

INTERNATIONAL STANDARD



Information technology – Storage management –
Part 3: Common profiles

ITh STANDARD PREVIEW
(standards.itech.ai)

[ISO/IEC 24775-3:2014](https://standards.itech.ai/catalog/standards/sist/6d34021e-d7fa-4b95-b33c-7bf7d5d1f940/iso-iec-24775-3-2014)

<https://standards.itech.ai/catalog/standards/sist/6d34021e-d7fa-4b95-b33c-7bf7d5d1f940/iso-iec-24775-3-2014>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2014 ISO/IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about ISO/IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

INTERNATIONAL STANDARD PREVIEW
(standards.iteh.ai)
ISO/IEC 24775-3:2014
<https://standards.iteh.ai/catalog/standards/iso-iec-24775-3-2014>
7bf7d5d1f940/iso-iec-24775-3-2014



ISO/IEC 24775-3

Edition 1.0 2014-10

INTERNATIONAL STANDARD



Information technology – Storage management –
Part 3: Common profiles

STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 24775-3:2014

<https://standards.iteh.ai/catalog/standards/sist/6d34021e-d7fa-4b95-b33c-7bf7d5d1f940/iso-iec-24775-3-2014>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

H

ICS 35.200

ISBN 978-2-8322-1894-5

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	35
Introduction	37
1 Scope	39
2 Normative references	39
3 Terms, definitions and abbreviations	41
3.1 Terms and definitions	41
3.2 Abbreviations	41
4 Profile introduction	42
4.1 Profile overview	42
4.1.1 General	42
4.1.2 Terminology	43
4.2 Format for Profile Specifications	43
5 Typographical Conventions	46
5.1 Maturity Model	46
5.2 Experimental Maturity Level	46
5.3 Implemented Maturity Level	46
5.4 Stable Maturity Level	47
5.5 Finalized Maturity Level	47
5.6 Deprecated Material	47
6 Recipe overview	49
6.1 Recipe concepts	49
6.2 Recipe Pseudo Code conventions	49
6.2.1 Overview	49
6.2.2 General Syntax	49
6.2.3 CIM related variable and methods	50
6.2.4 Data structure	51
6.2.5 Operations	51
6.2.6 Control operations	52
6.2.7 Functions	52
6.2.8 Exception handling	53
6.2.9 Built-in functions	53
6.2.10 Extrinsic method calls	54
7 Generic Target Ports Profile	55
7.1 Synopsis	55
7.2 Description	55
7.3 Implementation	55
7.3.1 General	55
7.3.2 Modeling SCSI/SB Logical Units	57
7.4 Methods of the Profile	57
7.4.1 Extrinsic methods	57
7.4.2 Intrinsic methods	58
7.5 Use Cases	58
7.6 CIM Elements	58
7.6.1 General	58
7.6.2 CIM_DeviceSAPImplementation	58
7.6.3 CIM_HostedAccessPoint	59
7.6.4 CIM_LogicalPort	59
7.6.5 CIM_ProtocolEndpoint	59
7.6.6 CIM_SystemDevice (Port)	60
8 Parallel SCSI (SPI) Target Ports Profile	61

8.1	Synopsis.....	61
8.2	Description	61
8.3	Implementation.....	61
8.4	Health and Fault Management.....	62
8.5	Methods – Extrinsic Methods of this Subprofile	62
8.6	CIM elements	62
8.6.1	General.....	62
8.6.2	CIM_DeviceSAPImplementation	62
8.6.3	CIM_HostedAccessPoint.....	63
8.6.4	CIM_SCSIProtocolEndpoint	63
8.6.5	CIM_SPIPort	64
8.6.6	CIM_SystemDevice (Port).....	64
9	FC Target Ports Profile.....	66
9.1	Synopsis.....	66
9.2	Description	66
9.3	Implementation.....	66
9.3.1	General.....	66
9.3.2	SMI-S 1.0 backwards compatibility	66
9.4	Durable Names and Correlatable IDs of the Subprofile	67
9.5	Health and Fault Management.....	67
9.6	Supported Profiles and Packages.....	67
9.7	Extrinsic Methods of this Subprofile	67
9.8	Client Considerations and Recipes.....	67
9.9	CIM Elements.....	68
9.9.1	General.....	68
9.9.2	CIM_DeviceSAPImplementation	68
9.9.3	CIM_FCPort	69
9.9.4	CIM_HostedAccessPoint.....	70
9.9.5	CIM_ProtocolControllerForPort.....	70
9.9.6	CIM_SCSIProtocolEndpoint	70
9.9.7	CIM_SystemDevice (Port).....	71
10	iSCSI Target Ports Subprofile	72
10.1	Synopsis.....	72
10.2	Description	72
10.3	Implementation.....	72
10.3.1	General.....	72
10.3.2	Mapping and Masking considerations	74
10.3.3	Settings	75
10.3.4	Durable Names and Correlatable IDs of the Subprofile	75
10.4	Health and Fault Management.....	75
10.5	Supported Subprofiles and Packages.....	76
10.6	Methods of this Subprofile.....	76
10.6.1	General.....	76
10.6.2	CreateiSCSINode	76
10.6.3	DeleteiSCSINode	77
10.6.4	CreateiSCSIProtocolEndpoint	77
10.6.5	DeleteiSCSIProtocolEndpoint	79
10.6.6	BindiSCSIProtocolEndpoint.....	79
10.7	Client Considerations and Recipes	80
10.7.1	Discover the iSCSI Target Port capabilities	80
10.7.2	Identify the iSCSI Nodes in a target system	81
10.7.3	Identify the iSCSI Ports on a given iSCSI node	81
10.7.4	Identify the iSCSI sessions existing on an iSCSI node	82
10.7.5	Create an iSCSI Target Node on an iSCSI Network Entity	83

10.7.6	Create an iSCSI Target Port on an iSCSI target node	84
10.7.7	Add a Network Portal to a Target Port	85
10.7.8	Determine the health of Nodes in a target system	87
10.7.9	Determine the health of a Session on a target system	87
10.7.10	Configure the default settings for Sessions created in a target computer system ..	88
10.7.11	Configure default settings for Connections on Network Portals used by an iSCSIProtocolEndpoint	89
10.7.12	Get the statistics for a Session on a target system	89
10.7.13	Configure Enable/disable header and data digest	89
10.8	CIM Elements	90
10.8.1	General	90
10.8.2	CIM_BindsTo (TCPProtocolEndpoint to IPProtocolEndpoint)	92
10.8.3	CIM_BindsTo (iSCSIProtocolEndpoint to TCPProtocolEndpoint)	92
10.8.4	CIM_ConcreteDependency	93
10.8.5	CIM_DeviceSAPImplementation (EthernetPort to IPProtocolEndpoint)	93
10.8.6	CIM_DeviceSAPImplementation (EthernetPort to iSCSIProtocolEndpoint)	93
10.8.7	CIM_ElementCapabilities (iSCSIConfigurationCapabilities to System)	94
10.8.8	CIM_ElementCapabilities (iSCSIConfigurationCapabilities to iSCSIConfigurationService)	94
10.8.9	CIM_ElementSettingData (iSCSIConnectionSettings to TCPProtocolEndpoint)	94
10.8.10	CIM_ElementSettingData (iSCSIConnectionSettings to iSCSIProtocolEndpoint) ..	95
10.8.11	CIM_ElementSettingData (iSCSIConnectionSettings to SCSIProtocolController)	95
10.8.12	CIM_ElementSettingData (iSCSIConnectionSettings to System)	95
10.8.13	CIM_ElementSettingData (iSCSIConnectionSettings to iSCSIProtocolEndpoint)	96
10.8.14	CIM_ElementStatisticalData (iSCSILoginStatistics to SCSIProtocolController)	96
10.8.15	CIM_ElementStatisticalData (iSCSIConnectionFailures to SCSIProtocolController) ..	96
10.8.16	CIM_ElementStatisticalData (iSCSIConnectionStatistics to iSCSIConnection)	97
10.8.17	CIM_EndpointOfNetworkPipe (iSCSIConnection to TCPProtocolEndpoint)	97
10.8.18	CIM_EndpointOfNetworkPipe (iSCSIConnection to iSCSIProtocolEndpoint)	98
10.8.19	CIM_EthernetPort	98
10.8.20	CIM_HostedAccessPoint (System to IPProtocolEndpoint)	98
10.8.21	CIM_HostedAccessPoint (System to TCPProtocolEndpoint)	99
10.8.22	CIM_HostedAccessPoint (System to iSCSIProtocolEndpoint)	99
10.8.23	CIM_HostedCollection	99
10.8.24	CIM_HostedService	100
10.8.25	CIM_IPProtocolEndpoint	100
10.8.26	CIM_MemberOfCollection	100
10.8.27	CIM_NetworkPipeComposition	101
10.8.28	CIM_SAPAvailableForElement	101
10.8.29	CIM SCSIProtocolController	101
10.8.30	CIM_SystemDevice (System to EthernetPort)	102
10.8.31	CIM_SystemDevice (System to SCSIProtocolController)	102
10.8.32	CIM_SystemSpecificCollection	102
10.8.33	CIM_TCPProtocolEndpoint	103
10.8.34	CIM_iSCSICapabilities	103
10.8.35	CIM_iSCSIConfigurationCapabilities	104
10.8.36	CIM_iSCSIConfigurationService	104
10.8.37	CIM_iSCSIConnection	104
10.8.38	CIM_iSCSIConnectionSettings	105
10.8.39	CIM_iSCSILoginStatistics	106
10.8.40	CIM_iSCSIProtocolEndpoint	106
10.8.41	CIM_iSCSIConnection	107
10.8.42	CIM_iSCSIConnectionFailures	108
10.8.43	CIM_iSCSIConnectionSettings	108
10.8.44	CIM_iSCSIConnectionStatistics	109

11	Serial Attached SCSI (SAS) Target Port Subprofile	110
11.1	Synopsis.....	110
11.2	Description	110
11.2.1	General.....	110
11.2.2	Health and Fault Management	111
11.3	Methods	111
11.3.1	Extrinsic Methods of this Subprofile	111
11.3.2	Intrinsic Methods of this Subprofile	111
11.4	Client considerations and Recipes	111
11.5	CIM Elements.....	112
11.5.1	General.....	112
11.5.2	CIM_ConcreteComponent.....	112
11.5.3	CIM_DeviceSAPImplementation	112
11.5.4	CIM_HostedAccessPoint.....	113
11.5.5	CIM_SASPort	113
11.5.6	CIM_SCSIProtocolEndpoint	114
11.5.7	CIM_SystemDevice (Port).....	114
11.5.8	CIM_SystemDevice (SAS PHY).....	115
11.5.9	SNIA_SASPHY	115
12	Serial ATA (SATA) Target Ports Profile.....	116
12.1	Synopsis.....	116
12.2	Description	116
12.2.1	General.....	116
12.2.2	Health and Fault Management	117
12.3	Methods of this Subprofile	117
12.4	Client considerations and Recipes	117
12.5	CIM elements	118
12.5.1	General.....	118
12.5.2	CIM_ATAPort	118
12.5.3	CIM_ATAProtocolEndpoint	119
12.5.4	CIM_DeviceSAPImplementation	119
12.5.5	CIM_HostedAccessPoint.....	119
12.5.6	CIM_SystemDevice (Port).....	120
13	SB Target Ports Profile.....	121
13.1	Synopsis.....	121
13.2	Description	121
13.3	Implementation.....	121
13.4	Health and Fault Management Consideration.....	122
13.5	Cascading Considerations	122
13.6	Methods of the Profile	123
13.6.1	Extrinsic Methods of the Profile	123
13.6.2	Intrinsic Methods of the Profile	123
13.7	Client Considerations and Recipes	123
13.8	CIM Elements.....	123
13.8.1	General.....	123
13.8.2	CIM_DeviceSAPImplementation	124
13.8.3	CIM_FCPort	124
13.8.4	CIM_HostedAccessPoint.....	125
13.8.5	CIM_SystemDevice (Port).....	125
13.8.6	SNIA_SBProtocolEndpoint.....	125
14	Direct Attach (DA) Ports Profile	128
14.1	Description	128
14.2	Health and Fault Management.....	128
14.3	Supported Profiles and Packages.....	128

14.4	Extrinsic Methods	128
14.5	Client Considerations and Recipes	129
14.6	Registered Name and Version	129
14.7	CIM Elements.....	129
14.7.1	General.....	129
14.7.2	CIM_DAPort	129
14.7.3	CIM_DeviceSAPImplementation	130
14.7.4	CIM_HostedAccessPoint	130
14.7.5	CIM_SCSIProtocolEndpoint	130
14.7.6	CIM_SystemDevice (Port).....	131
15	Generic Initiator Ports Profile.....	132
15.1	Synopsis.....	132
15.2	Description	132
15.3	Implementation.....	132
15.3.1	General.....	132
15.3.2	Remote Device Models	133
15.3.3	Health and Fault Management Considerations	136
15.3.4	Cascading Considerations	136
15.4	Methods	136
15.4.1	Extrinsic Methods of this Profile	136
15.4.2	Intrinsic Methods of this Profile	136
15.5	Use Cases.....	136
15.6	CIM Elements.....	137
15.6.1	General.....	137
15.6.2	CIM_ConnectivityCollection	137
15.6.3	CIM_DeviceSAPImplementation	138
15.6.4	CIM_ElementStatisticalData (Port Statistics)	138
15.6.5	CIM_HostedAccessPoint (Initiator).....	138
15.6.6	CIM_HostedAccessPoint (Target).....	139
15.6.7	CIM_HostedCollection (Connectivity Collection).....	139
15.6.8	CIM_LogicalPort.....	139
15.6.9	CIM_MemberOfCollection (Connectivity Collection)	140
15.6.10	CIM_ProtocolEndpoint (Initiator).....	140
15.6.11	CIM_ProtocolEndpoint (Target)	141
15.6.12	CIM_SystemDevice (Initiator Ports).....	141
15.6.13	SNIA_LogicalPortStatistics	142
16	Parallel SCSI (SPI) Initiator Ports Profile.....	143
16.1	Synopsis.....	143
16.2	Description	143
16.3	Implementation.....	143
16.3.1	General.....	143
16.3.2	Health and Fault Management Considerations	143
16.3.3	Cascading Considerations	144
16.4	Methods	144
16.4.1	Extrinsic Methods of this Profile	144
16.4.2	Intrinsic Methods of this Profile	144
16.5	Detailed Use Cases and Recipes	144
16.6	CIM Elements.....	144
16.6.1	General.....	144
16.6.2	CIM_ConnectivityCollection	145
16.6.3	CIM_DeviceSAPImplementation	145
16.6.4	CIM_ElementStatisticalData (Port Statistics)	146
16.6.5	CIM_HostedAccessPoint (Initiator)	146
16.6.6	CIM_HostedAccessPoint (Target).....	146

16.6.7	CIM_HostedCollection (Connectivity Collection).....	147
16.6.8	CIM_MemberOfCollection (Connectivity Collection)	147
16.6.9	CIM_SCSIInitiatorTargetLogicalUnitPath	148
16.6.10	CIM_SCSIProtocolEndpoint (Initiator).....	148
16.6.11	CIM_SCSIProtocolEndpoint (Target)	149
16.6.12	CIM_SPIPort	149
16.6.13	CIM_SystemDevice (Initiator Ports)	150
16.6.14	SNIA_LogicalPortStatistics	150
17	iSCSI Initiator Port Profile	152
17.1	Synopsis.....	152
17.2	Description	152
17.3	Implementation.....	152
17.3.1	General.....	152
17.3.2	Health and Fault Management Considerations	153
17.3.3	Cascading Considerations	153
17.4	Methods	153
17.4.1	Extrinsic Methods of this Profile	153
17.4.2	Intrinsic Methods of this Profile	153
17.5	Detailed Use Cases and Recipes	154
17.6	CIM Elements.....	154
17.6.1	General.....	154
17.6.2	CIM_BindsTo (Host Hardware RAID Controller)	155
17.6.3	CIM_DeviceSAPImplementation (IPProtocolEndpoint to EthernetPort).....	155
17.6.4	CIM_DeviceSAPImplementation (iSCSIProtocolEndpoint to EthernetPort).....	155
17.6.5	CIM_EthernetPort (Host Hardware RAID Controller)	156
17.6.6	CIM_HostedAccessPoint (System to IPProtocolEndpoint)	156
17.6.7	CIM_HostedAccessPoint (System to TCPProtocolEndpoint).....	156
17.6.8	CIM_HostedAccessPoint (System to iSCSIProtocolEndpoint).....	157
17.6.9	CIM_IPProtocolEndpoint (Host Hardware RAID Controller).....	157
17.6.10	CIM_LogicalDevice (Host Hardware RAID Controller).....	158
17.6.11	CIM_SystemDevice (System to EthernetPort)	158
17.6.12	CIM_SystemDevice (System to LogicalDevice).....	158
17.6.13	CIM_TCPProtocolEndpoint (Host Hardware RAID Controller)	159
17.6.14	CIM_iSCSIProtocolEndpoint (Host Hardware RAID Controller)	159
18	FC Initiator Ports Profile	161
18.1	Synopsis.....	161
18.2	Description	161
18.3	Implementation.....	161
18.3.1	General.....	161
18.3.2	Port Statistics	162
18.3.3	Logical Port Group (FC Node).....	162
18.3.4	Health and Fault Management Considerations	163
18.3.5	Cascading Considerations	163
18.4	Methods	163
18.4.1	Extrinsic Methods of this Profile	163
18.4.2	Intrinsic Methods of this Profile	163
18.5	Use Cases – Get the statistics for each FC port	163
18.6	CIM Elements.....	164
18.6.1	General.....	164
18.6.2	CIM_ConnectivityCollection	165
18.6.3	CIM_DeviceSAPImplementation	165
18.6.4	CIM_ElementStatisticalData (Port Statistics)	166
18.6.5	CIM_FCPort	166
18.6.6	CIM_FCPortStatistics	168

18.6.7	CIM_HostedAccessPoint (Initiator)	168
18.6.8	CIM_HostedAccessPoint (Target)	169
18.6.9	CIM_HostedCollection (Connectivity Collection)	169
18.6.10	CIM_MemberOfCollection (Connectivity Collection)	170
18.6.11	CIM_ProtocolControllerForPort	170
18.6.12	CIM_SCSIInitiatorTargetLogicalUnitPath	170
18.6.13	CIM_SCSIProtocolController	171
18.6.14	CIM_SCSIProtocolEndpoint (Initiator)	171
18.6.15	CIM_SCSIProtocolEndpoint (Target)	172
18.6.16	CIM_SystemDevice (Initiator Ports)	172
19	SAS Initiator Ports Profile	174
19.1	Synopsis	174
19.2	Description	174
19.2.1	General	174
19.2.2	Health and Fault Management Considerations	175
19.3	Methods of the profile	175
19.4	Client Considerations and Recipes	175
19.5	CIM Elements	175
19.5.1	General	175
19.5.2	CIM_ATAProtocolEndpoint (Initiator)	176
19.5.3	CIM_BindsTo	176
19.5.4	CIM_ConcreteComponent	177
19.5.5	CIM_ConnectivityCollection	177
19.5.6	CIM_DeviceSAPImplementation	177
19.5.7	CIM_ElementStatisticalData (PHY Statistics)	178
19.5.8	CIM_ElementStatisticalData (Port Statistics)	178
19.5.9	CIM_HostedAccessPoint (Initiator)	178
19.5.10	CIM_HostedAccessPoint (Target)	179
19.5.11	CIM_HostedCollection (Connectivity Collection)	179
19.5.12	CIM_MemberOfCollection (Connectivity Collection)	179
19.5.13	CIM_SASPort	180
19.5.14	CIM_SCSIInitiatorTargetLogicalUnitPath	180
19.5.15	CIM_SCSIProtocolEndpoint (Initiator)	181
19.5.16	CIM_SCSIProtocolEndpoint (Target)	181
19.5.17	CIM_SystemDevice (Initiator PHY)	182
19.5.18	CIM_SystemDevice (Initiator Ports)	182
19.5.19	SNIA_LogicalPortStatistics	183
19.5.20	SNIA_SASPHY	183
19.5.21	SNIA_SASPhyStatistics	184
20	ATA Initiator Ports Profile	185
20.1	Synopsis	185
20.2	Description	185
20.3	Implementation	185
20.3.1	General	185
20.3.2	Health and Fault Management Consideration	186
20.3.3	Cascading Considerations	186
20.4	Methods of the Profile	186
20.4.1	Extrinsic Methods of the Profile	186
20.4.2	Intrinsic Methods of this Profile	186
20.5	Client Considerations and Recipes	186
20.6	CIM Elements	187
20.6.1	General	187
20.6.2	CIM_ATAInitiatorTargetLogicalUnitPath	187
20.6.3	CIM_ATAPort	188

20.6.4	CIM_ATAProtocolEndpoint (Initiator)	188
20.6.5	CIM_ATAProtocolEndpoint (Target)	189
20.6.6	CIM_ConnectivityCollection	190
20.6.7	CIM_DeviceSAPImplementation	190
20.6.8	CIM_ElementStatisticalData (Port Statistics)	190
20.6.9	CIM_HostedAccessPoint (Initiator)	191
20.6.10	CIM_HostedAccessPoint (Target)	191
20.6.11	CIM_HostedCollection (Connectivity Collection)	191
20.6.12	CIM_MemberOfCollection (Connectivity Collection)	192
20.6.13	CIM_SystemDevice (Initiator Ports)	192
20.6.14	SNIA_LogicalPortStatistics	193
21	FC-SB-x Initiator Ports Profile	194
21.1	Synopsis	194
21.2	Description	194
21.3	Implementation	194
21.3.1	General	194
21.3.2	Health and Fault Management Considerations	195
21.3.3	Cascading Considerations	195
21.4	Methods	195
21.4.1	Extrinsic Methods of the Profile	195
21.4.2	Intrinsic Methods of this Profile	195
21.5	Client Considerations and Recipes	195
21.6	CIM Elements	196
21.6.1	General	196
21.6.2	CIM_ConnectivityCollection	196
21.6.3	CIM_DeviceSAPImplementation	197
21.6.4	CIM_ElementStatisticalData (Port Statistics)	197
21.6.5	CIM_FCPort	198
21.6.6	CIM_HostedAccessPoint (Initiator)	199
21.6.7	CIM_HostedAccessPoint (Target)	199
21.6.8	CIM_HostedCollection (Connectivity Collection)	199
21.6.9	CIM_MemberOfCollection (Connectivity Collection)	200
21.6.10	CIM_SystemDevice (Initiator Ports)	200
21.6.11	SNIA_LogicalPortStatistics	200
21.6.12	SNIA_SBInitiatorTargetLogicalUnitPath	201
21.6.13	SNIA_SBProtocolEndpoint (Initiator)	201
21.6.14	SNIA_SBProtocolEndpoint (Target)	202
22	Backend Ports Subprofile	203
23	FCoE Initiator Ports Profile	204
23.1	Synopsis	204
23.2	Description	204
23.3	Implementation	204
23.3.1	General	204
23.3.2	Relationship to Storage HBA Profile	205
23.3.3	Optional target model	205
23.3.4	Port Statistics	205
23.3.5	Logical Port Group (FC Node)	205
23.3.6	Health and Fault Management Considerations	206
23.3.7	Cascading Considerations	206
23.4	Methods	206
23.4.1	Extrinsic Methods of this Profile	206
23.4.2	Intrinsic Methods of this Profile	206
23.5	Detailed Use Cases and Recipes	207
23.6	CIM Elements	207

23.6.1	General.....	207
23.6.2	CIM_ConnectivityCollection	208
23.6.3	CIM_DeviceSAPImplementation	208
23.6.4	CIM_ElementStatisticalData (Port Statistics)	209
23.6.5	CIM_EthernetPort.....	209
23.6.6	CIM_FCPort	209
23.6.7	CIM_FCPortStatistics	210
23.6.8	CIM_HostedAccessPoint (Initiator)	211
23.6.9	CIM_HostedAccessPoint (Target).....	212
23.6.10	CIM_HostedCollection (Connectivity Collection).....	212
23.6.11	CIM_HostedCollection (FC Node).....	212
23.6.12	CIM_HostedDependency (NetworkPort to FCPort)	213
23.6.13	CIM_LogicalPortGroup.....	213
23.6.14	CIM_MemberOfCollection (Connectivity Collection)	213
23.6.15	CIM_MemberOfCollection (FC Node)	214
23.6.16	CIM_ProtocolEndpoint (Initiator).....	214
23.6.17	CIM_ProtocolEndpoint (Target)	215
23.6.18	CIM_SCSIInitiatorTargetLogicalUnitPath.....	215
23.6.19	CIM_SCSIProtocolEndpoint (Initiator).....	216
23.6.20	CIM_SCSIProtocolEndpoint (Target).....	216
23.6.21	CIM_SystemDevice (Ethernet Port).....	217
23.6.22	CIM_SystemDevice (Initiator Ports).....	217
24	Access Points Subprofile.....	218
24.1	Description	218
24.2	Health and Fault Management Considerations.....	219
24.3	Cascading Considerations	219
24.4	Supported Subprofiles and Packages.....	219
24.5	Methods of this Profile.....	219
24.6	Client Considerations and Recipes.....	220
24.7	Registered Name and Version	220
24.8	CIM Elements.....	220
24.8.1	General.....	220
24.8.2	CIM_HostedAccessPoint.....	220
24.8.3	CIM_RemoteServiceAccessPoint	220
24.8.4	CIM_SAPAvailableForElement	221
25	Cascading Subprofile	222
25.1	Introduction to cascading subprofile.....	222
25.2	Description	222
25.2.1	Overview	222
25.2.2	Instance Diagrams	223
25.3	Health and Fault Management Considerations.....	229
25.3.1	Reporting Health of Leaf Systems, Resources and Object Managers	229
25.3.2	Cascading Indications of Health.....	230
25.4	Cascading Considerations	230
25.5	Supported Subprofiles and Packages.....	230
25.6	Methods of this Subprofile.....	230
25.6.1	General.....	230
25.6.2	Allocate.....	230
25.6.3	Deallocate	231
25.7	Client Considerations and Recipes	232
25.7.1	Recipe MPCP01: Determining Resources used by cascading Profiles.....	232
25.7.2	Recipe MPCP02: Monitoring the existence of Cascading Profiles	232
25.7.3	OPTIONAL: Recipe MPCP03: Allocation of Leaf Resources	232
25.7.4	OPTIONAL: Recipe MPCP04: Deallocation of Leaf Resources.....	232

25.7.5	Recipe MPCP05: Monitoring the existence of “Stitching” between Profiles	232
25.7.6	Supported SNIA_CascadingCapabilities Patterns	232
25.8	Registered Name and Version	232
25.9	CIM Elements.....	233
25.9.1	General.....	233
25.9.2	CIM_ComputerSystem (Leaf System).....	235
25.9.3	CIM_Dependency (Object Managers).....	235
25.9.4	CIM_Dependency (Profile to Object Manager)	236
25.9.5	CIM_Dependency (Systems)	236
25.9.6	CIM_ElementCapabilities	236
25.9.7	CIM_ElementConformsToProfile (Leaf)	237
25.9.8	CIM_HostedCollection (Allocated Resources)	237
25.9.9	CIM_HostedCollection (Remote Resources)	238
25.9.10	CIM_HostedService (Allocation Service)	238
25.9.11	CIM_HostedService (Object Manager)	239
25.9.12	CIM_LogicalDisk	239
25.9.13	CIM_LogicalIdentity (General)	240
25.9.14	CIM_LogicalIdentity (LogicalDisk).....	241
25.9.15	CIM_LogicalIdentity (StorageVolume)	241
25.9.16	CIM_MemberOfCollection (Allocated Resources)	241
25.9.17	CIM_MemberOfCollection (Remote Resources).....	242
25.9.18	CIM_Namespace (Leaf).....	242
25.9.19	CIM_NamespaceInManager (Leaf).....	243
25.9.20	CIM_ObjectManager (Leaf).....	243
25.9.21	CIM_RegisteredProfile (Leaf).....	243
25.9.22	CIM_RemoteServiceAccessPoint (Leaf).....	244
25.9.23	CIM_SAPAvailableForElement	244
25.9.24	CIM_StorageVolume	245
25.9.25	CIM_SystemDevice (Leaf Devices)	246
25.9.26	SNIA_AllocatedResources.....	246
25.9.27	SNIA_AllocationService	247
25.9.28	SNIA_CascadingCapabilities	248
25.9.29	SNIA_RemoteResources	248
26	Health Package	250
26.1	Description	250
26.1.1	General.....	250
26.1.2	Error Reporting Mechanism	250
26.1.3	Event Reporting Mechanism	251
26.1.4	Standard Events.....	251
26.1.5	Reporting Health	252
26.1.6	Computer System Operational Status.....	252
26.1.7	Event Reporting.....	253
26.1.8	Fault Region	253
26.1.9	RelatedElementCausingError.....	253
26.1.10	HealthState	254
26.2	Health and Fault Management Considerations.....	254
26.3	Cascading Considerations	254
26.4	Supported Subprofiles and Packages.....	254
26.5	Client Considerations and Recipes	254
26.6	Registered Name and Version	254
26.7	CIM Elements.....	254
26.7.1	General.....	254
26.7.2	CIM_ComputerSystem	255
26.7.3	CIM_LogicalDevice	255

26.7.4	CIM_RelatedElementCausingError	256
27	Job Control Subprofile	257
27.1	Description	257
27.1.1	General.....	257
27.1.2	Instance Diagram	257
27.1.3	MethodResult	258
27.1.4	OperationalStatus for Jobs	259
27.1.5	JobState for Jobs	259
27.1.6	Determining How Long a Job Remains after Execution	260
27.2	Health and Fault Management.....	260
27.3	Cascading Considerations	260
27.4	Support Subprofiles and Packages	260
27.5	Methods of the Profile	261
27.5.1	Job Modification	261
27.5.2	Getting Error Conditions from Jobs	261
27.5.3	Suspending, Killing or Terminating a Job	261
27.6	Client Considerations and Recipes	262
27.7	Registered Name and Version	263
27.8	CIM Elements.....	263
27.8.1	General.....	263
27.8.2	CIM_AffectedJobElement.....	264
27.8.3	CIM_AssociatedJobMethodResult	264
27.8.4	CIM_ConcreteJob	264
27.8.5	CIM_MethodResult.....	266
27.8.6	CIM_OwningJobElement.....	267
28	Location Subprofile.....	268
28.1	Description	268
28.1.1	General.....	268
28.1.2	Instance Diagram	268
28.2	Health and Fault Management Considerations	268
28.3	Cascading Considerations	268
28.4	Supported Subprofiles and Packages	268
28.5	Methods of the Profile	268
28.6	Client Considerations and Recipes	268
28.7	Registered Name and Version	268
28.8	CIM Elements.....	269
28.8.1	General.....	269
28.8.2	CIM_Location	269
28.8.3	CIM_PhysicalElementLocation.....	269
29	Extra Capacity Set Subprofile.....	270
30	Cluster Subprofile	271
31	Multiple Computer System Subprofile	272
31.1	Description	272
31.1.1	General.....	272
31.1.2	Top Level System.....	272
31.1.3	Non-Top-Level Systems	273
31.1.4	Types of RedundancySets	273
31.1.5	Multiple Tiers of Systems	273
31.1.6	Associations between ComputerSystems and other Logical Elements.....	274
31.1.7	Associations between ComputerSystems and PhysicalPackages and Products..	275
31.1.8	Storage Systems without Multiple Systems	276
31.1.9	Durable Names and Correlatable IDs of the Subprofile	276
31.2	Health and Fault Management Considerations	276
31.3	Cascading Considerations	276

31.4	Supported Subprofiles and Packages.....	276
31.5	Methods of the Profile	276
31.6	Client Considerations and Recipes	276
31.6.1	General.....	276
31.6.2	Find Top-level Computer Systems	276
31.6.3	Find the Top-level Computer System for any LogicalDevice.....	276
31.7	Registered Name and Version	279
31.8	CIM Elements.....	279
31.8.1	General.....	279
31.8.2	CIM_ComponentCS	279
31.8.3	CIM_ComputerSystem (Non-Top-Level System).....	280
31.8.4	CIM_ConcretelIdentity.....	280
31.8.5	CIM_IsSpare	280
31.8.6	CIM_MemberOfCollection	281
31.8.7	CIM_RedundancySet	281
32	Physical Package Package	282
32.1	Description	282
32.1.1	General.....	282
32.1.2	Well Defined Subcomponents	282
32.1.3	Multiple Product Identities	283
32.2	Health and Fault Management Considerations	284
32.3	Cascading Considerations	284
32.4	Supported Subprofiles and Packages.....	284
32.5	Methods of this Profile.....	284
32.6	Client Considerations and Recipes	284
32.6.1	Find Asset Information	284
32.6.2	Finding Product information	284
32.6.3	Finding Asset information	285
32.7	Registered Name and Version	285
32.8	CIM Elements.....	285
32.8.1	General.....	285
32.8.2	CIM_Container	285
32.8.3	CIM_LogicalIdentity	286
32.8.4	CIM_PhysicalElementLocation.....	286
32.8.5	CIM_PhysicalPackage (Component)	287
32.8.6	CIM_PhysicalPackage (System)	287
32.8.7	CIM_Product (Component)	288
32.8.8	CIM_Product (System)	288
32.8.9	CIM_ProductParentChild.....	289
32.8.10	CIM_ProductPhysicalComponent (Component)	289
32.8.11	CIM_ProductPhysicalComponent (System).....	289
32.8.12	CIM_SystemPackaging (Component).....	290
32.8.13	CIM_SystemPackaging (System)	290
33	Power Supply Profile	291
33.1	Synopsis.....	291
33.2	Description	291
33.3	Implementation.....	291
33.3.1	General.....	291
33.3.2	Health and Fault Management Consideration	291
33.3.3	Cascading Considerations	291
33.4	Methods	291
33.5	Use Cases.....	291
33.6	CIM Elements.....	292
33.6.1	General.....	292