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MRP Template Profile

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Foreword

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

20 DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems
management and interoperability. For information about the DMTF, see <http://www.dmtf.org>.

21 **Acknowledgements**

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- 23 • Joe Smith, ACME (editor)

24

Introduction

25 {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.

26 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.

27 **Document conventions**

28 **Typographical conventions**

29 The following typographical conventions are used in this document:

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

33 **OCL usage conventions**

34 Constraints in this document are specified using OCL (see [OCL 2.0](#)).

35 OCL statements are in `monospaced font`.

36

MRP Template Profile

37

1 Scope

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

39

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>

47

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.

49

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.

53 The following additional terms are defined in this document.

54 3.2

55 **network port**

A network port ...

56

4 Symbols and abbreviated terms

57 The abbreviations defined in [DSP0004](#), [DSP0223](#), and [DSP1001](#) apply to this document.

58 This document does not define any additional abbreviations.

59

5 Synopsis

60 **Profile name:** MRP Template

61 **Version:** 1.1.0

62 **Organization:** DMTF

63 **Abstract:** No

64 **Profile type:** Component

65 **Schema:** DMTF CIM 2.22

66 **Central class adaptation:** NetworkPort

67 **Scoping class adaptation:** ComputerSystem

68 **Scoping path:** SystemDevice

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

70 Table 1 identifies the profile references defined in this profile.

71

Table 1 – Profile references

Profile reference name	Profile name	Organization	Version	Relationship	Description
ProfileRegistration	Profile Registration	DMTF	1.0	Mandatory	Used to represent the version of this profile that is implemented.

72 Table 2 identifies the features defined in this profile.

73

Table 2 – Features

Feature	Requirement	Description
NetworkPortStateManagement	Optional	See 7.1.1.

74 Table 3 identifies the class adaptations defined in this profile.

75

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.			

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

77 **Table 4 – Use cases and state descriptions**

Name	Description
State description: SimpleObjectDiagram	See 8.1.

78

6 Description

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

80 Description of the diagram ...

7 Implementation

7.1 Features

7.1.1 Feature: NetworkPortStateManagement

84 **Requirement level:** Optional

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

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

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

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

90 OCL context: A NetworkPort instance.

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

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

93

7.2 Adaptations

7.2.1 Conventions

94 This profile defines operation requirements based on [DSP0223](#).

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

96 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.

97 The default initialization requirement level for property requirements is optional.

98 The default modification requirement level for property requirements is optional.

99 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:

- 100 • In: indicates that the parameter is an input parameter
- 101 • Out: indicates that the parameter is an output parameter
- 102 • Key: indicates that the property is a key (that is, its value is part of the instance path)
- 103 • Required: indicates that the element value shall be non-Null
- 104 • 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

107 **Adaptation type:** Ordinary class

108 **Implementation type:** Instantiated

109 **Requirement level:** Mandatory

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

111 **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

112

7.2.2.2 Property: RegisteredName113 **Requirement level:** Mandatory114 **Constraint:**

115 OCL constraint in the context of a RegisteredProfile instance:

116 `inv: self.RegisteredName = 'MRP Template'`117 **7.2.2.3 Property: RegisteredOrganization**118 **Requirement level:** Mandatory119 **Constraint:**

120 OCL constraint in the context of a RegisteredProfile instance:

121 `inv: self.RegisteredOrganization = 2 /* DMTF */`122 **7.2.2.4 Property: RegisteredVersion**123 **Requirement level:** Mandatory124 **Constraint:**

125 OCL constraint in the context of a RegisteredProfile instance:

126 `inv: self.RegisteredVersion = '1.0.0'`127 **7.2.3 Adaptation: ComputerSystem: CIM_ComputerSystem**

This adaptation models systems hosting network ports .

128 **Adaptation type:** Ordinary class129 **Implementation type:** Instantiated130 **Requirement level:** Mandatory131 **Table 6 – ComputerSystem: Element requirements**

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

132 **7.2.4 Adaptation: SystemDevice: CIM_SystemDevice**133 **7.2.4.1 General**134 **Adaptation type:** Association class135 **Implementation type:** Instantiated136 **Requirement level:** Mandatory

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

137

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	

138

7.2.4.2 Property: GroupComponent

139

Requirement level: Mandatory

140

Reference kind: REF-typed

141

Constraints:

142

- Referenced instances shall be of class adaptation ComputerSystem.

143

- The multiplicity of this association end is 1 .. 1

144

7.2.4.3 Property: PartComponent

145

Requirement level: Mandatory

146

Reference kind: REF-typed

147

Constraints:

148

- Referenced instances shall be of class adaptation NetworkPort.

149

- The multiplicity of this association end is 0 .. *

150

7.2.5 Adaptation: NetworkPort: CIM_NetworkPort

151

7.2.5.1 General

152

Adaptation type: Ordinary class

153

Implementation type: Instantiated

154

Requirement level: Mandatory

This adaptation models network ports .

155

Table 8 – NetworkPort: Element requirements

Element	Requirement	Description
Properties		
SystemCreationClassName	Mandatory	Key
SystemName	Mandatory	Key
CreationClassName	Mandatory	Key
DeviceID	Mandatory	Key

Element	Requirement	Description
EnabledState	Mandatory	
RequestedState	Mandatory	
Methods		
RequestStateChange()	Conditional	See 7.2.5.2
Operations		
GetInstance()	Mandatory	
EnumerateInstances()	Mandatory	
EnumerateInstanceNames()	Mandatory	
Associators()	Mandatory	
AssociatorNames()	Mandatory	
References()	Optional	
ReferenceNames()	Optional	

156 **7.2.5.2 Method: RequestStateChange()**

157 **Requirement level:** Conditional

158 **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).

160 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.

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

162 **Constraints:**

- 164 • OCL constraint in the context of a NetworkPort instance:

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

- 167 • OCL constraint in the context of a NetworkPort instance:

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

169 **Table 9 – RequestStateChange(): Parameter requirements**

Parameter	Description
RequestedState	In
Return value	...

170 **7.2.5.2.1 Return value**

...

171

8 Use cases and state descriptions

172

8.1 State description: SimpleObjectDiagram

173

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

174

ANNEX A
(informative)**Change log**

175

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