Document Number: XMP1000

Date: 2013-08-09

Version: 1.1.0a

Development Version: 1.1.0

Development Edit Date: 2013-08-09

MRP Template Profile

Document Type: Specification

Document Status: In Development

Document Language: en-US

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Foreword

This document was prepared by the DMTF {Xyz} Working Group

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Acknowledgements

DMTF acknowledges the following individuals for their contributions to this document:

- Joe Smith, ACME (editor)

Introduction

{This document defines the usage of CIM classes used to represent and manage ... } The information in this document is intended to be sufficient for a provider or consumer of this data to identify unambiguously the classes, properties, methods, and values that need to be instantiated and manipulated.

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

Document conventions

Typographical conventions

The following typographical conventions are used in this document:

- Document titles are marked in *italics*.
- Important terms that are used for the first time are marked in *italics*.
- Terms include a link to the term definition in the "Terms and definitions" clause, enabling easy navigation to the term definition.

OCL usage conventions

Constraints in this document are specified using OCL (see OCL 2.0).

OCL statements are in `monospaced font`.

MRP Template Profile

1 Scope

{The Xyz profile extends the management capabilities of referencing profiles by adding ...}

2 Normative references

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

DMTF DSP0004, *CIM Infrastructure Specification 2.6*,
http://www.dmtf.org/standards/published_documents/DSP0004_2.6.pdf

DMTF DSP0223, *Generic Operations 1.0*,
http://www.dmtf.org/standards/published_documents/DSP0223_1.0.pdf

DMTF DSP1001, *Management Profile Specification Usage Guide 1.1*,
http://www.dmtf.org/standards/published_documents/DSP1001_1.1.pdf

DMTF DSP1033, *Profile Registration Profile 1.1*,
http://schemas.dmtf.org/wbem/mgmtprofile/dsp1033_1.1.mrp.xml

OMG formal/06-05-01, *Object Constraint Language 2.0*,
http://www.omg.org/spec/OCL/2.0/

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

3 Terms and definitions

In this document, some terms have a specific meaning beyond the normal English meaning. Those terms are defined in this clause.

3.1 General

The terms "shall" ("required"), "shall not", "should" ("recommended"), "should not" ("not recommended"), "may", "need not" ("not required"), "can" and "cannot" in this document are to be interpreted as described in ISO/IEC Directives, Part2, Annex H. The terms in parenthesis are alternatives for the preceding term, for use in exceptional cases when the preceding term cannot be used for linguistic reasons. Note that ISO/IEC Directives, Part2, Annex H specifies additional alternatives. Occurrences of such additional alternatives shall be interpreted in their normal English meaning in this document.

The terms "clause", "subclause", "paragraph", "annex" in this document are to be interpreted as described in ISO/IEC Directives, Part2, Clause 5.

The terms "normative" and "informative" in this document are to be interpreted as described in ISO/IEC Directives, Part2, Clause 3. In this document, clauses, subclauses or annexes indicated with "(informative)" as well as notes and examples do not contain normative content.

The terms defined in DSP0004, DSP0223, and DSP1001 apply to this document.

The following additional terms are defined in this document.

3.2
network port
A network port ...

4 Symbols and abbreviated terms

The abbreviations defined in DSP0004, DSP0223, and DSP1001 apply to this document.

This document does not define any additional abbreviations.

5 Synopsis

Profile name: MRP Template

Version: 1.1.0

Organization: DMTF

Abstract: No

Profile type: Component

Schema: DMTF CIM 2.22

Central class adaptation: NetworkPort

Scoping class adaptation: ComputerSystem

Scoping path: SystemDevice

{The Xyz profile extends the management capabilities of referencing profiles by ...}

Table 1 identifies the profile references defined in this profile.

Table 1 – Profile references

Profile reference name	Profile name	Organi-zation	Version	Relation-ship	Description
ProfileRegistration	Profile Registration	DMTF	1.0	Mandatory	Used to represent the version of this profile that is implemented.

Table 2 identifies the features defined in this profile.

Table 2 – Features

Feature	Requirement	Description
NetworkPortStateManagement	Optional	See 7.1.1.

Table 3 identifies the class adaptations defined in this profile.

Table 3 – Adaptations

Adaptation	Elements	Requirement	Description
Instantiated, embedded and abstract adaptations			
RegisteredProfile	CIM_RegisteredProfile	Mandatory	See 7.2.2.
ComputerSystem	CIM_ComputerSystem	Mandatory	See 7.2.3.
SystemDevice	CIM_SystemDevice	Mandatory	See 7.2.4.
NetworkPort	CIM_NetworkPort	Mandatory	See 7.2.5.
Indications and exceptions			
This profile does not define any such adaptations.			

Table 4 identifies the use cases and state descriptions defined in this profile.

Table 4 – Use cases and state descriptions

Name	Description
State description: SimpleObjectDiagram	See 8.1.

6 Description

The following DMTF collaboration structure diagram show all class adaptations defined in this profile, and all profiles referenced by this profile.

Description of the diagram ...

7 Implementation

7.1 Features

7.1.1 Feature: NetworkPortStateManagement

Implementing this feature provides support for client management of the state of a network port by means of the RequestStateChange( ) method.

The requirement level for this feature is optional.

This feature can be made available to clients at the granularity of NetworkPort instances.

It can be concluded that the feature is available for a NetworkPort instance if:

- The following OCL derivation constraint evaluates to a Boolean value of True.

  OCL context: A NetworkPort instance.

```
derive: self.ElementCapabilities::Capabilities.
    RequestedStatesSupported->notEmpty()
```

Otherwise, it can be concluded that the feature is not available.

7.2 Adaptations

7.2.1 Conventions

This profile defines operation requirements based on DSP0223.

For adaptations of ordinary classes and of associations, the requirements for operations are defined in adaptation-specific subclauses of subclause 7.2.

For association traversal operation requirements that are specified only in the elements table of an adaptation (i.e., without operation-specific subclauses), the names of the association adaptations to be traversed are listed in the elements table.

The default initialization requirement level for property requirements is optional.

The default modification requirement level for property requirements is optional.

This profile repeats the effective values of certain Boolean qualifiers as part of property, method parameter, or method return value requirements. The following convention is established: If the name of a qualifier is listed, its effective value is True; if the qualifier name is not listed, its effective value is False. The convention is applied in the following cases:

- In: indicates that the parameter is an input parameter
- Out: indicates that the parameter is an output parameter
- Key: indicates that the property is a key (that is, its value is part of the instance path)
- Required: indicates that the element value shall be non-Null
- Null OK: indicates explicitly that the element value may be Null for mandatory, conditional or conditional exclusive properties. This information is not specified as a qualifier in the schema but as an indicator in the profile.

7.2.2 Adaptation: RegisteredProfile: CIM_RegisteredProfile

7.2.2.1 General

This adaptation models the version of this profile that was implemented.

The implementation type of this adaptation is instantiated ordinary adaptation.

The requirement level for this adaptation is mandatory.

Table 5 identifies the element requirements for this adaptation.

Table 5 – RegisteredProfile: Element requirements

Element	Requirement	Description
Base adaptations		
ProfileRegistration::RegisteredProfile	Optional	See ProfileRegistration::RegisteredProfile.
Properties		
RegisteredName	Mandatory	Required, see 7.2.2.2.
RegisteredOrganization	Mandatory	Required, see 7.2.2.3.
RegisteredVersion	Mandatory	Required, see 7.2.2.4.

7.2.2.2 Property: RegisteredName

The presentation requirement level for this property is mandatory.

The implementation shall satisfy the following constraint for this property:

OCL constraint with context of a RegisteredProfile instance:

```
inv: self.RegisteredName = 'MRP Template'
```

7.2.2.3 Property: RegisteredOrganization

The presentation requirement level for this property is mandatory.

The implementation shall satisfy the following constraint for this property:

OCL constraint with context of a RegisteredProfile instance:

```
inv: self.RegisteredOrganization = 2 /* DMTF */
```

7.2.2.4 Property: RegisteredVersion

The presentation requirement level for this property is mandatory.

The implementation shall satisfy the following constraint for this property:

OCL constraint with context of a RegisteredProfile instance:

```
inv: self.RegisteredVersion = '1.0.0'
```

7.2.3 Adaptation: ComputerSystem: CIM_ComputerSystem

This adaptation models systems hosting network ports .

The implementation type of this adaptation is instantiated ordinary adaptation.

The requirement level for this adaptation is mandatory.

Table 6 identifies the element requirements for this adaptation.

Table 6 – ComputerSystem: Element requirements

Element	Requirement	Description
Base adaptations		
ProfileRegistration::ScopingElement	Optional	See ProfileRegistration::ScopingElement.
Operations		
Associators( ) for SystemDevice	Mandatory	See DSP0223.
AssociatorNames( ) for SystemDevice	Mandatory	See DSP0223.
References( ) for SystemDevice	Mandatory	See DSP0223.
ReferenceNames( ) for SystemDevice	Mandatory	See DSP0223.

7.2.4 Adaptation: SystemDevice: CIM_SystemDevice

7.2.4.1 General

This adaptation models the relationship between netwpork ports that are represented by NetworkPort instances and the systems hosting these network ports that are represented by ComputerSystem instances.

The implementation type of this adaptation is instantiated association adaptation.

The requirement level for this adaptation is mandatory.

Table 7 identifies the element requirements for this adaptation.

Table 7 – SystemDevice: Element requirements

Element	Requirement	Description
Properties		
GroupComponent	Mandatory	Key, see 7.2.4.2.
PartComponent	Mandatory	Key, see 7.2.4.3.
Operations		
GetInstance( )	Mandatory	See DSP0223.

7.2.4.2 Property: GroupComponent

The presentation requirement level for this property is mandatory.

The implementation shall satisfy the following constraints for this reference property:

- Referenced instances shall be of class adaptation ComputerSystem.
- The multiplicity of [1 .. 1] defined in the schema is not further constrained.

7.2.4.3 Property: PartComponent

The presentation requirement level for this property is mandatory.

The implementation shall satisfy the following constraints for this reference property:

- Referenced instances shall be of class adaptation NetworkPort.
- The multiplicity of [0 .. *] defined in the schema is not further constrained.

7.2.5 Adaptation: NetworkPort: CIM_NetworkPort

7.2.5.1 General

This adaptation models network ports .

The implementation type of this adaptation is instantiated ordinary adaptation.

The requirement level for this adaptation is mandatory.

Table 8 identifies the element requirements for this adaptation.

Table 8 – NetworkPort: Element requirements

Element	Requirement	Description
Properties		
SystemCreationClassName	Mandatory	Key, see schema definition.
SystemName	Mandatory	Key, see schema definition.
CreationClassName	Mandatory	Key, see schema definition.
DeviceID	Mandatory	Key, see schema definition.
EnabledState	Mandatory	See schema definition.
RequestedState	Mandatory	See schema definition.
Methods		
RequestStateChange( )	Conditional	See 7.2.5.2.
Operations		
GetInstance( )	Mandatory	See DSP0223.
EnumerateInstances( )	Mandatory	See DSP0223.
EnumerateInstanceNames( )	Mandatory	See DSP0223.
Associators( ) for SystemDevice	Mandatory	See DSP0223.
AssociatorNames( ) for SystemDevice	Mandatory	See DSP0223.
References( ) for SystemDevice	Optional	See DSP0223.
ReferenceNames( ) for SystemDevice	Optional	See DSP0223.

7.2.5.2 Method: RequestStateChange( )

The requirement level for this method is conditional, with the following condition:

The NetworkPortStateManagement feature is implemented.

Only if the NetworkPortStateManagement feature is implemented for an instance of this adaptation, this method shall be implemented and shall not return a value of 1 (Not Supported).

Successful execution of this method on an instance of this adaptation shall change the instance's state to the value specified in the RequestedState parameter.

Invoking this method multiple times may result in earlier requests being overwritten or lost.

The implementation shall satisfy the following constraints for this method:

- OCL constraint with context of a NetworkPort instance:

```
pre: self.ElementCapabilities::Capabilities.
    RequestedStatesSupported->contains(RequestedState)
```

- OCL constraint with context of a NetworkPort instance:

```
post: self.RequestedState = RequestedState
```

Table 9 identifies the parameter and return value requirements of the method.

Table 9 – RequestStateChange( ): Parameter requirements

Parameter	Description
RequestedState	In, see schema definition.
ReturnValue	See 7.2.5.2.1.

7.2.5.2.1 Return value

...

8 Use cases and state descriptions

8.1 State description: SimpleObjectDiagram

The following figure shows a simple object diagram that represents ...

ANNEX A
(informative)

Change log

Table 10 – Change log

Version	Date	Description
1.1.0a	2013-08-09	Released as a Work in Progress