

ISO/IEC 17963:2013-02 (E)

Web Services for Management (WS-Management) Specification

Contents		Page
Foreword.....		7
1 Scope.....		10
2 Normative References		10
3 Terms and Definitions		12
4 Symbols and Abbreviated Terms		15
5 Addressing		16
5.1 Management Addressing		16
5.2 Versions of Addressing		25
5.3 Requirements for Compatibility		25
5.4 Use of Addressing in WS-Management		27
6 WS-Management Control Headers.....		44
6.1 wsman:OperationTimeout		44
6.2 wsman:MaxEnvelopeSize		45
6.3 wsman:Locale		46
6.4 wsman:OptionSet		47
6.5 wsman:RequestEPR		50
7 Resource Access		51
7.1 General.....		51
7.2 Addressing Uniformity		53
7.3 Get.....		54
7.4 Put		55
7.5 Delete		59
7.6 Create.....		61
7.7 Fragment-Level Access.....		64
7.8 Fragment-Level Get		66
7.9 Fragment-Level Put.....		67
7.10 Fragment-Level Delete.....		70
7.11 Fragment-Level Create		71
8 Enumeration of Datasets		73
8.1 General.....		73
8.2 Enumerate.....		75
8.3 Filter Interpretation		82
8.4 Pull.....		84
8.5 Release		88
8.6 Ad-Hoc Queries and Fragment-Level Enumerations		90
8.7 Enumeration of EPRs.....		90
8.8 Renew		92
8.9 GetStatus.....		94
8.10 EnumerationEnd.....		94
9 Custom Actions (Methods).....		95
10 Notifications (Eventing).....		96
10.1 General.....		96
10.2 Subscribe.....		97
10.3 GetStatus.....		117
10.4 Unsubscribe.....		118
10.5 Renew		119
10.6 SubscriptionEnd		120
10.7 Acknowledgement of Delivery		122
10.8 Refusal of Delivery		123
10.9 Dropped Events.....		124
10.10 Access Control		125

10.11	Implementation Considerations	126
10.12	Advertisement of Notifications	126
11	Metadata and Discovery	126
12	Security	129
12.1	General	129
12.2	Security Profiles	130
12.3	Security Considerations for Event Subscriptions	130
12.4	Including Credentials with a Subscription	131
12.5	Correlating Events with a Subscription	132
12.6	Transport-Level Authentication Failure	132
12.7	Security Implications of Third-Party Subscriptions	132
13	Transports and Message Encoding	133
13.1	SOAP	133
13.2	Lack of Response	134
13.3	Replay of Messages	134
13.4	Encoding Limits	134
13.5	Binary Attachments	135
13.6	Case-Sensitivity	135
14	Faults	136
14.1	Introduction	136
14.2	Fault Encoding	136
14.3	NotUnderstood Faults	137
14.4	Degenerate Faults	138
14.5	Fault Extensibility	138
14.6	Master Faults	139
ANNEX A	(informative) Notational Conventions	160
A.1	XML Namespaces	160
ANNEX B	(normative) Conformance	162
ANNEX C	(normative) HTTP(S) Transport and Security Profile	163
C.1	General	163
C.2	HTTP(S) Binding	163
C.3	HTTP(S) Security Profiles	165
C.4	IPSec and HTTP	170
ANNEX D	(informative) XPath Support	171
D.1	General	171
D.2	Level 1	172
D.3	Level 2	174
ANNEX E	(normative) Selector Filter Dialect	177
ANNEX F	(informative) Identify XML Schema	179
ANNEX G	(informative) Resource Access Operations XML Schema and WSDL	182
ANNEX H	(informative) Enumeration Operations XML Schema and WSDL	187
ANNEX I	(informative) Notification Operations XML Schema and WSDL	196
ANNEX J	(informative) Addressing XML Schema	204
ANNEX K	(informative) WS-Management XML Schema	207
ANNEX L	(informative) Change Log	217

Figures

Figure 1 – Message Information Header Blocks	20
--	----

Tables

Table 1 – Relationship Type	21
Table 2 – Interoperability Requirements	25
Table 3 – WSA Versions in Exchanges	26
Table 4 – wsa:Action URI Descriptions	42
Table 5 – wsman:AccessDenied	139
Table 6 – wsa:ActionNotSupported	140
Table 7 – wsman:AlreadyExists	140
Table 8 – wsman:CannotProcessFilter	141
Table 9 – wsman:CannotProcessFilter	141
Table 10 – wsman:Concurrency	142
Table 11 – wsme:DeliveryModeRequestedUnavailable	142
Table 12 – wsman:DeliveryRefused	143
Table 13 – wsa:DestinationUnreachable	143
Table 14 – wsman:EncodingLimit	144
Table 15 – wsa:EndpointUnavailable	145
Table 16 – wsman:EventDeliverToUnusable	145
Table 17 – wsme:EventSourceUnableToProcess	146
Table 18 – wsman:FilterDialectRequestedUnavailable	146
Table 19 – wsme:FilteringNotSupported	146
Table 20 – wsman:FilteringNotSupported	147
Table 21 – wsme:FilteringRequestedUnavailable	147
Table 22 – wsman:FragmentDialectNotSupported	148
Table 23 – wsman:InternalError	148
Table 24 – wsman:InvalidBookmark	149
Table 25 – wsman:InvalidEnumerationContext	149
Table 26 – wsme:InvalidExpirationTime	150
Table 27 – wsman:InvalidExpirationTime	150
Table 28 – wsme:InvalidMessage	151
Table 29 – wsa:InvalidMessageInformationHeader	151
Table 30 – wsman:InvalidOptions	152
Table 31 – wsman:InvalidParameter	152
Table 32 – wsmt:InvalidRepresentation	153
Table 33 – wsman:InvalidSelectors	153
Table 34 – wsa:MessageInformationHeaderRequired	154
Table 35 – wsman:NoAck	154
Table 36 – wsman:QuotaLimit	154
Table 37 – wsman:SchemaValidationError	155

Table 38 – wsmen:TimedOut	155
Table 39 – wsman:TimedOut	155
Table 40 – wsme:UnableToRenew	156
Table 41 – wsme:UnsupportedExpirationType	156
Table 42 – wsmen:UnsupportedExpirationType	156
Table 43 – wsman:UnsupportedFeature	157
Table 44 – wsme:UnsupportedExpirationType	158
Table 45 – wsmen:UnableToRenew	158
Table 46 – wsa:InvalidMessage	158
Table 47 – wsme:CannotProcessFilter	159
Table A-1 – Prefixes and XML Namespaces Used in This Specification	161
Table C-1 – Basic Authentication Sequence	165
Table C-2 – Digest Authentication Sequence	166
Table C-3 – Basic Authentication over HTTPS Sequence	166
Table C-4 – Digest Authentication over HTTPS Sequence	167
Table C-5 – HTTPS with Client Certificate Sequence	167
Table C-6 – Basic Authentication over HTTPS with Client Certificate Sequence	168
Table C-7 – SPNEGO Authentication over HTTPS Sequence	169
Table C-8 – SPNEGO Authentication over HTTPS with Client Certificate Sequence	169
Table D-1 – XPath Level 1 Terminals	173
Table D-2 – XPath Level 2 Terminals	175