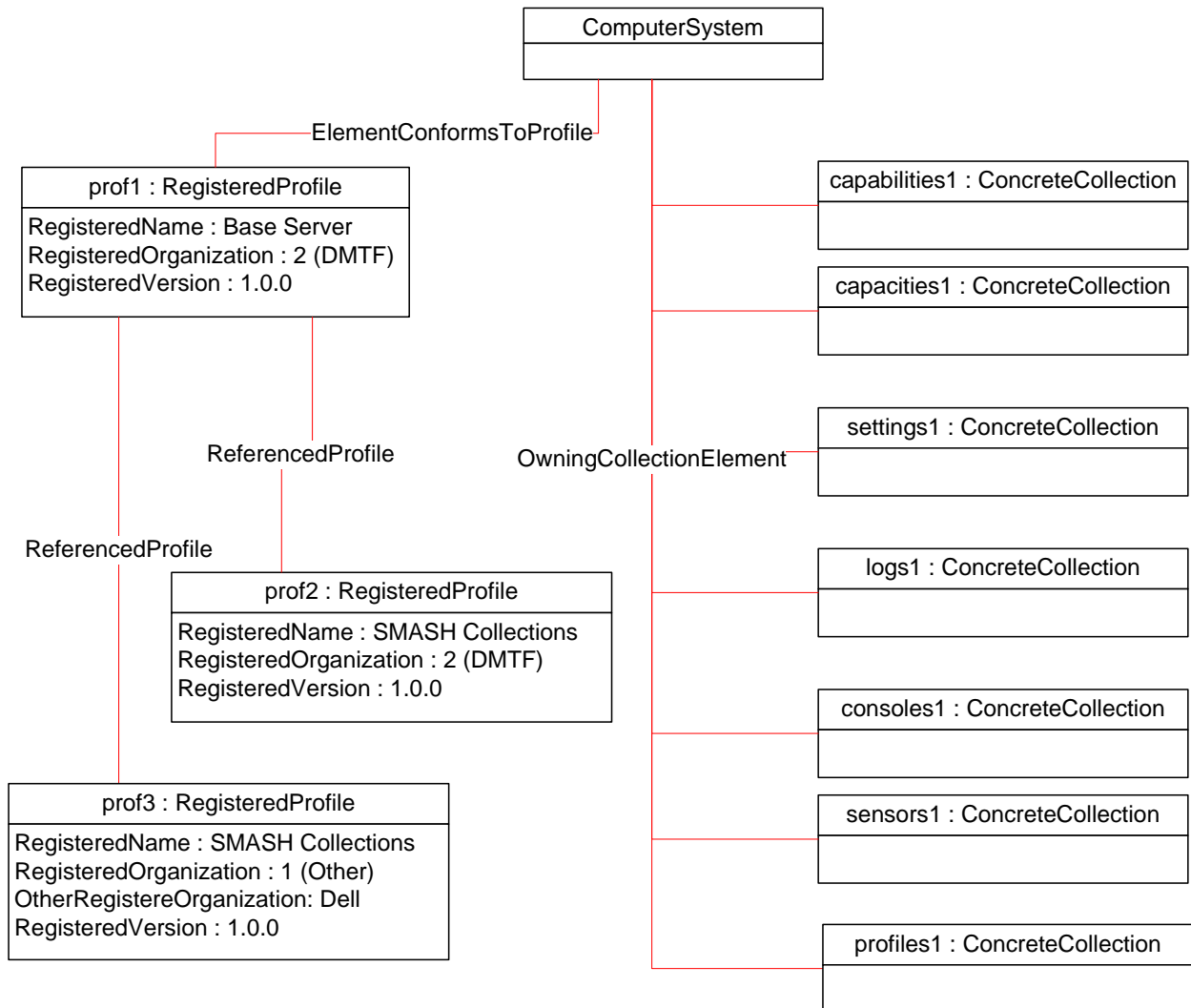


Figure 2 – Registered Profile

SMASH Collections Profile

The object diagram in Figure 3 shows a system that supports the profile, and therefore elements are contained in the Profiles Collections. As shown in the figure, since ComputerSystem is associated with AdminDomain through the CIM_SystemComponent association the Profiles Collection, profiles1, is associated to ComputerSystem.

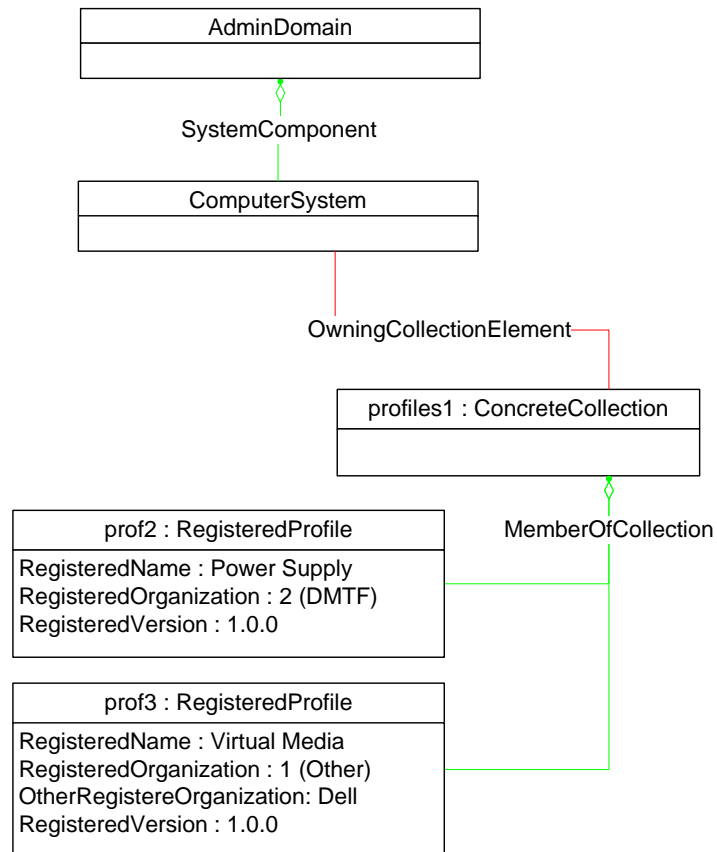


Figure 3 – Profiles Collection

The object diagram in Figure 4 shows a system that supports the profile, and therefore elements are contained in the Settings and Capabilities Collections.

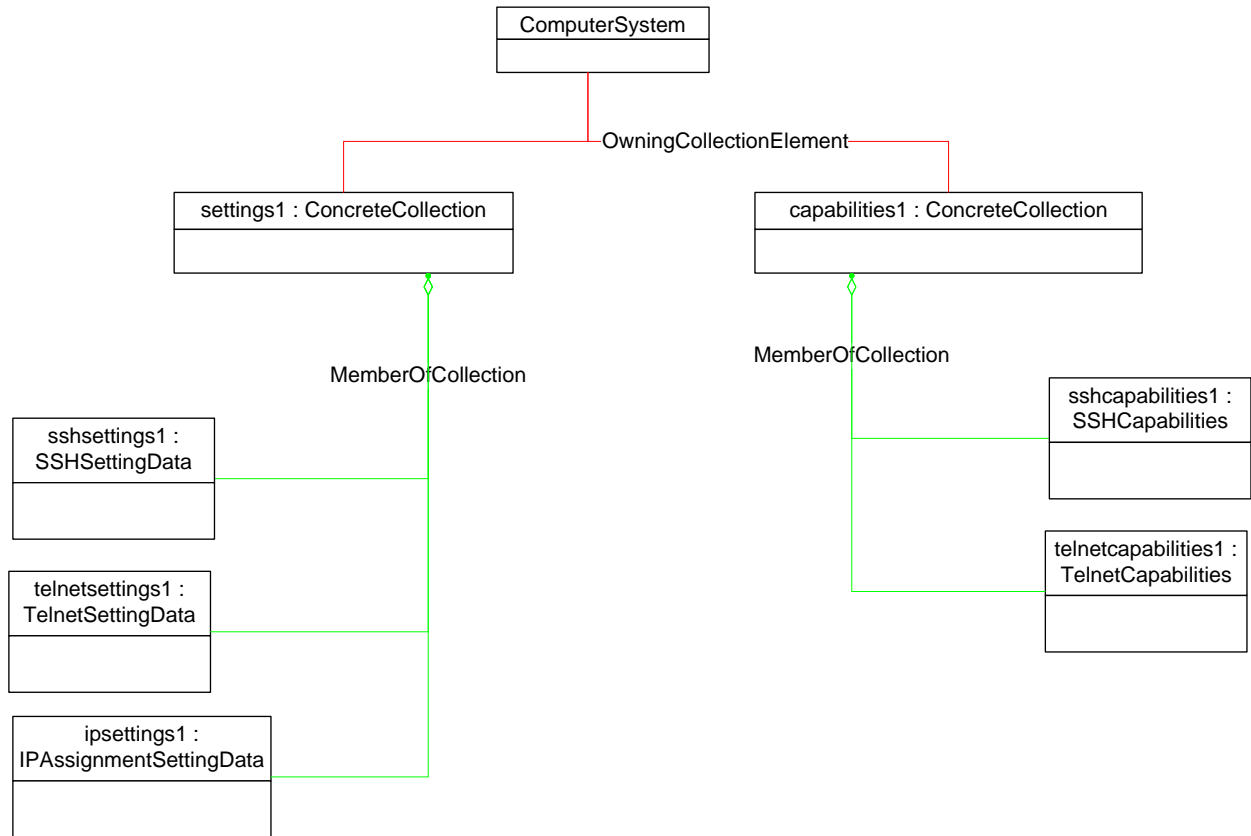


Figure 4 – Settings and Capabilities Collections

The object diagram in Figure 5 represents a system that supports the *Record Log Profile*, and therefore the Logs Collection contains an instance of CIM_RecordLog.

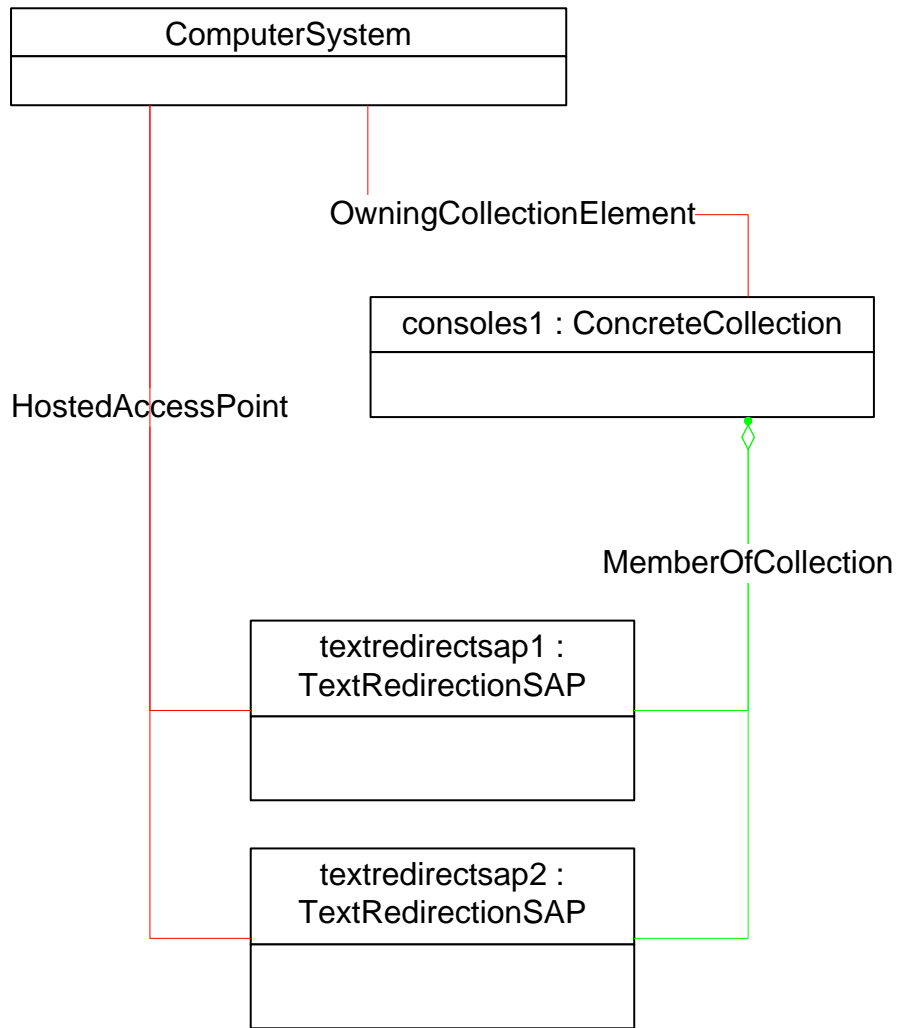


Figure 5 – Logs Collection

The object diagram in Figure 6 illustrates one possible arrangement of instances for an implementation that supports the *Text Console Redirection Profile*, and therefore has elements contained in the Consoles Collection.

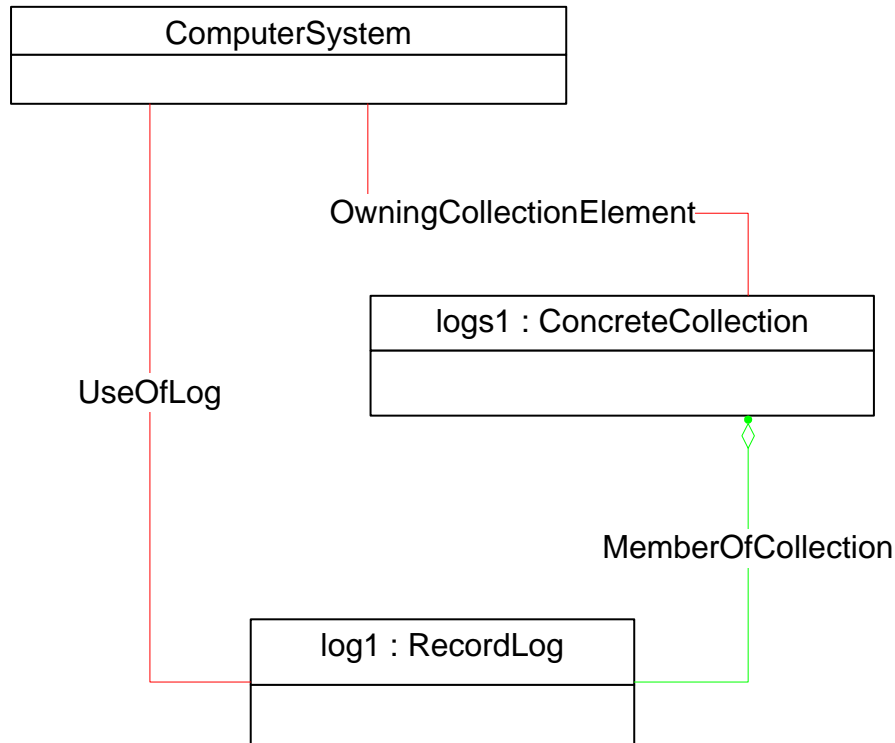


Figure 6 – Consoles Collection

9.2 Find All of the Capabilities for a System

A client can find all of the settings (CIM_Capabilities instances) for the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Capabilities".

9.3 Find All of the Consoles for a System

A client can find all of the CIM_TextRedirectionSAP instances hosted on the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Consoles".

9.4 Find All of the Logs for a System

A client can find all of the CIM_RecordLog instances related to the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Logs".

9.5 Find All of the Settings for a System

A client can find all of the settings (CIM_SettingData instances) for the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Settings".

9.6 Find All of the Configuration Capacities for a System

A client can find all of the configuration capacities (CIM_ConfigurationCapacity instances) for the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Capacities".

9.7 Find All of the Sensors for a System

A client can find all of the sensors (CIM_Sensor and CIM_NumericSensor instances) for the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Sensors".

9.8 Find All of the Profiles for a System

A client can find all of the profiles (CIM_RegisteredProfile instances) for the system as follows:

Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance through an instance of CIM_OwningCollectionElement where the ElementName property of the CIM_ConcreteCollection instance has a value of "Profiles". Find all the associated instances of CIM_RegisteredProfile.

10 CIM Elements

Table 4 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be implemented as described in Table 4. Sections 7 ("Implementation") and 8 ("Methods") may impose additional requirements on these elements.

Table 4 – CIM Elements: SMASH Collections Profile

Element Name	Requirement	Description
Classes		
CIM_ConcreteCollection	Mandatory	See section 10.1.
CIM_MemberOfCollection	Conditional	See section 10.2.
CIM_OwningCollectionElement	Mandatory	See section 10.3.
Indications		
None defined in this profile		

10.1 CIM_ConcreteCollection

CIM_ConcreteCollection instances are used to aggregate instances of CIM_ManagedElement. Table 5 provides information about the properties of CIM_ConcreteCollection.

Table 5 – Class: CIM_ConcreteCollection

Properties	Requirement	Notes
InstanceID	Mandatory	None
ElementName	Mandatory	See section 7.1.

10.2 CIM_MemberOfCollection

CIM_MemberOfCollection is used to associate CIM_ManagedElement (CIM_SettingData, CIM_Capabilities, CIM_RecordLog) instances with the appropriate instance of CIM_ConcreteCollection. Table 6 provides information about the properties of CIM_MemberOfCollection.

Table 6 – Class: CIM_MemberOfCollection

Properties	Requirement	Notes
GroupComponent	Mandatory	The value of this property shall be an instance of CIM_ConcreteCollection.
PartComponent	Mandatory	See sections 7.2 through 7.24.

10.3 CIM_OwningCollectionElement

CIM_OwningCollectionElement is used to associate a CIM_ConcreteCollection instance with its scoping CIM_ComputerSystem instance. Table 7 provides information about the properties of CIM_OwningCollectionElement.

Table 7 – Class: CIM_OwningCollectionElement

Properties	Requirement	Notes
OwningElement	Mandatory	The value of this property shall be the Scoping Instance of this profile.
OwnedElement	Mandatory	The value of this property shall be an instance of CIM_ConcreteCollection.

10.4 CIM_RegisteredProfile

The CIM_RegisteredProfile class is defined by the Profile Registration Profile. The requirements denoted in Table 8 are in addition to those mandated by the Profile Registration Profile.

Table 8 – Class: CIM_RegisteredProfile

Properties	Requirement	Description
RegisteredName	Mandatory	This property shall have a value of “SMASH Collections” .
RegisteredVersion	Mandatory	This property shall have a value of “1.0.0” .
RegisteredOrganization	Mandatory	This property shall have a value of 1 (Other).
OtherRegisteredOrganization	Mandatory	This property shall match “DCIM”

**ANNEX A
(Informative)**

Change Log

Version	Date	Description

ANNEX B (informative)

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