



Extreme SLX-OS NETCONF Operations Guide, 20.3.3

Supporting ExtremeRouting and ExtremeSwitching
SLX 9740, SLX 9640, SLX 9540, SLX 9250,
SLX 9150, Extreme 8720, and Extreme 8520

9037200-00 Rev AA
October 2021



Copyright © 2021 Extreme Networks, Inc. All rights reserved.

Legal Notice

Extreme Networks, Inc. reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made.

The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

Trademarks

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries.

All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners.

For additional information on Extreme Networks trademarks, see: www.extremenetworks.com/company/legal/trademarks

Open Source Declarations

Some software files have been licensed under certain open source or third-party licenses. End-user license agreements and open source declarations can be found at: <https://www.extremenetworks.com/support/policies/open-source-declaration/>



Table of Contents

Preface.....	28
Text Conventions.....	28
Documentation and Training.....	29
Help and Support.....	30
Subscribe to Product Announcements.....	30
Send Feedback.....	30
About This Document.....	32
What's New in this Document	32
Supported Hardware.....	32
NETCONF Overview.....	34
NETCONF and YANG.....	34
NETCONF in client/server architecture.....	34
RPC request.....	35
RPC reply.....	35
RPC and error handling.....	35
SSH subsystem.....	35
RFC references.....	36
Using NETCONF.....	37
Establishing a NETCONF session.....	37
Hello messages exchange.....	37
Server capabilities.....	38
Client capabilities.....	39
Retrieving configuration data.....	39
Subtree filtering.....	40
xpath filtering.....	42
Retrieving operational data.....	43
Using custom RPCs.....	43
Using the custom action mechanism.....	45
Editing the configuration.....	45
Managing the configuration.....	46
Disconnecting from a NETCONF session.....	47
Basic switch management with NETCONF overview.....	48
Connecting to the switch through an SSH session.....	48
Sample use cases for SLX-OS NETCONF.....	50
STP overview.....	50
Configuring STP.....	51
Configuring RSTP.....	52
VRF configuration.....	53
Configuring VRF.....	53

NETCONF Statements.....	55
aaa.....	64
Usage.....	64
aaa/accounting.....	65
Usage.....	65
aaa/authentication.....	66
Usage.....	66
Parameters.....	66
aaa/authentication/login.....	68
Usage.....	68
Parameters.....	68
aaa/authentication/login/first.....	69
Usage.....	69
aaa/authentication/login/second.....	70
Usage.....	70
Parameters.....	70
aaa/username.....	71
Usage.....	71
aaa/username/desc.....	72
Usage.....	72
Parameters.....	72
aaa/username/encryption-level.....	73
Usage.....	73
Parameters.....	73
aaa/username/role.....	74
Usage.....	74
Parameters.....	74
acl-policy.....	75
Usage.....	75
Parameters.....	75
acl-policy/allow-conflicting-rules.....	76
Usage.....	76
Parameters.....	76
acl-policy/allow-duplicate-rules.....	77
Usage.....	77
Parameters.....	77
arp.....	78
Usage.....	78
Parameters.....	78
bridge-domain.....	79
Usage.....	79
Parameters.....	79
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/bpdu-drop-enable.....	80
Usage.....	80
Parameters.....	80
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/logical-interface.....	81
Usage.....	81
Parameters.....	81
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/local-switching.....	82

Usage.....	82
Parameters.....	82
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/peer/(peer-ip)/cos.....	83
Usage.....	83
Parameters.....	83
bridge-domain-id/(bridge-domain-type)/peer/(peer-ip)/load-balance.....	84
Usage.....	84
Parameters.....	84
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/peer/(peer-ip)/lsp.....	85
Usage.....	85
Parameters.....	85
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/pw-profile.....	86
Usage.....	86
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/statistics.....	87
Usage.....	87
bridge-domain/(bridge-domain-id)/(bridge-domain-type)/vc-id.....	88
Usage.....	88
Parameters.....	88
chassis.....	89
Usage.....	89
Parameters.....	89
chassis/virtual-ip.....	90
Usage.....	90
Parameters.....	90
chassis/virtual-ipv6.....	91
Usage.....	91
Parameters.....	91
clock.....	92
Usage.....	92
clock/time-zone.....	93
Usage.....	93
Parameters.....	93
cluster/{cluster-name}/.....	94
Usage.....	94
Parameters.....	94
dai.....	95
Usage.....	95
Parameters.....	95
dai/arp/access-list.....	96
Usage.....	96
Parameters.....	96
delay-link-event.....	97
Usage.....	97
Parameters.....	97
dot1x.....	98
Usage.....	98
Parameters.....	98
dot1x/test.....	99
Usage.....	99

Parameters.....	99
dot3ah.....	100
Usage.....	100
Parameters.....	100
event-handler.....	101
Usage.....	101
Parameters.....	101
event-handler/{event-handler-name}/action.....	102
Usage.....	102
Parameters.....	102
hardware.....	103
Usage.....	103
Parameters.....	103
interface/{interface-type}/{interface-name}/ip/access-group.....	104
Usage.....	104
Parameters.....	104
interface/{interface-type}/{interface-name}/ip/arp-aging-timeout.....	105
Usage.....	105
Parameters.....	105
interface/{interface-type}/{interface-name}/ip/dhcp/relay/gateway.....	106
Usage.....	106
Parameters.....	106
interface/{interface-type}/{interface-name}/ip/igmp/immediate-leave.....	107
Usage.....	107
Parameters.....	107
interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-count.....	108
Usage.....	108
Parameters.....	108
interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-interval.....	109
Usage.....	109
Parameters.....	109
interface/{interface-type}/{interface-name}/ip/igmp/query-interval.....	110
Usage.....	110
Parameters.....	110
interface/{interface-type}/{interface-name}/ip/igmp/query-max-response-time.....	111
Usage.....	111
Parameters.....	111
interface/{interface-type}/{interface-name}/ip/igmp/robustness-variable.....	112
Usage.....	112
Parameters.....	112
interface/{interface-type}/{interface-name}/ip/igmp/startup-query-count.....	113
Usage.....	113
Parameters.....	113
interface/{interface-type}/{interface-name}/ip/igmp/startup-query-interval.....	114
Usage.....	114
Parameters.....	114
interface/{interface-type}/{interface-name}/ip/pim/dr-priority.....	115
Usage.....	115
Parameters.....	115

interface/{interface-type}/{interface-name}/ip/pim/neighbor-filter.....	116
Usage.....	116
Parameters.....	116
interface/{interface-type}/{interface-name}/ip/pim-sparse.....	117
Usage.....	117
Parameters.....	117
interface/{interface-type}/{interface-name}/ip/policy.....	118
Usage.....	118
Parameters.....	118
interface/{interface-type}/{interface-name}/ip/proxy-arp.....	119
Usage.....	119
Parameters.....	119
interface/{interface-type}/{interface-name}/ip/router/isis.....	120
Usage.....	120
interface/{interface-type}/{interfacename}/ipv6/router/isis.....	121
Usage.....	121
interface/{interface-type}/{interface-name}/isis.....	122
Usage.....	122
Parameters.....	122
interface/{interface-type}/{interface-name}/link-error-disable.....	123
Usage.....	123
Parameters.....	123
interface/{interface-type}/{interface-name}/link-fault-signaling.....	124
Usage.....	124
Parameters.....	124
interface/{interface-type}/{interface-name}/ipv6/access-group.....	125
Usage.....	125
Parameters.....	125
interface/{interface-type}/{interface-name}/ipv6/dhcp/relay/address.....	126
Usage.....	126
Parameters.....	126
interface/{interface-type}/{interface-name}/ipv6/nd/broadcast-mac-trap.....	127
Usage.....	127
Parameters.....	127
interface/{interface-type}/{interface-name}/ipv6/nd/cache.....	128
Usage.....	128
Parameters.....	128
interface/{interface-type}/{interface-name}/ipv6/nd/dad.....	129
Usage.....	129
Parameters.....	129
interface/{interface-type}/{interface-name}/ipv6/nd/hoplimit.....	130
Usage.....	130
Parameters.....	130
interface/{interface-type}/{interface-name}/ipv6/nd/managed-config-flag.....	131
Usage.....	131
Parameters.....	131
interface/{interface-type}/{interface-name}/ipv6/nd/mtu.....	132
Usage.....	132
Parameters.....	132

interface/{interface-type}/{interface-name}/ipv6/nd/ns-interval.....	133
Usage.....	133
Parameters.....	133
interface/{interface-type}/{interface-name}/ipv6/nd/other-config-flag.....	134
Usage.....	134
Parameters.....	134
interface/{interface-type}/{interface-name}/ipv6/nd/prefix.....	135
Usage.....	135
Parameters.....	135
interface/{interface-type}/{interface-name}/ipv6/nd/ra-interval.....	136
Usage.....	136
Parameters.....	136
interface/{interface-type}/{interface-name}/ipv6/nd/ra-lifetime.....	137
Usage.....	137
Parameters.....	137
interface/{interface-type}/{interface-name}/ipv6/nd/reachable-time.....	138
Usage.....	138
Parameters.....	138
interface/{interface-type}/{interface-name}/ipv6/nd/retrans-timer.....	139
Usage.....	139
Parameters.....	139
interface/{interface-type}/{interface-name}/ipv6/nd/suppress-ra.....	140
Usage.....	140
Parameters.....	140
interface/{interface-type}/{interface-name}/ipv6/ra-dns-server.....	141
Usage.....	141
Parameters.....	141
interface/{interface-type}/{interface-name}/ra-dns-server/hoplimit.....	142
Usage.....	142
Parameters.....	142
interface/{interface-type}/{interface-name}/ra-dns-server/mtu.....	143
Usage.....	143
Parameters.....	143
interface/{interface-type}/{interface-name}/ra-dns-server/other-config-flag.....	144
Usage.....	144
Parameters.....	144
interface/{interface-type}/{interface-name}/ipv6/ra-domain-name.....	145
Usage.....	145
Parameters.....	145
interface/{interface-type}/{interface-name}/lldp/dcbx-version.....	146
Usage.....	146
Parameters.....	146
interface/{interface-type}/{interface-name}/lldp/disable.....	147
Usage.....	147
Parameters.....	147
interface/{interface-type}/{interface-name}/lldp/iscsi-priority.....	148
Usage.....	148
Parameters.....	148
interface/{interface-type}/{interface-name}/lldp/profile.....	149

Usage.....	149
Parameters.....	149
interface/{interface-type}/{interface-name}/isis/reverse-metric.....	150
Usage.....	150
Parameters.....	150
interface/{interface-type}/{interface-name}/isis/priority.....	151
Usage.....	151
Parameters.....	151
interface/{interface-type}/{interface-name}/isis/point-to-point.....	152
Usage.....	152
Parameters.....	152
interface/{interface-type}/{interface-name}/isis/passive.....	153
Usage.....	153
Parameters.....	153
interface/{interface-type}/{interface-name}/isis/metric.....	154
Usage.....	154
Parameters.....	154
interface/{interface-type}/{interface-name}/isis/ldp-sync.....	155
Usage.....	155
Parameters.....	155
interface/{interface-type}/{interface-name}/isis/ipv6-metric.....	156
Usage.....	156
Parameters.....	156
interface/{interface-type}/{interface-name}/isis/hello-multiplier.....	157
Usage.....	157
Parameters.....	157
interface/{interface-type}/{interface-name}/isis/hello-interval.....	158
Usage.....	158
Parameters.....	158
interface/{interface-type}/{interface-name}/isis/hello-padding.....	159
Usage.....	159
Parameters.....	159
interface/{interface-type}/{interface-name}/isis/circuit-type	160
Usage.....	160
Parameters.....	160
interface/{interface-type}/{interface-name}/isis/auth-mode.....	161
Usage.....	161
Parameters.....	161
interface/{interface-type}/{interface-name}/isis/auth-key.....	162
Usage.....	162
Parameters.....	162
interface/{interface-type}/{interface-name}/isis/auth-check.....	163
Usage.....	163
Parameters.....	163
interface/{interface-type}/{interface-name}/link-oam-interface.....	164
Usage.....	164
interface/{interface-type}/{interface-name}/link-oam/link-fault/action.....	165
Usage.....	165
interface/{interface-type}/{interface-name}/link-oam-interface/allow-loopback	166

Usage.....	166
interface/{interface-type}/{interface-name}/rmon/collection/history.....	167
Usage.....	167
Parameters.....	167
interface/{interface-type}/{interface-name}/rmon/collection/stats.....	168
Usage.....	168
Parameters.....	168
interface/{interface-type}/{interface-name}/sflow/enable.....	169
Usage.....	169
Parameters.....	169
interface/{interface-type}/{interface-name}/sflow/polling-interval.....	170
Usage.....	170
Parameters.....	170
interface/{interface-type}/{interface-name}/sflow/sample-rate.....	171
Usage.....	171
Parameters.....	171
interface/{interface-type}/{interface-name}/spanning-tree/autoedge.....	172
Usage.....	172
Parameters.....	172
interface/{interface-type}/{interface-name}/spanning-tree/bpdu-mac.....	173
Usage.....	173
Parameters.....	173
interface/{interface-type}/{interface-name}/spanning-tree/cost.....	174
Usage.....	174
Parameters.....	174
interface/{interface-type}/{interface-name}/spanning-tree/edgeport.....	175
Usage.....	175
Parameters.....	175
interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-filter.....	176
Usage.....	176
Parameters.....	176
interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-guard.....	177
Usage.....	177
Parameters.....	177
interface/{interface-type}/{interface-name}/spanning-tree/guard/root.....	178
Usage.....	178
Parameters.....	178
interface/{interface-type}/{interface-name}/spanning-tree/hello-time.....	179
Usage.....	179
Parameters.....	179
interface/{interface-type}/{interface-name}/spanning-tree/instance/priority.....	180
Usage.....	180
Parameters.....	180
interface/{interface-type}/{interface-name}/spanning-tree/instance/cost.....	181
Usage.....	181
Parameters.....	181
interface/{interface-type}/{interface-name}/spanning-tree/instance/restricted-role.....	182
Usage.....	182
Parameters.....	182

interface/{interface-type}/{interface-name}/spanning-tree/instance/restricted-tcn.....	183
Usage.....	183
Parameters.....	183
interface/{interface-type}/{interface-name}/spanning-tree/link-type.....	184
Usage.....	184
Parameters.....	184
interface/{interface-type}/{interface-name}/spanning-tree/peer-switch.....	185
Usage.....	185
Parameters.....	185
interface/{interface-type}/{interface-name}/spanning-tree/portfast.....	186
Usage.....	186
Parameters.....	186
interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-filter.....	187
Usage.....	187
Parameters.....	187
interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-guard.....	188
Usage.....	188
Parameters.....	188
interface/{interface-type}/{interface-name}/spanning-tree/priority.....	189
Usage.....	189
Parameters.....	189
interface/{interface-type}/{interface-name}/spanning-tree/restricted-role.....	190
Usage.....	190
Parameters.....	190
interface/{interface-type}/{interface-name}/spanning-tree/restricted-tcn.....	191
Usage.....	191
Parameters.....	191
interface/{interface-type}/{interface-name}/spanning-tree/shutdown.....	192
Usage.....	192
Parameters.....	192
interface/{interface-type}/{interface-name}/spanning-tree/vlan.....	193
Usage.....	193
Parameters.....	193
interface/{interface-type}/{interface-name}/storm-control/ingress.....	194
Usage.....	194
Parameters.....	194
interface/{interface-type}/{interface-name}/switchport.....	196
Usage.....	196
Parameters.....	196
interface/{interface-type}/{interface-name}/switchport/access.....	197
Usage.....	197
Parameters.....	197
interface/{interface-type}/{interface-name}/switchport/mode.....	198
Usage.....	198
Parameters.....	198
interface/{interface-type}/{interface-name}/switchport/mode/private-vlan.....	199
Usage.....	199
Parameters.....	199
interface/{interface-type}/{interface-name}/switchport/mode/trunk-no-default-native	200

Usage.....	200
Parameters.....	200
interface/{interface-type}/{interface-name}/switchport/port-security.....	201
Usage.....	201
Parameters.....	201
interface/{interface-type}/{interface-name}/switchport/port-security/mac-address.....	202
Usage.....	202
Parameters.....	202
interface/{interface-type}/{interface-name}/switchport/port-security/max.....	203
Usage.....	203
Parameters.....	203
interface/{interface-type}/{interface-name}/switchport/port-security/oui.....	204
Usage.....	204
Parameters.....	204
interface/{interface-type}/{interface-name}/switchport/port-security/shutdown-time..	205
Usage.....	205
Parameters.....	205
interface/{interface-type}/{interface-name}/switchport/port-security/sticky.....	206
Usage.....	206
Parameters.....	206
interface/{interface-type}/{interface-name}/switchport/port-security/violation.....	207
Usage.....	207
Parameters.....	207
ip/access-list/extended.....	208
Usage.....	208
Parameters.....	208
ip/access-list/extended/{acl-name}/seq.....	209
Usage.....	209
Parameters.....	209
ip/access-list/standard.....	211
Usage.....	211
Parameters.....	211
ip/access-list/standard.....	212
Usage.....	212
Parameters.....	212
ip/access-list/standard/{acl-name}/seq.....	213
Usage.....	213
Parameters.....	213
ip/dhcp/relay/servers.....	215
Usage.....	215
Parameters.....	215
ipv6/access-list/extended.....	216
Usage.....	216
Parameters.....	216
ipv6/access-list/extended/{acl-name}/seq.....	217
Usage.....	217
Parameters.....	217
ipv6/access-list/standard/{acl-name}/seq.....	219
Usage.....	219

Parameters.....	219
mac/access-list/extended/{acl-name}/seq.....	220
Usage.....	220
Parameters.....	220
mac/access-list/standard.....	222
Usage.....	222
Parameters.....	222
mac/access-list/standard/{acl-name}/seq.....	223
Usage.....	223
Parameters.....	223
mac-address-table/aging-time.....	224
Usage.....	224
Parameters.....	224
ntp/authentication-key.....	225
Usage.....	225
Parameters.....	225
ntp/disable.....	226
Usage.....	226
Parameters.....	226
ntp/master.....	227
Usage.....	227
Parameters.....	227
ntp/peer.....	228
Usage.....	228
Parameters.....	228
ntp/server.....	229
Usage.....	229
Parameters.....	229
ntp/source-ip.....	230
Usage.....	230
Parameters.....	230
ntp/trusted-key.....	231
Usage.....	231
Parameters.....	231
overlay-gateway.....	232
Usage.....	232
Parameters.....	232
overlay-gateway/{gateway-name}/activate.....	233
Usage.....	233
Parameters.....	233
overlay-gateway/{gateway-name}/attach/vlan.....	234
Usage.....	234
Parameters.....	234
overlay-gateway/{gateway-name}/enable.....	235
Usage.....	235
Parameters.....	235
overlay-gateway/{gateway-name}/ip/access-group.....	236
Usage.....	236
Parameters.....	236

overlay-gateway/{gateway-name}/ip/interface/loopback.....	237
Usage.....	237
Parameters.....	237
overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/fabric-virtual-gateway.....	238
Usage.....	238
Parameters.....	238
overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/vrrp-extended-group.....	239
Usage.....	239
Parameters.....	239
overlay-gateway/{gateway-name}/ipv6/access-group.....	240
Usage.....	240
Parameters.....	240
overlay-gateway/{gateway-name}/mac.....	241
Usage.....	241
Parameters.....	241
overlay-gateway/{gateway-name}/map.....	242
Usage.....	242
Parameters.....	242
overlay-gateway/{gateway-name}/monitor.....	243
Usage.....	243
Parameters.....	243
overlay-gateway/{gateway-name}/sflow.....	244
Usage.....	244
Parameters.....	244
overlay-gateway/{gateway-name}/site.....	245
Usage.....	245
Parameters.....	245
overlay-gateway/{gateway-name}/site/{site-name}/bfd.....	246
Usage.....	246
Parameters.....	246
overlay-gateway/{gateway-name}/site/{site-name}/extend.....	247
Usage.....	247
Parameters.....	247
overlay-gateway/{gateway-name}/site/{site-name}/ip.....	248
Usage.....	248
Parameters.....	248
overlay-gateway/{gateway-name}/site/{site-name}/mac-learning/protocol/bgp.....	249
Usage.....	249
Parameters.....	249
overlay-gateway/{gateway-name}/site/{site-name}/shutdown.....	250
Usage.....	250
Parameters.....	250
overlay-gateway/{gateway-name}/type.....	251
Usage.....	251
Parameters.....	251
protocol/cfm.....	252
Usage.....	252
Parameters.....	252
protocol/link-oam.....	253

Usage.....	253
protocol/lldp/advertise/dcbx-fcoe-app-tlv.....	254
Usage.....	254
Parameters.....	254
protocol/lldp/advertise/dcbx-fcoe-logical-link-tlv.....	255
Usage.....	255
Parameters.....	255
protocol/lldp/advertise/dcbx-iscsi-app-tlv.....	256
Usage.....	256
Parameters.....	256
protocol/lldp/advertise/dcbx-tlv.....	257
Usage.....	257
Parameters.....	257
protocol/lldp/advertise/dot1-tlv.....	258
Usage.....	258
Parameters.....	258
protocol/lldp/advertise/dot3-tlv.....	259
Usage.....	259
Parameters.....	259
protocol/lldp/advertise/optional-tlv.....	260
Usage.....	260
Parameters.....	260
protocol/lldp/description.....	261
Usage.....	261
Parameters.....	261
protocol/lldp/disable.....	262
Usage.....	262
Parameters.....	262
protocol/lldp/hello.....	263
Usage.....	263
Parameters.....	263
protocol/lldp/iscsi-priority.....	264
Usage.....	264
Parameters.....	264
protocol/lldp/mode.....	265
Usage.....	265
Parameters.....	265
protocol/lldp/multiplier.....	266
Usage.....	266
Parameters.....	266
protocol/lldp/profile/{profile-name}/advertise.....	267
Usage.....	267
Parameters.....	267
protocol/lldp/profile/{profile-name}/hello.....	268
Usage.....	268
Parameters.....	268
protocol/lldp/profile/{profile-name}/mode.....	269
Usage.....	269
Parameters.....	269

protocol/ldp/profile/{profile-name}/multiplier.....	270
Usage.....	270
Parameters.....	270
protocol/ldp/system-description.....	271
Usage.....	271
Parameters.....	271
protocol/ldp/system-name.....	272
Usage.....	272
Parameters.....	272
protocol/spanning-tree/mstp/bridge-priority.....	273
Usage.....	273
Parameters.....	273
protocol/spanning-tree/mstp/cisco-interoperability.....	274
Usage.....	274
Parameters.....	274
protocol/spanning-tree/mstp/description.....	275
Usage.....	275
Parameters.....	275
protocol/spanning-tree/mstp/error-disable-timeout/enable.....	276
Usage.....	276
Parameters.....	276
protocol/spanning-tree/mstp/error-disable-timeout/interval.....	277
Usage.....	277
Parameters.....	277
protocol/spanning-tree/mstp/forward-delay.....	278
Usage.....	278
Parameters.....	278
protocol/spanning-tree/mstp/hello-time.....	279
Usage.....	279
Parameters.....	279
protocol/spanning-tree/mstp/instance/priority.....	280
Usage.....	280
Parameters.....	280
protocol/spanning-tree/mstp/instance/vlan.....	281
Usage.....	281
Parameters.....	281
protocol/spanning-tree/mstp/max-age.....	282
Usage.....	282
Parameters.....	282
protocol/spanning-tree/mstp/max-hops.....	283
Usage.....	283
Parameters.....	283
protocol/spanning-tree/mstp/port-channel.....	284
Usage.....	284
Parameters.....	284
protocol/spanning-tree/mstp/region.....	285
Usage.....	285
Parameters.....	285
protocol/spanning-tree/mstp/revision.....	286

Usage.....	286
Parameters.....	286
protocol/spanning-tree/mstp/shutdown.....	287
Usage.....	287
Parameters.....	287
protocol/spanning-tree/mstp/transmit-holdcount.....	288
Usage.....	288
Parameters.....	288
protocol/spanning-tree/pvst/bridge-priority.....	289
Usage.....	289
Parameters.....	289
protocol/spanning-tree/pvst/description.....	290
Usage.....	290
Parameters.....	290
protocol/spanning-tree/pvst/error-disable-timeout/enable.....	291
Usage.....	291
Parameters.....	291
protocol/spanning-tree/pvst/error-disable-timeout/interval.....	292
Usage.....	292
Parameters.....	292
protocol/spanning-tree/pvst/forward-delay.....	293
Usage.....	293
Parameters.....	293
protocol/spanning-tree/pvst/hello-time.....	294
Usage.....	294
Parameters.....	294
protocol/spanning-tree/pvst/max-age.....	295
Usage.....	295
Parameters.....	295
protocol/spanning-tree/pvst/port-channel.....	296
Usage.....	296
Parameters.....	296
protocol/spanning-tree/pvst/shutdown.....	297
Usage.....	297
Parameters.....	297
protocol/spanning-tree/pvst/vlan/forward-delay.....	298
Usage.....	298
Parameters.....	298
protocol/spanning-tree/pvst/vlan/hello-time.....	299
Usage.....	299
Parameters.....	299
protocol/spanning-tree/pvst/vlan/max-age.....	300
Usage.....	300
Parameters.....	300
protocol/spanning-tree/pvst/vlan/priority.....	301
Usage.....	301
Parameters.....	301
protocol/spanning-tree/rpvst/bridge-priority.....	302
Usage.....	302

Parameters.....	302
protocol/spanning-tree/rpvst/description.....	303
Usage.....	303
Parameters.....	303
protocol/spanning-tree/rpvst/error-disable-timeout/enable.....	304
Usage.....	304
Parameters.....	304
protocol/spanning-tree/rpvst/error-disable-timeout/interval.....	305
Usage.....	305
Parameters.....	305
protocol/spanning-tree/rpvst/forward-delay.....	306
Usage.....	306
Parameters.....	306
protocol/spanning-tree/rpvst/hello-time.....	307
Usage.....	307
Parameters.....	307
protocol/spanning-tree/rpvst/max-age.....	308
Usage.....	308
Parameters.....	308
protocol/spanning-tree/rpvst/port-channel.....	309
Usage.....	309
Parameters.....	309
protocol/spanning-tree/rpvst/shutdown.....	310
Usage.....	310
Parameters.....	310
protocol/spanning-tree/rpvst/transmit-holdcount.....	311
Usage.....	311
Parameters.....	311
protocol/spanning-tree/rpvst/vlan/forward-delay.....	312
Usage.....	312
Parameters.....	312
protocol/spanning-tree/rpvst/vlan/hello-time.....	313
Usage.....	313
Parameters.....	313
protocol/spanning-tree/rpvst/vlan/max-age.....	314
Usage.....	314
Parameters.....	314
protocol/spanning-tree/rpvst/vlan/priority.....	315
Usage.....	315
Parameters.....	315
protocol/spanning-tree/rstp/bridge-priority.....	316
Usage.....	316
Parameters.....	316
protocol/spanning-tree/rstp/description.....	317
Usage.....	317
Parameters.....	317
protocol/spanning-tree/rstp/error-disable-timeout/enable.....	318
Usage.....	318
Parameters.....	318

protocol/spanning-tree/rstp/error-disable-timeout/interval.....	319
Usage.....	319
Parameters.....	319
protocol/spanning-tree/rstp/forward-delay.....	320
Usage.....	320
Parameters.....	320
protocol/spanning-tree/rstp/hello-time.....	321
Usage.....	321
Parameters.....	321
protocol/spanning-tree/rstp/max-age.....	322
Usage.....	322
Parameters.....	322
protocol/spanning-tree/rstp/port-channel.....	323
Usage.....	323
Parameters.....	323
protocol/spanning-tree/rstp/shutdown.....	324
Usage.....	324
Parameters.....	324
protocol/spanning-tree/rstp/transmit-holdcount.....	325
Usage.....	325
Parameters.....	325
protocol/spanning-tree/stp/bridge-priority.....	326
Usage.....	326
Parameters.....	326
protocol/spanning-tree/stp/description.....	327
Usage.....	327
Parameters.....	327
protocol/spanning-tree/stp/error-disable-timeout/enable.....	328
Usage.....	328
Parameters.....	328
protocol/spanning-tree/stp/error-disable-timeout/interval.....	329
Usage.....	329
Parameters.....	329
protocol/spanning-tree/stp/forward-delay.....	330
Usage.....	330
Parameters.....	330
protocol/spanning-tree/stp/hello-time.....	331
Usage.....	331
Parameters.....	331
protocol/spanning-tree/stp/max-age.....	332
Usage.....	332
Parameters.....	332
protocol/spanning-tree/stp/port-channel.....	333
Usage.....	333
Parameters.....	333
protocol/spanning-tree/stp/shutdown.....	334
Usage.....	334
Parameters.....	334
radius-server.....	335

Usage.....	335
Parameters.....	335
ras.....	336
Usage.....	336
Parameters.....	336
rmon/alarm.....	337
Usage.....	337
Parameters.....	337
rmon/event.....	338
Usage.....	338
Parameters.....	338
interface/{interface-type}/{interface-name}/isis.....	339
Usage.....	339
Parameters.....	339
router/isis/isis-type.....	340
Usage.....	340
Parameters.....	340
route-map.....	341
Usage.....	341
Parameters.....	341
router/mpls.....	342
Usage.....	342
router/mpls/ldp.....	343
Usage.....	343
Parameters.....	343
router/mpls/rsvp.....	345
Usage.....	345
Parameters.....	345
router/mpls/policy.....	346
Usage.....	346
Parameters.....	346
router/mpls/policy/transit-session-accounting.....	347
Usage.....	347
Parameters.....	347
router/mpls/policy/ingress-tunnel-accounting.....	348
Usage.....	348
Parameters.....	348
router/mpls/policy/qos-ttl-mode.....	349
Usage.....	349
Parameters.....	349
router/mpls/policy/traffic-engineering/isis.....	350
Usage.....	350
Parameters.....	350
router/mpls/policy/soft-preemption/cleanup-timer	351
Usage.....	351
Parameters.....	351
router/mpls/policy/cspf-computation-mode/rsvp-periodic-flooding-time.....	352
Usage.....	352
Parameters.....	352

router/mpls/policy/qos-ttl-mode.....	353
Usage.....	353
Parameters.....	353
router/mpls/policy/cspf-computation-mode/rapid-retry.....	354
Usage.....	354
Parameters.....	354
router/mpls/policy/cspf-computation-mode/retry-time.....	355
Usage.....	355
router/mpls/policy/cspf-computation-mode/handle-ospf-neighbor-down.....	356
Usage.....	356
Parameters.....	356
router/mpls/policy/cspf-computation-mode/handle-isis-neighbor-down.....	357
Usage.....	357
Parameters.....	357
router/mpls/policy/cspf-computation-mode/cspf-interface-constraint.....	358
Usage.....	358
Parameters.....	358
router/mpls/policy/cspf-computation-mode/add-penalty.....	359
Usage.....	359
Parameters.....	359
router/mpls/policy/cspf-computation-mode/metric-type.....	360
Usage.....	360
Parameters.....	360
router/mpls/policy/cspf-computation-mode/ignore-overload-bit.....	361
Usage.....	361
Parameters.....	361
router/mpls/policy/backup-retry-time.....	362
Usage.....	362
Parameters.....	362
router/mpls/cspf-group/(cspf-group-name)/penalty.....	363
Usage.....	363
Parameters.....	363
router/mpls/lsp-xc-traps/enable.....	364
Usage.....	364
router/mpls/cspf-group/(cspf-groupname)/penalty.....	365
Usage-DELETE.....	365
Parameters.....	365
router/mpls/lsp-xc-traps/enable.....	366
Usage.....	366
Parameters.....	366
router/mpls/rsvp.....	367
Usage.....	367
Parameters.....	367
router/mpls/rsvp/reliable-messaging/rapid-retry-limit.....	368
Usage.....	368
Parameters.....	368
router/mpls/rsvp/reliable-messaging/rapid-retrans-interval.....	369
Usage.....	369
Parameters.....	369

router/mpls/rsvp/reliable-messaging/rapid-retrans-decay.....	370
Usage.....	370
Parameters.....	370
router/mpls/rsvp/refresh-reduction/bundle-message/bundle-send-delay.....	371
Usage.....	371
Parameters.....	371
router/mpls/rsvp/refresh-multiple.....	372
Usage.....	372
Parameters.....	372
router/mpls/rsvp/refresh-interval.....	373
Usage.....	373
Parameters.....	373
router/mpls/rsvp/g-rsvp-backup-bw-guarantee.....	374
Usage.....	374
Parameters.....	374
router/mpls/rsvp/global-rsvp-hello-acknowledgements.....	375
Usage.....	375
Parameters.....	375
router/mpls/rsvp/global-rsvp-hello/tolerance.....	376
Usage.....	376
Parameters.....	376
router/mpls/rsvp/global-rsvp-hello.....	377
Usage.....	377
Parameters.....	377
router/mpls/rsvp/refresh-reduction/summary-refresh.....	378
Usage.....	378
Parameters.....	378
qos-mpls.....	379
Usage.....	379
Parameters.....	379
sflow/agent-address.....	380
Usage.....	380
Parameters.....	380
sflow/collector.....	381
Usage.....	381
Parameters.....	381
sflow/enable.....	382
Usage.....	382
Parameters.....	382
sflow/polling-interval.....	383
Usage.....	383
Parameters.....	383
sflow/sample-rate.....	384
Usage.....	384
Parameters.....	384
sflow/source-ip.....	385
Usage.....	385
Parameters.....	385
sflow-profile.....	386

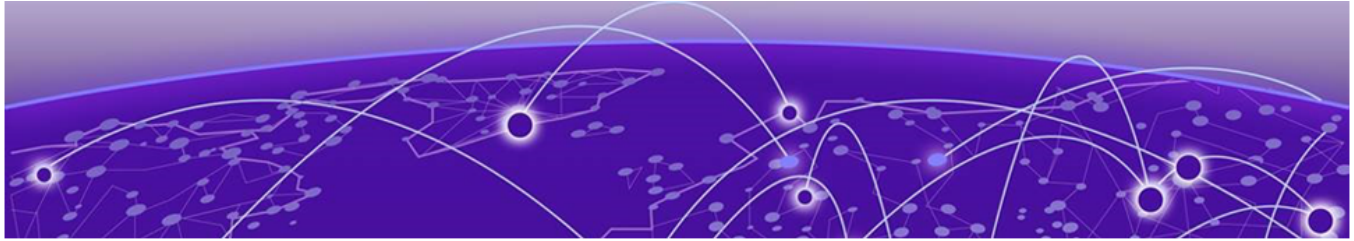
Usage.....	386
Parameters.....	386
system-monitor.....	387
Usage.....	387
Parameters.....	387
system-monitor-mail/fru (email).....	388
Usage.....	388
Parameters.....	388
system-monitor-mail/fru/enable.....	389
Usage.....	389
Parameters.....	389
system-monitor-mail/interface (email).....	390
Usage.....	390
Parameters.....	390
system-monitor-mail/interface/enable.....	391
Usage.....	391
Parameters.....	391
system-monitor-mail/relay.....	392
Usage.....	392
Parameters.....	392
system-monitor-mail/security (email).....	393
Usage.....	393
Parameters.....	393
system-monitor-mail/security/enable.....	394
Usage.....	394
Parameters.....	394
system-monitor-mail/sfp (email).....	395
Usage.....	395
Parameters.....	395
system-monitor-mail/sfp/enable.....	396
Usage.....	396
Parameters.....	396
system-watermark.....	397
Usage.....	397
Parameters.....	397
topology-group.....	398
Usage.....	398
Parameters.....	398
vlan/{vlan-name}/mac.....	399
Usage.....	399
Parameters.....	399
vlan/classifier/group.....	400
Usage.....	400
Parameters.....	400
vlan/classifier/rule/mac.....	401
Usage.....	401
Parameters.....	401
vlan/classifier/rule/proto.....	402
Usage.....	402

Parameters.....	402
vlan/dot1q.....	403
Usage.....	403
Parameters.....	403
vrf.....	404
Usage.....	404
Parameters.....	404
vrf/{vrf-name}/address-family/ipv4/unicast.....	405
Usage.....	405
Parameters.....	405
vrf/{vrf-name}/address-family/ipv4/unicast/max-route.....	406
Usage.....	406
Parameters.....	406
vrf/{vrf-name}/address-family/ipv6/unicast.....	407
Usage.....	407
Parameters.....	407
vrf/{vrf-name}/address-family/ipv6/unicast/max-route.....	408
Usage.....	408
Parameters.....	408
vrf/{vrf-name}/ip/router-id.....	409
Usage.....	409
Parameters.....	409
vxlan-visibility.....	410
Usage.....	410
Parameters.....	410
Remote Procedure Calls (RPCs).....	411
bna-config-cmd.....	412
Usage.....	412
Parameters.....	412
bna-config-cmd-status.....	413
Usage.....	413
Parameters.....	413
clear-tm-voq-stat-ing-all-egr-all.....	413
Usage.....	413
clear-tm-voq-stat-ing-all-egr-ifname.....	414
Usage.....	414
Parameters.....	414
clear-tm-voq-stat-slot-id-egr-all.....	414
Usage.....	414
Parameters.....	414
clear-tm-voq-slot-id-egress-port-name.....	415
Usage.....	415
Parameters.....	415
clear-mpls-ldp-statistics.....	416
Usage.....	416
clear-mpls-lsp.....	417
Usage.....	417
Parameters.....	417
clear-mpls-rsvp-statistics.....	418

Usage.....	418
clear-mpls-rsvp-statistics-neighbor-address.....	419
Usage.....	419
Parameters.....	419
clear-mpls-rsvp-statistics-neighbor-all.....	420
Usage.....	420
Parameters.....	420
firmware-commit.....	420
Usage.....	420
.....	420
Usage.....	420
fwdl-status.....	421
Usage.....	421
Parameters.....	423
get-arp.....	425
Usage.....	425
Parameters.....	425
get-contained-in-ID.....	426
Usage.....	426
Parameters.....	426
get-interface-detail.....	427
Usage.....	427
Parameters.....	429
get-interface-switchport.....	432
Usage.....	432
Parameters.....	432
get-ip-interface.....	433
Usage.....	433
Parameters.....	433
get-last-config-update-time.....	434
Usage.....	434
Parameters.....	434
get-last-config-update-time-for-xpaths.....	434
Usage.....	434
Parameters.....	436
get-lldp-neighbor-detail.....	437
Usage.....	437
Parameters.....	437
get-mac-acl-for-intf.....	439
Usage.....	439
Parameters.....	439
get-mac-address-table.....	440
Usage.....	440
Parameters.....	440
get-maint-mode-status.....	441
Usage.....	441
Parameters.....	442
get-media-detail.....	443
Usage.....	443

Parameters.....	444
get-nameserver-detail.....	446
Usage.....	446
Parameters.....	446
get-netconf-client-capabilities.....	448
Usage.....	448
Parameters.....	448
get-port-channel-detail.....	449
Usage.....	449
Parameters.....	449
get-portchannel-info-by-intf.....	450
Usage.....	450
get-stp-brief-info.....	452
Usage.....	452
Parameters.....	452
get-stp-mst-detail.....	453
Usage.....	453
Parameters.....	454
get-system-uptime.....	455
Usage.....	455
Parameters.....	455
get-tunnel-info.....	455
Usage.....	455
get-tunnel-statistics.....	456
Usage.....	456
get-vlan-brief.....	457
Usage.....	457
Parameters.....	457
mpls-clear-all-ldp-sessions.....	459
Usage.....	459
Parameters.....	459
mpls-clear-one-ldp-sessions.....	460
Usage.....	460
Parameters.....	460
mpls-clear-statistics-type.....	461
Usage.....	461
Parameters.....	461
mpls-reopt-lsp.....	462
Usage.....	462
Parameters.....	462
reload.....	463
Usage.....	463
set-http-application-url.....	464
Usage.....	464
Parameters.....	464
show-clock.....	465
Usage.....	465
Parameters.....	465
show-ntp.....	466

Usage.....	466
Parameters.....	466
show-raslog.....	467
Usage.....	467
Parameters.....	467
show-support-save-status.....	468
Usage.....	468
show-system-info.....	468
Usage.....	468
show-system-monitor.....	469
Usage.....	469
Parameters.....	469
user-session-info.....	470
Usage.....	470
Parameters.....	470



Preface

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as ExtremeSwitching switches or SLX routers, the product is referred to as *the switch* or *the router*.

Table 1: Notes and warnings

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

Table 2: Text

Convention	Description
screen displays	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words <i>enter</i> and <i>type</i>	When you see the word <i>enter</i> in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says <i>type</i> .
Key names	Key names are written in boldface, for example Ctrl or Esc . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del
<i>Words in italicized type</i>	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
<i>italic text</i>	Italic text indicates variable content.
[]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ x y z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member</i> [<i>member</i> ...].
\	In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

Documentation and Training

Find Extreme Networks product information at the following locations:

[Current Product Documentation](#)

[Release Notes](#)

[Hardware and software compatibility](#) for Extreme Networks products

[Extreme Optics Compatibility](#)

[Other resources](#) such as white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit www.extremenetworks.com/education/.

Help and Support

If you require assistance, contact Extreme Networks using one of the following methods:

Extreme Portal

Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

Call GTAC

For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

Subscribe to Product Announcements

You can subscribe to email notifications for product and software release announcements, Field Notices, and Vulnerability Notices.

1. Go to [The Hub](#).
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

You can modify your product selections or unsubscribe at any time.

Send Feedback

The Information Development team at Extreme Networks has made every effort to ensure that this document is accurate, complete, and easy to use. We strive to improve our documentation to help you in your work, so we want to hear from you. We welcome all feedback, but we especially want to know about:

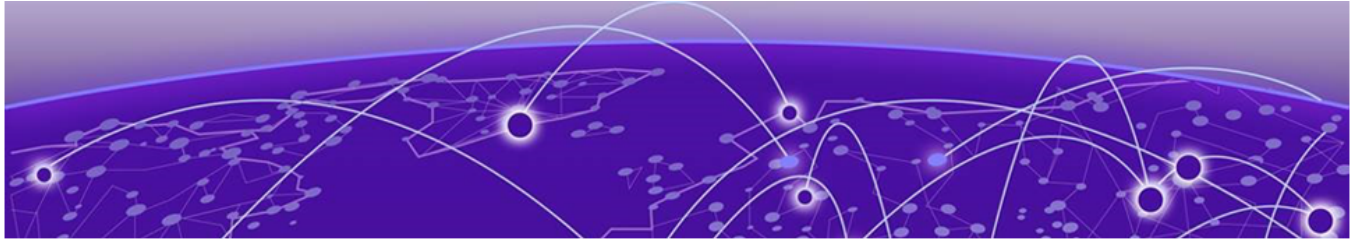
- Content errors, or confusing or conflicting information.

- Improvements that would help you find relevant information.
- Broken links or usability issues.

To send feedback, do either of the following:

- Access the feedback form at <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at documentation@extremenetworks.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.



About This Document

[What's New in this Document](#) on page 32
[Supported Hardware](#) on page 32

What's New in this Document

The following table includes descriptions of changes made to this document for the SLX-OS 20.3.3 software release.

Table 4: Summary of changes

Feature	Description	Topic
Support for Extreme 8720 and Extreme 8520.	Added support for new hardware platforms Extreme 8720 and Extreme 8520	Supported Hardware on page 32

For additional information, refer to the *Extreme SLX-OS Release Notes* for this version.

Supported Hardware

For instances in which a topic or part of a topic applies to some devices but not to others, the topic specifically identifies the devices.

SLX-OS 20.3.3 supports the following hardware platforms.

- Devices based on the Broadcom XGS® chipset family:
 - Extreme 8720
 - Extreme 8520
 - ExtremeSwitching SLX 9250
 - ExtremeSwitching SLX 9150
- Devices based on the Broadcom DNX® chipset family:
 - ExtremeRouting SLX 9740
 - ExtremeRouting SLX 9640

- ExtremeSwitching SLX 9540

**Note**

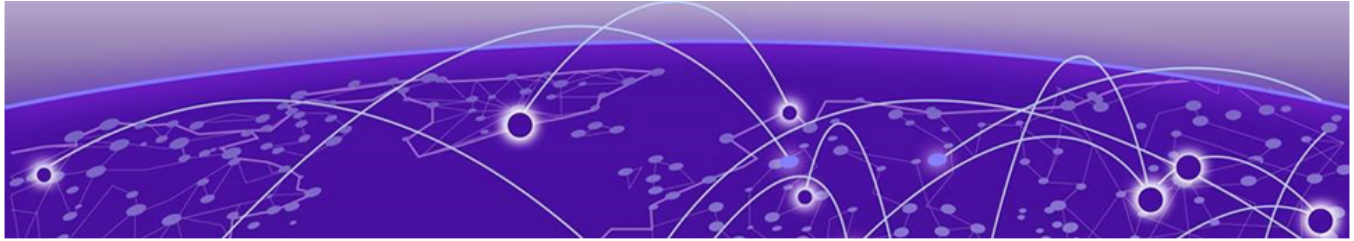
All configurations and software features that are applicable to SLX 9150 and SLX 9250 devices are also applicable for the Extreme 8520 and Extreme 8720 devices respectively.

The "Measured Boot with Remote Attestation" feature is only applicable to the Extreme 8520 and Extreme 8720 devices. It is not supported on the SLX 9150 and SLX 9250 devices.

**Note**

Although many software and hardware configurations are tested and supported for this release, documenting all possible configurations and scenarios is beyond this document's scope.

For information about other releases, see the documentation for those releases.



NETCONF Overview

- [NETCONF and YANG on page 34](#)
- [NETCONF in client/server architecture on page 34](#)
- [RPC request on page 35](#)
- [RPC reply on page 35](#)
- [RPC and error handling on page 35](#)
- [SSH subsystem on page 35](#)
- [RFC references on page 36](#)

NETCONF and YANG

Extreme SLX-OS provides support for the Network Configuration Protocol (NETCONF) and the YANG data modeling language. Using Extensible Markup Language (XML) constructs, the NETCONF protocol provides the ability to manipulate configuration data and view state data modeled in YANG. NETCONF uses a client/server architecture in which remote procedure calls (RPCs) manipulate the modeled data across a secure transport, such as Secure Shell version 2 (SSHv2).

NETCONF provides mechanisms through which you can perform the following operations:

- Manage network devices
- Retrieve configuration data and operational state data
- Upload and manipulate configurations

NETCONF is partitioned conceptually into four layers.

NETCONF in client/server architecture

The NETCONF protocol uses RPCs to facilitate communication between the client (NETCONF Manager or application) and the server (NETCONF Agent or managed device).

A client encodes an RPC request in XML and sends it to a server using a secure, connection-oriented session. The server responds with a reply encoded in XML.

The communication between the client and server consists of a series of alternating request and reply messages. The NETCONF peers use `<rpc>` and `<rpc-reply>` elements to provide transport protocol-independent framing of NETCONF requests and responses. The NETCONF server processes the RPC requests sequentially in the order in which they are received.

RPC request

The `<rpc>` element is used for enclosing a NETCONF request sent from the client to the server.

Every `<rpc>` element contains a mandatory attribute, the message-id. This attribute has a unique value for every RPC request, and is used to associate every RPC request with the corresponding response. The message-id value is a monotonically increasing integer string. The maximum length of the string is 4095 characters. If the message-id is not present in the RPC request, the server rejects the request by returning an `<rpc-error>` with an `<error-tag>` element set to “missing-attribute”.

If there are any additional attributes present in the RPC request, the NETCONF server returns them unmodified in the corresponding RPC reply.

RPC reply

An `<rpc-reply>` element is sent in response to every RPC request.

The `<rpc-reply>` element contains the mandatory attribute message-id copied from the corresponding RPC request, along with any additional attributes that are present in the RPC request.

For successfully processed `<get>` or `<get-config>` requests, the response data is encoded as the content of the `<rpc-reply>` element.

For successfully processed `<edit-config>` or `<close-session>` requests, the `<ok>` element is encoded as the content of the `<rpc-reply>` element.

For unsuccessful RPC requests, one or more `<rpc-error>` elements are encoded inside the `<rpc-reply>` element.

RPC and error handling

If the RPC request fails, an `<rpc-error>` element is encoded inside the `<rpc-reply>` element and sent to the client.

The `<rpc-error>` element indicates the first detected error. The server is not required to detect or report multiple errors. If the server detects multiple errors then the order of the error detection and reporting is at the discretion of the server.

SSH subsystem

The NETCONF client must use Secure Shell Version 2 (SSHv2) as the network transport to connect to the NETCONF server. Only the SSHv2 protocol is supported as the NETCONF transport protocol.

To run NETCONF over SSHv2, the client establishes an SSH transport connection using the SSH transport protocol to the NETCONF port. The default NETCONF port is 830. The underlying SSH client and server exchange keys for message integrity and encryption.

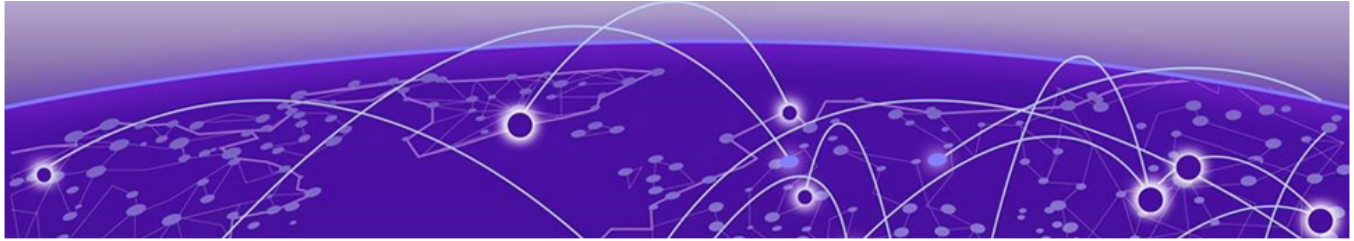
The SSHv2 client invokes the ssh-userauth service to authenticate the user. All currently supported SSH user authentication methods such as the public-key, password, and keyboard-interactive authentications are supported for a NETCONF session also. If the SSH user authentication is disabled, the user is allowed full access.

On successful user authentication, the client invokes the ssh-connection service, also known as the SSH connection protocol. After the SSH session is established, the NETCONF client invokes NETCONF as an SSH subsystem called netconf.

RFC references

For details about NETCONF and YANG as defined by the Internet Engineering Task Force (IETF), refer to the following documents:

- RFC 6241, “NETCONF Configuration Protocol.”
- RFC 4742 “Using the NETCONF Configuration Protocol over Secure Shell (SSH).”
- RFC 6020, “YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)”
- RFC 6021, “Common YANG Data Types”



Using NETCONF

[Establishing a NETCONF session on page 37](#)

[Retrieving configuration data on page 39](#)

[Retrieving operational data on page 43](#)

[Editing the configuration on page 45](#)

[Managing the configuration on page 46](#)

[Disconnecting from a NETCONF session on page 47](#)

Establishing a NETCONF session

Up to 16 concurrent sessions can be established with a NETCONF server. A session times out if it is idle for 30 minutes.

Each NETCONF session begins with a handshake in which the NETCONF server and the client specify the NETCONF capabilities they support. The following sections describe the message exchange on starting a NETCONF session.

Hello messages exchange

After establishing a secure transport connection, both the NETCONF server and client send a `<hello>` element simultaneously to announce their capabilities and session identifier.

The NETCONF server must include the `<session-id>` element in the `<hello>` element. The `<session-id>` element contains the unique session value for the NETCONF session. If the client receives the `<hello>` element without the `<session-id>`, the client aborts the NETCONF session by closing the underlying SSH session.

The NETCONF client must not include the `<session-id>` element in the `<hello>` element. If the server receives the `<hello>` element with the `<session-id>`, the server aborts the NETCONF session by closing the underlying SSH session.

The NETCONF client must include a valid `xmlns` attribute in the `<hello>` element. If the server receives the `<hello>` element without a valid `xmlns` attribute, the server aborts the NETCONF session by closing the underlying SSH session.

The NETCONF client must include a base capability. The server receiving the `<hello>` element without a NETCONF base capability aborts the NETCONF session by closing the underlying SSH session.

The server receiving an `<rpc>` element without first receiving a `<hello>` element aborts the NETCONF session by closing the underlying SSH session.

The following example shows a <hello> element from the NETCONF server.

```
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capabilities>
    <capability>urn:ietf:params:netconf:base:1.0</capability>
    <capability>urn:ietf:params:netconf:capability:writable-running:1.0    </
capability>
    <capability>urn:ietf:params:netconf:capability:startup:1.0</capability>
    <capability>urn:ietf:params:netconf:capability:xpath:1.0</capability>
    <capability>urn:ietf:params:netconf:capability:validate:1.0</capability>
    <capability>http://tail-f.com/ns/netconf/actions/1.0</capability>
    <capability>http://tail-f.com/ns/aaa/1.1?revision=2010-06-17&module=tailfaaa</
capability>
    <capability>urn:brocade.com:mgmt:brocade-aaa?revision=2010-10-21&module=brocade-
aaa</capability>
    <capability>urn:brocade.com:mgmt:brocade-aaa-ext?
revision=2010-09-21&module=brocade-aaa-ext</capability>
    <capability>urn:brocade.com:mgmt:brocade-cdp?revision=2010-08-17&module=brocade-
cdp</capability>
    <capability>urn:brocade.com:mgmt:brocade-cee-map?
revision=2011-04-18&module=brocade-cee-map</capability>
    <capability>urn:brocade.com:mgmt:brocade-chassis?
revision=2011-04-11&module=brocade-chassis</capability>
  </capabilities>
  (output truncated)
  <session-id>4</session-id>
</hello>
```

Server capabilities

A NETCONF capability is a set of protocol extensions that supplements the base NETCONF specification.

A NETCONF capability is identified with a Uniform Resource Identifier (URI). Capabilities augment the base operations of the NETCONF server, describing both the additional operations and the contents allowed inside the operations. To support a capability, the NETCONF server must support all the dependent capabilities.

The following capabilities are supported on SLX-OS switches:

- **Base capability**—The set of operations and contents that any NETCONF implementation must support. The URI for the base capability is urn:ietf:params:xml:ns:netconf:base:1.0. Both the NETCONF client and server must support the base capability.
- **Writable-running capability**—Indicates that the device supports <edit-config> and <copy-config> operations where the <running> configuration is the target. The URI is urn:ietf:params:netconf:capability:writable-running:1.0.
- **Startup capability**—Supports separate datastores for the running and startup configuration. Operations performed on the running-config datastore do not affect the startup configuration until a <copy-config> operation is performed to explicitly copy the running configuration to the startup configuration. The URI for the startup capability is urn:ietf:params:netconf:capability:startup:1.0.
- **Xpath capability**—Supports XPath expressions in <filter> elements. <filter> elements are used in <get> and <get-config> operations to limit the scope of the retrieved data. The URI for the xpath capability is urn:ietf:params:netconf:capability:xpath:1.0.
- **Validate capability**—Allows validation to be performed on a configuration. The URI for the validate capability is urn:ietf:params:netconf:capability:validate:1.0.

- Actions capability—Allows operations to be performed on the datastore using the custom action mechanism for features that are supported by this mechanism in the YANG code. Refer to “Using the custom action mechanism” on page 17 for details. The URI for the actions capability is `http://tail-f.com/ns/netconf/actions/1.0`.
- tailf-aaa capability—Supports proprietary authentication, authorization, and accounting (AAA). The URI for the tailf-aaa capability is `http://tail-f.com/ns/aaa/1.1?revision=2010-06-17&module=tailf-aaa`.
- Extreme proprietary capabilities—A set of capabilities that support Extreme SLX-OS features. Each capability references a namespace containing instance data. Each namespace corresponds to a file containing the YANG module that models the data. For example, the `brocade-cee-map` capability at URI `urn:extreme.com:mgmt:extreme-cee-map?revision=2018-11-10&module=extreme-cee-map` provides support for the features modeled in the `brocade-cee-map` module.

For an overview of each YANG module and structural details, refer to the Extreme SLX-OS YANG Reference Manual. For element definitions, refer to the specific YANG file .



Note

The Candidate Configuration capability and Confirmed Commit capability are not supported.

Client capabilities

The client must support the base capability.

In addition, Extreme recommends that the client specify the identification capability with URI `http://tail-f.com/ns/netconf/identification/1.0` while establishing a session with the server. This capability provides client information to the server, including the vendor, product name, and version of the client application in addition to user information. Server administrators can subsequently gather information about who is accessing the server using the `show netconf client-capabilities` command or the `<get-netconf-client-capabilities>` custom RPC. Refer to Appendix A, “Managing NETCONF,” for details.

The following example shows a `<hello>` element from the NETCONF client.

```
<hello xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <capabilities>
    <capability>urn:ietf:params:netconf:base:1.0</capability>
    <capability>http://tail-f.com/ns/netconf/identification/1.0?
      vendor=extreme&product=bn&version=3.0&client-identity=adminUser</capability>
  </capabilities>
</hello>
```

Retrieving configuration data

You can retrieve configuration data using either the `<get-config>` or `<get>` RPC. RFC 4741, NETCONF Configuration Protocol specifies that the `<get-config>` RPC returns only configuration data while the `<get>` RPC returns configuration data and operational state data.

In the Extreme implementation, the `<get>` RPC does not return operational state data; Extreme instead provides a set of Custom RPCs and actions for returning operational state data. In the Extreme implementation, the `<get-config>` and `<get>` operations are essentially the same. This document will typically refer to the `<get-config>` operation, though `<get>` can be used equally.

The following example shows a client message that issues the <get-config> operation in its most basic form. It retrieves the entire running configuration.

```
<?xml version="1.0" encoding="UTF-8"?>
<rpc message-id="200" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
  </get-config>
</rpc>
```

Such a request, however, typically results in an unwanted or unmanageable amount of output. To restrict the output to the portion of the configuration you want, Extreme supports two types of filtering: subtree filtering and xpath filtering.

For complete details about subtree filtering and xpath filtering, refer to the RFC 4741, The NETCONF Protocol. The following sections provide some examples.

Subtree filtering

Subtree filtering defines a point in the configuration hierarchy that limits the returned configuration data.

Only data at this point and the subtrees below it are returned. For example, to retrieve the loopback configuration for all loopback interfaces configured on the device, use the following filter. This operation returns all configuration data for all loop ports on the managed device.

```
<?xml version="1.0" ?>
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
        <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
          <loopback xmlns="urn:brocade.com:mgmt:brocade-intf-loopback">
            <id>1</id>
          </loopback>
        </interface>
      </routing-system>
    </filter>
  </get-config>
</rpc>
```

The purpose of each filter element is as follows:

- The <filter> element tag contains a type statement that identifies the filter type as a subtree filter.
- The <interface> element constrains the output to the interface configuration in the urn:brocade.com:mgmt:brocade-interface namespace.
- The <loopback> element further constrains the output to the information under the <loopback> node. Used in this way, <loopback> is termed a containment node.

To further restrict the output and retrieve loopback configuration data for only one specific loopback interface, use the following filter. In this example, the `<id>` element is termed a content match node; the filter returns the values of all loopback attributes for the specified port.

```
<?xml version="1.0" ?>
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
        <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
          <loopback xmlns="urn:brocade.com:mgmt:brocade-intf-loopback">
            <id>1</id>
            <vrf/>
          </loopback>
        </interface>
      </routing-system>
    </filter>
  </get-config>
</rpc>
```

If all you want to know is the setting of one specific loopback port attribute, such as the name of VRF, use a filter such as the following. In this case, `<vrf>` suppresses the inclusion of all its sibling nodes. It is termed a selection node.

```
<?xml version="1.0" ?>
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
        <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
          <loopback xmlns="urn:brocade.com:mgmt:brocade-intf-loopback">
            <id>1</id>
            <vrf>
              <forwarding/>
            </vrf>
          </loopback>
        </interface>
      </routing-system>
    </filter>
  </get-config>
</rpc>
```

The following example retrieves the configuration for the loopback interface.

```
<?xml version="1.0" ?>
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
        <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
          <loopback xmlns="urn:brocade.com:mgmt:brocade-intf-loopback">
            <id>1</id>
            <shutdown/>
          </loopback>
        </interface>
      </routing-system>
    </filter>
  </get-config>
</rpc>
```

```

        </interface>
    </routing-system>
</filter>
</get-config>
</rpc>

```

xpath filtering

Sometimes the data element that qualifies the information you want is at a lower level in the data hierarchy than the information you need.

For example, if you want to return a list of interfaces that are bound to a CoS-to-CoS mutation QoS map, the element to be used for the selection criteria (`<cos-mutation>name</cos-mutation>`) resides at a lower level in the hierarchy than the information to be retrieved (the interface name), as shown in the following representation of the QoS map structure. In such cases, you must use an xpath filter and not a subtree filter.

```

| +--rw ethernet [name]
|   +--rw name                               interface-type
|   .
|   .
|   .
|   +--rw qos:qos
|   +--rw qos:default-cos?                    int32
|   +--rw qos:cos-mutation?                  map-name-type
|   +--rw qos:cos-traffic-class?             map-name-type
|   +--rw qos:dscp-mutation?                 map-name-type

```

The following example returns the interface names to which the CoS-to-CoS mutation QoS map named “test” is bound. In this case, the map named “test” is bound to interfaces 2/5 and 2/6. The `<filter>` element tag specifies that the filter type is xpath and also specifies the data path and selection criteria.

```

<?xml version="1.0" encoding="UTF-8"?>
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="205">
  <get-config>
    <source>
      <running></running>
    </source>
    <filter type="xpath" select="/interface/ethernet/qos[cos-mutation='test']"></filter>
  </get-config>
</rpc>

<rpc-reply
xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="205">
  <data>
    <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
      <ethernet>
        <name>0/5</name>
        <qos xmlns="urn:brocade.com:mgmt:brocade-qos">
          <default-cos>0</default-cos>
          <cos-mutation>test</cos-mutation>
        </qos>
      </ethernet>
      <ethernet>
        <name>0/6</name>
        <qos xmlns="urn:brocade.com:mgmt:brocade-qos">
          <default-cos>0</default-cos>
          <cos-mutation>test</cos-mutation>
        </qos>
      </ethernet>
    </interface>
  </data>
</rpc-reply>

```

```

        </ethernet>
    </interface>
</data>
</rpc-reply>

```

Retrieving operational data

In the Extreme SLX-OS implementation of NETCONF, two mechanisms are used for retrieving operational data: Extreme custom RPCs and custom actions.

Custom RPC and action support is added to some of the YANG modules to support the return of specific operational data.

For a complete list of the Extreme Custom RPCs and actions, and their locations, refer to the *Extreme SLX-OS YANG Reference Manual*.

Extreme SLX-OS does not support retrieving operational data using the standard <get> RPC.

Using custom RPCs

If an RPC is defined in a YANG module, you can use that RPC to return the associated namespace information defined in its output elements.

For example, to return information about port-profiles to which interfaces are applied, you can use the <get-port-profile-for-intf> RPC defined in the `brocade-port-profile-ext.yang` file.

The following example shows the <rpc> message and reply. The <get-port-profile-for-intf> element contains an xmlns attribute that identifies the corresponding namespace.

Refer to the *Extreme SLX-OS YANG Reference Manual* for a list of Custom RPCs, a brief description of their function, and their location.

Retrieving operational data with pagination

Some RPCs return operational data that consists of lists of entities. For example, an RPC might return detailed information about every interface. For these kinds of applications, to make the output manageable, pagination is supported by providing a <has-more> element in the output of the RPC.

The following example shows how the <has-more> element works to provide pagination for the <get-vlan-brief> RPC. In the input, you can request information about a specific VLAN, or about all VLANs by not providing an input parameter. If you request input about all VLANs, you will first receive information about the VLAN with the lowest VLAN ID. You can then check the <has-more> element in the output to determine whether information is available for additional VLANs. If <has-more> is true, use the value returned in <last-vlan-id> as the <last-rcvd-vlan-id> input parameter to the next call to <get-vlan-brief>. The <get-vlan-brief> RPC then returns the next available VLAN. Continue until <has-more> returns false.

```

+---x get-vlan-brief
+---ro input
| +---ro (request-type)?
| +---: (get-request)
| | +---ro vlan-id? interface:vlan-type
| +---: (get-next-request)
| +---ro last-rcvd-vlan-id? interface:vlan-type
+---ro output

```

```

    +--ro vlan [vlan-id]
  | +--ro vlan-id interface:vlan-type
  | +--ro vlan-type? enumeration
  | +--ro vlan-name? string
  | +--ro vlan-state? enumeration
  | +--ro interface [interface-type interface-name]
  | +--ro interface-type enumeration
  | +--ro interface-name union
  | +--ro tag? enumeration
  +--ro last-vlan-id? interface:vlan-type
  +--ro has-more? boolean

```

The following example uses the <get-interface-brief> RPC to return information about the first VLAN. In this case, the first VLAN is VLAN 20.

```

<rpc message-id="207" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-vlan-brief xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    </get-vlan-brief>
  </rpc>

<rpc-reply message-id="207" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <vlan xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <vlanid>20</vlanid>
    <vlan-type>static</vlan-type>
    <vlan-name>vlan-20</vlan-name>
    <vlan-state>active</vlan-state>
    <interface>
      <interface-type>ethernet</interface-type>
      <interface-name>2/5</interface-name>
      <tag>tagged</tag>
    </interface>
  </vlan>
  <last-vlan-id>20</last-vlan-id>
  <has-more>true</has-more>
</rpc-reply>

```

The <has-more> field is true, so use the value returned in <last-vlan-id> as the <last-rcvd-vlan-id> in the next call to <get-vlan-brief> to return information about the next VLAN.

```

<rpc message-id="208" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-vlan-brief xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <last-rcvd-vlan-id>20</last-rcvd-vlan-id>
  </get-vlan-brief>
</rpc>

<rpc-reply message-id="208" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <vlan xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <vlanid>30</vlanid>
    <vlan-type>static</vlan-type>
    <vlan-name>vlan-30</vlan-name>
    <vlan-state>active</vlan-state>
    <interface>
      <interface-type>ethernet</interface-type>
      <interface-name>2/5</interface-name>
      <tag>tagged</tag>
    </interface>
  </vlan>
  <last-vlan-id>30</last-vlan-id>
  <has-more>false</has-more>
</rpc-reply>

```

If the <has-more> field returns false, no more VLAN data can be retrieved.

Using the custom action mechanism

An action is a proprietary mechanism used for implementing operations that do not affect the configuration datastore. Several implementations of actions exist in the Extreme SLX-OS implementation for retrieving operational information.

The following structure is defined in the `extreme-zone.yang` module for displaying operational data related to zoning.

```
<nc:rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="10">
  <nca:action xmlns:nca="http://tail-f.com/ns/netconf/actions/1.0">
    nca:data>
      <show xmlns="urn:brocade.com:mgmt:brocade-common-def">
        <license xmlns="urn:brocade.com:mgmt:brocade-license">
          <id></id>
        </license>
      </show>
    </nca:data>
  </nca:action>
</nc:rpc>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="10">
  <data>
    <show xmlns="urn:brocade.com:mgmt:brocade-common-def">
      <license xmlns="urn:brocade.com:mgmt:brocade-license">
        <id>
          <licenseid-list>
            <license-id>10:00:F4:6E:95:9F:2E:F0</license-id>
          </licenseid-list>
        </id>
      </license>
    </show>
  </data>
</rpc-reply>
```

For a list of available actions and their locations, refer to the *Extreme SLX-OS YANG Reference Manual*.

Editing the configuration

All configuration editing is done using the merge or delete operations of the `<edit-config>` RPC. The create and replace operations are not supported.

Refer to RFC 4741, The NETCONF Protocol, for details about these operations.



Note

Every NETCONF `<edit-config>` request should have a one-to-one mapping with a Extreme SLX-OS CLI command. You cannot combine two CLI operations into one NETCONF request.

The following example of the default merge operation adds a static address to the MAC address table. The operation is performed on the running configuration and configures the `<mac-address-table>` node in the `urn:brocade.com:mgmt:brocade-mac-address-table` namespace.

```
<?xml version="1.0" encoding="UTF-8"?>
<rpc message-id="210" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <edit-config>
    <target>
      <running/>
    </target>
```

```

    <config>
      <mac-address-table xmlns="urn:brocade.com:mgmt:brocade-mac-address-table">
        <static>
          <mac-address>0011.2222.3333</mac-address>
          <forward>forward</forward>
          <interface-type>ethernet</interface-type>
          <interface-name>2/5</interface-name>
          <vlan>vlan</vlan>
          <vlanid>100</vlanid>
        </static>
      </mac-address-table>
    </config>
  </edit-config>
</rpc>

<rpc-reply message-id="210" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <ok/>
</rpc-reply>

```

The delete operation is used to remove or disable part of the configuration. The following example disables MSTP on the managed device.

```

<?xml version="1.0" encoding="UTF-8"?>
<rpc message-id="211" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <edit-config>
    <target>
      <running/>
    </target>
    <config>
      <protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
        <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
          <mstp xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
Operation="delete"/>
        </spanning-tree>
      </protocol>
    </config>
  </edit-config>
</rpc>

<rpc-reply message-id="211" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <ok/>
</rpc-reply>

```

Managing the configuration

Extreme SLX-OS provides the custom `<bnacfg-cmd>` PRC for performing any of the following operations:

- Copy the *running-config* file to a remote file.
- Copy a remote file to the *running-config* file.

Some simple examples are provided here. Refer to the *Extreme SLX-OS Administrator's Guide* for the following related information:

- General configuration management concepts
- Details and recommendations about how to apply these operations in a modular chassis or a Extreme VCS Fabric or a IP Fabric
- How to perform management configuration using the Extreme SLX-OS command line interface (CLI)

To monitor the progress of the copy operation, issue the `<bna-config-cmd-status>` custom RPC. Provide the session-ID returned by the corresponding `<bna-config-cmd>` as the input parameter.

```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="212">
  <bna-config-cmd-status xmlns="urn:brocade.com:mgmt:brocade-ras">
    <session-id>5</session-id>
  </bna-config-cmd-status>
</rpc>

<rpc-reply message-id="212" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">completed</status>
</rpc-reply>
```

To archive or back up the *running-config* file, specify `<running/>` as the `<src>` parameter, and the URL of the archive as the `<dest>` parameter. The following example archives the running-config file.

```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="212">
  <bna-config-cmd xmlns="urn:brocade.com:mgmt:brocade-ras">
    <src>running-config</src>
    <dest>https://user@brocade.com:passphrase/cfg/archiveMay7.txt</dest>
  </bna-config-cmd>
</rpc>

<rpc-reply message-id="212" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <session-id xmlns="urn:brocade.com:mgmt:brocade-ras">6</session-id>
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">in-progress</status>
</rpc-reply>
```

To restore an archived configuration, specify the archive URL as the `<source>` parameter and `<running/>` as the `<target>`.

```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="212">
  <bna-config-cmd xmlns="urn:brocade.com:mgmt:brocade-ras">
    <src>https://user@brocade.com:passphrase/cfg/archiveMay7.txt</src>
    <dest>running-config</dest>
  </bna-config-cmd>
</rpc>

<rpc-reply message-id="212" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <session-id xmlns="urn:brocade.com:mgmt:brocade-ras">6</session-id>
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">in-progress</status>
</rpc-reply>
```

Disconnecting from a NETCONF session

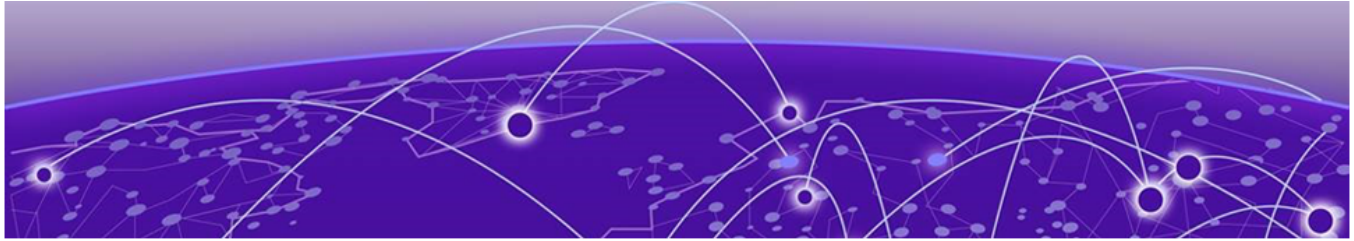
To disconnect from a NETCONF session, issue the standard `<close-session>` RPC.

This operation causes the server to release any resources associated with the session and gracefully close any associated connections.

```
<rpc message-id="215" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <close-session/>
</rpc>

<rpc-reply message-id="215" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <ok/>
</rpc-reply>
```

The `<kill-session>` RPC is also supported. Issuing `<kill-session>` aborts all operations and closes the session.



Basic switch management with NETCONF overview

[Connecting to the switch through an SSH session](#) on page 48

This chapter provides procedures for performing some basic switch operations using the NETCONF interface.

Refer to the *Extreme SLX-OS Administrator's Guide* for the following related information:

- Conceptual and overview information
- Using DHCP Automatic Deployment (DAD)
- Procedures for configuring the Ethernet management interface
- Basic switch configuration using the Extreme SLX-OS command line interface (CLI)

Using the NETCONF interface, you can perform the following basic switch configuration operations described in this chapter:

- Use the <edit-config> RPC to set host attributes, configure a switch banner, enable or disable first failure data capture (FFDC), and configure logging.
- Use custom actions to enable or disable a chassis, reboot a switch, obtain slot and module status, and upload supportSave data.
- Use the <show-raslog> custom RPC to return RASlog messages.

Switch management parameters described in this chapter are defined mostly in the *brocade-ras*, *brocade-linecard-management*, and *brocade-chassis* YANG modules. For structural maps of these YANG modules, refer to the *Extreme SLX-OS YANG Reference Manual*. For definitions and explanations of parameters, refer to the corresponding.yang file.

Connecting to the switch through an SSH session

For NETCONF operations, you must connect to the device using SSH.

Procedure

1. Connect through a serial port to the device
2. Verify that the network interface of the device is configured and that it is connected to the IP network through the RJ-45 Ethernet port.
3. Log off from the serial port of the device.
4. From a management station, open an SSH connection using the management IP address of the device to which you want to connect.
5. Enter the account user name at the login prompt.

6. Enter the password.

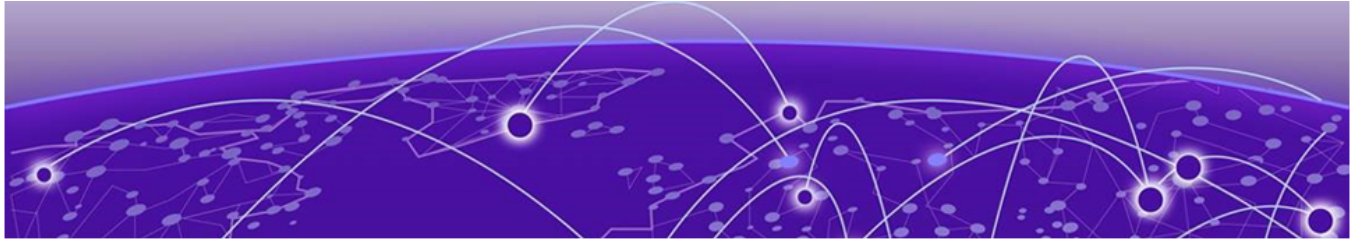
Extreme recommends that you change the default account password when you log in for the first time. For more information on changing the default password, refer to the Extreme SLX Hardware Installation Guide.

7. Verify that the login was successful.

The prompt displays the host name followed by a pound sign (#).

```
login as: admin
admin@10.20.49.112's password:*****

Welcome to the Extreme SLX-OS Software
admin connected from 10.1.1.1 using console on F115
```



Sample use cases for SLX-OS NETCONF

[STP overview](#) on page 50

[VRF configuration](#) on page 53

This chapter discusses common use cases for the Extreme SLX-OS NETCONF.



Note

The information provided in this chapter may not cover the end-to-end configuration. Refer to the *Extreme SLX-OS User Guide* for the complete set of configuration tasks.

STP overview

A network topology of bridges typically contains redundant connections to provide alternate paths in case of link failures. However, because there is no concept of TTL in Ethernet frames, this could result in the permanent circulation of frames if there are loops in the network. To prevent loops, a spanning tree connecting all the bridges is formed in real time.

The redundant ports are put in a blocking (nonforwarding) state. They are enabled when required. In order to build a spanning tree for the bridge topology, the bridges must exchange control frames (BPDUs - Bridge Protocol Data Units). The protocols define the semantics of the BPDUs and the required state machine. The first Spanning Tree Protocol (STP) became part of the IEEE 802.1d standard.

The STP interface states for every Layer 2 interface running STP are as follows:

- *Blocking* - The interface does not forward frames.
- *Listening* - The interface is identified by the spanning tree as one that should participate in frame forwarding. This is a transitional state after the blocking state.
- *Learning* - The interface prepares to participate in frame forwarding.
- *Forwarding* - The interface forwards frames.
- *Disabled* - The interface is not participating in spanning tree because of a shutdown port, no link on the port, or no spanning tree instance running on the port.

A port participating in spanning tree moves through these states:

- From initialization to blocking
- From blocking to listening or to disabled
- From listening to learning or to disabled
- From learning to forwarding, blocking, or disabled
- From forwarding to disabled

Configuring STP

The process for configuring STP is as follows:

Procedure

1. Enable STP using the below NETCONF statement.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp></stp>
  </spanning-tree>
</protocol>
```

2. Designate the root switch by using the bridge-priority command. The range is 0 through 61440 and the priority values can be set only in increments of 4096.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <bridge-priority>32768</bridge-priority>
    </stp>
  </spanningtree>
</protocol>
```

3. Enable port fast on switch ports by using the **spanning-tree portfast** command.



Note

Note the following conditions:

- Port fast only needs to be enabled on ports that connect to workstations or PCs. Repeat these commands for every port connected to workstations or PCs. Do not enable port fast on ports that connect to other switches.
- If BPDUs are received on a port fast enabled interface, the interface loses the edge port status unless it receives a shut/no shut.
- Enabling port fast on ports can cause temporary bridging loops, in both trunking and nontrunking mode.

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/5</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <portfast>
        <portfastbasic></portfastbasic>
      </portfast>
    </spanning-tree>
  </ethernet>
</interface>
```

Configuring RSTP

The process for configuring RSTP is as follows.

Procedure

1. Enable RSTP by using the global **protocol spanning-tree** command.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp></rstp>
  </spanning-tree>
</protocol>
```

2. Designate the root switch by using the **bridge-priority** command. The range is 0 through 61440 and the priority values can be set only in increments of 4096.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <bridge-priority>32768</bridge-priority>
    </rstp>
  </spanning-tree>
</protocol>
```

3. Configure the bridge forward delay value to set the time an interface spends in each of the listening and learning states.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <forward-delay>30</forward-delay>
    </rstp>
  </spanning-tree>
</protocol>
```

4. Configure the bridge maximum aging time value to set the interval time in seconds between messages that the spanning tree receives from the interface.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <max-age>40</max-age>
    </rstp>
  </spanning-tree>
</protocol>
```

5. Enable the error-disable-timeout timer.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </rstp>
  </spanning-tree>
</protocol>
```

6. Configure the error-disable-timeout interval value to set the timeout for errors on an interface.

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <error-disable-timeout>
        <interval>500</interval>
      </error-disable-timeout>
    </rstp>
  </spanning-tree>
</protocol>
```

```
</spanning-tree>
</protocol>
```

VRF configuration

VRF (Virtual Routing and Forwarding) is a technology that controls information flow within a network by isolating the traffic by partitioning the network into different logical VRF domains.

Every VRF-capable router supports one routing table for each VRF instance. Each VRF-capable router can function as a group of multiple virtual routers on the same physical router. VRF, in conjunction with virtual private network (VPN) solutions, guarantees privacy of information and isolation of traffic within its logical VRF domain.

This chapter provides procedures and examples for configuring VRF using the NETCONF interface.

Using the NETCONF interface, you can perform the following VRF configuration operations:

- Use the `<edit-config>` remote procedure call (RPC) to activate and deactivate VRF globally, set global VRF parameters, activate and deactivate VRF on a port, and to set interface parameters on a specific port.
- Use the `<get-config>` RPC to verify all or part of the VRF configuration.

VRF parameters are defined in the *brocade-vrf* YANG module. For a structural map of the YANG module, refer to the *Extreme SLX-OS YANG Reference Manual*. For definitions and explanations of all VRF parameters, refer to the *brocade-vrf.yang* file.

Configuring VRF

This chapter provides procedures and examples for configuring VRF using the NETCONF interface.

Procedure

1. Configure VRF "red".

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>red</vrf-name>
</vrf>
```

2. Enable the IPv4 or IPv6 address-family support to configure a variety of VRF unicast routing options.

The below example shows how to enable IPv4 address-family support

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>Red</vrf-name>
  <address-family>
    <ip>
      <unicast></unicast>
    </ip>
  </address-family>
</vrf>
```

3. Configure the maximum number of routes to be used for the VRF

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>red</vrf-name>
  <address-family>
    <ip>
      <unicast>
        <max-route>200</max-route>
      </unicast>
    </ip>
  </address-family>
</vrf>
```

```
        </unicast>
      </ip>
    </address-family>
  </vrf>
```

4. Enable the Open Shortest Path First (OSPF) routing protocol over virtual forward and routing (VRF).

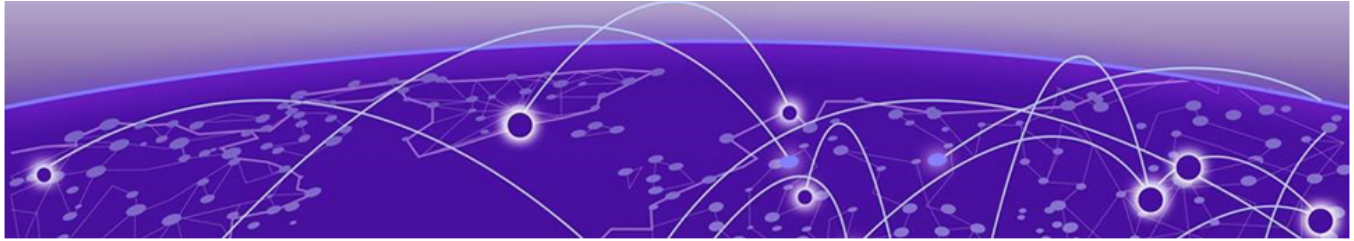
```
<router>
  <ospf xmlns="urn:brocade.com:mgmt:brocade-ospf">
    <vrf>red</vrf>
  </ospf>
</router>
```

5. Assign it to an area

```
<router>
  <ospf xmlns="urn:brocade.com:mgmt:brocade-ospfv3">
    <vrf>red</vrf>
    <area>
      <area-id>0</area-id>
    </area>
  </ospf>
</router>
```

6. Bind the interface to the VRF instance

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ve>
    <name>1</name>
    <vrf xmlns="urn:brocade.com:mgmt:brocade-ip-config">
      <forwarding>red</forwarding>
    </vrf>
  </ve>
</interface>
```



NETCONF Statements

[aaa](#) on page 64
[aaa/accounting](#) on page 65
[aaa/authentication](#) on page 66
[aaa/authentication/login](#) on page 68
[aaa/authentication/login/first](#) on page 69
[aaa/authentication/login/second](#) on page 70
[aaa/username](#) on page 71
[aaa/username/desc](#) on page 72
[aaa/username/encryption-level](#) on page 73
[aaa/username/role](#) on page 74
[acl-policy](#) on page 75
[acl-policy/allow-conflicting-rules](#) on page 76
[acl-policy/allow-duplicate-rules](#) on page 77
[arp](#) on page 78
[bridge-domain](#) on page 79
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/bpdu-drop-enable](#) on page 80
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/logical-interface](#) on page 81
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/local-switching](#) on page 82
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/peer/\(peer-ip\)/cos](#) on page 83
[bridge-domain-id/\(bridge-domain-type\)/peer/\(peer-ip\)/load-balance](#) on page 84
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/peer/\(peer-ip\)/lsp](#) on page 85
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/pw-profile](#) on page 86
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/statistics](#) on page 87
[bridge-domain/\(bridge-domain-id\)/\(bridge-domain-type\)/vc-id](#) on page 88
[chassis](#) on page 89
[chassis/virtual-ip](#) on page 90
[chassis/virtual-ipv6](#) on page 91

[clock](#) on page 92
[clock/time-zone](#) on page 93
[cluster/{cluster-name}/](#) on page 94
[dai](#) on page 95
[dai/arp/access-list](#) on page 96
[delay-link-event](#) on page 97
[dot1x](#) on page 98
[dot1x/test](#) on page 99
[dot3ah](#) on page 100
[event-handler](#) on page 101
[event-handler/{event-handler-name}/action](#) on page 102
[hardware](#) on page 103
[interface/{interface-type}/{interface-name}/ip/access-group](#) on page 104
[interface/{interface-type}/{interface-name}/ip/arp-aging-timeout](#) on page 105
[interface/{interface-type}/{interface-name}/ip/dhcp/relay/gateway](#)
on page 106
[interface/{interface-type}/{interface-name}/ip/igmp/immediate-leave](#)
on page 107
[interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-count](#)
on page 108
[interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-
interval](#) on page 109
[interface/{interface-type}/{interface-name}/ip/igmp/query-interval](#)
on page 110
[interface/{interface-type}/{interface-name}/ip/igmp/query-max-response-time](#)
on page 111
[interface/{interface-type}/{interface-name}/ip/igmp/robustness-variable](#)
on page 112
[interface/{interface-type}/{interface-name}/ip/igmp/startup-query-count](#)
on page 113
[interface/{interface-type}/{interface-name}/ip/igmp/startup-query-interval](#)
on page 114
[interface/{interface-type}/{interface-name}/ip/pim/dr-priority](#) on page 115
[interface/{interface-type}/{interface-name}/ip/pim/neighbor-filter](#) on page 116
[interface/{interface-type}/{interface-name}/ip/pim-sparse](#) on page 117
[interface/{interface-type}/{interface-name}/ip/policy](#) on page 118
[interface/{interface-type}/{interface-name}/ip/proxy-arp](#) on page 119
[interface/{interface-type}/{interface-name}/ip/router/isis](#) on page 120
[interface/{interface-type}/{interface-name}/ipv6/router/isis](#) on page 121
[interface/{interface-type}/{interface-name}/isis](#) on page 122
[interface/{interface-type}/{interface-name}/link-error-disable](#) on page 123
[interface/{interface-type}/{interface-name}/link-fault-signaling](#) on page 124
[interface/{interface-type}/{interface-name}/ipv6/access-group](#) on page 125

[interface/{interface-type}/{interface-name}/ipv6/dhcp/relay/address](#)
on page 126

[interface/{interface-type}/{interface-name}/ipv6/nd/broadcast-mac-trap](#)
on page 127

[interface/{interface-type}/{interface-name}/ipv6/nd/cache](#) on page 128

[interface/{interface-type}/{interface-name}/ipv6/nd/dad](#) on page 129

[interface/{interface-type}/{interface-name}/ipv6/nd/hoplimit](#) on page 130

[interface/{interface-type}/{interface-name}/ipv6/nd/managed-config-flag](#)
on page 131

[interface/{interface-type}/{interface-name}/ipv6/nd/mtu](#) on page 132

[interface/{interface-type}/{interface-name}/ipv6/nd/ns-interval](#) on page 133

[interface/{interface-type}/{interface-name}/ipv6/nd/other-config-flag](#)
on page 134

[interface/{interface-type}/{interface-name}/ipv6/nd/prefix](#) on page 135

[interface/{interface-type}/{interface-name}/ipv6/nd/ra-interval](#) on page 136

[interface/{interface-type}/{interface-name}/ipv6/nd/ra-lifetime](#) on page 137

[interface/{interface-type}/{interface-name}/ipv6/nd/reachable-time](#)
on page 138

[interface/{interface-type}/{interface-name}/ipv6/nd/retrans-timer](#) on page 139

[interface/{interface-type}/{interface-name}/ipv6/nd/suppress-ra](#) on page 140

[interface/{interface-type}/{interface-name}/ipv6/ra-dns-server](#) on page 141

[interface/{interface-type}/{interface-name}/ra-dns-server/hoplimit](#) on page 142

[interface/{interface-type}/{interface-name}/ra-dns-server/mtu](#) on page 143

[interface/{interface-type}/{interface-name}/ra-dns-server/other-config-flag](#)
on page 144

[interface/{interface-type}/{interface-name}/ipv6/ra-domain-name](#) on page 145

[interface/{interface-type}/{interface-name}/lldp/dcbx-version](#) on page 146

[interface/{interface-type}/{interface-name}/lldp/disable](#) on page 147

[interface/{interface-type}/{interface-name}/lldp/iscsi-priority](#) on page 148

[interface/{interface-type}/{interface-name}/lldp/profile](#) on page 149

[interface/{interface-type}/{interface-name}/isis/reverse-metric](#) on page 150

[interface/{interface-type}/{interface-name}/isis/priority](#) on page 151

[interface/{interface-type}/{interface-name}/isis/point-to-point](#) on page 152

[interface/{interface-type}/{interface-name}/isis/passive](#) on page 153

[interface/{interface-type}/{interface-name}/isis/metric](#) on page 154

[interface/{interface-type}/{interface-name}/isis/ldp-sync](#) on page 155

[interface/{interface-type}/{interface-name}/isis/ipv6-metric](#) on page 156

[interface/{interface-type}/{interface-name}/isis/hello-multiplier](#) on page 157

[interface/{interface-type}/{interface-name}/isis/hello-interval](#) on page 158

[interface/{interface-type}/{interface-name}/isis/hello-padding](#) on page 159

[interface/{interface-type}/{interface-name}/isis/circuit-type](#) on page 160

[interface/{interface-type}/{interface-name}/isis/auth-mode](#) on page 161

[interface/{interface-type}/{interface-name}/isis/auth-key](#) on page 162

[interface/{interface-type}/{interface-name}/isis/auth-check](#) on page 163
[interface/{interface-type}/{interface-name}/link-oam-interface](#) on page 164
[interface/{interface-type}/{interface-name}/link-oam/link-fault/action](#)
on page 165
[interface/{interface-type}/{interface-name}/link-oam-interface/allow-loopback](#)
on page 166
[interface/{interface-type}/{interface-name}/rmon/collection/history](#)
on page 167
[interface/{interface-type}/{interface-name}/rmon/collection/stats](#) on page 168
[interface/{interface-type}/{interface-name}/sflow/enable](#) on page 169
[interface/{interface-type}/{interface-name}/sflow/polling-interval](#) on page 170
[interface/{interface-type}/{interface-name}/sflow/sample-rate](#) on page 171
[interface/{interface-type}/{interface-name}/spanning-tree/autoedge](#)
on page 172
[interface/{interface-type}/{interface-name}/spanning-tree/bpdu-mac](#)
on page 173
[interface/{interface-type}/{interface-name}/spanning-tree/cost](#) on page 174
[interface/{interface-type}/{interface-name}/spanning-tree/edgeport](#)
on page 175
[interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-
filter](#) on page 176
[interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-
guard](#) on page 177
[interface/{interface-type}/{interface-name}/spanning-tree/guard/root](#)
on page 178
[interface/{interface-type}/{interface-name}/spanning-tree/hello-time](#)
on page 179
[interface/{interface-type}/{interface-name}/spanning-tree/instance/priority](#)
on page 180
[interface/{interface-type}/{interface-name}/spanning-tree/instance/cost](#)
on page 181
[interface/{interface-type}/{interface-name}/spanning-tree/instance/restricted-
role](#) on page 182
[interface/{interface-type}/{interface-name}/spanning-tree/instance/restricted-
tcn](#) on page 183
[interface/{interface-type}/{interface-name}/spanning-tree/link-type](#)
on page 184
[interface/{interface-type}/{interface-name}/spanning-tree/peer-switch](#)
on page 185
[interface/{interface-type}/{interface-name}/spanning-tree/portfast](#)
on page 186
[interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-filter](#)
on page 187
[interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-
guard](#) on page 188

[interface/{interface-type}/{interface-name}/spanning-tree/priority](#) on page 189

[interface/{interface-type}/{interface-name}/spanning-tree/restricted-role](#) on page 190

[interface/{interface-type}/{interface-name}/spanning-tree/restricted-tcn](#) on page 191

[interface/{interface-type}/{interface-name}/spanning-tree/shutdown](#) on page 192

[interface/{interface-type}/{interface-name}/spanning-tree/vlan](#) on page 193

[interface/{interface-type}/{interface-name}/storm-control/ingress](#) on page 194

[interface/{interface-type}/{interface-name}/switchport](#) on page 196

[interface/{interface-type}/{interface-name}/switchport/access](#) on page 197

[interface/{interface-type}/{interface-name}/switchport/mode](#) on page 198

[interface/{interface-type}/{interface-name}/switchport/mode/private-vlan](#) on page 199

[interface/{interface-type}/{interface-name}/switchport/mode/trunk-no-default-native](#) on page 200

[interface/{interface-type}/{interface-name}/switchport/port-security](#) on page 201

[interface/{interface-type}/{interface-name}/switchport/port-security/mac-address](#) on page 202

[interface/{interface-type}/{interface-name}/switchport/port-security/max](#) on page 203

[interface/{interface-type}/{interface-name}/switchport/port-security/oui](#) on page 204

[interface/{interface-type}/{interface-name}/switchport/port-security/shutdown-time](#) on page 205

[interface/{interface-type}/{interface-name}/switchport/port-security/sticky](#) on page 206

[interface/{interface-type}/{interface-name}/switchport/port-security/violation](#) on page 207

[ip/access-list/extended](#) on page 208

[ip/access-list/extended/{acl-name}/seq](#) on page 209

[ip/access-list/standard](#) on page 211

[ip/access-list/standard](#) on page 212

[ip/access-list/standard/{acl-name}/seq](#) on page 213

[ip/dhcp/relay/servers](#) on page 215

[ipv6/access-list/extended](#) on page 216

[ipv6/access-list/extended/{acl-name}/seq](#) on page 217

[ipv6/access-list/standard/{acl-name}/seq](#) on page 219

[mac/access-list/extended/{acl-name}/seq](#) on page 220

[mac/access-list/standard](#) on page 222

[mac/access-list/standard/{acl-name}/seq](#) on page 223

[mac-address-table/aging-time](#) on page 224

[ntp/authentication-key](#) on page 225

[ntp/disable](#) on page 226
[ntp/master](#) on page 227
[ntp/peer](#) on page 228
[ntp/server](#) on page 229
[ntp/source-ip](#) on page 230
[ntp/trusted-key](#) on page 231
[overlay-gateway](#) on page 232
[overlay-gateway/{gateway-name}/activate](#) on page 233
[overlay-gateway/{gateway-name}/attach/vlan](#) on page 234
[overlay-gateway/{gateway-name}/enable](#) on page 235
[overlay-gateway/{gateway-name}/ip/access-group](#) on page 236
[overlay-gateway/{gateway-name}/ip/interface/loopback](#) on page 237
[overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/fabric-virtual-gateway](#) on page 238
[overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/vrrp-extended-group](#) on page 239
[overlay-gateway/{gateway-name}/ipv6/access-group](#) on page 240
[overlay-gateway/{gateway-name}/mac](#) on page 241
[overlay-gateway/{gateway-name}/map](#) on page 242
[overlay-gateway/{gateway-name}/monitor](#) on page 243
[overlay-gateway/{gateway-name}/sflow](#) on page 244
[overlay-gateway/{gateway-name}/site](#) on page 245
[overlay-gateway/{gateway-name}/site/{site-name}/bfd](#) on page 246
[overlay-gateway/{gateway-name}/site/{site-name}/extend](#) on page 247
[overlay-gateway/{gateway-name}/site/{site-name}/ip](#) on page 248
[overlay-gateway/{gateway-name}/site/{site-name}/mac-learning/protocol/bgp](#) on page 249
[overlay-gateway/{gateway-name}/site/{site-name}/shutdown](#) on page 250
[overlay-gateway/{gateway-name}/type](#) on page 251
[protocol/cfm](#) on page 252
[protocol/link-oam](#) on page 253
[protocol/ldp/advertise/dcbx-fcoe-app-tlv](#) on page 254
[protocol/ldp/advertise/dcbx-fcoe-logical-link-tlv](#) on page 255
[protocol/ldp/advertise/dcbx-iscsi-app-tlv](#) on page 256
[protocol/ldp/advertise/dcbx-tlv](#) on page 257
[protocol/ldp/advertise/dot1-tlv](#) on page 258
[protocol/ldp/advertise/dot3-tlv](#) on page 259
[protocol/ldp/advertise/optional-tlv](#) on page 260
[protocol/ldp/description](#) on page 261
[protocol/ldp/disable](#) on page 262
[protocol/ldp/hello](#) on page 263
[protocol/ldp/iscsi-priority](#) on page 264

[protocol/lldp/mode](#) on page 265
[protocol/lldp/multiplier](#) on page 266
[protocol/lldp/profile/{profile-name}/advertise](#) on page 267
[protocol/lldp/profile/{profile-name}/hello](#) on page 268
[protocol/lldp/profile/{profile-name}/mode](#) on page 269
[protocol/lldp/profile/{profile-name}/multiplier](#) on page 270
[protocol/lldp/system-description](#) on page 271
[protocol/lldp/system-name](#) on page 272
[protocol/spanning-tree/mstp/bridge-priority](#) on page 273
[protocol/spanning-tree/mstp/cisco-interoperability](#) on page 274
[protocol/spanning-tree/mstp/description](#) on page 275
[protocol/spanning-tree/mstp/error-disable-timeout/enable](#) on page 276
[protocol/spanning-tree/mstp/error-disable-timeout/interval](#) on page 277
[protocol/spanning-tree/mstp/forward-delay](#) on page 278
[protocol/spanning-tree/mstp/hello-time](#) on page 279
[protocol/spanning-tree/mstp/instance/priority](#) on page 280
[protocol/spanning-tree/mstp/instance/vlan](#) on page 281
[protocol/spanning-tree/mstp/max-age](#) on page 282
[protocol/spanning-tree/mstp/max-hops](#) on page 283
[protocol/spanning-tree/mstp/port-channel](#) on page 284
[protocol/spanning-tree/mstp/region](#) on page 285
[protocol/spanning-tree/mstp/revision](#) on page 286
[protocol/spanning-tree/mstp/shutdown](#) on page 287
[protocol/spanning-tree/mstp/transmit-holdcount](#) on page 288
[protocol/spanning-tree/pvst/bridge-priority](#) on page 289
[protocol/spanning-tree/pvst/description](#) on page 290
[protocol/spanning-tree/pvst/error-disable-timeout/enable](#) on page 291
[protocol/spanning-tree/pvst/error-disable-timeout/interval](#) on page 292
[protocol/spanning-tree/pvst/forward-delay](#) on page 293
[protocol/spanning-tree/pvst/hello-time](#) on page 294
[protocol/spanning-tree/pvst/max-age](#) on page 295
[protocol/spanning-tree/pvst/port-channel](#) on page 296
[protocol/spanning-tree/pvst/shutdown](#) on page 297
[protocol/spanning-tree/pvst/vlan/forward-delay](#) on page 298
[protocol/spanning-tree/pvst/vlan/hello-time](#) on page 299
[protocol/spanning-tree/pvst/vlan/max-age](#) on page 300
[protocol/spanning-tree/pvst/vlan/priority](#) on page 301
[protocol/spanning-tree/rpvst/bridge-priority](#) on page 302
[protocol/spanning-tree/rpvst/description](#) on page 303
[protocol/spanning-tree/rpvst/error-disable-timeout/enable](#) on page 304
[protocol/spanning-tree/rpvst/error-disable-timeout/interval](#) on page 305
[protocol/spanning-tree/rpvst/forward-delay](#) on page 306

[protocol/spanning-tree/rpvst/hello-time](#) on page 307
[protocol/spanning-tree/rpvst/max-age](#) on page 308
[protocol/spanning-tree/rpvst/port-channel](#) on page 309
[protocol/spanning-tree/rpvst/shutdown](#) on page 310
[protocol/spanning-tree/rpvst/transmit-holdcount](#) on page 311
[protocol/spanning-tree/rpvst/vlan/forward-delay](#) on page 312
[protocol/spanning-tree/rpvst/vlan/hello-time](#) on page 313
[protocol/spanning-tree/rpvst/vlan/max-age](#) on page 314
[protocol/spanning-tree/rpvst/vlan/priority](#) on page 315
[protocol/spanning-tree/rstp/bridge-priority](#) on page 316
[protocol/spanning-tree/rstp/description](#) on page 317
[protocol/spanning-tree/rstp/error-disable-timeout/enable](#) on page 318
[protocol/spanning-tree/rstp/error-disable-timeout/interval](#) on page 319
[protocol/spanning-tree/rstp/forward-delay](#) on page 320
[protocol/spanning-tree/rstp/hello-time](#) on page 321
[protocol/spanning-tree/rstp/max-age](#) on page 322
[protocol/spanning-tree/rstp/port-channel](#) on page 323
[protocol/spanning-tree/rstp/shutdown](#) on page 324
[protocol/spanning-tree/rstp/transmit-holdcount](#) on page 325
[protocol/spanning-tree/stp/bridge-priority](#) on page 326
[protocol/spanning-tree/stp/description](#) on page 327
[protocol/spanning-tree/stp/error-disable-timeout/enable](#) on page 328
[protocol/spanning-tree/stp/error-disable-timeout/interval](#) on page 329
[protocol/spanning-tree/stp/forward-delay](#) on page 330
[protocol/spanning-tree/stp/hello-time](#) on page 331
[protocol/spanning-tree/stp/max-age](#) on page 332
[protocol/spanning-tree/stp/port-channel](#) on page 333
[protocol/spanning-tree/stp/shutdown](#) on page 334
[radius-server](#) on page 335
[ras](#) on page 336
[rmon/alarm](#) on page 337
[rmon/event](#) on page 338
[interface/{interface-type}/{interface-name}/isis](#) on page 339
[router/isis/is-type](#) on page 340
[route-map](#) on page 341
[router/mpls](#) on page 342
[router/mpls/ldp](#) on page 343
[router/mpls/rsvp](#) on page 345
[router/mpls/policy](#) on page 346
[router/mpls/policy/transit-session-accounting](#) on page 347
[router/mpls/policy/ingress-tunnel-accounting](#) on page 348
[router/mpls/policy/qos-ttl-mode](#) on page 349

[router/mpls/policy/traffic-engineering/isis](#) on page 350
[router/mpls/policy/soft-preemption/cleanup-timer](#) on page 351
[router/mpls/policy/cspf-computation-mode/rsvp-periodic-flooding-time](#)
on page 352
[router/mpls/policy/qos-ttl-mode](#) on page 353
[router/mpls/policy/cspf-computation-mode/rapid-retry](#) on page 354
[router/mpls/policy/cspf-computation-mode/retry-time](#) on page 355
[router/mpls/policy/cspf-computation-mode/handle-ospf-neighbor-down](#)
on page 356
[router/mpls/policy/cspf-computation-mode/handle-isis-neighbor-down](#)
on page 357
[router/mpls/policy/cspf-computation-mode/cspf-interface-constraint](#)
on page 358
[router/mpls/policy/cspf-computation-mode/add-penalty](#) on page 359
[router/mpls/policy/cspf-computation-mode/metric-type](#) on page 360
[router/mpls/policy/cspf-computation-mode/ignore-overload-bit](#) on page 361
[router/mpls/policy/backup-retry-time](#) on page 362
[router/mpls/cspf-group/\(cspf-group-name\)/penalty](#) on page 363
[router/mpls/lsp-xc-traps/enable](#) on page 364
[router/mpls/cspf-group/\(cspf-groupname\)/penalty](#) on page 365
[router/mpls/lsp-xc-traps/enable](#) on page 366
[router/mpls/rsvp](#) on page 367
[router/mpls/rsvp/reliable-messaging/rapid-retry-limit](#) on page 368
[router/mpls/rsvp/reliable-messaging/rapid-retrans-interval](#) on page 369
[router/mpls/rsvp/reliable-messaging/rapid-retrans-decay](#) on page 370
[router/mpls/rsvp/refresh-reduction/bundle-message/bundle-send-delay](#)
on page 371
[router/mpls/rsvp/refresh-multiple](#) on page 372
[router/mpls/rsvp/refresh-interval](#) on page 373
[router/mpls/rsvp/g-rsvp-backup-bw-guarantee](#) on page 374
[router/mpls/rsvp/global-rsvp-hello-acknowledgements](#) on page 375
[router/mpls/rsvp/global-rsvp-hello/tolerance](#) on page 376
[router/mpls/rsvp/global-rsvp-hello](#) on page 377
[router/mpls/rsvp/refresh-reduction/summary-refresh](#) on page 378
[qos-mpls](#) on page 379
[sflow/agent-address](#) on page 380
[sflow/collector](#) on page 381
[sflow/enable](#) on page 382
[sflow/polling-interval](#) on page 383
[sflow/sample-rate](#) on page 384
[sflow/source-ip](#) on page 385
[sflow-profile](#) on page 386
[system-monitor](#) on page 387

[system-monitor-mail/fru \(email\)](#) on page 388
[system-monitor-mail/fru/enable](#) on page 389
[system-monitor-mail/interface \(email\)](#) on page 390
[system-monitor-mail/interface/enable](#) on page 391
[system-monitor-mail/relay](#) on page 392
[system-monitor-mail/security \(email\)](#) on page 393
[system-monitor-mail/security/enable](#) on page 394
[system-monitor-mail/sfp \(email\)](#) on page 395
[system-monitor-mail/sfp/enable](#) on page 396
[system-watermark](#) on page 397
[topology-group](#) on page 398
[vlan/{vlan-name}/mac](#) on page 399
[vlan/classifier/group](#) on page 400
[vlan/classifier/rule/mac](#) on page 401
[vlan/classifier/rule/proto](#) on page 402
[vlan/dot1q](#) on page 403
[vrf](#) on page 404
[vrf/{vrf-name}/address-family/ipv4/unicast](#) on page 405
[vrf/{vrf-name}/address-family/ipv4/unicast/max-route](#) on page 406
[vrf/{vrf-name}/address-family/ipv6/unicast](#) on page 407
[vrf/{vrf-name}/address-family/ipv6/unicast/max-route](#) on page 408
[vrf/{vrf-name}/ip/router-id](#) on page 409
[vxlan-visibility](#) on page 410

aaa

Configures AAA authentication.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa/>
</aaa-config>
```

aaa/accounting

Configures login or command accounting; either commands or login information are forwarded to accounting servers.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <accounting/>
  </aaa>
</aaa-config>
```

aaa/authentication

Configures the AAA login sequence.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <authentication>
      <login>
        <first>local</first>
      </login>
    </authentication>
  </aaa>
</aaa-config>
```

Parameters

first

Specifies the type of server that will be used for authentication, authorization, and accounting (AAA) on the switch. The local server is the default. Specify one of the following options:

default

Specifies the default mode (local server). Authenticates the user against the local database only. If the password does not match or the user is not defined, the login fails

ldap

Specifies the Lightweight Directory Access Protocol (LDAP) servers

local

Specifies to use the local switch database if prior authentication methods are inactive

local-auth-failback

Specifies to use the local switch database if prior authentication methods are not active or if authentication fails

local

Specifies the local switch database

radius

Specifies the RADIUS servers

local

Specifies to use the local switch database if prior authentication methods are inactive

local-auth-failback

Specifies to use the local switch database if prior authentication methods are not active or if authentication fails.

tacacs+

Specifies the TACACS+ servers

local

Specifies to use the local switch database if prior authentication methods are inactive

local-auth-failback

Specifies to use the local switch database if prior authentication methods are not active or if authentication fails

aaa/authentication/login

Configures the AAA login sequence.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <authentication>
      <login/>
    </authentication>
  </aaa>
</aaa-config>
```

Parameters

authentication

Specifies the authentication, authorization, and accounting (AAA) on the switch.

aaa/authentication/login/first

Configures the primary source of authentication.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <authentication>
      <login>
        <first/>
      </login>
    </authentication>
  </aaa>
</aaa-config>
```

aaa/authentication/login/second

Configures the secondary source of authentication.

Usage

```
<aaa-config xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <aaa>
    <authentication>
      <login>
        <second/>
      </login>
    </authentication>
  </aaa>
</aaa-config>
```

Parameters

authentication

Specifies authentication.

login

Specifies login.

second

Specifies second.

aaa/username

Configures a username for AAA login.

Usage

```
<username xmlns="urn:brocade.com:mgmt:brocade-aaa">  
  <name>{req_val}</name>  
</username>
```

aaa/username/desc

Adds describes for the username.

Usage

```
<username xmlns="urn:brocade.com:mgmt:brocade-aaa">  
  <name>{req_val}</name>  
  <desc/>  
</username>
```

Parameters

name

Specifies the username.

aaa/username/encryption-level

Configures the encryption level for a username.

Usage

```
<username xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <name>{req_val}</name>
  <encryption-level/>
</username>
```

Parameters

name

Specifies the username.

aaa/username/role

Configures the role of the user.

Usage

```
<username xmlns="urn:brocade.com:mgmt:brocade-aaa">  
  <name>{req_val}</name>  
  <role/>  
</username>
```

Parameters

name

Specifies the username.

acl-policy

Configures, modifies, or retrieves the ACL configuration.

Usage

```
<acl-policy xmlns="urn:brocade.com:mgmt:brocade-acl-policy">  
  <global-acl-policy-conf-cmds/>  
</acl-policy>
```

Parameters

global-acl-policy-conf-cmds

Enters the global ACL policy commands mode.

acl-policy/allow-conflicting-rules

Allows conflicting rules in an ACL table.

Usage

```
<acl-policy xmlns="urn:brocade.com:mgmt:brocade-acl-policy">
  <global-acl-policy-conf-cmds>
    <allow-conflicting-rules/>
  </global-acl-policy-conf-cmds>
</acl-policy>
```

Parameters

global-acl-policy-conf-cmds

Enters the global ACL policy commands mode.

allow-conflicting-rules

Allows conflicting rules in an ACL table.

acl-policy/allow-duplicate-rules

Allows duplicate rules in an ACL table..

Usage

```
<acl-policy xmlns="urn:brocade.com:mgmt:brocade-acl-policy">
  <global-acl-policy-conf-cmds>
    <allow-duplicate-rules/>
  </global-acl-policy-conf-cmds>
</acl-policy>
```

Parameters

global-acl-policy-conf-cmds

Enters the global ACL policy commands mode.

arp

Configures, modifies, or retrieves Address Resolution Protocol (ARP).

Usage

```
<arp-entry xmlns="urn:brocade.com:mgmt:brocade-arp">  
  <arp-ip-address>{req_val}</arp-ip-address>  
</arp-entry>
```

Parameters

arp-ip-address

The IP adress of the ARP entry.

bridge-domain

Configures a bridge domain.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
</bridge-domain>
```

Parameters

bridge-domain-id

Specifies the bridge domain ID.

bridge-domain-type

Specifies the bridge domain type..

peer

Specifies the peer.

Specifies the peer IP address.

load-balance

Specifies load-balance.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/bpdu-drop-enable

Enables the Bridge Protocol Data Units (BPDU)-drop feature.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <bpdu-drop-enable/>
</bridge-domain>
```

Parameters

bridge-domain-id

Specifies the bridge-domain ID.

bridge-domain-type

Specifies the bridge domain type.

bpdu-drop-enable

Enables the BPDU drop.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/logical-interface

Configures the logical interface.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <logical-interface>
    <port-channel>
      <pc-lif-bind-id>{req_val}</pc-lif-bind-id>
    </port-channel>
  </logical-interface>
</bridge-domain>
```

Parameters

port-channel

Specifies Port Channel as the logical interface.

pc-lif-bind-id

Specifies the Port Channel LIF bind ID.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/local-switching

Configures local switching.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <local-switching/>
</bridge-domain>
```

Parameters

bridge-domain-id

Specifies the bridge-domain ID.

bridge-domain-type

Specifies the bridge domain type.

local-switching

Configures local switching.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/peer/(peer-ip)/cos

Sets the cos value in the range 0 to 7.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <peer>
    <peer-ip>{req_val}</peer-ip>
    <cos/>
  </peer>
</bridge-domain>
```

Parameters

cos

Specifies the CoS. The range is from 0 through 7.

bridge-domain-id/(bridge-domain-type)/peer/(peer-ip)/load-balance

Retrieves load-balancing details.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <peer>
    <peer-ip>{req_val}</peer-ip>
    <load-balance/>
  </peer>
</bridge-domain>
```

Parameters

peer

Specifies the peer.

peer-ip

Specifies the peer IP address.

load-balance

Specifies load balance.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/peer/(peer-ip)/lsp

Configures label-switched paths (LSPs).

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <peer>
    <peer-ip>{req_val}</peer-ip>
    <lsp/>
  </peer>
</bridge-domain>
```

Parameters

bridge-domain-id

Specifies the bridge domain ID.

bridge-domain-id

Specifies the bridge domain type.

peer

Specifies the peer.

peer-ip

Specifies the peer IP address.

lsp

Specifies the LSP.

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/pw-profile

Sets the Pw-profile name.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <pw-profile-name/>
</bridge-domain>
```

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/statistics

Configures statistics for a bridge domain?

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <statistics/>
</bridge-domain>
```

bridge-domain/(bridge-domain-id)/(bridge-domain-type)/vc-id

Configures the VC ID for the bridge domain.

Usage

```
<bridge-domain xmlns="urn:brocade.com:mgmt:brocade-bridge-domain">
  <bridge-domain-id>{req_val}</bridge-domain-id>
  <bridge-domain-type>{req_val}</bridge-domain-type>
  <vc-id-num/>
</bridge-domain>
```

Parameters

vc-id-num

Specifies the VC ID.

bridge-domain-type

Specifies the bridge domain type.

chassis

Configures, modifies, or retrieves the IP address of the virtual chassis.

Usage

```
<hide-virtual-ip-holder xmlns="urn:brocade.com:mgmt:brocade-chassis">
  <chassis>
    <virtual-ip>    10.1.1.1</virtual-ip/>
  </chassis>
</hide-virtual-ip-holder>
```

Parameters

virtual-ip

The IP address of the virtual chassis.

chassis/virtual-ip

Configures the chassis the virtual IPv4 address.

Usage

```
<hide-virtual-ip-holder xmlns="urn:brocade.com:mgmt:brocade-chassis">
  <chassis>
    <virtual-ip/>
  </chassis>
</hide-virtual-ip-holder>
```

Parameters

virtual-ip

Specifies the IP address of the virtual chassis.

chassis/virtual-ipv6

Configures the chassis the virtual IPv4 address.

Usage

```
<hide-virtual-ip-holder xmlns="urn:brocade.com:mgmt:brocade-chassis">
  <chassis>
    <virtual-ipv6/>
  </chassis>
</hide-virtual-ip-holder>
```

Parameters

virtual-ipv6

Specifies the IPv6 address of the virtual chassis.

clock

Configures, modifies, or retrieves the system time zone.

Usage

```
<clock-sa xmlns="urn:brocade.com:mgmt:brocade-clock">  
  <clock/>  
</clock-sa>
```

clock/time-zone

Configures, modifies, or retrieves the system time zone.

Usage

```
<clock-sa xmlns="urn:brocade.com:mgmt:brocade-clock">
  <clock>
    <timezone/>
  </clock>
</clock-sa>
```

Parameters

timezone

Specifies the time zone.

cluster/{cluster-name}/

Configures, retrieves, and modifies Multi-Chassis Trunking (MCT) cluster.

Usage

```
<cluster xmlns="urn:brocade.com:mgmt:brocade-mct">
  <cluster-name>{req_val}</cluster-name>
  <cluster-id>{req_val}</cluster-id>
</cluster>
```

Parameters

cluster-name

Specifies the MCT cluster name .

cluster-id

Specifies the MCT cluster ID.

dai

Manages the IP access list.

Usage

```
<dai-config xmlns="urn:brocade.com:mgmt:brocade-dai">  
  <arp/>  
</dai-config>
```

Parameters

arp

Specifies the ARP.

dai/arp/access-list

Manages the IP access list.

Usage

```
<dai-config xmlns="urn:brocade.com:mgmt:brocade-dai">
  <arp>
    <access-list>
      <acl-name>{req_val}</acl-name>
    </access-list>
  </arp>
</dai-config>
```

Parameters

acl-name

Specifies the access control list (ACL) name.

delay-link-event

Manages the delay link event (DLE).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <delay-link-event xmlns="urn:brocade.com:mgmt:brocade-dle">
      <delay-link operation="delete"/>
    </delay-link-event>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the Physical ethernet interface.

name

Specifies the interface name.

dot1x

Configures, retrieves, and modifies 802.1X authentication.

Usage

```
<dot1x xmlns="urn:brocade.com:mgmt:brocade-dot1x">
  <test>
    <timeout/>
  </test>
</dot1x>
```

Parameters

test timeout

The readiness test interval value in seconds. Valid values range from 1 through 65535. The default readiness test interval is 10 seconds.

dot1x/test

Configures the 802.1X readiness test timeout.

Usage

```
<dot1x xmlns="urn:brocade.com:mgmt:brocade-dot1x">
  <test>
    <timeout>20</timeout>
  </test>
</dot1x>
```

Parameters

timeout

Specifies the interval value in seconds. The value can range from 1 through 65535

dot3ah

Manages the Link OAM Protocol.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <link-oam xmlns="urn:brocade.com:mgmt:brocade-dot3ah"/>
</protocol>
```

Parameters

protocol

Specifies the protocol.

event-handler

Creates an event-handler profile.

Usage

```
<event-handler xmlns="urn:brocade.com:mgmt:brocade-event-handler">
  <event-handler-list>
    <name>{req_val}</name>
  </event-handler-list>
</event-handler>
```

Parameters

name

Specifies the name of the event-handler profile. The value can range from 1 through 32 characters. The first character must be alphabetic.

event-handler/{event-handler-name}/action

Creates or accesses an event-handler profile, which can execute a Python script when a specified trigger occurs.

Usage

```
<event-handler xmlns="urn:brocade.com:mgmt:brocade-event-handler">
  <activate>
    <name>
      <name>{req_val}</name>
      <action-timeout/>
    </name>
  </activate>
</event-handler>
```

Parameters

name

Specifies the name of the event-handler profile.

hardware

Configures, modifies, or retrieves the hardware management configuration.

Usage

```
<hardware xmlns="urn:brocade.com:mgmt:brocade-hardware">
  <connector>
    <name>{req_val}</name>
    <breakout>
      <cage-mode/>
    </breakout>
  </connector>
</hardware>
```

Parameters

connector *name*

Specifies the hardware connector name.

breakout *name*

Specifies breakout and enters cage-mode.

interface/{interface-type}/{interface-name}/ip/access-group

Applies rules specified in an access control list (ACL) to traffic entering or exiting an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip-acl-interface xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
      <ip>
        <access-group>
          <ip-access-list>acl11</ip-access-list>
          <ip-direction>out</ip-direction>
        </access-group>
      </ip>
    </ip-acl-interface>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

ip-access-list

Specifies the ACL name

ip-direction

Specifies the IP direction.

in

Specifies the ACL binding direction as ingress.

out

Specifies the ACL binding direction as egress.

interface/{interface-type}/{interface-name}/ip/arp-aging-timeout

Configures how long an ARP entry stays in cache before the cache refreshes.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <ip-config xmlns="urn:brocade.com:mgmt:brocade-ip-config">
        <arp-aging-timeout>220</arp-aging-timeout>
      </ip-config>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

arp-aging-timeout

Determines how long an ARP entry stays in cache. The timeout value can range from 0 through 240 minutes.

interface/{interface-type}/{interface-name}/ip/dhcp/relay/gateway

Configures the IP DHCP Relay on a Layer 3 gateway interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <interface-te-dhcp-conf xmlns="urn:brocade.com:mgmt:brocade-dhcp">
        <dhcp>
          <relay>
            <gateway>1.1.1.1</gateway>
          </relay>
        </dhcp>
      </interface-te-dhcp-conf>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

gateway

Specifies the IPv4 gateway address of the DHCP server where the DHCP client requests are to be forwarded

interface/{interface-type}/{interface-name}/ip/igmp/immediate-leave

Removes a group from the IGMP table immediately following receipt of a Leave Group request.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <igmp-phy-intf-cfg xmlns="urn:brocade.com:mgmt:brocade-igmp">
        <igmp>
          <immediate-leave></immediate-leave>
        </igmp>
      </igmp-phy-intf-cfg>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

immediate-leave

Enables immediate leave processing

interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-count

Sets the last-member query count.

Usage

```
<interface-vlan xmlns="urn:brocade.com:mgmt:brocade-interface">
  <interface>
    <vlan>
      <name>1</name>
      <ip>
        <igmp xmlns="urn:brocade.com:mgmt:brocade-igmp-snooping">
          <last-member-query-count>3</last-member-query-count>
        </igmp>
      </ip>
    </vlan>
  </interface>
</interface-vlan>
```

Parameters

name

Specifies the interface name

last-member-query-count

Specifies the last member query count value. The value can range from 2 through 10. The default value is 2

interface/{interface-type}/{interface-name}/ip/igmp/last-member-query-interval

Configures last member query interval.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <igmp-phy-intf-cfg xmlns="urn:brocade.com:mgmt:brocade-igmp">
        <igmp>
          <last-member-query-interval>1500</last-member-query-interval>
        </igmp>
      </igmp-phy-intf-cfg>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

last-member-query-interval

Specifies last member query interval in milliseconds. The interval can range from 100 through 25500. The default value is 1000 milliseconds

interface/{interface-type}/{interface-name}/ip/igmp/query-interval

Configures the query interval for a VLAN. The query interval is the amount of time between IGMP query messages sent by the switch.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <igmp-phy-intf-cfg xmlns="urn:brocade.com:mgmt:brocade-igmp">
        <igmp>
          <query-interval>150</query-interval>
        </igmp>
      </igmp-phy-intf-cfg>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

query-interval

Specifies the response time in seconds. The interval can range from 1 through 18000 seconds. The default value is 125 seconds.

interface/{interface-type}/{interface-name}/ip/igmp/query-max-response-time

Configures the maximum response time for IGMP queries

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <igmp-phy-intf-cfg xmlns="urn:brocade.com:mgmt:brocade-igmp">
        <igmp>
          <query-max-response-time>15</query-max-response-time>
        </igmp>
      </igmp-phy-intf-cfg>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

query-max-response-time

Specifies IGMP query max response time in seconds. The response time can range from 1 through 25 seconds. By default, the response time is set to 10 seconds.

interface/{interface-type}/{interface-name}/ip/igmp/robustness-variable

Configures the robustness variable.

Usage

```
<interface-vlan xmlns="urn:brocade.com:mgmt:brocade-interface">
  <interface>
    <vlan>
      <name>1</name>
      <ip>
        <igmp xmlns="urn:brocade.com:mgmt:brocade-igmp-snooping">
          <robustness-variable>3</robustness-variable>
        </igmp>
      </ip>
    </vlan>
  </interface>
</interface-vlan>
```

Parameters

name

Specifies the interface name.

robustness-variable

Specifies the robustness value. The value can range from 2 through 10. The default value is 2.

interface/{interface-type}/{interface-name}/ip/igmp/startup-query-count

Configures the start up query count.

Usage

```
<interface-vlan xmlns="urn:brocade.com:mgmt:brocade-interface">
  <interface>
    <vlan>
      <name>1</name>
      <ip>
        <igmp>
          <startup-query-count>3</startup-query-count>
        </igmp>
      </ip>
    </vlan>
  </interface>
</interface-vlan>
```

Parameters

name

Specifies the interface name.

startup-query-count

Specifies the startup query count value. The value can range from 1 through 10. The default value is 2.

interface/{interface-type}/{interface-name}/ip/igmp/startup-query-interval

Configures the start up query interval.

Usage

```
<interface-vlan xmlns="urn:brocade.com:mgmt:brocade-interface">
  <interface>
    <vlan>
      <name>1</name>
      <ip>
        <igmp xmlns="urn:brocade.com:mgmt:brocade-igmp-snooping">
          <startup-query-interval>10</startup-query-interval>
        </igmp>
      </ip>
    </vlan>
  </interface>
</interface-vlan>
```

Parameters

name

Specifies the interface name.

startup-query-interval

Specifies the start up query interval value. The value can range from 1 through 450. The default value is 1.

interface/{interface-type}/{interface-name}/ip/pim/dr-priority

Configures the designated router (DR) priority of a protocol Independent Multicast (PIM) enabled interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <pim-intf-phy-cont xmlns="urn:brocade.com:mgmt:brocade-pim">
        <pim-int-cmd>
          <pim>
            <dr-priority>1</dr-priority>
          </pim>
        </pim-int-cmd>
      </pim-intf-phy-cont>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

dr-priority

Specifies the DR priority value. The value can range from 0 through 65535. The default value is 1

interface/{interface-type}/{interface-name}/ip/pim/neighbor-filter

By default, directly connected routers under protocol-independent multicast (PIM) form neighborship with one another. Using this command, you can block specified routers from neighborship.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <pim-intf-phy-cont xmlns="urn:brocade.com:mgmt:brocade-pim">
        <pim-int-cmd>
          <pim>
            <dr-priority>1</dr-priority>
          </pim>
        </pim-int-cmd>
      </pim-intf-phy-cont>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

neighbor-filter

Specifies the name of a prefix list defined by the ip prefix-list command. Permitted values are between 1 and 63 characters. Although the first character must be alphabetic, the others can be alphanumeric, underscores (_), or minus signs (-).

interface/{interface-type}/{interface-name}/ip/pim-sparse

Enables Protocol Independent Multicast Sparse Mode.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <pim-intf-phy-cont xmlns="urn:brocade.com:mgmt:brocade-pim">
        <pim-int-cmd>
          <pim-sparse></pim-sparse>
        </pim-int-cmd>
      </pim-intf-phy-cont>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

pim-sparse

Enables PIM sparse mode.

interface/{interface-type}/{interface-name}/ip/policy

Enables policy-based routing (PBR) on any Layer 3 interface after ACLs and route map entries are configured.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip-pbr-interface xmlns="urn:brocade.com:mgmt:brocade-ip-policy">
      <ip>
        <policy>
          <route-map>
            <route-map-name>map1</route-map-name>
          </route-map>
        </policy>
      </ip>
    </ip-pbr-interface>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

route-map-name

Specifies the name of the route-map

interface/{interface-type}/{interface-name}/ip/proxy-arp

Enables proxy ARP on an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <ip>
      <ip-config xmlns="urn:brocade.com:mgmt:brocade-ip-config">
        <proxy-arp></proxy-arp>
      </ip-config>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

proxy-arp

Enables proxy ARP.

interface/{interface-type}/{interface-name}/ip/router/isis

Configures the Intermediate System-to-Intermediate System (IS-IS) routing at the interface level.

Usage

```
<router xmlns="urn:brocade.com:mgmt:brocade-isis" xmlns:y="http://brocade.com/ns/rest"
y:self="/rest/
config/running/interface/Ve/101/ip/router">
<isis>true</isis>
</router>
</interface>
```

interface/{interface-type}/{interfacename}/ipv6/router/isis

Configures the IS-IS routing protocol.

Usage

```
<router xmlns="urn:brocade.com:mgmt:brocade-isis" xmlns:y="http://brocade.com/ns/rest"
y:self="/rest/
config/running/interface/Ve/101/ipv6/router">
<isis>true</isis>
</router>
</interface>
```

interface/{interface-type}/{interface-name}/isis

Configures the Intermediate System-to-Intermediate System (IS-IS) routing at the interface level.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">1
  <ethernet>
    <name>{req_val}</name>
    <ip>
      <intf-router-isis xmlns="urn:brocade.com:mgmt:brocade-isis"/>
    </ip>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

ip

Specifies the IP address.

ethernet

Specifies the physical Ethernet interface.

interface/{interface-type}/{interface-name}/link-error-disable

Configures port link dampening (PLD).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <link-error-disable xmlns="urn:brocade.com:mgmt:brocade-pld">
      <wait-time-in-sec/>
    </link-error-disable>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies Ethernet interface.

name

Specifies the interface name.

link-error-disable-entry

Specifies the link error disable entry.

wait-time-in-sec

Specifies the wait time.

interface/{interface-type}/{interface-name}/link-fault-signaling

Configures, retrieves, and modifies Link Fault Signaling (LFS).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <link-fault-signaling xmlns="urn:brocade.com:mgmt:brocade-lfs">
      <tx/>
    </link-fault-signaling>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies Ethernet interface.

name

Specifies the interface name.

tx

Specifies the tx direction.

interface/{interface-type}/{interface-name}/ipv6/access-group

Applies rules specified in an IPv6 access control list (ACL) to traffic entering or exiting an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <access-group xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
        <ipv6-access-list>acl12</ipv6-access-list>
        <ip-direction>in</ip-direction>
        <traffic-type>routed</traffic-type>
      </access-group>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

ipv6-access-list

Specifies the name of the standard or extended IP access list

ip-direction

Specifies the binding direction

ingress

Ingress direction

egress

Egress direction

traffic-type

Specifies the traffic type

routed

Filter only routed traffic. This parameter is not valid for management or overlay-gateway interfaces

switched

Filter only switched traffic. This parameter is not valid for management or overlay-gateway interfaces.

interface/{interface-type}/{interface-name}/ipv6/dhcp/relay/address

Configures the IPv6 DHCP Relay on a Layer 3 interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <ipv6>
      <interface-phy-dhcp-conf xmlns="urn:brocade.com:mgmt:brocade-dhcpv6">
        <dhcp>
          <relay>
            <servers>
              <relay-ip-addr>2001:db8::12d:1300</relay-ip-addr>
              <use-vrf>mgmt-vrf</use-vrf>
              <interface>
                <interface-type>ethernet</interface-type>
                <interface-name>1/2</interface-name>
              </interface>
            </servers>
          </relay>
        </dhcp>
      </interface-phy-dhcp-conf>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

relay-ip-addr

Specifies the IPv6 address of the DHCP server where the DHCP client requests are to be forwarded

use-vrf

Use this option if the VRF where the DHCP server is located is different from the VRF of the interface where the client is connected. Specifies the VRF name

interface-type

The type of interface, such as Ethernet or Ve interface.

interface-name

The interface number

interface/{interface-type}/{interface-name}/ipv6/nd/broadcast-mac-trap

Enables the trap for all the IPv6 packets with broadcast mac.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <broadcast-mac-trap></broadcast-mac-trap>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

broadcast-mac-trap

Enables the trap for all the IPv6 packets with broadcast mac

interface/{interface-type}/{interface-name}/ipv6/nd/cache

Configures the time interval after which the IPv6 Neighbor Discovery cache is deleted or refreshed.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <cache>
              <expire>14000</expire>
            </cache>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

expire

Specifies the time interval in minutes. The interval can range from 1 through 240 minutes. The default value is 240 minutes

interface/{interface-type}/{interface-name}/ipv6/nd/dad

Configures the number of IPv6 Neighbor Discovery Neighbor Solicitation (NS) messages to be sent as part of duplicate address detection (DAD).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/0/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <dad>
              <attempts>3</attempts>
              <time>2</time>
            </dad>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

attempts

Specifies the number of solicitations. The value can range from 0 through 10. By default, the value is set to 2.

time

Specifies the time in seconds. The value can range from 1 through 5. The default value is 1

interface/{interface-type}/{interface-name}/ipv6/nd/hoplimit

Configures the number of hops to be advertised in IPv6 Neighbor Discovery Router Advertisement (RA) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <hoplimit>65</hoplimit>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

hoplimit

Specifies the number of hops to be advertised. The number can range from 0 through 255. The default value is 64

interface/{interface-type}/{interface-name}/ipv6/nd/managed-config-flag

In IPv6 Neighbor Discovery, indicates to hosts on a local link that they must use the stateful autoconfiguration feature to obtain IPv6 addresses for their interfaces.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <managed-config-flag></managed-config-flag>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

managed-config-flag

Indicates to hosts on a local link that they must use the stateful autoconfiguration feature to obtain IPv6 addresses for their interfaces

interface/{interface-type}/{interface-name}/ipv6/nd/mtu

Sets the size of the maximum transmission unit (MTU) that is advertised in Neighbor Discovery Router Advertisement (RA) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <mtu>1550</mtu>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the name of the interface

mtu

Specifies the size, in bytes, of the MTU that is advertised. The value can range from 1280 through 65535. The default value is 1500

interface/{interface-type}/{interface-name}/ipv6/nd/ns-interval

Configures the interval for address resolution between IPv6 Neighbor Discovery Neighbor Solicitation (NS) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <ns-interval>2</ns-interval>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

ns-interval

Specifies the number of seconds between neighbor solicitation messages. The value can range from 1 through 5 seconds. The default value is 1 second

interface/{interface-type}/{interface-name}/ipv6/nd/other-config-flag

In IPv6 Neighbor Discovery, indicates to hosts on a local link that they can use the stateful autoconfiguration feature to obtain configuration settings other than IPv6 address information for their interfaces.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <other-config-flag></other-config-flag>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

other-config-flag

indicates to hosts on a local link that they can use the stateful autoconfiguration feature to obtain configuration settings other than IPv6 address information for their interfaces

interface/{interface-type}/{interface-name}/ipv6/nd/prefix

Configures which IPv6 prefixes are included in IPv6 Neighbor Discovery Router Advertisement (RA) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <prefix>
              <prefix-ipv6-address>2001:db8:12d:1300::/64</prefix-ipv6-
address>
              <lifetime>
                <no-advertise></no-advertise>
              </lifetime>
            </prefix>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

prefix-ipv6-address

Specifies the IPv6 prefix in hexadecimal with 16-bit values between colons

no-advertise

Specifies no advertisement.

interface/{interface-type}/{interface-name}/ipv6/nd/ra-interval

Configures the maximum interval range and minimum interval at which IPv6 Neighbor Discovery Router Advertisement (RA) messages are sent.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <ra-interval>
              <max-interval>650</max-interval>
              <min>250</min>
            </ra-interval>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

max-interval

Specifies the maximum interval range in seconds. The interval can range from 4 through 1800 seconds. The default interval is set from 200 through 600, with messages sent randomly within that interval

min

Specifies the minimum interval in seconds. The interval can range from 0 through 1800. The default interval is set to 200 seconds

interface/{interface-type}/{interface-name}/ipv6/nd/ra-lifetime

Configures the amount of time in IPv6 Neighbor Discovery that a router is considered a valid default router.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <ra-lifetime>2000</ra-lifetime>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

ra-lifetime

Specifies the time in seconds. The time can range from 0 through 9000. The default value is 1800

interface/{interface-type}/{interface-name}/ipv6/nd/reachable-time

Configures the amount of time in IPv6 Neighbor Discovery that a device considers a remove IPv6 node reachable.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <reachable-time>1</reachable-time>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

reachable-time

Specifies the time in milliseconds. The value can range from 0 through 3600000 milliseconds.
The default time is set to 0

interface/{interface-type}/{interface-name}/ipv6/nd/retrans-timer

Configures the time advertised between IPv6 Neighbor Discovery Neighbor Solicitation (NS) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <retrans-timer>1</retrans-timer>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

retrans-timer

Specifies the interval in milliseconds, at which NS messages are sent. The interval can range from 0 through 4294967295. The default interval is set to 0

interface/{interface-type}/{interface-name}/ipv6/nd/suppress-ra

Disables the sending of ICMPv6 Router Advertisement (RA) messages, including those sent in response to a solicitation as well as MTUs.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/1</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <suppress-ra>
              <suppress-ra-all></suppress-ra-all>
            </suppress-ra>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

suppress-ra

Disables the sending of ICMPv6 Router Advertisement (RA) messages

all

Disables the sending of all RA messages, including those sent in response to a solicitation

mtu

Disables the sending of MTUs in RA messages

interface/{interface-type}/{interface-name}/ipv6/ra-dns-server

Configures, modifies, or retrieves the Domain Name System (DNS) server address and the lifetime multiplier information to IPv6 hosts in the Router Advertisement (RA) message.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <ra-dns-server>
              <dns-server-prefix>{req_val}</dns-server-prefix>
            </ra-dns-server>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies Ethernet interface.

name

Specifies the interface name.

ipv6

Specifies IPv6 address.

nd

Specifies the neighbor discovery protocol.

dns-server-prefix

Specifies the prefix of the DNS server.

interface/{interface-type}/{interface-name}/ra-dns-server/hoplimit

Configures the number of hops to be advertised in IPv6 neighbor discovery router advertisement (RA) messages.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <hoplimit/>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies Ethernet interface.

name

Specifies the interface name.

ipv6

Specifies IPv6 address.

number

Specifies the number of hops to be advertised.

interface/{interface-type}/{interface-name}/ra-dns-server/mtu

Sets the size of the maximum transmission unit (MTU) that is advertised in Neighbor Discovery Router Advertisement (RA) messages.

Usage

```
<routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
    <ve>
      <name>{req_val}</name>
      <ipv6 xmlns="urn:brocade.com:mgmt:brocade-ipv6-config">
        <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
          <ipv6-intf-cmds>
            <nd>
              <mtu/>
            </nd>
          </ipv6-intf-cmds>
        </ipv6-nd-ra>
      </ipv6>
    </ve>
  </interface>
</routing-system>
```

Parameters

ve

Specifies virtual Ethernet interface.

name

Specifies the interface name.

ipv6

Specifies IPv6 address.

mtu *number*

Specifies the size, in bytes, of the MTU that is advertised.

interface/{interface-type}/{interface-name}/ra-dns-server/other-config-flag

In IPv6 Neighbor Discovery, indicates to hosts on a local link that they can use the stateful autoconfiguration feature to obtain configuration settings other than IPv6 address information for their interfaces.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ve>
    <name>{req_val}</name>
    <ipv6 xmlns="urn:brocade.com:mgmt:brocade-ipv6-config">
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <other-config-flag/>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ve>
</interface>
```

Parameters

ve

Specifies virtual Ethernet interface.

name

Specifies the interface name.

ipv6

Specifies IPv6 address.

interface/{interface-type}/{interface-name}/ipv6/ra-domain-name

Configures the domain name of the Domain Name System (DNS) suffix and the lifetime multiplier information to IPv6 hosts in the Router Advertisement (RA) message.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <ipv6>
      <ipv6-nd-ra xmlns="urn:brocade.com:mgmt:brocade-ipv6-nd-ra">
        <ipv6-intf-cmds>
          <nd>
            <ra-domain-name>
              <domain-name-string>{req_val}</domain-name-string>
              <domain-name-lifetime-multiplier/>
            </ra-domain-name>
          </nd>
        </ipv6-intf-cmds>
      </ipv6-nd-ra>
    </ipv6>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies Ethernet interface.

name

Specifies the interface name.

ipv6

Specifies IPv6.

ra-domain-name

Specifies the RA domain name.

domain-name-string

Specifies the domain name.

domain-name-lifetime-multiplier

Specifies domain name option and lifetime multiplier for DNS search list option.

interface/{interface-type}/{interface-name}/lldp/dcbx-version

Specifies which version of the Data Center Bridging Exchange (DCBX) protocol to use.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
      <dcbx-version>cee</dcbx-version>
    </lldp>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

dcbx-version

Specifies the version

auto

Auto-adjusts the DCBX protocol version. This is the default setting

cee

Uses the Converged Enhanced Ethernet (CEE) DCBX version.

interface/{interface-type}/{interface-name}/lldp/disable

Disables the Link Layer Discovery Protocol (LLDP) on the interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
      <disable></disable>
    </lldp>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

disable

Disables the Link Layer Discovery Protocol (LLDP) on the interface

interface/{interface-type}/{interface-name}/lldp/iscsi-priority

Configures the priority that will be advertised in the DCBX iSCSI TLV for a specified interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
      <iscsi-priority>3</iscsi-priority>
    </lldp>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

iscsi-priority

Specifies the priority value. The value can range from 0 through 7

interface/{interface-type}/{interface-name}/lldp/profile

Applies a Link Layer Discovery Protocol (LLDP) profile to an interface

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
      <profile>profile1</profile>
    </lldp>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

profile

Specifies the profile name

interface/{interface-type}/{interface-name}/isis/reverse-metric

Configures the reverse metric value on a single IS-IS interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-reverse-metric/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

intf-isis

Specifies the ISIS interface.

interface-reverse-metric

Specifies interface reverse metric.

interface/{interface-type}/{interface-name}/isis/priority

Determines the priority of the interface for being elected as a designated IS.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-priority/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the name of Ethernet interface.

intf-isis

Specifies the ISIS interface.

interface/{interface-type}/{interface-name}/isis/point-to-point

Configures the network type for the IS-IS interface as point-to-point.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-point-to-point/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the ISIS interface name.

intf-isis

Configures the ISIS interface.

interface/{interface-type}/{interface-name}/isis/passive

Disables adjacency formation and advertisements on an IS-IS interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-passive/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the ISIS interface name.

intf-isis

Configures the ISIS interface.

interface/{interface-type}/{interface-name}/isis/metric

Configures the value of an IS-IS metric.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-metric>
            <interface-metric-level>{req_val}</interface-metric-
level>
          </interface-metric>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the ISIS interface name.

intf-isis

Configures the ISIS interface.

interface-metric

Specifies the ISIS interface.

interface-metric-level

Specifies the metric level for the ISIS interface.

interface/{interface-type}/{interface-name}/isis/ldp-sync

Enables synchronization with IS-IS for an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-ldp-sync/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the ISIS interface name.

intf-isis

Configures the ISIS interface.

interface/{interface-type}/{interface-name}/isis/ipv6-metric

Configures the metric value for an interface under IPv6 IS-IS MT.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-ipv6>
            <interface-ipv6-metric>
              <interface-ipv6-metric-level>{req_val}</interface-ipv6-metric-
level>
            </interface-ipv6-metric>
          </interface-ipv6>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the ISIS interface name.

intf-isis

Configures the ISIS interface.

interface-ipv6

Specifeis the IPv6 ISIS interface.

interface-ipv6-metric

Specifeis the IPv6 ISIS interface metric.

interface-ipv6-metric-level

Specifeis the metric level for the ISIS IPv6 interface .

interface/{interface-type}/{interface-name}/isis/hello-multiplier

Specifies the number of IS-IS hello packets a neighbor must miss before a device declares adjacency as down.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-hello-multiplier>
            <interface-hello-multiplier-level>{req_val}</interface-hello-
multiplier-level>
          </interface-hello-multiplier>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

intf-isis

Specifies the ISIS interface.

interface-hello-multiplier

Specifies interface hello multiplier.

interface-hello-multiplier-level

Specifies the hello interval multiplier level .

interface/{interface-type}/{interface-name}/isis/hello-interval

Specifies how often an IS-IS interface sends hello messages to its IS-IS neighbors.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-hello-interval>
            <interface-hello-interval-level>{req_val}</interface-hello-
interval-level>
          </interface-hello-interval>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

intf-isis

Specifies the ISIS interface.

interface-hello-interval

Specifies interface hello interval.

interface-hello-interval-level

Specifies the hello interval level.

interface/{interface-type}/{interface-name}/isis/hello-padding

Re-enables IS-IS hello padding at the interface level.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-hello>
            <interface-hello-padding/>
          </interface-hello>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

intf-isis

Specifies the ISIS interface.

interface-hello

Specifies interface hello.

interface/{interface-type}/{interface-name}/isis/circuit-type

Configures the type of adjacency used for an IS-IS interface.

Usage

```
<routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
    <loopback xmlns="urn:brocade.com:mgmt:brocade-intf-loopback">
      <id>{req_val}</id>
      <intf-isis xmlns="urn:brocade.com:mgmt:brocade-isis">
        <interface-isis>
          <circuit-type/>
        </interface-isis>
      </intf-isis>
    </loopback>
  </interface>
```

Parameters

id

Specifies the ID.

interface-isis

Configures the ISIS interface.

circuit-type

Specifies the circuit type.

interface/{interface-type}/{interface-name}/isis/auth-mode

Specifies the type of authentication used for an IS-IS interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-auth-mode/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

interface-auth-mode

Specifies the authorization mode.

interface/{interface-type}/{interface-name}/isis/auth-key

Configures an authentication key for a specified IS-IS interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <interface-auth-key>
            <interface-auth-key-level>{req_val}</interface-auth-key-level>
          </interface-auth-key>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

interface-isis

Specifies the ISIS interface.

interface-auth-key

Configures the ISIS interface authorization key.

interface-auth-key-level

Specifies the authorization key level for the ISIS interface.

interface/{interface-type}/{interface-name}/isis/auth-check

Enables authentication checking for an IS-IS interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <interface-eth-isis-conf xmlns="urn:brocade.com:mgmt:brocade-isis">
      <intf-isis>
        <interface-isis>
          <auth-check/>
        </interface-isis>
      </intf-isis>
    </interface-eth-isis-conf>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the physical Ethernet interface.

name

Specifies the interface name.

interface-isis

Specifies the ISIS interface.

auth-check-level1

Specifies the authorization check level 1.

interface-auth-check-level1-disable

Disables the interface authorization check level 1.

auth-check-level2

Specifies the authorization check level 2.

interface-auth-check-level2-disable

Disables the interface authorization check level 2.

interface/{interface-type}/{interface-name}/link-oam-interface

Configures the Link OAM protocol on an Ethernet interface.

Usage

```
interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <link-oam-interface xmlns="urn:brocade.com:mgmt:brocade-dot3ah">
      <enable/>
    </link-oam-interface>
  </ethernet>
</interface>
```

interface/{interface-type}/{interface-name}/link-oam/link-fault/action

Sets action for a Link Fault event .

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <link-oam-interface xmlns="urn:brocade.com:mgmt:brocade-dot3ah">
      <remote-failure>
        <link-fault>
          <link-fault-action/>
        </link-fault>
      </remote-failure>
    </link-oam-interface>
  </ethernet>
</interface>
```

interface/{interface-type}/{interface-name}/link-oam-interface/allow-loopback

Enables or disables loopback.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <link-oam-interface xmlns="urn:brocade.com:mgmt:brocade-dot3ah">
      <allow-loopback/>
    </link-oam-interface>
  </ethernet>
</interface>
```

interface/{interface-type}/{interface-name}/rmon/collection/history

Collects Ethernet group statistics for later retrieval

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <rmon xmlns="urn:brocade.com:mgmt:brocade-rmon">
      <collection>
        <history-control-entry>
          <history-control-index>25</history-control-index>
          <history-control-buckets-requested>10</history-control-buckets-
requested>
          <history-control-interval>2000</history-control-interval>
          <history-control-owner>admin</history-control-owner>
        </history-control-entry>
      </collection>
    </rmon>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

history-control-index

Specifies the RMON collection control index value. The value can range from 1 through 65535.

history-control-buckets-requested

Specifies the maximum number of buckets for the RMON collection history. The value can range from 1 through 65535.

history-control-interval

Specifies the alarm sample interval in seconds. The value can range from 1 through 3600. The default value is 1800.

history-control-owner

Specifies the identity of the owner. The maximum number of characters is 15.

interface/{interface-type}/{interface-name}/rmon/collection/stats

Collects Ethernet group statistics on a specific interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <rmon xmlns="urn:brocade.com:mgmt:brocade-rmon">
      <collection>
        <history-control-entry>
          <history-control-index>25</history-control-index>
          <history-control-buckets-requested>10</history-control-buckets-
requested>
          <history-control-interval>2000</history-control-interval>
          <history-control-owner>admin</history-control-owner>
        </history-control-entry>
      </collection>
    </rmon>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

ether-stats-index

Specifies the RMON collection control index value. The value can range from 1 through 65535

ether-stats-owner

Specifies the identity of the owner

interface/{interface-type}/{interface-name}/sflow/enable

Enables sFlow on an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">
      <enable></enable>
    </sflow>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

enable

Enables sFlow on the interface.

interface/{interface-type}/{interface-name}/sflow/polling-interval

Configures the polling interval globally.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">
      <polling-interval>25</polling-interval>
    </sflow>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

polling-interval

Specifies the polling interval in seconds. The value can range from 1 through 65535 seconds.

interface/{interface-type}/{interface-name}/sflow/sample-rate

Sets the default sampling rate for an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">
      <sample-rate>33300</sample-rate>
    </sflow>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

sample-rate

Specifies the sampling rate. The value can range from 2 through 16777215 packets

interface/{interface-type}/{interface-name}/spanning-tree/autoedge

Enables automatic edge detection.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <autoedge></autoedge>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

autoedge

Enables automatic edge detection.

interface/{interface-type}/{interface-name}/spanning-tree/bpdu-mac

Sets the MAC address of the Bridge Protocol Data Unit (BPDU).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <bpdu-mac>0304.0800.0700</bpdu-mac>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

bpdu-mac

Specifies the MAC address of the Bridge Protocol Data Unit

0100.0ccc.cccd

Cisco Control Mac

0304.0800.0700

Extreme Control Mac

interface/{interface-type}/{interface-name}/spanning-tree/cost

Changes an interface's spanning-tree port path cost.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <cost>10000</cost>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

cost

Specifies the path cost for the Spanning Tree Protocol (STP) calculations. The value can range from 1 through 200000000.

interface/{interface-type}/{interface-name}/spanning-tree/edgeport

Enables the edge port on an interface to allow the interface to quickly transition to the forwarding state.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <edgeport>
        <edgeportbasic></edgeportbasic>
      </edgeport>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

edgeportbasic

Enables the edge port on an interface.

interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-filter

Sets the edge port Bridge Protocol Data Unit (BPDU) filter for the port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <edgeport>
        <bpdu-filter></bpdu-filter>
      </edgeport>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

bpdu-filter

Sets the edge port Bridge Protocol Data Unit (BPDU) filter for the port

interface/{interface-type}/{interface-name}/spanning-tree/edgeport/bpdu-guard

Guards the port against the reception of BPDUs.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>22/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <edgeport>
        <bpdu-guard></bpdu-guard>
      </edgeport>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name.

bpdu-guard

Guards the port against the reception of BPDUs.

interface/{interface-type}/{interface-name}/spanning-tree/guard/root

Enables the guard root to restrict which interface is allowed to be the spanning-tree root port or the path-to-the-root for the switch.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <guard>
        <root></root>
      </guard>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

root

Enables the guard root

interface/{interface-type}/{interface-name}/spanning-tree/hello-time

Configures the hello-time in seconds on the interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <hello-time>5</hello-time>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

hello-time

Sets the interval between the hello Bridge Protocol Data Units (BPDUs) sent by the root switch configuration messages. The value can range from 1 through 10.

interface/{interface-type}/{interface-name}/spanning-tree/instance/priority

Sets restrictions for the port of particular MSTP instances.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <instance>
        <id>5</id>
        <priority>240</priority>
      </instance>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

id

Specifies the MSTP instance. The value can range from 1 through 32

priority

Specifies the port priority for a bridge in increments of 16. The value can range from 0 through 240

interface/{interface-type}/{interface-name}/spanning-tree/instance/ cost

Configures the path-cost for a port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <instance>
        <id>5</id>
        <cost>60</cost>
      </instance>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

id

Specifies the MSTP instance. The value can range from 1 through 32

cost

Specifies the path-cost for a port. The value can range from 1 through 20000000

interface/{interface-type}/{interface-name}/spanning-tree/instance/ restricted-role

Specifies to restrict the role of a port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <instance>
        <id>5</id>
        <restricted-role></restricted-role>
      </instance>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

id

Specifies the MSTP instance. The value can range from 1 through 32

restricted-role

Specifies to restrict the role of a port

interface/{interface-type}/{interface-name}/spanning-tree/instance/restricted-tcn

Specifies to restrict the propagation of the topology change notifications from a port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <instance>
        <id>5</id>
        <restricted-tcn></restricted-tcn>
      </instance>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

id

Specifies the MSTP instance. The value can range from 1 through 32

restricted-tcn

Specifies to restrict the propagation of the topology change notifications from a port

interface/{interface-type}/{interface-name}/spanning-tree/link-type

Enables and disables the rapid transition for the Spanning Tree Protocol (STP).

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <link-type>shared</link-type>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

link-type

Enables and disables the rapid transition

point-to-point

Enables rapid transition

shared

Disables rapid transition

interface/{interface-type}/{interface-name}/spanning-tree/peer-switch

When the Peer-Switch feature is enabled on a Cisco vPC domain, it broadcasts the same BPDUs from both vPC primary and secondary nodes to peer devices. But a VCS on a VLAG assumes that any logical interface receives only one BPDU from any of its member ports, so when it receives the two BPDUs from a Cisco vPC domain it creates a churn of VLAG mastership, and this increases the CPU load on a Extreme VDX. To avoid these problem, BPDUs received on the VLAG non-master are dropped. When the Peer-Switch functionality is enabled and the the VLAG Master is selected, BPDUs received on VLAG Non-Master are dropped unless there is a change in the status of the VLAG Master.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <peer-switch></peer-switch>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

peer-switch

Enables the Peer-Switch functionality on a portchannel

interface/{interface-type}/{interface-name}/spanning-tree/portfast

Enables the Port Fast feature on an interface to allow the interface to quickly transition to forwarding state.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>22/0/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <portfast>
        <portfastbasic></portfastbasic>
      </portfast>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-filter

Sets the Port Fast BPDU filter for the port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <portfast>
        <bpdu-filter></bpdu-filter>
      </portfast>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

bpdu-filter

Sets the Port Fast BPDU filter for the port

interface/{interface-type}/{interface-name}/spanning-tree/portfast/bpdu-guard

Guards the port against the reception of BPDUs.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>22/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <portfast>
        <bpdu-guard></bpdu-guard>
      </portfast>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

bpdu-guard

Guards the port against the reception of BPDUs

interface/{interface-type}/{interface-name}/spanning-tree/priority

Changes an interface's spanning-tree port priority.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <priority>32</priority>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

priority

Specifies the interface priority for the spanning tree. The value can range from 0 through 240.
Port priority is in increments of 16

interface/{interface-type}/{interface-name}/spanning-tree/restricted-role

Restricts the role of the port from becoming a root port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <restricted-role></restricted-role>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

restricted-role

Restricts the role of the port from becoming a root port

interface/{interface-type}/{interface-name}/spanning-tree/restricted-tcn

Restricts the Topology Change Notification (TCN) Bridge Protocol Data Units (BPDUs) sent on the port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <restricted-tcn></restricted-tcn>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

restricted-tcn

Restricts the Topology Change Notification

interface/{interface-type}/{interface-name}/spanning-tree/shutdown

Disables spanning tree on the interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <shutdown></shutdown>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

shutdown

Disables spanning tree on the interface

interface/{interface-type}/{interface-name}/spanning-tree/vlan

Configures the VLAN identifier for the spanning tree interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
      <vlan>
        <id>200</id>
        <cost>10000</cost>
      </vlan>
    </spanning-tree>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

id

Specifies the VLAN identifier for the spanning tree interface

cost

Specifies cost.

interface/{interface-type}/{interface-name}/storm-control/ingress

Limits ingress traffic on a specified interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/5</name>
    <storm-control xmlns="urn:brocade.com:mgmt:brocade-bum-storm-control">
      <ingress>
        <protocol-type>broadcast</protocol-type>
        <rate-format>limit-bps</rate-format>
        <rate-bps>100</rate-bps>
        <rate-percent>458632240</rate-percent>
        <bum-action>monitor</bum-action>
      </ingress>
    </storm-control>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

protocol-type

Specifies the protocol type

broadcast

Specifies that the command will operate on broadcast traffic only

unknown-unicast

Specifies that the command will operate on unknown-unicast traffic only

multicast

Specifies that the command will operate on multicast traffic only

rate-format

Specifies the rate format

limit-bps

Specifies that the value given to the rate parameter is in bits per second

limit-percent

Specifies that the value given to the rate parameter is in percentage of capacity of the interface

rate-bps

Specifies the amount of traffic allowed, either in bits per second or a percentage of the capacity of the interface, depending on which parameter was chosen with the rate

monitor

Specifies that, if a rate limit is reached within a five-second sampling period, a log message gets sent

shutdown

Specifies that, if a rate limit is exceeded within a five-second sampling period, the interface will be shut down

interface/{interface-type}/{interface-name}/switchport

Puts the interface in Layer 2 mode and sets the switching characteristics of the Layer 2 interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2//1</name>
    <switchport></switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

switchport

Enables switching characteristics of the Layer 2 interface

interface/{interface-type}/{interface-name}/switchport/access

Sets the Layer 2 interface as access.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>2/1</name>
    <switchport>
      <access>
        <accessvlan>20</accessvlan>
      </access>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

accessvlan

Specifies the VLAN ID

interface/{interface-type}/{interface-name}/switchport/mode

Sets the mode of the Layer 2 interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/0/2</name>
    <switchport>
      <port-security>
        <oui>1122.2233.3322</oui>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

vlan-mode

Sets the mode

access

Sets the Layer 2 interface as access. Access mode assigns the port to a VLAN

trunk

Sets the Layer 2 interface as trunk. Trunk mode makes the port linkable to other switches and routers

interface/{interface-type}/{interface-name}/switchport/mode/private-vlan

Sets the private VLAN (PVLAN) mode of the Layer 2 interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <mode>
        <pvlan>trunk</pvlan>
      </mode>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

pvlan

Sets the private VLAN mode

host

Sets the port mode to host (community or isolated) mode. It accepts the untagged or priority tagged packet, and the outgoing packet is untagged

promiscuous

Sets the port mode to promiscuous mode

trunk

Sets the port mode to PVLAN trunk port. This port can carry multiple VLANs. The outgoing packets carry all VLANs, except for native VLANs

trunk host

Sets the port mode to host (community or isolated) mode. The trunk operand means the outgoing packet will be tagged "accept"

trunk promiscuous

Sets the trunk to promiscuous mode

interface/{interface-type}/{interface-name}/switchport/mode/trunk-no-default-native

Configures a port to trunk mode without the implicit creation of default native VLAN 1 in a Virtual Fabrics context.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <mode>
        <trunk-no-default-native></trunk-no-default-native>
      </mode>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

trunk-no-default-native

Enables a port to trunk mode

interface/{interface-type}/{interface-name}/switchport/port-security

Enables port security on an interface port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security></port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

port-security

Enables port security

interface/{interface-type}/{interface-name}/switchport/port-security/ mac-address

Configures the MAC address option for port security on an interface port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security>
        <port-secutiry-mac-address>
          <mac-address>1122.2233.3322</mac-address>
          <port-sec-vlan>1</port-sec-vlan>
        </port-secutiry-mac-address>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

mac-address

Specifies the MAC address-based VLAN classifier rule used to map to a specific VLAN

port-sec-vlan

Specifies a VLAN

interface/{interface-type}/{interface-name}/switchport/port-security/max

Configures the maximum number of MAC addresses used for port security on an interface port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security>
        <port-sec-max>12</port-sec-max>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

port-sec-max

Specifies the maximum number of secure MAC addresses. The value can range is from 1 through 8192

interface/{interface-type}/{interface-name}/switchport/port-security/oui

Configures an Organizationally Unique Identifier (OUI) MAC address for port security on an interface port. All other addresses are ignored.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security>
        <oui>1122.2233.3322</oui>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

oui

Specifies the OUI MAC address from which to accept vendor traffic, in the format xxxx.xxxx.xxxx

interface/{interface-type}/{interface-name}/switchport/port-security/shutdown-time

Configures the shutdown-time option for port security on an interface port.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security>
        <shutdown-time>15</shutdown-time>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

shutdown-time

Specifies the amount of time to shut down the interface port, in minutes. The value can range from 1 through 15

interface/{interface-type}/{interface-name}/switchport/port-security/sticky

Converts dynamic MAC addresses to sticky secure MAC addresses.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/0/2</name>
    <switchport>
      <port-security>
        <sticky>
          <sticky-flag></sticky-flag>
          <port-secutiry-mac-address>
            <mac-address>1122.2255.5544</mac-address>
            <port-sec-vlan>100</port-sec-vlan>
          </port-secutiry-mac-address>
        </sticky>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

mac-address

Specifies the MAC address-based VLAN classifier rule used to map to a specific VLAN

port-sec-vlan

Specifies a VLAN ID

interface/{interface-type}/{interface-name}/switchport/port-security/violation

Configures the violation response options for port security on an interface.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>1/2</name>
    <switchport>
      <port-security>
        <port-sec-violation>restrict</port-sec-violation>
      </port-security>
    </switchport>
  </ethernet>
</interface>
```

Parameters

name

Specifies the interface name

port-sec-violation

Specifies the violation response

restrict

Drops packets with unknown source addresses until you remove a sufficient number of secure MAC addresses to drop below the maximum value

shutdown

Puts the interface into the error-disabled state for a predetermined amount of time

ip/access-list/extended

Configures extended IP access list.

Usage

```
<ip-acl xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
  <ip>
    <access-list>
      <extended>
        <name>acl5</name>
      </extended>
    </access-list>
  </ip>
</ip-acl>
```

Parameters

name

Specifies the access list name.

ip/access-list/extended/{acl-name}/seq

Configures the sequence number.

Usage

```
<ip-acl xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
  <ip>
    <access-list>
      <extended>
        <name>acl5</name>
        <hide-ip-acl-ext>
          <seq>
            <seq-id>14</seq-id>
            <action>deny</action>
            <protocol-type>ip</protocol-type>
            <src-host-any-sip>any</src-host-any-sip>
            <dst-host-any-dip>host</dst-host-any-dip>
            <dst-host-ip>1.1.1.1</dst-host-ip>
            <vlan>1</vlan>
            <count></count>
            <log></log>
          </seq>
        </hide-ip-acl-ext>
      </extended>
    </access-list>
  </ip>
</ip-acl>
```

Parameters

name

Access list name

seq-id

Specifies the sequence number for the rule

action

Specifies the action to be performed. The following actions can be performed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

protocol-type

The type of protocol used.

src-host-any-sip

Specifies any source host IP address.

dst-host-any-dip

Specifies any destination host IP address.

dst-host-ip

Specifies the destination host IP address.

vlan

VLAN interface numbe.

count

Enables the counting of the packets matching the rule.

log

Packets matching the filter are sent to the CPU and a corresponding log entry is generated by enabling the logging mechanism. This parameter is only available with permit and deny.

ip/access-list/standard

Configures a standard IP access list.

Usage

```
<ip-acl xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
  <ip>
    <access-list>
      <standard>
        <name>acl20</name>
      </standard>
    </access-list>
  </ip>
</ip-acl>
```

Parameters

name

Specifies the access list name.

ip/access-list/standard

Configures IPv6 standard access list.

Usage

```
<ipv6-acl xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
  <ipv6>
    <access-list>
      <standard>
        <name>acl24</name>
      </standard>
    </access-list>
  </ipv6>
</ipv6-acl>
```

Parameters

name

Specifies the access list name.

ip/access-list/standard/{acl-name}/seq

Configures sequence number.

Usage

```
<ip-acl xmlns="urn:brocade.com:mgmt:brocade-ip-access-list">
  <ip>
    <access-list>
      <standard>
        <name>acl20</name>
        <hide-ip-acl-std>
          <seq>
            <seq-id>20</seq-id>
            <action>permit</action>
            <src-host-any-sip>host</src-host-any-sip>
            <src-host-ip>1.1.1.1</src-host-ip>
            <count></count>
            <log></log>
          </seq>
        </hide-ip-acl-std>
      </standard>
    </access-list>
  </ip>
</ip-acl>
```

Parameters

name

Accesses the list name.

seq-id

Specifies the sequence number for the rule.

action

Specifies the action to be performed. The following actions can be performed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

src-host-any-sip

Specifies any source host IP address.

src-host-ip

Specifies the source host IP address.

count

Enables the counting of the packets matching the rule.

log

Packets matching the filter are sent to the CPU and a corresponding log entry is generated by enabling the logging mechanism. This parameter is only available with permit and deny.

ip/dhcp/relay/servers

Configures DHCP relay servers.

Usage

```
<ip xmlns="urn:brocade.com:mgmt:brocade-ip-config">
  <interface-ve-dhcp-conf xmlns="urn:brocade.com:mgmt:brocade-dhcp">
    <dhcp>
      <relay>
        <servers>
          <relay-ip-addr>{req_val}</relay-ip-addr>
          <server-vrf-name>{req_val}</server-vrf-name>
        </servers>
      </relay>
    </dhcp>
  </interface-ve-dhcp-conf>
</ip>
```

Parameters

relay-ip-addr

Specifies the IP address of the relay server.

server-vrf-name

Specifies the VRF name of the server.

ipv6/access-list/extended

Configure IPv6 extended access list.

Usage

```
<ipv6-acl xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
  <ipv6>
    <access-list>
      <extended>
        <name>acl14</name>
      </extended>
    </access-list>
  </ipv6>
</ipv6-acl>
```

Parameters

name

Specifies the list name.

ipv6/access-list/extended/{acl-name}/seq

Configures the sequence number.

Usage

```
<ipv6-acl xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
  <ipv6>
    <access-list>
      <extended>
        <name>acl14</name>
        <seq>
          <seq-id>14</seq-id>
          <action>deny</action>
          <protocol-type>ipv6</protocol-type>
          <src-host-any-sip>any</src-host-any-sip>
          <dst-host-any-dip>host</dst-host-any-dip>
          <dst-host-ip>2004:384d::24:23</dst-host-ip>
          <vlan>1</vlan>
          <count></count>
          <log></log>
        </seq>
      </extended>
    </access-list>
  </ipv6>
</ipv6-acl>
```

Parameters

name

Specifies the access list name.

seq-id

Specifies the sequence number for the rule.

action

Specifies the action to be performed. The following actions can be performed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

protocol-type

Specifies the type of protocol used.

src-host-any-sip

Specifies any source host IP address.

dst-host-any-dip

Specifies any destination host IP address.

dst-host-ip

Specifies the destination host IP address.

vlan

VLAN interface number

count

Enables the counting of the packets matching the rule.

log

Packets matching the filter are sent to the CPU and a corresponding log entry is generated by enabling the logging mechanism. This parameter is only available with permit and deny.

ipv6/access-list/standard/{acl-name}/seq

Configures the sequence number.

Usage

```
<ipv6-acl xmlns="urn:brocade.com:mgmt:brocade-ipv6-access-list">
  <ipv6>
    <access-list>
      <standard>
        <name>acl24</name>
        <seq>
          <seq-id>24</seq-id>
          <action>permit</action>
          <src-host-any-sip>any</src-host-any-sip>
          <count></count>
          <log></log>
        </seq>
      </standard>
    </access-list>
  </ipv6>
</ipv6-acl>
```

Parameters

name

Specifies the access list name.

seq-id

Specifies the sequence number for the rule.

action

Specifies the action to be performed. The following actions can be performed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

src-host-any-sip

Specifies any source host IP address.

count

Enables the counting of the packets matching the rule.

log

Packets matching the filter are sent to the CPU and a corresponding log entry is generated by enabling the logging mechanism. This parameter is only available with permit and deny.

mac/access-list/extended/{acl-name}/seq

Configures the sequence number

Usage

```
<mac xmlns="urn:brocade.com:mgmt:brocade-mac-access-list">
  <access-list>
    <extended>
      <name>acl21</name>
      <hide-mac-acl-ext>
        <seq>
          <seq-id>25</seq-id>
          <action>hard-drop</action>
          <source>0011.1122.2233</source>
          <src-mac-addr-mask>1212.2323.3131</src-mac-addr-mask>
          <dst>any</dst>
          <ethertype>arp</ethertype>
          <vlan>1</vlan>
          <count></count>
          <log></log>
        </seq>
      </hide-mac-acl-ext>
    </extended>
  </access-list>
</mac>
```

Parameters

name

Specifies the access list name.

seq-id

Specifies the sequence ID.

action

Displays all rules with the specified action. The following actions are allowed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

source

Specifies the source details.

src-mac-addr-mask

Specifies the source MAC address mask.

dst

Specifies details on the destination

ethertype

Filters extended ACLs traffic based on ethertype.

vlan

Specifies the VLAN number.

count

Displays the count of forwarding entries.

log

Specifies log.

mac/access-list/standard

Configures standard MAC access-list.

Usage

```
<mac xmlns="urn:brocade.com:mgmt:brocade-mac-access-list">
  <access-list>
    <standard>
      <name>acl25</name>
    </standard>
  </access-list>
</mac>
```

Parameters

name

Specifies the access list name.

mac/access-list/standard/{acl-name}/seq

Configures the sequence number.

Usage

```
<mac xmlns="urn:brocade.com:mgmt:brocade-mac-access-list">
  <access-list>
    <standard>
      <name>acl25</name>
      <hide-mac-acl-std>
        <seq>
          <seq-id>21</seq-id>
          <action>permit</action>
          <source>0011.1122.2233</source>
          <src-mac-addr-mask>0101.0202.0303</src-mac-addr-mask>
          <count></count>
          <log></log>
        </seq>
      </hide-mac-acl-std>
    </standard>
  </access-list>
</mac>
```

Parameters

name

Specifies the access list name.

seq-id

Specifies the sequence ID.

action

Displays all rules with the specified action. The following actions are allowed.

deny

Drops traffic.

hard-drop

Forces to drop traffic.

permit

Allows traffic.

source

Specifies the source details.

src-mac-addr-mask

Specifies the source MAC address mask.

count

Displays the count of forwarding entries.

log

Species log.

mac-address-table/aging-time

Configures mac-address-table aging time.

Usage

```
<mac-address-table xmlns="urn:brocade.com:mgmt:brocade-mac-address-table">
  <aging-time>
    <legacy-time-out>350</legacy-time-out>
  </aging-time>
</mac-address-table>
```

Parameters

legacy-time-out

Specifies the aging time in seconds. The value can range from 60 through 100000 seconds.

ntp/authentication-key

Configures NTP authentication key parameters.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <authentication-key>
    <keyid>650</keyid>
    <sha1>sha1</sha1>
    <encryption-level>0</encryption-level>
  </authentication-key>
</ntp>
```

Parameters

keyid

Specifies authentication key ID. The value can range from 65535

encryption-type

Specifies the encryption type. Two types of encryption are allowed:

sha1

SHA1 encryption

md5

MD5 encryption

encryption-level

Specifies the encryption level. There are two encryption levels

0

Stores the key in clear-text format

ntp/disable

Disables the NTP server/client mode.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <disable/>
</ntp>>
```

Parameters

serve

If this keyword is specified, then NTP will not serve the time to downstream devices. This keyword disables the NTP server mode functionalities. If this keyword is not specified, then both NTP client mode and NTP server mode functionalities will be disabled.

ntp/master

Configures the device as an authoritative NTP Server.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <master/>
</ntp>
```

Parameters

startum*number*

The NTP stratum number.

ntp/peer

Configures the NTP peers and specify the peers to synchronize the system clock.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <peer>
    <peer-ip>%req_val%</peer-ip>
    <peer-maxpoll/>
  </peer>
```

Parameters

ipv4 address | ipv6 address

IPv4 or IPv6 address of the NTP peer.

use-vrf name

Use VRF name to synchronize the time with server. If this option is not specified, it defaults to **mgmt-vrf**.

key

The symmetric key ID. By default, no symmetric key is configured. The range is 1 to 65,534.

version3 | 4

The NTP version supported by peer. If this option is not specified, then defaults to 4.

minpollinterval

The shortest polling interval. The range is 4 to 17. Default is 6. The interval argument is power of 2: 3=8s, 4=16s, 5=32s, 6=64s, 7=128s, 8=256s, 9=512s etc.

maxpollinterval

The longest polling interval. The range is 4 to 17. Default is 10. The interval argument is power of 2: 3=8s, 4=16s, 5=32s, 6=64s, 7=128s, 8=256s, 9=512s etc.

ntp/server

Configures Network Time Protocol (NTP) server IP address.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <server>
    <ip>1.1.1.1</ip>
    <key>1</key>
  </server>
</ntp>
```

Parameters

ip

NTP server IPv4 or IPv6 IP address.

key

Key from the key list to be associated with the specified server. The value can range from 1 through 65535.

ntp/source-ip

Configures the source IP to be used for Network Time Protocol (NTP).

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">
  <source-ip>mm-ip</source-ip>
  <server>
    <ip>10.20.192.71</ip>
    <source-interface-type>loopback</source-interface-type>
    <source-interface-number>34</source-interface-number>
  </server>
</ntp>
```

Parameters

source-ip

Specifies the source IP to be used for NTP. The following source IP can be configured.

chassis-ip

Uses chassis IP as source address.

mm-ip

Uses local MM IP as source address.

ntp/trusted-key

configures additional subset of trusted key-IDs which can be used for NTP and client authentication.

Usage

```
<ntp xmlns="urn:brocade.com:mgmt:brocade-ntp">  
  <trusted-key/>  
</ntp>
```

Parameters

key-id-1key-id-2key-id-n

List of authentication keys.

overlay-gateway

Configures overlay gateway instances.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">  
  <name>og1</name>  
</overlay-gateway>
```

Parameters

name

Overlay Gateway name.

overlay-gateway/{gateway-name}/activate

Activates the Overlay Gateway instance.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <activate></activate>
</overlay-gateway>
```

Parameters

name

Specifies the Overlay Gateway name.

activate

Activates the overlay gateway instance.

overlay-gateway/{gateway-name}/attach/vlan

Configures VLAN attachment for this gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>og1</name>
  <attach>
    <vlan>
      <vid>1</vid>
      <mac>0011.1122.2233</mac>
    </vlan>
  </attach>
</overlay-gateway>
```

Parameters

vid

Specifies the range of VLAN ids to add.

mac

Specifies MAC address in HHHH.HHHH.HHHH format.

overlay-gateway/{gateway-name}/enable

Enables per VLAN statistics.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>og1</name>
  <enable>
    <statistics>
      <stats-direction>both</stats-direction>
      <vlan-action>add</vlan-action>
      <vlan-list>1</vlan-list>
    </statistics>
  </enable>
</overlay-gateway>
```

Parameters

stats-direction

Specifies the flow direction. The flow direction can be set to any one of the following.

both

Both transmitted and received packets.

rx

Received packets.

tx

Transmitted packets.

vlan-action

Specifies the action. Two actions are allowed.

add

Specifies the VLANs to add.

remove

Specifies the VLANs to remove.

vlan-list

Specifies the range of VLAN IDs.

overlay-gateway/{gateway-name}/ip/access-group

Configures IPv4 access-group for the Overlay Gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <access-lists>
    <ipv4>
      <in>
        <ipv4-acl-in-name>acl4</ipv4-acl-in-name>
        <ipv4-acl-in-dir></ipv4-acl-in-dir>
      </in>
    </ipv4>
  </access-lists>
</overlay-gateway>
```

Parameters

ipv4-acl-in-name

Specifies the access list name.

ipv4-acl-in-dir

Configures IPv4 access group in ingress direction.

overlay-gateway/{gateway-name}/ip/interface/loopback

Configures Loopback interface for the Overlay Gateway

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <ip>
    <interface>
      <loopback>
        <loopback-id>1</loopback-id>
      </loopback>
    </interface>
  </ip>
</overlay-gateway>
```

Parameters

loopback-id

Specifies loopback port number.

overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/fabric-virtual-gateway

Uses Fabric-Virtual-Gateway IP address.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <ip>
    <interface>
      <ve>
        <ve-id>1</ve-id>
        <fabric-virtual-gateway></fabric-virtual-gateway>
      </ve>
    </interface>
  </ip>
</overlay-gateway>
```

Parameters

ve-id

Specifies VE interface number.

fabric-virtual-gateway

Enables use of Fabric-Virtual-Gateway IP address.

overlay-gateway/{gateway-name}/ip/interface/ve/{ve-id}/vrrp-extended-group

Configures virtual router

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <ip>
    <interface>
      <ve>
        <ve-id>1</ve-id>
        <vrrp-extended-group>1</vrrp-extended-group>
      </ve>
    </interface>
  </ip>
</overlay-gateway>
```

Parameters

ve-id

Specifies VE interface number.

vrrp-extended-group

Specifies Virtual Router Identifier. The value can range from 1 through 255.

overlay-gateway/{gateway-name}/ipv6/access-group

Configures IPv6 access-group for the Overlay Gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <access-lists>
    <ipv6>
      <in>
        <ipv6-acl-in-name>acl12</ipv6-acl-in-name>
        <ipv6-acl-in-dir></ipv6-acl-in-dir>
      </in>
    </ipv6>
  </access-lists>
</overlay-gateway>
```

Parameters

ipv6-acl-in-name

Specifies IPv6 access group name.

ipv6-acl-in-dir

Configures IPv6 access group in ingress direction.

overlay-gateway/{gateway-name}/mac

Configures MAC access-group for the Overlay Gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <access-lists>
    <mac>
      <in>
        <mac-acl-in-name>acl10</mac-acl-in-name>
        <mac-acl-in-dir></mac-acl-in-dir>
      </in>
    </mac>
  </access-lists>
</overlay-gateway>
```

Parameters

mac-acl-in-name

Specifies the name of the MAC access list.

mac-acl-in-dir

Configures MAC access-group in ingress direction.

overlay-gateway/{gateway-name}/map

Configures the VLAN to VNI mappings for the Overlay Gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>gateway2</name>
  <map>
    <vlan>
      <vni>
        <auto/>
      </vni>
    </vlan>
  </map>
</overlay-gateway>
```

Parameters

vlan

Specifies the VLAN.

vni

Specifies the VNI.

auto

Specifies automatic mapping.

overlay-gateway/{gateway-name}/monitor

Configures SPAN for the tunnels of this gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>name1</name>
  <monitor>
    <session>1</session>
    <direction>both</direction>
    <remote-endpoint>any</remote-endpoint>
    <vlan-add-remove>add</vlan-add-remove>
    <vlan-range>5,14-17</vlan-range>
  </monitor>
</overlay-gateway>
```

Parameters

session

Specifies session number.

direction

Specifies flow direction. Flow direction can be set to the following.

both

Both transmitted and received packets.

rx

Received packets.

tx

Transmitted packets.

remote-endpoint

Specifies tunnel destination end point address. The destination end point address can be set to.

<A.B.C.D>

Specifies IP address of specific tunnel end point.

any

Specifies all tunnel end points.

vlan-add-remove

Adds or removes target VLAN IDs.

vlan-range

Specifies range of VLAN IDs to add or remove.

overlay-gateway/{gateway-name}/sflow

Configures SFLOW for the tunnels of this gateway.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <sflow>
    <sflow-profile-name>sflow1</sflow-profile-name>
    <sflow-remote-endpoint>any</sflow-remote-endpoint>
    <sflow-vlan-action>add</sflow-vlan-action>
    <sflow-vlan-range>100</sflow-vlan-range>
  </sflow>
</overlay-gateway>
```

Parameters

sflow-profile-name

Specifies Sflow profile name.

sflow-remote-endpoint

Specifies tunnel destination end point address. The destination end point address can be set to.

<A.B.C.D>

Specifies IP address of specific tunnel end point.

any

Specifies all tunnel end points.

sflow-vlan-action

Specifies the action on target VLAN IDs. There are two action.

add

Specifies target VLAN IDs to add.

remove

Specifies target VLAN IDs to remove.

sflow-vlan-range

Specified the range of VLAN IDs to add or remove.

overlay-gateway/{gateway-name}/site

Configures remote extension site.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <site>
    <name>site1</name>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies the site name.

overlay-gateway/{gateway-name}/site/{site-name}/bfd

Creates BFD session for the tunnels to the remote site.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>ogl</name>
  <site>
    <name>site1</name>
    <bfd>
      <params>
        <interval>
          <min-tx>110</min-tx>
          <min-rx>330</min-rx>
          <multiplier>3</multiplier>
        </interval>
      </params>
    </bfd>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies the site name

min-tx

Specifies BFD desired minimum transmit interval in milliseconds. The value can range from 100 through 30000. The default value is 100.

min-rx

Specifies BFD desired minimum receive interval in milliseconds. The value can range from 300 through 30000. The default value is 300.

multiplier

Specifies BFD detection time multiplier. The value can range from 3 through 50. The default value is 3.

overlay-gateway/{gateway-name}/site/{site-name}/extend

Configures Layer2 domains to be extended towards this site.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>gateway2</name>
  <site>
    <name>sanjose</name>
    <extend>
      <vlan>
        <add>1-10</add>
      </vlan>
    </extend>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies site name.

add

Specifies VLAN IDs to add.

remove

Specifies VLAN IDs to remove.

overlay-gateway/{gateway-name}/site/{site-name}/ip

Configures tunnel destination IP address.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>gateway2</name>
  <site>
    <name>sanjose</name>
    <tunnel-dst>
      <address>10.10.10.1</address>
    </tunnel-dst>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies site name.

address

Specifies tunnel destination IP address.

overlay-gateway/{gateway-name}/site/{site-name}/mac-learning/protocol/bgp

By default, MAC address learning is enabled on VXLAN Layer 2 extension tunnels. Use this command to delegate the responsibility for MAC learning on a tunnel to the Layer 3 control-plane protocol, such as BGP EVPN.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>overlaygateway1</name>
  <site>
    <name>site1</name>
    <mac-learning>
      <protocol>bgp</protocol>
    </mac-learning>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies the site name.

protocol

Specifies control plane MAC learning protocol.

bgp

Sets BGP-EVPN based MAC learning

overlay-gateway/{gateway-name}/site/{site-name}/shutdown

Disables tunnel to the remote site.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>gateway2</name>
  <site>
    <name>sanjose</name>
    <shutdown></shutdown>
  </site>
</overlay-gateway>
```

Parameters

name

Specifies the name of the site.

shutdown

Disables tunnels to the remote site.

overlay-gateway/{gateway-name}/type

pecifies whether a VXLAN overlay gateway uses NSX Controller or OpenStack integration, or Layer 2 extension.

Usage

```
<overlay-gateway xmlns="urn:brocade.com:mgmt:brocade-tunnels">
  <name>overlaygateway1</name>
  <gw-type>hardware-vtep</gw-type>
</overlay-gateway>
```

Parameters

name

Specifies the overlay gateway name

gw-type

Specifies the type of Overlay Gateway. There are two types of Overlay Gateway

hardware-vtep

Specifies NSX Controller/OpenStack integration

layer2-extension

Specifies Layer 2 extension

protocol/cfm

Configures the CFM protocol.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <cfm xmlns="urn:brocade.com:mgmt:brocade-dotlag">
    <domain-name>
      <domain-name>{req_val}</domain-name>
      <ma-name>
        <ma-name>{req_val}</ma-name>
        <cfm-ma-sub-commands>
          <mep>
            <mep-id>{req_val}</mep-id>
          </mep>
        </cfm-ma-sub-commands>
      </ma-name>
    </domain-name>
  </cfm>
</protocol>
```

Parameters

domain-name

Specifies the maintenance domain name.

ma-name

Specifies the maintenance association name.

mep-id

Specifies maintenance endpoint ID.

protocol/link-oam

Configures the Link OAM protocol.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <link-oam xmlns="urn:brocade.com:mgmt:brocade-dot3ah">
    <shutdown/>
  </link-oam>
</protocol>
```

protocol/lldp/advertise/dcbx-fcoe-app-tlv

Enables IEEE data centre bridging exchange FCoE Application TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dcbx-fcoe-app-tlv></dcbx-fcoe-app-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dcbx-fcoe-app-tlv

Enables IEEE data centre bridging exchange FCoE Application TLV.

protocol/lldp/advertise/dcbx-fcoe-logical-link-tlv

Enables IEEE data centre bridging exchange FCoE logical link TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dcbx-fcoe-logical-link-tlv></dcbx-fcoe-logical-link-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dcbx-fcoe-logical-link-tlv

Enables IEEE data centre bridging exchange FCoE logical link TLV.

protocol/lldp/advertise/dcbx-iscsi-app-tlv

Enables IEEE data centre bridging exchange iSCSI application TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dcbx-iscsi-app-tlv></dcbx-iscsi-app-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dcbx-iscsi-app-tlv

Enables IEEE data centre bridging exchange iSCSI application TLV.

protocol/lldp/advertise/dcbx-tlv

Enables IEEE data centre bridging exchange TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dcbx-tlv></dcbx-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dcbx-tlv

Enables IEEE data centre bridging exchange TLV.

protocol/lldp/advertise/dot1-tlv

Enables IEEE 802.1 organizationally specific TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dot1-tlv></dot1-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dot1-tlv

Enables IEEE 802.1 organizationally specific TLV.

protocol/lldp/advertise/dot3-tlv

Enables IEEE 802.3 organizationally specific TLV.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <dot3-tlv></dot3-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

dot3-tlv

Enables IEEE 802.3 organizationally specific TLV.

protocol/lldp/advertise/optional-tlv

Enables the optional TLVs.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <advertise>
      <optional-tlv>
        <management-address></management-address>
        <port-description></port-description>
        <system-capabilities></system-capabilities>
        <adv-tlv-system-description></adv-tlv-system-description>
        <adv-tlv-system-name></adv-tlv-system-name>
      </optional-tlv>
    </advertise>
  </lldp>
</protocol>
```

Parameters

management-address

Enables management address TLV.

port-description

Enables port description TLV.

system-capabilities

Enables system capabilities TLV.

adv-tlv-system-description

Specifies the system description .

adv-tlv-system-name

Specifies the system name .

protocol/lldp/description

Configures user description for LLDP.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <description>lldpconfig</description>
  </lldp>
</protocol>
```

Parameters

description

Specifies user description for LLDP.

protocol/lldp/disable

Disable LLDP configuration.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <disable></disable>
  </lldp>
</protocol>
```

Parameters

disable

Disables LLDP configuration.

protocol/lldp/hello

Configures the hello transmit interval.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <hello>35</hello>
  </lldp>
</protocol>
```

Parameters

hello

Specifies the hello transmit interval. The value can range from 4 through 180 seconds.

protocol/lldp/iscsi-priority

Configures the Ethernet priority to advertise for iSCSI.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <iscsi-priority>3</iscsi-priority>
  </lldp>
</protocol>
```

Parameters

iscsi-priority

Specifies the iSCSI Ethernet priority value. The value can range from 0 through 7.

protocol/lldp/mode

Configures the LLDP mode.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <mode>rx</mode>
  </lldp>
</protocol>
```

Parameters

mode

Specifies the LLDP mode.

rx

LLDP receive only mode.

tx

LLDP transmit only mode.

protocol/lldp/multiplier

Configures the timeout multiplier.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <multiplier>3</multiplier>
  </lldp>
</protocol>
```

Parameters

multiplier

Specifies the timeout multiplier value. The value can range from 2 through 10.

protocol/lldp/profile/{profile-name}/advertise

Applies a Link Layer Discovery Protocol (LLDP) profile to an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <profile>
      <profile-name>profile1</profile-name>
      <advertise>
        <dcbx-tlv></dcbx-tlv>
      </advertise>
    </profile>
  </lldp>
</protocol>
```

Parameters

profile-name

Specifies the profile name.

advertise

Specifies the advertise TLV configuration.

dcbx-fcoe-app-tlv

Advertises application Type, Length, Values (TLVs) to ensure interoperability of traffic over the Data Center Bridging eXchange protocol (DCBX), which runs over LLDP to negotiate an FCoE application TLV.

dcbx-fcoe-logical-link-tlv

Advertises to any attached device the FCoE status of the logical link.

dcbx-iscsi-app-tlv

Advertises the iSCSI traffic configuration parameters for Type, Length, Values (TLV) values.

dcbx-tlv

Advertises to any attached device mandatory Data Center Bridging eXchange protocol (DCBX) Type, Length, Values (TLV) values.

dot1-tlv

Advertises to any attached device IEEE 802.1 organizationally specific Type, Length, Values (TLV) values.

dot3-tlv

Advertises to any attached device IEEE 802.3 organizationally specific Type, Length, Values (TLV) values.

optional-tlv

Advertises the optional Type, Length, and Values (TLV) values.

protocol/lldp/profile/{profile-name}/hello

Sets the interval between LLDP hello messages.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <profile>
      <profile-name>profile1</profile-name>
      <hello>100</hello>
    </profile>
  </lldp>
</protocol>
```

Parameters

profile-name

Specifies the profile name.

hello

Specifies the interval between hello messages. The value can range from 4 through 180 seconds. The default interval is 30 seconds.

protocol/lldp/profile/{profile-name}/mode

Sets the LLDP mode on the switch.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <profile>
      <profile-name>profile1</profile-name>
      <mode>rx</mode>
    </profile>
  </lldp>
</protocol>
```

Parameters

profile-name

Specifies the profile name.

mode

Specifies the LLDP mode on the switch.

tx

Specifies to enable only the transmit mode.

rx

Specifies to enable only the receive mode.

protocol/lldp/profile/{profile-name}/multiplier

Sets the number of consecutive misses of hello messages before LLDP declares the neighbor as dead.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <profile>
      <profile-name>profile1</profile-name>
      <multiplier>2</multiplier>
    </profile>
  </lldp>
</protocol>
```

Parameters

profile-name

Specifies the profile name

multiplier

Specifies a multiplier value to use. The values can range from 2 through 10. The default value is 4.

protocol/ldp/system-description

Configures the system description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ldp xmlns="urn:brocade.com:mgmt:brocade-ldp">
    <system-description>Extreme-VDX-VCS 1</system-description>
  </ldp>
</protocol>
```

Parameters

system-description

Specifies the system description.

protocol/lldp/system-name

Configures the system name.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <lldp xmlns="urn:brocade.com:mgmt:brocade-lldp">
    <system-name>client</system-name>
  </lldp>
</protocol>
```

Parameters

system-name

Specifies the system-name.

protocol/spanning-tree/mstp/bridge-priority

Configures bridge priority commands for multiple spanning tree protocol.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <bridge-priority>32768</bridge-priority>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

bridge-priority

Specifies the bridge priority. The value can range from 0 through 61440 and bridge priority must be set in increments of 4096.

protocol/spanning-tree/mstp/cisco-interoperability

Configures Cisco interoperability.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <cisco-interoperability>disable</cisco-interoperability>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

cisco-interoperability

Enables or disables cisco interoperability.

disable

Disables cisco interoperability.

enable

Enables cisco interoperability.

protocol/spanning-tree/mstp/description

Configures spanning tree description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <description>mstpsan</description>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

description

Specifies spanning tree description.

protocol/spanning-tree/mstp/error-disable-timeout/enable

Enables timeout for the port to be enabled back.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

enable

Enables timeout for the port to be enabled back.

protocol/spanning-tree/mstp/error-disable-timeout/interval

Configures time interval after which port will be enabled.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <error-disable-timeout>
        <interval>350</interval>
      </error-disable-timeout>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

interval

Specifies time interval after which port will be enabled. The value can range from 10 through 1000000 seconds.

protocol/spanning-tree/mstp/forward-delay

Configures the forward delay time for the spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <forward-delay>20</forward-delay>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies forward delay time. The delay time can range from 4 through 30 seconds. The default delay time is set to 15 seconds.

protocol/spanning-tree/mstp/hello-time

Configures the hello time interval for the spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <hello-time>3</hello-time>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

hello-time

Specifies the hello time. The hello time can range from 1 through 20 seconds. The default hello time is set to 2 seconds.

protocol/spanning-tree/mstp/instance/priority

Configures bridge priority for the common instance.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <instance>
        <id>1</id>
        <priority>4096</priority>
      </instance>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies MSTP instance Id. The value can range from 1 through 31.

priority

Specifies the bridge priority. The value can range from 0 through 61440.

protocol/spanning-tree/mstp/instance/vlan

Configures VLAN for MSTP.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <instance>
        <id>1</id>
        <vlan>1</vlan>
      </instance>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies MSTP instance ID.

vlan

Specifies VLAN.

protocol/spanning-tree/mstp/max-age

Configures the max age for the spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <max-age>25</max-age>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

max-age

Specifies the maximum time to listen for root bridge in seconds. The value can range from 6 through 40 seconds. The default time is set to 20. seconds.

protocol/spanning-tree/mstp/max-hops

Configures the maximum hops the BPDU will be valid for.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <max-hops>25</max-hops>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

max-hops

Specifies the maximum hops the BPDU will be valid for. The value can range from 1 through 40.

protocol/spanning-tree/mstp/port-channel

Controls port channel behavior for spanning tree

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <port-channel>
        <path-cost>standard</path-cost>
      </port-channel>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

path-cost

Sets the path cost behavior.

custom

Custom behavior - pathcost will change according to bandwidth.

standard

Standard behavior - pathcost will not change according to bandwidth.

protocol/spanning-tree/mstp/region

Sets the MST region.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <region>region1</region>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

region

Specifies the name of the region.

protocol/spanning-tree/mstp/revision

Sets the revision number.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <revision>1</revision>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

revision

Specifies the revision number. The value can range from 0 through 255.

protocol/spanning-tree/mstp/shutdown

Disables the Multiple Spanning Tree Protocol (MSTP) globally.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <shutdown></shutdown>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

shutdown

Shuts down the spanning tree protocol.

protocol/spanning-tree/mstp/transmit-holdcount

Configures transmit hold count of the bridge.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <mstp>
      <transmit-holdcount>7</transmit-holdcount>
    </mstp>
  </spanning-tree>
</protocol>
```

Parameters

transmit-holdcount

Specifies the transmit hold count. The value can range from 1 through 10.

protocol/spanning-tree/pvst/bridge-priority

Configures bridge priority for PVST Spanning-tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <bridge-priority>32768</bridge-priority>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

bridge-priority

Specifies the bridge priority. Valid values range from 0 through 61440 in increments of 4096.

protocol/spanning-tree/pvst/description

Configures the PVST spanning-tree description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <description>pvstspan</description>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

description

Specifies the PVST spanning-tree description.

protocol/spanning-tree/pvst/error-disable-timeout/enable

Enables the timeout mechanism for the port to be enabled back.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

enable

Enables timeout for PVST spanning tree.

protocol/spanning-tree/pvst/error-disable-timeout/interval

Configures interval after which port shall be enabled.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <error-disable-timeout>
        <interval>350</interval>
      </error-disable-timeout>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

interval

Specifies the time for the interface to time out. The interval can range from 10 through 1000000 seconds. Ther default interval is 300 seconds.

protocol/spanning-tree/pvst/forward-delay

Specifies the time an interface spends in each of the listening and learning states.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <forward-delay>20</forward-delay>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies the time that an interface spends in the Spanning Tree Protocol (STP) learning and listening states. Valid values range from 4 through 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/pvst/hello-time

Sets the interval between the hello Bridge Protocol Data Units (BPDUs) sent on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <hello-time>3</hello-time>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

hello-time

Specifies the time interval between the hello BPDUs sent on an interface. The value can range from 1 through 10 seconds. The default value is 2 seconds.

protocol/spanning-tree/pvst/max-age

Sets the interval time in seconds between messages that the PVST spanning tree receives from the interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <max-age>25</max-age>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

max-age

Specifies the PVST Spanning Tree Protocol interface maximum age. The value can range from 6 through 40. The default value is 20 seconds.

protocol/spanning-tree/pvst/port-channel

Sets the path-cost behavior.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <port-channel>
        <path-cost>standard</path-cost>
      </port-channel>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

path-cost

Sets the path cost behaviour

custom

Specifies to use the custom behavior, which sets the path-cost changes according to the port-channel's bandwidth.

standard

Specifies to use the standard behavior, which sets that the path-cost does not change according to port-channel's bandwidth.

protocol/spanning-tree/pvst/shutdown

Disables the Rapid Spanning Tree Protocol (RSTP) globally.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <shutdown></shutdown>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

shutdown

Disables the Rapid Spanning Tree Protocol (RSTP) globally.

protocol/spanning-tree/pvst/vlan/forward-delay

Configures the forward-delay for PVST spanning tree

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <vlan>
        <id>1</id>
        <forward-delay>20</forward-delay>
      </vlan>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies the forward delay time in seconds. The value can range from 4 to 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/pvst/vlan/hello-time

Configures the hello interval for the PVST spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <vlan>
        <id>1</id>
        <hello-time>3</hello-time>
      </vlan>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

hello-time

Specifies the hello interval. The interval can range from 4 to 30 seconds. The default value is 2 seconds.

protocol/spanning-tree/pvst/vlan/max-age

Configures the max-age for the PVST spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <vlan>
        <id>1</id>
        <max-age>25</max-age>
      </vlan>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

max-age

Specifies the max-age for the PVST spanning tree.

protocol/spanning-tree/pvst/vlan/priority

Configures the bridge priority.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <pvst>
      <vlan>
        <id>1</id>
        <priority>4096</priority>
      </vlan>
    </pvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

priority

Specifies the bridge priority in increments of 4096.

protocol/spanning-tree/rpvst/bridge-priority

Specifies the bridge priority for the common instance.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <bridge-priority>32768</bridge-priority>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

bridge-priority

Specifies the bridge priority. The values can range from 0 through 61440 in increments of 4096. The default value is 32768.

protocol/spanning-tree/rpvst/description

Configures the RPVST Spanning tree description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <description>rpvstspan</description>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

decription

Specifies the RPVST Spanning tree description.

protocol/spanning-tree/rpvst/error-disable-timeout/enable

Enables the timer to bring the interface out of the error-disabled state.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

enable

Enables the timer to bring the interface out of the error-disabled state.

protocol/spanning-tree/rpvst/error-disable-timeout/interval

Configures the timeout for errors on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <error-disable-timeout>
        <interval>400</interval>
      </error-disable-timeout>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

interval

Specifies the time for the interface to time out. The value can range from 10 through 1000000 seconds. The default value is 300 seconds.

protocol/spanning-tree/rpvst/forward-delay

Specifies the time an interface spends in each of the listening and learning states.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <forward-delay>20</forward-delay>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies the time that an interface spends in the RPVST Spanning Tree Protocol (STP) learning and listening states. Valid values range from 4 through 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/rpvst/hello-time

Sets the interval between the hello Bridge Protocol Data Units (BPDUs) sent on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <hello-time>3</hello-time>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

hello-time

Specifies the time interval between the hello BPDUs sent on an interface. The value can range from 1 through 10 seconds. The default value is 2 seconds.

protocol/spanning-tree/rpvst/max-age

Sets the interval time in seconds between messages that the spanning tree receives from the interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <max-age>35</max-age>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

max-age

Configures the Spanning Tree Protocol interface maximum age. The valid value can range from 6 through 40. The default value is 20 seconds.

protocol/spanning-tree/rpvst/port-channel

Sets the path-cost behavior.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <port-channel>
        <path-cost>standard</path-cost>
      </port-channel>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

path-cost

Sets the path cost priority.

custom

Specifies to use the custom behavior, which sets the path-cost changes according to the port-channel's bandwidth.

standard

Specifies to use the standard behavior, which sets that the path-cost does not change according to port-channel's bandwidth.

protocol/spanning-tree/rpvst/shutdown

Disables the Rapid PVST(RPVST) globally.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <shutdown></shutdown>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

shutdown

Disables the Rapid PVST(RPVST) globally.

protocol/spanning-tree/rpvst/transmit-holdcount

Configures the maximum number of Bridge Protocol Data Units (BPDUs) transmitted per second for the R-PVST+.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <transmit-holdcount>5</transmit-holdcount>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

transmit-holdcount

Specifies the number of BPDUs than can be sent before pausing for 1 second. The value can range from 1 through 10. The default value is 6 units.

protocol/spanning-tree/rpvst/vlan/forward-delay

Configures the forward-delay for RPVST spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <vlan>
        <id>1</id>
        <forward-delay>20</forward-delay>
      </vlan>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

forward-delay

Specifies the forward delay time in seconds. The value can range from 4 to 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/rpvst/vlan/hello-time

Configures the hello interval for the RPVST spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <vlan>
        <id>1</id>
        <hello-time>3</hello-time>
      </vlan>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

hello-time

Specifies the hello interval. The interval can range from 4 to 30 seconds. The default value is 2 seconds.

protocol/spanning-tree/rpvst/vlan/max-age

Configures the max-age for the RPVST spanning tree.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <vlan>
        <id>1</id>
        <max-age>25</max-age>
      </vlan>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID.

max-age

Specifies the max-age for the RPVST spanning tree.

protocol/spanning-tree/rpvst/vlan/priority

Configures the bridge priority.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <vlan>
        <id>1</id>
        <priority>4096</priority>
      </vlan>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

id

Specifies the VLAN ID

priority

Specifies the bridge priority in increments of 4096. The value can range from.

protocol/spanning-tree/rstp/bridge-priority

Specifies the bridge priority for the common instance.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <bridge-priority>32768</bridge-priority>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

bridge-priority

Specifies the bridge priority. The values can range from 0 through 61440 in increments of 4096. The default value is 32768.

protocol/spanning-tree/rstp/description

Configures the Rapid Spanning tree (RSTP) description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <description>rstpspan</description>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

description

Specifies the RPVST Spanning tree description.

protocol/spanning-tree/rstp/error-disable-timeout/enable

Enables the timer to bring the interface out of the error-disabled state.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

enable

Enables the timer to bring the interface out of the error-disabled state.

protocol/spanning-tree/rstp/error-disable-timeout/interval

Configures the timeout for errors on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <error-disable-timeout>
        <interval>500</interval>
      </error-disable-timeout>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

interval

Specifies the time for the interface to time out. The value can range from 10 through 1000000 seconds. The default value is 300 seconds.

protocol/spanning-tree/rstp/forward-delay

Specifies the time an interface spends in each of the listening and learning states.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <forward-delay>30</forward-delay>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies the time that an interface spends in the RPVST Spanning Tree Protocol (STP) learning and listening states. Valid values range from 4 through 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/rstp/hello-time

Sets the interval between the hello Bridge Protocol Data Units (BPDUs) sent on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <hello-time>4</hello-time>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

hello-time

Specifies the time interval between the hello BPDUs sent on an interface. The value can range from 1 through 10 seconds. The default value is 2 seconds.

protocol/spanning-tree/rstp/max-age

Sets the interval time in seconds between messages that the spanning tree receives from the interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <max-age>40</max-age>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

max-age

Specifies the Rapid Spanning Tree Protocol interface maximum age. The valid value can range from 6 through 40. The default value is 20 seconds.

protocol/spanning-tree/rstp/port-channel

Sets the path-cost behavior.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <port-channel>
        <path-cost>standard</path-cost>
      </port-channel>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

path-cost

Sets the path cost priority

custom

Specifies to use the custom behavior, which sets the path-cost changes according to the port-channel's bandwidth .

standard

Specifies to use the standard behavior, which sets that the path-cost does not change according to port-channel's bandwidth.

protocol/spanning-tree/rstp/shutdown

Disables the Rapid Spanning Tree Protocol (RSTP) globally.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <shutdown></shutdown>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

shutdown

Disables the Rapid Spanning Tree Protocol (RSTP) globally.

protocol/spanning-tree/rstp/transmit-holdcount

Configures the maximum number of Bridge Protocol Data Units (BPDUs) transmitted per second for the RSTP.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rpvst>
      <transmit-holdcount>5</transmit-holdcount>
    </rpvst>
  </spanning-tree>
</protocol>
```

Parameters

transmit-holdcount

Specifies the number of BPDUs than can be sent before pausing for 1 second. The value can range from 1 through 10. The default value is 6 units.

protocol/spanning-tree/stp/bridge-priority

Specifies the bridge priority for the common instance.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <bridge-priority>32768</bridge-priority>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

bridge-priority

Specifies the bridge priority. The values can range from 0 through 61440 in increments of 4096. The default value is 32768.

protocol/spanning-tree/stp/description

Configures the STP Spanning tree description.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <description>stpspan</description>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

description

Specifies the STP Spanning tree description.

protocol/spanning-tree/stp/error-disable-timeout/enable

Enables the timer to bring the interface out of the error-disabled state.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <error-disable-timeout>
        <enable></enable>
      </error-disable-timeout>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

enable

Enables the timer to bring the interface out of the error-disabled state.

protocol/spanning-tree/stp/error-disable-timeout/interval

Configures the timeout for errors on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <rstp>
      <error-disable-timeout>
        <interval>550</interval>
      </error-disable-timeout>
    </rstp>
  </spanning-tree>
</protocol>
```

Parameters

interval

Specifies the time for the interface to time out. The value can range from 10 through 1000000 seconds. The default value is 300 seconds.

protocol/spanning-tree/stp/forward-delay

Specifies the time an interface spends in each of the listening and learning states.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <forward-delay>30</forward-delay>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

forward-delay

Specifies the time that an interface spends in the RPVST Spanning Tree Protocol (STP) learning and listening states. Valid values range from 4 through 30 seconds. The default value is 15 seconds.

protocol/spanning-tree/stp/hello-time

Sets the interval between the hello Bridge Protocol Data Units (BPDUs) sent on an interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <hello-time>5</hello-time>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

hello-time

Specifies the time interval between the hello BPDUs sent on an interface. The value can range from 1 through 10 seconds. The default value is 2 seconds.

protocol/spanning-tree/stp/max-age

Sets the interval time in seconds between messages that the spanning tree receives from the interface.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <max-age>40</max-age>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

max-age

Specifies the Rapid Spanning Tree Protocol interface maximum age. The valid value can range from 6 through 40. The default value is 20 seconds.

protocol/spanning-tree/stp/port-channel

Sets the path-cost behavior.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <port-channel>
        <path-cost>standard</path-cost>
      </port-channel>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

path-cost

Sets the path cost priority

custom

Specifies to use the custom behavior, which sets the path-cost changes according to the port-channel's bandwidth.

standard

Specifies to use the standard behavior, which sets that the path-cost does not change according to port-channel's bandwidth.

protocol/spanning-tree/stp/shutdown

Disables the STP Spanning Tree Protocol globally.

Usage

```
<protocol xmlns="urn:brocade.com:mgmt:brocade-interface">
  <spanning-tree xmlns="urn:brocade.com:mgmt:brocade-xstp">
    <stp>
      <shutdown></shutdown>
    </stp>
  </spanning-tree>
</protocol>
```

Parameters

shutdown

Disables the STP Spanning Tree Protocol globally.

radius-server

Configures a RADIUS server for AAA.

Usage

```
<radius-server xmlns="urn:brocade.com:mgmt:brocade-aaa">
  <host>
    <hostname>1.1.1.1</hostname>
    <auth-port>1812</auth-port>
    <protocol>chap</protocol>
    <key>Yf0BKEhsc83gp+kIoGMQ/g==</key>
    <encryption-level>7</encryption-level>
    <retries>6</retries>
    <timeout>10</timeout>
  </host>
</radius-server>
```

Parameters

hostname

Specifies the domain name or the IP address of this radius server

auth-port

Specifies UDP authentication port. The value can range from 1 through 65535. The default value is 1812

protocol

Specifies the authentication protocol to be used. Three protocol options are available

key

Specifies the secret shared with this server. The secret entered overrides the default secret

encryption-level

Specifies the encryption level. Encryption level can be set to

0

Stores the key in clear text format

7

Stores the key in encrypted format

retries

Specifies number of retries for this server connection. The value can range from 0 through 100. The default number of retries is set to 5

timeout

Specifies the wait time for this server to respond. The value can range from 1 through 60 seconds. The default value is 5 seconds

ras

Collects data for SupportSave.

Usage

```
<copy xmlns="urn:brocade.com:mgmt:brocade-ras">
  <support>
    <scp>
      <user>{req_val}</user>
      <host>{req_val}</host>
      <directory>{req_val}</directory>
      <password>{req_val}</password>
      <timeout>{req_val}</timeout>
    </scp>
  </support>
</copy>
```

Parameters

support

Specifies support.

scp

Specifies secure copy (SCP).

user

Specifies the username.

host

Specifies the IP address of the host.

directory

Specifies the directory.

password

Specifies the password.

timeout

Specifies the value for timeout.

rmon/alarm

Configures Remote Monitoring Protocol (RMON) alarm.

Usage

```
<rmon xmlns="urn:brocade.com:mgmt:brocade-rmon">
  <alarm-entry>
    <alarm-index>5</alarm-index>
    <snmp-oid>1.3.6.1.2.1.16.1.1.1.5.65535</snmp-oid>
    <alarm-interval>30</alarm-interval>
    <alarm-sample>absolute</alarm-sample>
    <alarm-rising-threshold>195</alarm-rising-threshold>
    <alarm-rising-event-index>25</alarm-rising-event-index>
    <alarm-falling-threshold>95</alarm-falling-threshold>
    <alarm-falling-event-index>27</alarm-falling-event-index>
    <alarm-owner>john_smith</alarm-owner>
  </alarm-entry>
</rmon>
```

Parameters

alarm-index

Specifies the alarm index. The value can range from 1 through 65535.

snmp-oid

Specifies sampling object SNMP OID.

alarm-interval

Specifies alarm interval. The interval can range from 1 through 2147483648 seconds.

alarm-sample

Specifies alarm sample type.

absolute

Sample type absolute.

delta

Sample type delta.

alarm-rising-threshold

Specifies alarm rising threshold value. The value can range from 0 through 4294967295.

alarm-rising-event-index

Specifies event index for rising threshold. The value can range from 1 through 65535.

alarm-falling-threshold

Specifies alarm falling threshold value. The value can range from 0 through 4294967295.

alarm-falling-event-index

Specifies event index for falling threshold. The value can range from 1 through 65535.

alarm-owner

Specifies the owner identity.

rmon/event

Configures Remote Monitoring Protocol (RMON) event.

Usage

```
<rmon xmlns="urn:brocade.com:mgmt:brocade-rmon">
  <event-entry>
    <event-index>23</event-index>
    <event-description>event1</event-description>
    <log></log>
    <event-community>default</event-community>
    <event-owner>owner1</event-owner>
  </event-entry>
</rmon>
```

Parameters

event-index

Specifies event index. The value can range from 1 through 65535.

event-description

Specifies event description.

log

Logs the event.

event-community

Sends traps for the event.

event-owner

Specifies owner name.

interface/{interface-type}/{interface-name}/isis

Configures the IS-IS protocol.

Usage

```
<interface xmlns="urn:brocade.com:mgmt:brocade-interface">
  <ethernet>
    <name>{req_val}</name>
    <ip>
      <intf-router-isis xmlns="urn:brocade.com:mgmt:brocade-isis">
        <int-router-isis>
          <interface-ip-router-isis/>
        </int-router-isis>
      </intf-router-isis>
    </ip>
  </ethernet>
</interface>
```

Parameters

ethernet

Specifies the Ethernet interface.

name

Specifies the interface name.

int-router-isis

Specifies the ISIS router interface.

router/isis/is-type

Changes the IS-IS level globally.

Usage

```
<routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
  <router>
    <isis xmlns="urn:brocade.com:mgmt:brocade-isis">
      <router-isis-cmds-holder>
        <router-isis-attributes>
          <is-type/>
        </router-isis-attributes>
      </router-isis-cmds-holder>
    </isis>
  </router>
</routing-system>
```

Parameters

router-isis-attributes

Configures the ISIS router attributes.

route-map

Configures, retrieves, and modifies route-map instance.

Usage

```
<routing-system xmlns="urn:brocade.com:mgmt:brocade-common-def">
  <route-map xmlns="urn:brocade.com:mgmt:brocade-ip-policy">
    <name>{req_val}</name>
    <action-rm>{req_val}</action-rm>
    <instance>{req_val}</instance>
  </route-map>
</routing-system>
```

Parameters

name

Specifies route-map name.

action-rm

Specifies the action.

instance

Specifies the route-map instance ID.

router/mpls

Configures the MPLS protocol.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls/>
  </router>
</mpls-config>
```

router/mpls/ldp

Configures the Label Distribution Protocol (LDP).

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <ldp/>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

ldp-session-ip

Specifies the LDP peer ip address.

ldp-targeted-peer-ip

Specifies the peer IP Address.

load-sharing

Specifies the number of load-sharing paths.

hello-interval-link

In seconds (1-32767, default 5).

hello-interval-target

In seconds (1-32767, default 15).

hello-timeout-link

In seconds (2-65535, default 15).

hello-timeout-target

In seconds (2-65535, default 45).

ka-interval

In seconds (1-65535 default 6).

ka-int-count

In seconds (1-65535 default 6).

ka-timeout

In seconds (1-65535).

filter-fec-in

Apply filtering on inbound FECs.

filter-fec-out

Apply filtering on inbound FECs.

advertise-fec

In seconds (1-65535).

lsr-id

IP address to be used as LSR id for LDP.

filter-fec-out

Apply filtering on outbound FECs.

rx-label-silence-timer

Specifies the receive label silence time (100-60000 ms). The default is 1000.

key

Enables TCP-MD5 authentication.

rx-label-silence-timer

Specifies the receive label silence time (100-60000 ms). The default value is 1000.

max-neighbor-reconnect-time

Specifies the maximum time to wait for neighbor to reconnect (60-300 sec). The default value is 120.

max-neighbor-recovery-time

Specifies the maximum time to wait for neighbor to recover (60-3600 sec). The default value is 120.

reconnect-time

Specifies the session reconnect time (60-300 sec). The default value is 120.

recovery-time

Recovery time (60-3600 sec). The default value is 120.

tx-label-silence-timer

Specifies the transmit label silence timer (100-60000 msec).The default value is 1000.

notification-timer

Specifies the notification timer (100-120000 msec). The default value is 60000.

tunnel-metric

Specifies the LDP tunnel metric value (1-65535; default 0).

label-withdrawal-delay

Specifies the label withdrawal delay. The range is from 0 to 300. The default value is 60.

router/mpls/rsvp

Configures the MPLS RSVP.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <rsvp-periodic-flooding-time/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

rsvp-periodic-flooding-tim

Specifies the periodic flooding time.

router/mpls/policy

Configures an MPLS policy.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy/>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

router/mpls/policy/transit-session-accounting

Enables traffic statistics for transit sessions.

Usage

```
mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <transit-session-accounting/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

transit-session-accounting

Specifies transit session account.

router/mpls/policy/ingress-tunnel-accounting

Enables traffic statistics for tunnel interfaces.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <ingress-tunnel-accounting/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>>
```

Parameters

policy

Specifies the MPLS policy.

ingress-tunnel-accounting

Enables traffic statistics for tunnel interfaces

router/mpls/policy/qos-ttl-mode

Configures the MPLS TTL and QOS propagation model.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <qos-ttl-mode/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
</filter>
</get-config>
</rpc>
```

Parameters

policy

Specifies the MPLS policy.

qos-ttl-mode

Configures the MPLS TTL and QOS propagation model.

router/mpls/policy/traffic-engineering/isis

Defines timer value for soft preemption to happen.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <traffic-engineering>
            <isis-set-level/>
          </traffic-engineering>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

traffic-engineering

Specifies traffic engineering.

isis-set-level

Sets level for ISIS.

router/mpls/policy/soft-preemption/cleanup-timer

Defines timer value for soft preemption to happen.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <soft-preemption>
            <cleanup-timer/>
          </soft-preemption>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

soft-preemption

Specifies the soft preemption.

cleanup-timer

Specifies the cleanup timer.

router/mpls/policy/cspf-computation-mode/rsvp-periodic-flooding-time

Sets the interval for RSVP TE periodic flooding.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <rsvp-periodic-flooding-time/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

rsvp-periodic-flooding-time

Specifies the RSVP periodic flooding time.

cspf-metric-type

Specifies the metric type.

router/mpls/policy/qos-ttl-mode

Configures the MPLS TTL and QOS propagation model.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <qos-ttl-mode/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

qos-ttl-mode

Configures the MPLS TTL and QOS propagation model.

router/mpls/policy/cspf-computation-mode/rapid-retry

Configures the rapid retry option.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <rapid-retry/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

rapid-retry

Specifies rapid retry.

router/mpls/policy/cspf-computation-mode/retry-time

Configures LSP retry time.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <retry-time/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

router/mpls/policy/cspf-computation-mode/handle-ospf-neighbor-down

Configures MPLS to handle OSPF neighbor down event.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <handle-ospf-neighbor-down/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

handle-ospf-neighbor-down

Handles a down OSPF neighbor.

router/mpls/policy/cspf-computation-mode/handle-isis-neighbor-down

Configures MPLS to handle ISIS neighbor down event.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <handle-isis-neighbor-down/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

handle-isis-neighbor-down

Handles a down ISIS neighbor.

router/mpls/policy/cspf-computation-mode/cspf-interface-constraint

Uses interface IP address for Constrained Shortest Path First (CSPF) computation.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <cspf-interface-constraint/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

cspf-interface-constraint

Specifies CSPF interface constraint.

router/mpls/policy/cspf-computation-mode/add-penalty

Adds penalty of all matching Constrained Shortest Path First (CSPF)-groups to TE metric of TE link.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <cspf-group-computation>
            <add-penalty/>
          </cspf-group-computation>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

cspf-group-computation

Specifies CSPF group computation.

add-penalty

Adds penalty.

router/mpls/policy/cspf-computation-mode/metric-type

Selects metric type for CSPF computation..

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <cspf-computation-mode>
            <cspf-metric-type/>
          </cspf-computation-mode>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

cspf-computation-mode

Specifies the CSPF computation mode.

cspf-metric-type

Specifies the metric type.

router/mpls/policy/cspf-computation-mode/ignore-overload-bit

Ignores overload bit during CSPF computation.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <cspf-computation-mode>
            <ignore-overload-bit/>
          </cspf-computation-mode>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

cspf-computation-mode

Specifies the CSPF computation mode.

ignore-overload-bit

Ignore the overload bit.

router/mpls/policy/backup-retry-time

Configures the backup retry time.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <backup-retry-time/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

backup-retry-time

Specifies the backup retry time.

router/mpls/cspf-group/(cspf-group-name)/penalty

Configures the Constrained Shortest Path First (CSPF) group penalty value.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <cspf-group>
          <cspf-group-name>{req_val}</cspf-group-name>
          <cspf-group-penalty-n>
            <cspf-group-penalty/>
          </cspf-group-penalty-n>
        </cspf-group>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

cspf-group

Configures a CSPF group.

cspf-group-name

Specifies the CSPF group name.

cspf-group-penalty-n

Specifies the CSPF group penalty name.

cspf-group-penalty

Specifies the CSPF group penalty.

router/mpls/lsp-xc-traps/enable

Enable the LSP XC up, down logging and traps.

Usage

```
<rpc message-id="101" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <get-config>
    <source>
      <running/>
    </source>
    <filter type="subtree">
      <mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
        <router>
          <mpls>
            <mpls-cmds-holder>
              <lsp-xc-traps>
                <lsp-xc-traps-enable/>
              </lsp-xc-traps>
            </mpls-cmds-holder>
          </mpls>
        </router>
      </mpls-config>
    </filter>
  </get-config>
</rpc>
```

router/mpls/cspf-group/(cspf-groupname)/penalty

Configures the CSPF group penalty value.

Usage-DELETE

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <cspf-group-computation>
            <add-penalty/>
          </cspf-group-computation>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the policy.

router/mpls/lsp-xc-traps/enable

Enables the LSP cross connect up, down, logging, and traps.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <lsp-xc-traps>
          <lsp-xc-traps-enable/>
        </lsp-xc-traps>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

`lsp-xc-traps`

Specifies LSP cross connect traps.

`lsp-xc-traps-enable`

Enables LSP cross connect traps.

router/mpls/rsvp

Configures the MPLS RSVP.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <policy>
          <rsvp-periodic-flooding-time/>
        </policy>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

policy

Specifies the MPLS policy.

rsvp-periodic-flooding-tim

Specifies the periodic flooding time.

router/mpls/rsvp/reliable-messaging/rapid-retry-limit

Configures the maximum number of retries for an unacknowledged message.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-reliable-messaging>
            <rapid-retry-limit/>
          </g-reliable-messaging>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

g-reliable-messaging

Specifies the group reliable messaging.

bundle-message

Specifies the bundle message.

router/mpls/rsvp/reliable-messaging/rapid-retrans-interval

Configures an interval for an unacknowledged message to be resent.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-reliable-messaging>
            <rapid-retrans-interval/>
          </g-reliable-messaging>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

g-reliable-messaging

Specifies group reliable messaging.

rapid-retrans-interval

Specifies interval for rapid retransmission.

router/mpls/rsvp/reliable-messaging/rapid-retrans-decay

Percentage increase in the rapid retransmission interval for each consecutive unacknowledged RSVP message.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-reliable-messaging>
            <rapid-retrans-decay/>
          </g-reliable-messaging>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

g-reliable-messaging

Specifies group reliable messaging.

rapid-retrans-decay

Specifies rapid retransmission decay.

router/mpls/rsvp/refresh-reduction/bundle-message/bundle-send-delay

Configure the bundle send delay value.

bundle-send-delay

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-refresh-reduction>
            <bundle-message>
              <bundle-send-delay/>
            </bundle-message>
          </g-refresh-reduction>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

g-refresh-reduction

Specifies the group refresh reduction value.

bundle-message

Specifies the bundle message.

bundle-send-delay

Specifies the bundle send delay.

router/mpls/rsvp/refresh-multiple

Configures the MPLS RSVP refresh multiple.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <refresh-multiple/>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

refresh-multiple

Specifies refresh multiple.

router/mpls/rsvp/refresh-interval

Configures the MPLS RSVP refresh interval.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <refresh-interval/>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

refresh-interval

Specifies the refresh interval.

router/mpls/rsvp/g-rsvp-backup-bw-guarantee

Sets up a backup path requesting bandwidth.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-rsvp-backup-bw-guarantee/>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

g-rsvp-backup-bw-guarantee

Specifies bandwidth guarantee for the group RSVP backup.

router/mpls/rsvp/global-rsvp-hello-acknowledgements

Acknowledges the RSVP hellos on interfaces supporting RSVP hello and not having RSVP sessions.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <global-rsvp-hello-acknowledgements/>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

global-rsvp-hello-acknowledgements

Specifies global RSVP hello acknowledgements.

router/mpls/rsvp/global-rsvp-hello/tolerance

Configures the number of unacknowledged RSVP hello requests before timeout.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <global-rsvp-hello>
            <global-rsvp-hello-tolerance/>
          </global-rsvp-hello>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

global-rsvp-hello

Specifies the global RSVP hello.

global-rsvp-hello-tolerance

Specifies the tolerance value for global RSVP hello.

router/mpls/rsvp/global-rsvp-hello

Configures the interval between two RSVP hello requests.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <global-rsvp-hello>
            <global-rsvp-hello-interval/>
          </global-rsvp-hello>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

global-rsvp-hello

Specifies global RSVP hello

global-rsvp-hello-interval

Specifies the interval for global RSVP hello.

router/mpls/rsvp/refresh-reduction/summary-refresh

Configures the refresh reduction summary refresh feature.

Usage

```
<mpls-config xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <router>
    <mpls>
      <mpls-cmds-holder>
        <rsvp>
          <g-refresh-reduction>
            <summary-refresh/>
          </g-refresh-reduction>
        </rsvp>
      </mpls-cmds-holder>
    </mpls>
  </router>
</mpls-config>
```

Parameters

rsvp

Specifies the MPLS Resource Reservation Protocol (RSVP).

summary-refresh

Specifies summary refresh.

qos-mpls

Configures, retrieves, and modifies MPLS Quality of Service (QoS).

Usage

```
<qos-mpls xmlns="urn:brocade.com:mgmt:brocade-qos-mpls">
  <map>
    <exp-traffic-class>
      <exp-traffic-class-map-name>{req_val}</exp-traffic-class-map-name>
    </exp-traffic-class>
  </map>
</qos-mpls>
```

Parameters

map

Specifies the map.

exp-traffic-class

The EXP traffic class value. Valid values range from 0 through 7.

exp-traffic-class-map-name

The EXP traffic class map name.

sflow/agent-address

Configures the sFlow agent-ID address..

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">
  <agent-address>
    <agent-interface-name/>
  </agent-address>
</sflow>
```

Parameters

ipv4

Specifies an agent-address configuration for IPv4 collectors.

ipv6

Specifies an agent-address configuration for IPv6 collectors.

ethernet *slot/port*

Specifies an Ethernet slot and port..

loopback *loopback-number*

Specifies a loopback interface. Valid values range from 1 through 255.

management *slot*

Specifies a management interface.

ve *ve-inteface*

Specifies a virtual Ethernet (VE) interface. Valid values range from 1 through 4096.

sflow/collector

Configures sFlow collector.

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">
  <collector>
    <collector-ip-address>1.1.1.1</collector-ip-address>
    <collector-port-number>50</collector-port-number>
    <use-vrf>mgmt-vrf</use-vrf>
  </collector>
</sflow>
```

Parameters

collector-ip-address

Specifies the IP address of the sFlow collector

collector-port-number

Specifies the port number used by the sFlow collector. The value can range from 1 through 65535

use-vrf

Specifies the VRF to use for sending data to the collector

sflow/enable

Enables sFlow globally.

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">  
  <enable></enable>  
</sflow>
```

Parameters

enable

Enable sFlow globally

sflow/polling-interval

Configures interface counter polling interval.

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">  
  <polling-interval>25</polling-interval>  
</sflow>
```

Parameters

polling-interval

Specifies polling interval value. The value can range from 1 through 65535. The default value is 20

sflow/sample-rate

Configures interface sampling rate.

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">  
  <sample-rate>32768</sample-rate>  
</sflow>
```

Parameters

sample-rate

Specifies sampling rate value. The value can range from 2 through 16777215. The default value is 32768

sflow/source-ip

Configures source IP address to use.

Usage

```
<sflow xmlns="urn:brocade.com:mgmt:brocade-sflow">  
  <source-ip>chassis-ip</source-ip>  
</sflow>
```

Parameters

source-ip

Specifies the source IP address to use

chassis-ip

Uses chassis IP as source address

mm-ip

Uses local MM IP as source address

sflow-profile

Configures sflow profile sampling rate.

Usage

```
<sflow-profile xmlns="urn:brocade.com:mgmt:brocade-sflow">
  <profile-name>sflow1</profile-name>
  <profile-sampling-rate>4</profile-sampling-rate>
</sflow-profile>
```

Parameters

profile-name

Specifies Sflow profile name

profile-sampling-rate

Specifies Sflow sampling rate. The value can range from 2 through 8388608

system-monitor

Configures, modifies, or retrieves FRU threshold and alert setting.

Usage

```
<system-monitor xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <fan>
    <alert>
      <action/>
    </alert>
  </fan>
</system-monitor>

<system-monitor xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <power>
    <threshold/>
  </power>
</system-monitor>
```

Parameters

fan

Specifies the fan.

alert

The fan alert notification.

action

Specifies the action to be taken.

power

Specifies power supply.

threshold

The power supply threshold.

system-monitor-mail/fru (email)

Configures e-mail address for FRU alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <fru>
    <email-list>
      <email>abc@brocade.com</email>
    </email-list>
  </fru>
</system-monitor-mail>
```

Parameters

email

Specifies e-mail address for FRU alerts

system-monitor-mail/fru/enable

Enables FRU e-mail alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <fru>
    <enable></enable>
  </fru>
</system-monitor-mail>
```

Parameters

enable

Enables FRU e-mail alerts

system-monitor-mail/interface (email)

Configures e-mail address for interface alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <interface>
    <email-list>
      <email>abc@brocade.com</email>
    </email-list>
  </interface>
</system-monitor-mail>
```

Parameters

email

Specifies e-mail address for interface alerts

system-monitor-mail/interface/enable

Enables interface e-mail alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">  
  <interface>  
    <enable></enable>  
  </interface>  
</system-monitor-mail>
```

Parameters

enable

Enables interface e-mail alerts

system-monitor-mail/relay

Configures relay IP mail settings.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <relay>
    <host-ip>1.1.1.1</host-ip>
    <domain-name>domain1</domain-name>
  </relay>
</system-monitor-mail>
```

Parameters

host-ip

Specifies host IP address

domain-name

Specifies domain server name

system-monitor-mail/security (email)

Configures e-mail address for security alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <security>
    <email-list>
      <email>abc@brocade.com</email>
    </email-list>
  </security>
</system-monitor-mail>
```

Parameters

email

Specifies e-mail address for security alerts

system-monitor-mail/security/enable

Enables security e-mail alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <security>
    <enable></enable>
  </security>
</system-monitor-mail>
```

Parameters

enable

Enables security e-mail alerts

system-monitor-mail/sfp (email)

Configures e-mail address for SFP alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <sfp>
    <email-list>
      <email>abc@brocade.com</email>
    </email-list>
  </sfp>
</system-monitor-mail>
```

Parameters

email

Specifies e-mail address for SFP alerts

system-monitor-mail/sfp/enable

Enables sfp e-mail alerts.

Usage

```
<system-monitor-mail xmlns="urn:brocade.com:mgmt:brocade-system-monitor">
  <sfp>
    <enable></enable>
  </sfp>
</system-monitor-mail>
```

Parameters

enable

Enables sfp e-mail alerts

system-watermark

Defines system-related information.

Usage

```
<system-config xmlns="urn:brocade.com:mgmt:brocade-system-watermark">
  <interface>
    <utilization-watermark/>
  </interface>
```

Parameters

interface

Specifies the protocol.

utilization-watermark

Specifies the utilization watermark.

topology-group

Configures topology VLAN group for L2 protocols.

Usage

```
<topology-group xmlns="urn:brocade.com:mgmt:brocade-topology-group">
  <topology-group-id>{req_val}</topology-group-id>
  <member-vlan>
    <member-vlan-add/>
  </member-vlan>
</topology-group>>
```

Parameters

topology-group-id

Specifies topology group ID.

member-vlan

Configures member VLANs.

master-vlan

Configures master VLANs.

vlan/{vlan-name}/mac

Configures a MAC access group.

Usage

```
<interface-vlan xmlns="urn:brocade.com:mgmt:brocade-interface">
  <vlan>
    <name>{req_val}</name>
    <mac xmlns="urn:brocade.com:mgmt:brocade-mac-access-list">
      <access-group>
        <mac-access-list>{req_val}</mac-access-list>
        <mac-direction>{req_val}</mac-direction>
        <traffic-type/>
      </access-group>
    </mac>
  </vlan>
</interface-vlan>
```

Parameters

vlan

Specifies vlan.

name

Specifies the VLAN name.

access-group

Specifies the MAC access- group.

mac-access-list

Specifies the mac-access list.

mac-direction

Specifies the MAC direction.

traffic-type

Specifies the traffic type.

vlan/classifier/group

Configures VLAN classification group commands.

Usage

```
<vlan xmlns="urn:brocade.com:mgmt:brocade-vlan">
  <classifier>
    <group>
      <groupid>2</groupid>
      <oper>add</oper>
      <rule-name>rule</rule-name>
      <ruleid>2</ruleid>
    </group>
  </classifier>
</vlan>
```

Parameters

groupid

Specifies VLAN classifier group ID. The value can range from 1 through 16

oper

Specifies the operation

add

Add rule

delete

Delete rule

rule-name

Specifies VLAN classifier rule name

ruleid

Specifies VLAN classifier rule ID

vlan/classifier/rule/mac

Configures VLAN classification rule commands.

Usage

```
<vlan xmlns="urn:brocade.com:mgmt:brocade-vlan">
  <classifier>
    <rule>
      <ruleid>2</ruleid>
      <mac>
        <address>0011.1122.2233</address>
      </mac>
    </rule>
  </classifier>
</vlan>
```

Parameters

ruleid

Specifies the rule ID. The value can range from 1 through 256

address

Specifies MAC address in HHHH.HHHH.HHHH format

vlan/classifier/rule/proto

Configures the protocol to use for the VLAN classifier rule.

Usage

```
<vlan xmlns="urn:brocade.com:mgmt:brocade-vlan">
  <classifier>
    <rule>
      <ruleid>2</ruleid>
      <proto>
        <proto-val>arp</proto-val>
        <encap>ethv2</encap>
      </proto>
    </rule>
  </classifier>
</vlan>
```

Parameters

ruleid

Specifies the VLAN identification rule. The values can range from 1 through 2556

proto-val

Specifies the protocol to use for the VLAN classifier rule

hex_addr

Specifies an Ethernet hexadecimal value. The value can range from 0x0000 through 0xffff

arp

Specifies to use the Address Resolution Protocol

ip

Specifies to use the Internet Protocol

ipv6

Specifies to use the Internet Protocol version 6

encap

Specifies to encapsulate the Ethernet frames sent for the VLAN classifier rule

ethv2

Specifies to use the Ethernet version 2 encapsulated frames

nosnap11c

Specifies to use the Ethernet version 2 non-SNA frames

snap11c

Specifies to use the Ethernet version 2 with SNA frames

vlan/dot1q

Configures dot1q parameters.

Usage

```
<vlan xmlns="urn:brocade.com:mgmt:brocade-vlan">
  <dot1q>
    <tag>
      <native></native>
    </tag>
  </dot1q>
</vlan>
```

Parameters

native

Enables tagged behavior for native-VLANs

vrf

Configures the virtual rounding and forwarding (VRF).

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">  
  <vrf-name>{req_val}</vrf-name>  
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

vrf/{vrf-name}/address-family/ipv4/unicast

Configures the IPv4 address family configurations.

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>{req_val}</vrf-name>
  <address-family>
    <ip>
      <unicast/>
    </ip>
  </address-family>
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

address-family

Specifies address family.

ip

Specifies the IP address.

vrf/{vrf-name}/address-family/ipv4/unicast/max-route

Configures IPv4 address family maximum route.

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>{req_val}</vrf-name>
  <address-family>
    <ip>
      <unicast>
        <max-route/>
      </unicast>
    </ip>
  </address-family>
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

address-family

Specifies address family.

ip

Specifies the IP address.

vrf/{vrf-name}/address-family/ipv6/unicast

Configures the IPv6 address family configurations.

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>{req_val}</vrf-name>
  <address-family>
    <ipv6>
      <unicast/>
    </ipv6>
  </address-family>
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

address-family

Specifies address family.

ipv6

Specifies the IP address.

vrf/{vrf-name}/address-family/ipv6/unicast/max-route

Configures IPv6 address family maximum route.

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>{req_val}</vrf-name>
  <address-family>
    <ipv6>
      <unicast>
        <max-route/>
      </unicast>
    </ipv6>
  </address-family>
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

address-family

Specifies address family.

ipv6

Specifies the IP address.

vrf/{vrf-name}/ip/router-id

Configures the IP route details..

Usage

```
<vrf xmlns="urn:brocade.com:mgmt:brocade-vrf">
  <vrf-name>{req_val}</vrf-name>
  <ip>
    <vrf-router-id/>
  </ip>
</vrf>
```

Parameters

vrf-name

Specifies the VRF name.

vrf-router-id

Specifies the VRF router ID..

vxlan-visibility

Configures an overlay transit.

Usage

```
<overlay xmlns="urn:brocade.com:mgmt:brocade-vxlan-visibility">
  <access-list>
    <type>
      <vxlan/>
    </type>
  </access-list>
</overlay>
```

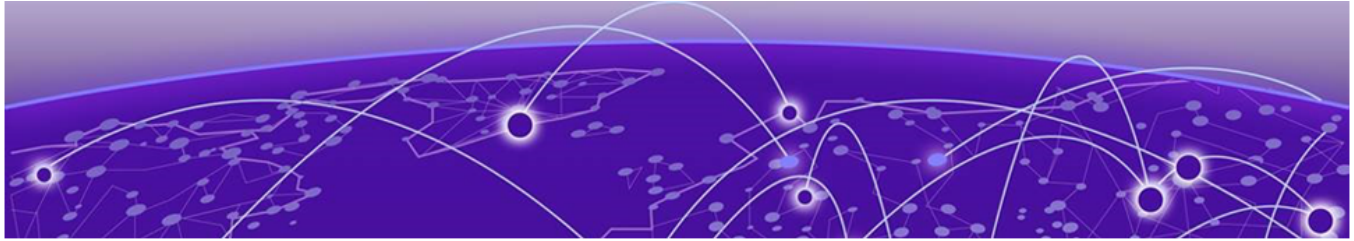
Parameters

access-list

Specifies the access list.

type

Specifies the VXLAN type: extended or standard.



Remote Procedure Calls (RPCs)

[bna-config-cmd](#) on page 412
[bna-config-cmd-status](#) on page 413
[clear-tm-voq-stat-ing-all-egr-all](#) on page 413
[clear-tm-voq-stat-ing-all-egr-ifname](#) on page 414
[clear-tm-voq-stat-slot-id-egr-all](#) on page 414
[clear-tm-voq-slot-id-egress-port-name](#) on page 415
[clear-mpls-ldp-statistics](#) on page 416
[clear-mpls-lsp](#) on page 417
[clear-mpls-rsvp-statistics](#) on page 418
[clear-mpls-rsvp-statistics-neighbor-address](#) on page 419
[clear-mpls-rsvp-statistics-neighbor-all](#) on page 420
[firmware-commit](#) on page 420
[on](#) on page 420
[fwdl-status](#) on page 421
[get-arp](#) on page 425
[get-contained-in-ID](#) on page 426
[get-interface-detail](#) on page 427
[get-interface-switchport](#) on page 432
[get-ip-interface](#) on page 433
[get-last-config-update-time](#) on page 434
[get-last-config-update-time-for-xpaths](#) on page 434
[get-lldp-neighbor-detail](#) on page 437
[get-mac-acl-for-intf](#) on page 439
[get-mac-address-table](#) on page 440
[get-maint-mode-status](#) on page 441
[get-media-detail](#) on page 443
[get-nameserver-detail](#) on page 446
[get-netconf-client-capabilities](#) on page 448
[get-port-channel-detail](#) on page 449
[get-portchannel-info-by-intf](#) on page 450
[get-stp-brief-info](#) on page 452
[get-stp-mst-detail](#) on page 453
[get-system-uptime](#) on page 455
[get-tunnel-info](#) on page 455

[get-tunnel-statistics](#) on page 456
[get-vlan-brief](#) on page 457
[mpls-clear-all-ldp-sessions](#) on page 459
[mpls-clear-one-ldp-sessions](#) on page 460
[mpls-clear-statistics-type](#) on page 461
[mpls-reopt-lsp](#) on page 462
[reload](#) on page 463
[set-http-application-url](#) on page 464
[show-clock](#) on page 465
[show-ntp](#) on page 466
[show-raslog](#) on page 467
[show-support-save-status](#) on page 468
[show-system-info](#) on page 468
[show-system-monitor](#) on page 469
[user-session-info](#) on page 470

bna-config-cmd

Copies configuration data to and from the system.

Usage

```
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="212">
  <bna-config-cmd xmlns="urn:brocade.com:mgmt:brocade-ras">
    <src>default-config</src>
    <dest>startup-config</dest>
  </bna-config-cmd>
</rpc>

<rpc-reply message-id="212" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <session-id xmlns="urn:brocade.com:mgmt:brocade-ras">5</session-id>
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">in-progress</status>
</rpc-reply>
```

Parameters

session-id

This id is used along with bna-config-cmd-status API to get the status of this operation (inprogress/complete).

status

Displays the status of this operation (inprogress/complete).

bna-config-cmd-status

This RPC displays the status of a previous config-cmd.

Usage

```
nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="8">
  <bna-config-cmd xmlns="urn:brocade.com:mgmt:brocade-ras">
    <src>running-config</src>
    <dest>startup-config</dest>
  </bna-config-cmd>
</nc:rpc>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="8">
  <session-id xmlns="urn:brocade.com:mgmt:brocade-ras">0</session-id>
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">in-progress</status>
</rpc-reply>

[2020-01-09 16:39:16] SEND admin@10.20.192.65
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="8">
  <bna-config-cmd-status xmlns="urn:brocade.com:mgmt:brocade-ras">
    <session-id>0</session-id>
  </bna-config-cmd-status>
</nc:rpc>

[2020-01-09 16:39:17] RECV admin@10.20.192.65
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="8">
  <status xmlns="urn:brocade.com:mgmt:brocade-ras">completed</status>
  <status-string xmlns="urn:brocade.com:mgmt:brocade-ras"></status-string>
</rpc-reply>
```

Parameters

session-id

This id is that of a previous config-cmd (inprogress/complete) operation.

status

Displays the status of this operation.

clear-tm-voq-stat-ing-all-egr-all

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <clear-tm-voq-stat-ing-all-egr-all xmlns="urn:brocade.com:mgmt:brocade-tm-stats"></clear-tm-voq-stat-ing-all-egr-all>
</nc:rpc>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <ok></ok>
</rpc-reply>
```

clear-tm-voq-stat-ing-all-egr-ifname

Clears per port voq statistics on all devices.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <clear-tm-voq-stat-ing-all-egr-ifname xmlns="urn:brocade.com:mgmt:brocade-tm-stats"></
clear-tm-voq-stat-ing-all-egr-ifname>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <rpc-error>
    <error-type>application</error-type>
    <error-tag>operation-failed</error-tag>
    <error-severity>error</error-severity>
    <nc:error-path xmlns:tm="urn:brocade.com:mgmt:brocade-tm-stats"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0">
      /nc:rpc/tm:clear-tm-voq-stat-ing-all-egr-ifname
    </nc:error-path>
    <error-message unknown:lang="en">% Error: INTERFACE IS EITHER NOT PRESENT OR NOT
YET ACTIVE</error-message>
    <error-info>
      <bad-element>clear-tm-voq-stat-ing-all-egr-ifname</bad-element>
    </error-info>
  </rpc-error>
</rpc-reply>
```

Parameters

clear-tm-voq-ing-all-egress-port-name

The port name of the cleared voq statistics of the device.

clear-tm-voq-stat-slot-id-egr-all

Clears all voq statistics for the selected slot.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <clear-tm-voq-stat-slot-id-egr-all xmlns="urn:brocade.com:mgmt:brocade-tm-stats">
    <slot-id>1</slot-id>
  </clear-tm-voq-stat-slot-id-egr-all>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <ok></ok>
</rpc-reply>
```

Parameters

slot-id

The id of the slot whose voq statistics are cleared.

clear-tm-voq-slot-id-egress-port-name

Clears the per port voq statistics for the selected slot.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <clear-tm-voq-slot-id-egress-port-name xmlns="urn:brocade.com:mgmt:brocade-tm-stats">
    <slot-id>1</slot-id>
    <clear-tm-voq-slot-egress-port-name></clear-tm-voq-slot-egress-port-name>
  </clear-tm-voq-slot-id-egress-port-name>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <ok></ok>
</rpc-reply>
```

Parameters

slot-id

The id of the slot.

clear-mpls-ldp-statistics

Clears the MPLS LDP control plane statistics.

Usage

```
<clear-mpls-ldp-statistics xmlns="urn:brocade.com:mgmt:brocade-mpls"/>
```

clear-mpls-lsp

Resets a tunnel and enables it back.

Usage

```
<clear-mpls-lsp xmlns="urn:brocade.com:mgmt:brocade-mpls">  
  <mpls-clear-lsp-name-in>lspto</mpls-clear-lsp-name-in>  
</clear-mpls-lsp>
```

Parameters

mpls-clear-lsp-name-in

Specifies the LSP name.

clear-mpls-rsvp-statistics

Clears the MPLS RSVP control plane statistics.

Usage

```
<clear-mpls-rsvp-statistics xmlns="urn:brocade.com:mgmt:brocade-mpls"/>
```

clear-mpls-rsvp-statistics-neighbor-address

Clears an RSVP neighbor.

Usage

```
<clear-mpls-rsvp-statistics-neighbor xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <clear-mpls-rsvp-statistics-neighbor-address>29.19.1.19</clear-mpls-rsvp-statistics-neighbor-address>
</clear-mpls-rsvp-statistics-neighbor>
```

Parameters

clear-mpls-rsvp-statistics-neighbor-address

Specifies the RSVP neighbor with the specific IP address.

clear-mpls-rsvp-statistics-neighbor-all

Clears all RSVP neighbors.

Usage

```
<clear-mpls-rsvp-statistics-neighbor xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <clear-mpls-rsvp-statistics-neighbor-all>true</clear-mpls-rsvp-statistics-neighbor-all>
</clear-mpls-rsvp-statistics-neighbor>
```

Parameters

clear-mpls-rsvp-statistics-neighbor-all

Clears all MPLS RSVP neighbors.

firmware-commit

This is the firmware commit RPC.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="3">
  <firmware-commit xmlns="urn:brocade.com:mgmt:brocade-firmware">
    </firmware-commit>
  </nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="3">
  <result xmlns="urn:brocade.com:mgmt:brocade-firmware">firmwarecommit initiated</result>
</rpc-reply>
```

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="3">
  <firmware-restore xmlns="urn:brocade.com:mgmt:brocade-firmware">
    </firmware-restore>
  </nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="3">
  <result xmlns="urn:brocade.com:mgmt:brocade-firmware">firmwarerestore initiated</
result>
</rpc-reply>
```

fwdl-status

Returns the status of the firmware download operation.

Usage

```
<fwdl-status></fwdl-status>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="71">
  <fwdl-state xmlns="urn:brocade.com:mgmt:brocade-firmware">completed</fwdl-state>
  <number-of-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">24</number-of-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>1</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:20:20</date-and-time-info>
    <message>Firmware install begins.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>2</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:23:25</date-and-time-info>
    <message>Firmware install ends.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>3</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:23:25</date-and-time-info>
    <message>Firmware install begins.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>4</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:26:27</date-and-time-info>
    <message>Firmware install ends.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>5</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:26:28</date-and-time-info>
    <message>Firmware starts to swap.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>6</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:26:28</date-and-time-info>
    <message>Firmware starts to swap.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>7</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:26:34</date-and-time-info>
    <message>Firmware is swapped.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
```

```

<index>8</index>
<blade-name>SW/0</blade-name>
<message-id>0</message-id>
<date-and-time-info>2016-11-29/01:26:36</date-and-time-info>
<message>Firmware is swapped.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>9</index>
  <blade-name>SW/0</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:26:36</date-and-time-info>
  <message>Firmware is downloaded successfully.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>10</index>
  <blade-name>SW/1</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:26:37</date-and-time-info>
  <message>Firmware is downloaded successfully.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>11</index>
  <blade-name>SW/1</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:17</date-and-time-info>
  <message>The DB/filesystem starts shutting down.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>12</index>
  <blade-name>SW/0</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:17</date-and-time-info>
  <message>The DB/filesystem starts shutting down.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>13</index>
  <blade-name>SW/1</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:35</date-and-time-info>
  <message>The DB/filesystem has been shut down.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>14</index>
  <blade-name>SW/0</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:37</date-and-time-info>
  <message>The DB/filesystem has been shut down.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>15</index>
  <blade-name>SW/1</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:38</date-and-time-info>
  <message>The blade begins to reboot.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>16</index>
  <blade-name>SW/0</blade-name>
  <message-id>0</message-id>
  <date-and-time-info>2016-11-29/01:34:38</date-and-time-info>
  <message>The blade begins to reboot.</message>
</fwdl-entries>
<fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
  <index>17</index>

```

```

    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:44:23</date-and-time-info>
    <message>The blade is rebooted.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>18</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:44:23</date-and-time-info>
    <message>Firmware commit begins.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>19</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:44:23</date-and-time-info>
    <message>The blade is rebooted.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>20</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:44:23</date-and-time-info>
    <message>Firmware commit begins.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>21</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:48:42</date-and-time-info>
    <message>Firmware commit ends.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>22</index>
    <blade-name>SW/0</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:48:42</date-and-time-info>
    <message>Firmware is downloaded successfully.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>23</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:48:51</date-and-time-info>
    <message>Firmware commit ends.</message>
  </fwdl-entries>
  <fwdl-entries xmlns="urn:brocade.com:mgmt:brocade-firmware">
    <index>24</index>
    <blade-name>SW/1</blade-name>
    <message-id>0</message-id>
    <date-and-time-info>2016-11-29/01:48:51</date-and-time-info>
    <message>Firmware is downloaded successfully.</message>
  </fwdl-entries>
</rpc-reply>

```

Parameters

fwdl-state

Specifies the firmware download state.

number-of-entries

Specifies the number of status entries.

index

Specifies the sequence number for the message.

blade-name

Specifies the name of the blade.

message-id

Specifies the message identifier.

date-and-time-info

Specifies the date and time of the message. The format is YYYY-MM-DD/HH:MM:SS.SSSS.

message

Displays the textual description of the status.

get-arp

Retrieves the ARP cache information.

Usage

```
<get-arp xmlns="urn:brocade.com:mgmt:brocade-arp"></get-arp>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <arp-entry>
    <ip-address>20.0.0.122</ip-address>
    <mac-address>0005.3379.407a</mac-address>
    <interface-type>unknown</interface-type>
    <interface-name></interface-name>
    <is-resolved>true</is-resolved>
    <age>03:16:05</age>
    <entry-type>dynamic</entry-type>
  </arp-entry>
</rpc-reply>
```

Parameters

ip-address

Displays the IP address of the ARP entry.

mac-address

Displays the MAC address of the ARP entry.

interface-type

Displays the interface type.

interface-name

Displays the interface name.

is-resolved

Indicates whether the ARP entry is resolved or not.

age

Displays the age of the ARP entry.

entry-type

Displays the type of the ARP entry.

get-contained-in-ID

Retrieves enclosure related information on embedded platforms.

Usage

```
<get-contained-in-ID xmlns="urn:brocade.com:mgmt:brocade-entity"></get-contained-in-ID>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <contained-in-ID>Bay 7</contained-in-ID>
</rpc-reply>
```

Parameters

contained-in-ID

Displays present slot ID of switch.

get-interface-detail

Returns operational details of all the possible interfaces of the managed entity. Use this RPC to discover basic characteristics of all the interfaces in the system. Each sublayer below the internetwork layer of a network interface is considered to be an interface.

Usage

```
<get-interface-detail></get-interface-detail>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="67">
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>ethernet</interface-type>
    <interface-name>2/4</interface-name>
    <port-role>edge</port-role>
    <port-mode>unknown</port-mode>
    <if-name>ethernet 2/4</if-name>
    <if-state>up</if-state>
    <line-protocol-state>down</line-protocol-state>
    <line-protocol-state-info> (link protocol down)</line-protocol-state-info>
    <hardware-type>ethernet</hardware-type>
    <current-hardware-address>50:eb:1a:17:40:28</current-hardware-address>
    <logical-hardware-address>50:eb:1a:17:40:28</logical-hardware-address>
    <ifindex>8791662784</ifindex>
    <mtu>2500</mtu>
    <actual-line-speed>nil</actual-line-speed>
    <configured-line-speed>auto</configured-line-speed>
    <line-duplex-state>full</line-duplex-state>
    <flow-control></flow-control>
    <queuing-strategy>fifo</queuing-strategy>
    <ifHCInOctets>0</ifHCInOctets>
    <ifHCInUcastPkts>0</ifHCInUcastPkts>
    <ifHCInMulticastPkts>0</ifHCInMulticastPkts>
    <ifHCInBroadcastPkts>0</ifHCInBroadcastPkts>
    <ifHCInErrors>0</ifHCInErrors>
    <ifHCOctets>0</ifHCOctets>
    <ifHCOUcastPkts>0</ifHCOUcastPkts>
    <ifHCOMulticastPkts>0</ifHCOMulticastPkts>
    <ifHCOBroadcastPkts>0</ifHCOBroadcastPkts>
    <ifHCOErrors>0</ifHCOErrors>
  </interface>
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>ethernet</interface-type>
    <interface-name>2/3</interface-name>
    <port-role>isl</port-role>
    <port-mode>unknown</port-mode>
    <if-name>ethernet 2/3</if-name>
    <if-state>up</if-state>
    <line-protocol-state>up</line-protocol-state>
    <line-protocol-state-info> (connected)</line-protocol-state-info>
    <hardware-type>ethernet</hardware-type>
    <current-hardware-address>50:eb:1a:17:3f:f8</current-hardware-address>
    <logical-hardware-address>50:eb:1a:17:3f:f8</logical-hardware-address>
    <media-type>sfp</media-type>
    <wavelength>1310</wavelength>
    <ifindex>8791269376</ifindex>
    <mtu>9216</mtu>
    <actual-line-speed>10Gbps</actual-line-speed>
    <configured-line-speed>auto</configured-line-speed>
    <line-duplex-state>full</line-duplex-state>
    <flow-control></flow-control>
```

```

    <queuing-strategy>fifo</queuing-strategy>
    <ifHCInOctets>303455437</ifHCInOctets>
    <ifHCInUcastPkts>301429</ifHCInUcastPkts>
    <ifHCInMulticastPkts>79743</ifHCInMulticastPkts>
    <ifHCInBroadcastPkts>0</ifHCInBroadcastPkts>
    <ifHCInErrors>0</ifHCInErrors>
    <ifHCOutOctets>300765428</ifHCOutOctets>
    <ifHCOutUcastPkts>301347</ifHCOutUcastPkts>
    <ifHCOutMulticastPkts>56906</ifHCOutMulticastPkts>
    <ifHCOutBroadcastPkts>0</ifHCOutBroadcastPkts>
    <ifHCOutErrors>0</ifHCOutErrors>
  </interface>
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>ethernet</interface-type>
    <interface-name>2/4</interface-name>
    <port-role>edge</port-role>
    <port-mode>unknown</port-mode>
    <if-name>ethernet 2/4</if-name>
    <if-state>up</if-state>
    <line-protocol-state>down</line-protocol-state>
    <line-protocol-state-info> (link protocol down)</line-protocol-state-info>
    <hardware-type>ethernet</hardware-type>
    <current-hardware-address>50:eb:1a:17:40:1d</current-hardware-address>
    <logical-hardware-address>50:eb:1a:17:40:1d</logical-hardware-address>
    <ifindex>8791572480</ifindex>
    <mtu>2500</mtu>
    <actual-line-speed>nil</actual-line-speed>
    <configured-line-speed>auto</configured-line-speed>
    <line-duplex-state>full</line-duplex-state>
    <flow-control></flow-control>
    <queuing-strategy>fifo</queuing-strategy>
    <ifHCInOctets>0</ifHCInOctets>
    <ifHCInUcastPkts>0</ifHCInUcastPkts>
    <ifHCInMulticastPkts>0</ifHCInMulticastPkts>
    <ifHCInBroadcastPkts>0</ifHCInBroadcastPkts>
    <ifHCInErrors>0</ifHCInErrors>
    <ifHCOutOctets>0</ifHCOutOctets>
    <ifHCOutUcastPkts>0</ifHCOutUcastPkts>
    <ifHCOutMulticastPkts>0</ifHCOutMulticastPkts>
    <ifHCOutBroadcastPkts>0</ifHCOutBroadcastPkts>
    <ifHCOutErrors>0</ifHCOutErrors>
  </interface>
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>l2vlan</interface-type>
    <interface-name>1</interface-name>
    <if-name>Vlan 1</if-name>
    <ifindex>1207959553</ifindex>
    <queuing-strategy>fifo</queuing-strategy>
  </interface>
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>l2vlan</interface-type>
    <interface-name>10</interface-name>
    <if-name>Vlan 10</if-name>
    <current-hardware-address>00:27:f8:fd:00:03</current-hardware-address>
    <logical-hardware-address>00:27:f8:fd:00:03</logical-hardware-address>
    <ifindex>1207959562</ifindex>
    <queuing-strategy>fifo</queuing-strategy>
  </interface>
  <has-more xmlns="urn:brocade.com:mgmt:brocade-interface-ext">false</has-more>
</rpc-reply>

```

Parameters

interface-type

Specifies the interface type.

interface-name

Specifies the interface name.

port-role

Displays the current role that the particular interface is playing. This is applicable only for physical interfaces.

port-mode

Displays the operational mode of the particular interface. This is applicable only for physical interfaces or port-channel interfaces.

if-name

Displays the interface display name as in MIB-II's ifTable. However interface-name and interface-type values of this instance forms fully qualified name for this interface.

if-state

Displays the current operational state of this interface.

line-protocol-state

Displays the 'Line protocol' state of the interface.

line-protocol-state-info

Displays the reason for the current line protocol state of the interface.

hardware-type

Displays the hardware type

current-hardware-address

Displays the address of the interface at its protocol sub-layer.

logical-hardware-address

Displays the address of the interface at its protocol sub-layer.

ifindex

Displays a unique value, greater than zero, for each interface.

mtu

Displays the IP MTU value of the interface.

actual-line-speed

Displays the actual line speed of this interface.

configured-line-speed

Displays the administratively configured line speed of the interface.

line-duplex-state

Displays the 'Line duplex state' of the interface.

flow-control

Displays the 'Flow control' for the interface.

queuing-strategy

Displays the 'Queuing strategy' for the interface.

ifHCInOctets

Displays the total number of octets received on the interface, including framing characters.

ifHCInUcastPkts

Displays the The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were not addressed to a multicast or broadcast address at this sub-layer.

ifHCInMulticastPkts

Displays The number of packets, delivered by this sub-layer to a higher (sub-)layer, which were addressed to a multicast address at the sub-layer. For a MAC layer protocol, this includes both Group and Functional addresses.

ifHCInBroadcastPkts

Displays the The number of packets, delivered by the sub-layer to a higher (sub-)layer, which were addressed to a broadcast address at the sub-layer.

ifHCInErrors

For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For character-oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol.

ifHCOutOctets

Displays the total number of octets transmitted out of the interface, including framing characters

ifHCOutUcastPkts

Displays the total number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at the sub-layer, including those that were discarded or not sent.

ifHCOutMulticastPkts

Dispalys the total number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sub-layer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.

ifHCOutBroadcastPkts

Displays the total number of packets that higher-level protocols requested be transmitted, and which were addressed to a broadcast address at this sub-layer, including those that were discarded or not sent.

ifHCOutErrors

For packet-oriented interfaces, the number of outbound packets that could not be transmitted because of errors. For character-oriented or fixed-length interfaces, the number of outbound transmission units that could not be transmitted because of errors.

ip-mtu

Displays the IP MTU value of this interface.

line-protocol-exception-info

Displays the 'Exception information' of line protocol.

media-type

Displays the media type.

wavelength

Displays the wavelength of pluggable media.

if-description

Displays the textual string containing information about the interface.

queuing-strategy

Displays the 'Queuing strategy' for this interface.

get-interface-switchport

Returns switch-port or Layer 2 characteristics of all the interfaces in the managed device.

Usage

```
<get-interface-switchport></get-interface-switchport>

<rpc-reply message-id="303" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <switchport xmlns="urn:brocade.com:mgmt:brocade-brocade-interface-ext">
    <interface-name>2/1</interface-name>
    <interface-type>ethernet</interface-type>
    <mode>access</mode>
    <ingress-filter-enabled>true</ingress-filter-enabled>
    <acceptable-frame-type>admit-all</acceptable-frame-type>
    <default-vlan>1</default-vlan>
    <active-vlans>
      <vlanid>1</vlanid>
    </active-vlans>
  </switchport>
</rpc-reply>
```

Parameters

interface-name

Specifies the interface value.

interface-type

Displays the type of the interface.

mode

Displays the mode of the port-channel.

ingress-filter-enabled

Indicates if the 'Ingress filtering' is enabled for the interface.

acceptable-frame-type

The switch-port ingress Frame admission policy - whether only tagged Frames are allowed or all.

default-vlan

Displays 'default vlan' identifier value for this switch-port.

vlanid

Displays the list of active VLAN identifiers.

get-ip-interface

Returns brief details of all interfaces, loopback and VE interface details of particular managed entity.

Usage

```
<get-ip-interface></get-ip-interface>

<rpc-reply message-id="307" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface">
    <interface-type>ethernet</interface-type>
    <interface-name>2/4</interface-name>
    <if-name>ethernet 2/4</if-name>
    <if-state>up</if-state>
    <line-protocol-state>down</line-protocol-state>
    <ip-address>
      <ipv4>unassigned</ipv4>
    </ip-address>
  </interface>
</rpc-reply>
```

Parameters

interface-type

Displays the network interface name in a VCS environment in the format: slot/port .

interface-name

Displays the interface value.

if-name

The interface display name as in MIB-II's ifTable. However interface-name and interface-type values of this instance forms fully qualified name for this interface.

if-state

Displays the current operational state of the interface.

line-protocol-state

Displays the 'Line protocol' state of the interface.

ipv4

Displays the IP address in dotted decimal/Mask (A.B.C.D/M).

get-last-config-update-time

Returns the time stamp of the last configuration change done on the managed device.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="14">
  <get-last-config-update-time xmlns="urn:brocade.com:mgmt:brocade-vcs"></get-last-
  config-update-time>
</nc:rpc>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="14">
  <last-config-update-time xmlns="urn:brocade.com:mgmt:brocade-vcs">1577432165</last-
  config-update-time>
</rpc-reply>
```

Parameters

last-config-update-time

Displays the time stamp of the last configuration change.

get-last-config-update-time-for-xpaths

Returns the time stamp of the last configuration update.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="7">
  <get-last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs"></get-
  last-config-update-time-for-xpaths>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="7">
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string></xpath-string>
    <last-config-update-time>1578483090</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/cee-map</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/fcoe/fcoe-fabric-map</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/hardware/flexport/flexport_type</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface-vlan</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
```

Extreme SLX-OS
NETCONF Operations Guide, 20.3.3 **435**

```

    <xpath-string>/interface/port-channel/switchport</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface/port-channel/vlan</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface/tengigabitethernet</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface/tengigabitethernet/channel-group</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface/tengigabitethernet/switchport</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/interface/tengigabitethernet/vlan</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/mac-group</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/mac/access-list</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/port-profile</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/port-profile-global/port-profile</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/protocol/spanning-tree</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/rbridge-id/interface/ve</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
  <last-config-update-time-for-xpaths xmlns="urn:brocade.com:mgmt:brocade-vcs">
    <xpath-string>/snmp-server/agtconfig</xpath-string>
    <last-config-update-time>1578380033</last-config-update-time>
  </last-config-update-time-for-xpaths>
</rpc-reply>

```

Parameters

xpath-strings

Displays the xpath strings.

last-config-update-time

Displays the time of the last.

get-lldp-neighbor-detail

Returns the details of all the neighboring interfaces of the managed entity.

Usage

```
<get-lldp-neighbor-detail></get-lldp-neighbor-detail>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="4">
  <lldp-neighbor-detail xmlns="urn:brocade.com:mgmt:brocade-lldp-ext">
    <local-interface-name>ethernet 1/3</local-interface-name>
    <local-interface-ifindex>203448320</local-interface-ifindex>
    <local-interface-mac>0005.3379.6de0</local-interface-mac>
    <remote-interface-name>port1</remote-interface-name>
    <remote-interface-mac>0005.3348.3043</remote-interface-mac>
    <dead-interval>120</dead-interval>
    <remaining-life>114</remaining-life>
    <remote-chassis-id>0005.3348.3043</remote-chassis-id>
    <lldp-pdu-transmitted>16159</lldp-pdu-transmitted>
    <lldp-pdu-received>15846</lldp-pdu-received>
  </lldp-neighbor-detail>
  <has-more xmlns="urn:brocade.com:mgmt:brocade-lldp-ext">false</has-more>
</rpc-reply>
```

Parameters

local-interface-name

Indicates the local interface display name.

local-interface-ifindex

Indicates the local interface index.

local-interface-mac

Indicates the local interface MAC address.

remote-interface-name

Indicates the remote interface display name .

remote-interface-mac

Indicates the remote interface MAC address.

dead-interval

Indicates the dead interval.

remaining-life

Indicates the remaining life period.

remote-chassis-id

Indicates the remote chassis ID.

lldp-pdu-transmitted

Number of LLDP PDUs transmitted from the interface.

lldp-pdu-received

Number of LLDP PDUs received by the interface.

get-mac-acl-for-intf

Returns information about the MAC ACL applied on the specified interfaces.

Usage

```
<get-mac-acl-for-intf></get-mac-acl-for-intf>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="2407">
  <get-mac-acl-for-intf xmlns="urn:brocade.com:mgmt:brocade-mac-access-list">
    <interface>
      <interface-type>l2vlan</interface-type>
      <interface-name>50</interface-name>
      <ingress-policy>
        <policy-name>test_02</policy-name>
      </ingress-policy>
      <egress-policy>
        <policy-name>test_01</egress-policy>
      </egress-policy>
    </interface>
  </get-mac-acl-for-intf>
</rpc-reply>
```

Parameters

interface-type

Displays the interface type.

interface-name

Displays the interface name.

policy-name

Displays the MAC ACL policy name.

get-mac-address-table

Returns the MAC address table for a given MAC address.

Usage

```
<get-mac-address-table> <forwarding-interface> <interface-type>ethernet</interface-type>
<interface-name>2/4</interface-name> </forwarding-interface> <mac-type>static</mac-type>
</get-mac-address-table>

<rpc-reply
xmlns=""urn:ietf:params:xml:ns:netconf:base:1.0""xmlns:nc=""urn:ietf:params:xml:ns:netconf:base:1.0"" message-id=""2"">
  <mac-address-table xmlns=""urn:brocade.com:mgmt:brocade-mac-address-table"">
    <vlanid>10</vlanid>
    <mac-address>00:11:11:11:44:44</mac-address>
    <mac-type>static</mac-type>
    <mac-state>active</mac-state>
    <forwarding-interface>
      <interface-type>ethernet</interface-type>
      <interface-name>2/4</interface-name>
    </forwarding-interface>
  </mac-address-table>
  <has-more xmlns=""urn:brocade.com:mgmt:brocade-mac-address-table"">false</has-more>
</rpc-reply>

<get-mac-address-table>
  <last-mac-address-details>
    <last-mac-address>00:11:11:82:12:92</last-mac-address>
    <last-vlan-id>10</last-vlan-id>
    <last-mac-type>static</last-mac-type>
  </last-mac-address-details>
  <forwarding-interface-type>ethernet</forwarding-interface-type>
  <forwarding-interface-name>2/4</forwarding-interface-name>
  <mac-address-type>static</mac-address-type>
</get-mac-address-table>

<rpc-reply
xmlns=""urn:ietf:params:xml:ns:netconf:base:1.0""xmlns:nc=""urn:ietf:params:xml:ns:netconf:base:1.0"" message-id=""2"">
  <mac-address-table xmlns=""urn:brocade.com:mgmt:brocade-mac-address-table"">
    <vlanid>10</vlanid>
    <mac-address>00:11:11:82:12:92</mac-address>
    <mac-type>static</mac-type>
    <mac-state>active</mac-state>
    <forwarding-interface>
      <interface-type>ethernet</interface-type>
      <interface-name>2/4</interface-name>
    </forwarding-interface>
  </mac-address-table>
  <has-more xmlns=""urn:brocade.com:mgmt:brocade-mac-address-table"">false</has-more>
</rpc-reply>
```

Parameters

vlanid

Displays the VLAN ID.

mac-address

Displays the MAC address.

mac-type

Displays the MAC type.

mac-state

Displays the MAC state.

interface-type

Displays the interface type.

interface-name

Displays the interface name.

get-maint-mode-status

This RPC is equivalent to the show system config-status CLI and retrieves the maintenance mode status.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <get-maint-mode-status xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance"></get-
maint-mode-status>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <config-status xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">enabled</
config-status>
  <overall-status xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">complete</
overall-status>
  <num-stages xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">2</num-stages>
  <current-stage xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">2</current-
stage>
  <max-time xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">100</max-time>
  <stages xmlns="urn:broadcom.com:mgmt:brocade-system-maintenance">
    <stage>
      <stage-num>1</stage-num>
      <time-taken>0</time-taken>
      <daemons>
        <daemon>
          <daemon-name>bgp</daemon-name>
          <status>complete</status>
        </daemon>
        <daemon>
          <daemon-name>mct</daemon-name>
          <status>complete</status>
        </daemon>
      </daemons>
    </stage>
    <stage>
      <stage-num>2</stage-num>
      <time-taken>0</time-taken>
      <daemons>
        <daemon>
          <daemon-name>bgp</daemon-name>
          <status>complete</status>
        </daemon>
        <daemon>
```

```
        <daemon-name>mct</daemon-name>  
        <status>complete</status>  
    </daemon>  
</daemons>  
</stage>  
</stages>  
</rpc-reply>
```

Parameters

config-status

This is the Maintenance Mode configuration status.

overall-status

This is the overall status of the Maintenance Mode operation.

num-stages

This is the total number of stages involved in entering/exiting the Maintenance Mode.

current-stage

This is the current active state for the operation.

max-time

The maximum time required to enter/exit Maintenance Mode.

container stages

This is the place holder for stages.

stage number

Displays the number of the active state.

time-taken

This is the time taken for this stage in seconds.

container daemons

This denotes the place holder for daemons.

daemon-name

The name of the daemon.

leaf status

This denotes the current status of the daemon.

get-media-detail

Returns the media properties of all the interfaces of the managed entity.

Usage

```
<get-media-detail></get-media-detail>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="59">
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>ethernet</interface-type>
    <interface-name>2/5</interface-name>
    <qsfp>
      <speed>40Gbps</speed>
      <connector>lc</connector>
      <encoding>ieee-802-3ab</encoding>
      <vendor-name>BROCADE </vendor-name>
      <vendor-oui>00:05:1e</vendor-oui>
      <vendor-pn>57-1000263-01 </vendor-pn>
      <vendor-rev>A </vendor-rev>
      <distance>long-dist</distance>
      <media-form-factor>unknown</media-form-factor>
      <wavelength>26020</wavelength>
      <serial-no>LDF113390001CBS </serial-no>
      <date-code>130928 </date-code>
      <temperature>31</temperature>
      <voltage>3305.7</voltage>
      <current>37.364</current>
      <tx-power>0.0</tx-power>
      <rx-power>2.7</rx-power>
    </qsfp>
  </interface>
  <interface xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <interface-type>ethernet</interface-type>
    <interface-name>2/5</interface-name>
    <sfp>
      <speed>10Gbps</speed>
      <connector>lc</connector>
      <encoding>unknown</encoding>
      <vendor-name>BROCADE</vendor-name>
      <vendor-oui>00:05:1e</vendor-oui>
      <vendor-pn>57-0000076-01</vendor-pn>
      <vendor-rev>A</vendor-rev>
      <distance>unknown</distance>
      <media-form-factor>unknown</media-form-factor>
      <wavelength>1310</wavelength>
      <serial-no>ADF21346000071B </serial-no>
      <date-code>131110</date-code>
      <temperature>36</temperature>
      <voltage>3292.0</voltage>
      <current>38.602</current>
      <tx-power>700.5</tx-power>
      <rx-power>741.6</rx-power>
    </sfp>
  </interface>
</rpc-reply>
```

Parameters

interface-type

Displays the interface type.

interface-name

Displays the interface name.

speed

Specifies the speed.

connector

Specifies the connector.

encoding

Displays the type of encoding used to transmit the data on this interface.

vendor-name

Displays the vendor of the interface.

vendor-oui

Displays the vendor IEEE company ID.

vendor-pn

Displays the vendor part number.

vendor-rev

Displays the vendor revision level.

distance

Displays the SFP distance.

media-form-factor

Displays the media form factor.

wavelength

Displays the wavelength of pluggable media.

serial-no

Displays the serial number.

date-code

Displays the vendor's manufacturing date code.

temperature

Displays the module temperature (degrees C).

voltage

Indicates the supply voltage (Volts).

current

Displays the laser diode drive current (milliAmps).

tx-power

Displays the transmitted optical power (microWatts).

rx-power

Displays the received optical power (microWatts).

get-nameserver-detail

Retrieves the detailed information of the devices stored in the name server database.

Usage

```
<get-nameserver-detail xmlns="urn:extreme.com:mgmt:extreme-nameserver"></get-nameserver-
detail>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <show-nameserver>
    <nameserver-portid>0d0000</nameserver-portid>
    <nameserver-portname>20:00:8C:7C:FF:21:C0:00</nameserver-portname>
    <nameserver-nodename>20:00:8C:7C:FF:21:C0:01</nameserver-nodename>
    <nameserver-cos>3</nameserver-cos>
    <nameserver-scr>0</nameserver-scr>
    <nameserver-fc4s>FCP </nameserver-fc4s>
    <nameserver-portsymb>[7] "13/0/52"</nameserver-portsymb>
    <nameserver-nodesymb>NULL</nameserver-nodesymb>
    <nameserver-fabric-portname>50:02:7F:8C:31:32:30:82</nameserver-fabric-portname>
    <nameserver-permanent-portname>20:00:8C:7C:FF:21:C0:00</nameserver-permanent-
portname>
    <nameserver-devicetype>Physical Target</nameserver-devicetype>
    <nameserver-porttype>N</nameserver-porttype>
    <nameserver-index>130</nameserver-index>
    <nameserver-sharearea>Yes</nameserver-sharearea>
    <nameserver-redirect>No</nameserver-redirect>
    <nameserver-xlatedomain>No</nameserver-xlatedomain>
    <nameserver-connected-via-ag>No</nameserver-connected-via-ag>
    <nameserver-ag-base-device>No</nameserver-ag-base-device>
    <nameserver-real>No</nameserver-real>
    <nameserver-cascaded>No</nameserver-cascaded>
  </show-nameserver>
</rpc-reply>
```

Parameters

nameserver-portid

Displays the list of all Nx_Ports registered in the name server database of this managed device.

nameserver-portname

Displays the Port_Name (WWN) of this Nx_Port.

nameserver-nodename

Displays the Node_Name (WWN) of this Nx_Port.

nameserver-cos

Displays the Fibre Channel Class of service supported by the device.

nameserver-scr

Displays the state change notifications that the device has registered for.

nameserver-fc4s

Displays the Fibre Channel FC4 services supported by the device.

nameserver-portsymb

Displays the user-defined name of this port.

nameserver-nodesymb

Displays the user-defined name of the node of this port.

nameserver-fabric-portname

Displays the Fabric port name (WWN) of this port.

nameserver-permanent-portname

Displays the type and role of the device.

nameserver-devicetype

Displays the type and role of the device.

nameserver-porttype

Displays the Fibre Channel port type.

nameserver-index

Displays the Port index number.

nameserver-sharearea

Indicates whether or not the port utilizes the Extreme shared area method of fibre channel addressing.

nameserver-redirect

Indicates whether or not the device is involved in Extreme frame redirection zoning.

nameserver-xlatedomain

Indicates whether or not the device enters the fabric via a translate domain.

nameserver-connected-via-ag

Indicates whether or not the device enters the fabric via access gateway.

nameserver-ag-base-device

Indicates whether or not the device is a base access gateway device.

nameserver-real

Indicates whether or not the device entered in the fabric via AG is a physical device.

nameserver-cascaded

Indicates whether or not the device enters the fabric via a cascaded AG.

get-netconf-client-capabilities

Returns the vendor information for all NETCONF clients.

Usage

```
<get-netconf-client-capabilities></get-netconf-client-capabilities>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="57">
  <session xmlns="urn:extreme.com:mgmt:extreme-netconf-ext">
    <session-id>30</session-id>
    <user-name>admin</user-name>
    <vendor>Extreme</vendor>
    <product>NOS Netconf Client</product>
    <version>0.8 beta</version>
    <identity>sgajjaraj</identity>
    <af-type>IPv4</af-type>
    <host-ip>172.22.8.111</host-ip>
    <time>2014-06-04T11:00:35+00:00</time>
  </session>
</rpc-reply>
```

Parameters

session-id

Displays the session ID of the NETCONF client session.

user-name

Displays the login name of the user for the NETCONF client session.

vendor

Displays the vendor name of the NETCONF client session.

product

Displays the product name of the NETCONF client session.

version

Displays the product version of the NETCONF client session.

identity

Displays the identity of the NETCONF client session.

af-type

Specifies the address family type.

host-ip

Displays IP address of NETCONF client session.

time

Displays the login time of NETCONF client session.

get-port-channel-detail

Returns link aggregation control configuration parameters for all the port-channels in the system.

Usage

```
<get-port-channel-detail></get-port-channel-detail>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1002">
  <get-port-channel-detail xmlns="urn:brocade.com:mgmt:brocade-lag">
    <lacp>
      <aggregator-id>27</aggregator-id>
      <aggregator-type>standard</aggregator-type>
      <isvlag>false</isvlag>
      <aggregator-mode>none</aggregator-mode>
      <admin-key>0027</admin-key>
      <oper-key>0027</oper-key>
      <actor-system-id>00-05-33-6f-18-18</actor-system-id>
      <partner-system-id>00-05-1e-cd-6e-9f</partner-system-id>
      <system-priority>32768</system-priority>
      <partner-oper-priority>32768</partner-oper-priority>
      <rx-link-count>4</rx-link-count>
      <tx-link-count>4</tx-link-count>
      <individual-agg>0</individual-agg>
      <ready-agg>1</ready-agg>
      <partner-oper-key>0027</partner-oper-key>
      <aggr-member>
        <interface-type>ethernet</interface-type>
        <interface-name>231/0/22</interface-name>
        <actor-port>0xE718160201</actor-port>
        <sync>1</sync>
      </aggr-member>
    </lacp>
    <has-more>true</has-more>
  </get-port-channel-detail>
</rpc-reply>
```

Parameters

aggregator-id

Displays the aggregator ID.

aggregator-type

Displays the aggregator type.

isvlag

Specifies if aggregator is VLAG.

aggregator-mode

Displays aggregator mode.

admin-key

Displays the admin key.

oper-key

Displays the operational key.

actor-system-id

Displays the actor system ID.

partner-system-id

Displays the partner system ID.

system-priority

Displays the system priority.

partner-oper-priority

Displays the partner operational priority.

rx-link-count

Displays the RX link counter.

tx-link-count

Displays the TX link counter.

individual-agg

Displays the Individual aggregator.

ready-agg

Displays the Ready aggregator.

partner-oper-key

Displays the Partner Operational key.

interface-type

Displays the interface type .

interface-name

Displays the interface name.

actor-port

Displays the actor port number.

sync

Displays the sync information.

get-portchannel-info-by-intf

This function returns the Link Aggregation Control configuration parameters for a given 'Aggregation Port' in the system.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="1">
  <get-portchannel-info-by-intf xmlns="urn:brocade.com:mgmt:brocade-lag">
    <interface-type>ethernet</interface-type>
    <interface-name>0/13</interface-name>
  </get-portchannel-info-by-intf>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <lag xmlns="urn:brocade.com:mgmt:brocade-lag">
    <interface-type>ethernet</interface-type>
```

```
<interface-name>0/13</interface-name>
<actor-port>201433088</actor-port>
<system-priority>32768</system-priority>
<actor-system-id>d8:84:66:e9:fb:14</actor-system-id>
<partner-oper-priority>32768</partner-oper-priority>
<partner-system-id>76:8e:f8:05:98:00</partner-system-id>
<actor-priority>32768</actor-priority>
<admin-key>150</admin-key>
<oper-key>150</oper-key>
<receive-machine-state>current</receive-machine-state>
<periodic-transmission-machine-state>slow-periodic</periodic-transmission-machine-
state>
<mux-machine-state>collecting-distributing</mux-machine-state>
<admin-state>activity aggregation defaulted</admin-state>
<oper-state>activity aggregation synchronization collecting distributing</oper-
state>
<partner-oper-state>activity aggregation synchronization collecting distributing</
partner-oper-state>
<partner-oper-port>3082</partner-oper-port>
</lACP>
</rpc-reply>
```

get-stp-brief-info

Returns Spanning Tree Protocol (STP) information.

Usage

```
<get-stp-brief-info></get-stp-brief-info>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="2025">
  <get-stp-brief-info xmlns="urn:brocade.com:mgmt:brocade-xstp-ext">
    <spanning-tree-info>
      <stp-mode>STP</stp-mode>
      <stp>
        <route-bridge>
          <priority>32768</priority>
          <bridge-id>22</bridge-id>
          <hello-time>2</hello-time>
          <max-age>20</max-age>
          <forward-delay>15</forward-delay>
        </route-bridge>
        <bridge>
          <priority>32768</priority>
          <hello-time>2</hello-time>
          <max-age>20</max-age>
          <forward-delay>15</forward-delay>
          <transmit-hold-count>6</transit-hold-count>
          <migrate-time>3</migrate-time>
          <port>
            <interface-type>ethernet</interface-type>
            <interface-name>2/5</interface-name>
            <spanningtree-enabled>true</spanningtree-enabled>
            (output truncated)
          </port>
        </bridge>
      </spanning-tree-info>
      <has-more>true</has-more>
      <last-instance>
        <instance-id>91</instance-id>
      </last-instance>
    </get-stp-brief-info>
  </rpc-reply>
```

Parameters

stp-mode

Displays the type of the Spanning Tree Protocol configured on the switch.

priority

Displays the Bridge priority.

hello-time

Displays the interval between two transmissions of BPDU packets sent by the Root Bridge to tell all other switches that it is indeed the Root Bridge (1 to 10 sec).

max-age

The Max Age may be set to ensure that old information does not endlessly circulate through redundant paths in the network, preventing the effective propagation of new information (6 to 40 sec).

forward-delay

Port on the Switch spends this time in the listening state while moving from the blocking state to the forwarding state (4 to 30 sec).

transmit-hold-count

Displays the transmin hold count.

migrate-time

Displays the migrate time.

interface-type

Displays the interface type.

interface-name

Displays the interface name.

spanningtree-enabled

Displays if the spanning tree is enabled.

instance-id

Specifies the instance ID.

get-stp-mst-detail

This RPC returns the MSTP details, equivalent to the CLI 'show spanning-tree mst detail.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="24">
  <get-stp-mst-detail xmlns="urn:brocade.com:mgmt:brocade-xstp-ext"></get-stp-mst-detail>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
  xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <cist xmlns="urn:brocade.com:mgmt:brocade-xstp-ext">
    <cist-root-id>1000.f46e.959f.2ef6</cist-root-id>
    <cist-bridge-id>1000.f46e.959f.2ef6</cist-bridge-id>
    <cist-reg-root-id>1000.f46e.959f.2ef6</cist-reg-root-id>
    <root-forward-delay>15</root-forward-delay>
    <hello-time>2</hello-time>
    <max-age>20</max-age>
    <max-hops>20</max-hops>
    <migrate-time>3</migrate-time>
    <vlans>
      <vlan-id>1</vlan-id>
      <vlan-id>10</vlan-id>
      <vlan-id>13</vlan-id>
      <vlan-id>14</vlan-id>
      <vlan-id>15</vlan-id>
      <vlan-id>16</vlan-id>
      <vlan-id>17</vlan-id>
      <vlan-id>18</vlan-id>
      <vlan-id>19</vlan-id>
      <vlan-id>20</vlan-id>
      <vlan-id>21</vlan-id>
      <vlan-id>22</vlan-id>
      <vlan-id>23</vlan-id>
      <vlan-id>24</vlan-id>
      <vlan-id>25</vlan-id>
```

```

        <vlan-id>26</vlan-id>
        <vlan-id>27</vlan-id>
        <vlan-id>28</vlan-id>
        <vlan-id>29</vlan-id>
        <vlan-id>30</vlan-id>
        <vlan-id>31</vlan-id>
        <vlan-id>32</vlan-id>
        <vlan-id>33</vlan-id>
        <vlan-id>34</vlan-id>
        <vlan-id>35</vlan-id>
        <vlan-id>36</vlan-id>
        <vlan-id>37</vlan-id>
        <vlan-id>38</vlan-id>
        <vlan-id>39</vlan-id>
        <vlan-id>40</vlan-id>
        <vlan-id>41</vlan-id>
        <vlan-id>42</vlan-id>
        <vlan-id>43</vlan-id>
        <vlan-id>44</vlan-id>
        <vlan-id>45</vlan-id>
    </vlans>
</cist>
<msti xmlns="urn:brocade.com:mgmt:brocade-xstp-ext">
    <instance-id>2</instance-id>
    <msti-root-id>8002.f46e.959f.2ef6</msti-root-id>
    <msti-bridge-id>8002.f46e.959f.2ef6</msti-bridge-id>
    <msti-bridge-priority>32770</msti-bridge-priority>
    <vlans>
        <vlan-id>11</vlan-id>
    </vlans>
</msti>
<msti xmlns="urn:brocade.com:mgmt:brocade-xstp-ext">
    <instance-id>3</instance-id>
    <msti-root-id>8003.f46e.959f.2ef6</msti-root-id>
    <msti-bridge-id>8003.f46e.959f.2ef6</msti-bridge-id>
    <msti-bridge-priority>32771</msti-bridge-priority>
    <vlans>
        <vlan-id>12</vlan-id>
    </vlans>
</msti>
<has-more xmlns="urn:brocade.com:mgmt:brocade-xstp-ext">false</has-more>
</rpc-reply>

```

Parameters

session-id

This id is used along with `bnacfgcmdstatus` API to get the status of this operation (inprogress/complete).

status

Displays the status of this operation (inprogress/complete).

get-system-uptime

Returns the time since the managed entity was last reinitialized.

Usage

```
<get-system-uptime></get-system-uptime>

<rpc-reply message-id="307" xmlns="urn:ietf:params:xml:ns:netconf:base:1.0">
  <show-system-uptime xmlns="urn:brocade.com:mgmt:brocade-system">
    <days>0</days>
    <hours>5</hours>
    <minutes>53</minutes>
    <seconds>4</seconds>
  </show-system-uptime>
</rpc-reply>
```

Parameters

days

Displays the number of days the managed node is up since its last re-initialization

hours

Displays the number of hours the managed node is up since its last re-initialization

minutes

Displays the number of minutes the managed node is up since its last re-initialization

seconds

Displays the number of seconds the managed node is up since its last re-initialization

get-tunnel-info

Retrieves summary of one or more tunnels from the switch. Output contains tunnel records sorted in the ascending order of the tunnel id. This RPC is equivalent of 'show tunnel brief' CLI.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="8">
  <get-tunnel-info xmlns="urn:brocade.com:mgmt:brocade-tunnels-ext">
    </get-tunnel-info>
  </nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="8">
  <tunnel xmlns="urn:brocade.com:mgmt:brocade-tunnels-ext">
    <id>61441</id>
    <mode>vxlan</mode>
    <src-ip>107.107.107.10</src-ip>
    <dest-ip>107.107.107.2</dest-ip>
    <vrf>default-vrf</vrf>
    <config-src>site-config</config-src>
    <admin-state>up</admin-state>
    <oper-state>up</oper-state>
    <nodes>
```

```
        <node-id>1</node-id>
      </nodes>
    </tunnel>
  </rpc-reply>
```

get-tunnel-statistics

This RPC retrieves the tunnel statistics - count of bytes and frames transmitted and received. Output records are sorted in ascending order of the tunnel id. This RPC is equivalent of 'show tunnel statistics' CLI.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="8">
  <get-tunnel-statistics xmlns="urn:brocade.com:mgmt:brocade-tunnels-ext">
    </get-tunnel-statistics>
  </nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="8">
  <tunnel-stat xmlns="urn:brocade.com:mgmt:brocade-tunnels-ext">
    <id>61441</id>
    <tx-frames>0</tx-frames>
    <tx-bytes>0</tx-bytes>
    <rx-frames>0</rx-frames>
    <rx-bytes>0</rx-bytes>
  </tunnel-stat>
</rpc-reply>
```

get-vlan-brief

Returns operational data for a given VLAN and enumeration of all the interfaces belonging to this VLAN.

Usage

```
<get-vlan-brief></get-vlan-brief>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="47">
  <configured-vlans-count xmlns="urn:brocade.com:mgmt:brocade-interface-ext">13</
configured-vlans-count>
  <provisioned-vlans-count xmlns="urn:brocade.com:mgmt:brocade-interface-ext">13</
provisioned-vlans-count>
  <unprovisioned-vlans-count xmlns="urn:brocade.com:mgmt:brocade-interface-ext">0</
unprovisioned-vlans-count>
  <vlan xmlns="urn:brocade.com:mgmt:brocade-interface-ext">
    <vlan-id>1</vlan-id>
    <vlan-type>static</vlan-type>
    <vlan-name>default</vlan-name>
    <vlan-state>members-down</vlan-state>
    <interface>
      <interface-type>unknown</interface-type>
      <interface-name></interface-name>
      <tag>tagged</tag>
      <classification>
        <classification-type>vni</classification-type>
        <classification-value>2</classification-value>
      </classification>
    </interface>
  </vlan>
  <last-vlan-id xmlns="urn:brocade.com:mgmt:brocade-interface-ext">200</last-vlan-id>
  <has-more xmlns="urn:brocade.com:mgmt:brocade-interface-ext">true</has-more>
</rpc-reply>
```

Parameters

configured-vlans-count

Displays the number of VLANs configured.

provisioned-vlans-count

Displays the number of VLANs provisioned.

unprovisioned-vlans-count

Displays the number of VLANs unprovisioned.

vlan-id

Displays the VLAN ID

vlan-type

Displays the VLAN type

vlan-name

Displays the administrative name of the VLAN

vlan-state

Displays the operational state of the VLAN

interface-type

Displays the interface type

interface-name

Displays the interface name

tag

Displays the state of the interface - untagged, tagged, or converged

classification-type

Displays the type of classification

classification-value

Displays the value of the VLAN classification

last-vlan-id

Displays the last VLAN record that has been fetched

mpls-clear-all-ldp-sessions

Clears all LDP sessions.

Usage

```
<clear-mpls-ldp-neighbor xmlns=""urn:brocade.com:mgmt:brocade-mpls"">  
  <mpls-clear-all-ldp-sessions>true</mpls-clear-all-ldp-sessions>  
</clear-mpls-ldp-neighbor>
```

Parameters

mpls-clear-all-ldp-sessions

Clears all LDP sessions.

mpls-clear-one-ldp-sessions

Clears an LDP session.

Usage

```
<clear-mpls-ldp-neighbor xmlns=""urn:brocade.com:mgmt:brocade-mpls"">  
  <mpls-clear-one-ldp-sessions>14.14.14.14</mpls-clear-one-ldp-sessions>  
</clear-mpls-ldp-neighbor>
```

Parameters

mpls-clear-one-ldp-sessions

Clears an LDP session with a specific IP address.

mpls-clear-statistics-type

Clears the MPLS statistics of a specific type.

Usage

```
<clear-mpls-statistics xmlns="urn:brocade.com:mgmt:brocade-mpls">
  <mpls-clear-statistics-type>3</mpls-clear-statistics-type>
  <tunnel-name>t2</tunnel-name>
</clear-mpls-statistics>
```

Parameters

mpls-clear-statistics-type

Specifies the MPLS statistics type.

tunnel-name

Specifies the tunnel name.

mpls-reopt-lsp

Directs the router to consider configuration changes made to an LSP and to optimize the LSP path based on those changes.

Usage

```
<mpls-reopt-lsp xmlns="urn:brocade.com:mgmt:brocade-mpls">  
  <mpls-reoptimize-lsp-name-in>reopt1</mpls-reoptimize-lsp-name-in>  
</mpls-reopt-lsp>
```

Parameters

mpls-reoptimize-lsp-name-in

Specifies the LSP name.

reload

Reloads the switch.

Usage

```
<reload xmlns="urn:brocade.com:mgmt:brocade-ha"></reload>
```

set-http-application-url

Updates the HTTP application URL.

Usage

```
<set-http-application-url xmlns="urn:brocade.com:mgmt:brocade-http-redirect">
  <config-http-app-url>
    <url>www.google.com</url>
    <op-type>1</op-type>
  </config-http-app-url>
</set-http-application-url>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1">
  <status-code>0</status-code>
  <status-string>Success</status-string>
</rpc-reply>
```

Parameters

status-code

Displays the status code as URL updated successfully - 0, Error not able to update configuration - 1 or Error not able to remove configuration - 2.

status-string

Displays the error in string format.

show-clock

Returns the date, time, and time zone.

Usage

```
<show-clock></show-clock>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="7">
  <clock-time xmlns="urn:brocade.com:mgmt:brocade-clock">
    <current-time>2014-06-04T11:03:31+00:00</current-time>
    <timezone>Etc/GMT</timezone>
  </clock-time>
</rpc-reply>
```

Parameters

current-time

Displays the switch date and time

timezone

Displays the region/city or region/state/city

show-ntp

Returns the active NTP server for the Extreme VCS fabric or specified switch.

Usage

```
<show-ntp></show-ntp>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="12">
  <node-active-server xmlns="urn:extreme.com:mgmt:extreme-ntp">
    <LOCL>true</LOCL>
  </node-active-server>
</rpc-reply>
```

Parameters

LOCL

Indicates whether the LOCL is true or false

show-raslog

Returns RASLog entries.

Usage

```
<show-raslog></show-raslog>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="14">
  <show-all-raslog xmlns="urn:brocade.com:mgmt:brocade-ras-ext">
    <number-of-entries>2842</number-of-entries>
    <raslog-entries>
      <index>8288</index>
      <message-id>NSM-1019</message-id>
      <date-and-time-info>2013/12/07-03:21:17:69</date-and-time-info>
      <severity>informational</severity>
      <log-type>dce</log-type>
      <repeat-count>1</repeat-count>
      <message> Interface Ve 4093 is administratively up.</message>
      <message-flag>unknown</message-flag>
      <switch-or-chassis-name>sw0</switch-or-chassis-name>
    </raslog-entries>
    <raslog-entries>
      <index>13584</index>
      <message-id>SEC-3022</message-id>
      <date-and-time-info>2014/06/03-14:03:52:25</date-and-time-info>
      <severity>informational</severity>
      <log-type>system</log-type>
      <repeat-count>1</repeat-count>
      <message>Event: logout, Status: success, Info: Successful logout by user
[admin].</message>
      <message-flag>unknown</message-flag>
      <switch-or-chassis-name>sw0</switch-or-chassis-name>
    </raslog-entries>
  </show-all-raslog>
</rpc-reply>
```

Parameters

number-of-entries

Displays the number of recent events to be fetched from the RASLOG entries

index

Displays the sequence number for the message

message-id

Displays the message identifier

date-and-time-info

Displays the date and time of the message. The format is: YYYY-MM-DD/HH:MM:SS.SSSS

severity

Displays the severity of the message. Valid values include: INFO, WARNING, ERROR, and CRITICAL

log-type

Specifies if the message is a SYSTEM or DCE log

repeat-count

Displays the number of times the particular event has occurred

message

Displays the textual description of the event

message-flag

Displays the type of the message

switch-or-chassis-name

Displays the switch name for the generator of the message, or chassis

show-support-save-status

This RPC provides information on the status of the recent support save request.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="9">
  <show-support-save-status xmlns="urn:brocade.com:mgmt:brocade-ras-ext"></show-support-
save-status>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="9">
  <show-support-save-status xmlns="urn:brocade.com:mgmt:brocade-ras-ext">
    <status>inProgress</status>
    <message>The Support Save is in progress and has completed 71%.</message>
    <percentage-of-completion>1</percentage-of-completion>
  </show-support-save-status>
</rpc-reply>
```

show-system-info

This RPC shows the system information.

Usage

```
<nc:rpc xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" nc:message-id="6">
  <show-system-info xmlns="urn:brocade.com:mgmt:brocade-ras-ext"></show-system-info>
</nc:rpc>
```

```
<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="6">
  <show-system-info xmlns="urn:brocade.com:mgmt:brocade-ras-ext">
    <stack-mac>f4:6e:95:9f:2e:f6</stack-mac>
  </show-system-info>
</rpc-reply>
```

show-system-monitor

Returns system status information.

Usage

```
<show-system-monitor></show-system-monitor>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="17">
  <switch-status xmlns="urn:brocade.com:mgmt:brocade-system-monitor-ext">
    <switch-name>sw0</switch-name>
    <switch-ip>10.25.224.18</switch-ip>
    <switch-state>state-marginal</switch-state>
    <switch-state-reason>Switch Status is MARGINAL. Contributors: * Power Supply: 1
bad. (MARGINAL).</switch-state-reason>
    <report-time>2017-04-04T11:10:5711.668484+31:03</report-time>
    <component-status>
      <component-name>Power supplies monitor</component-name>
      <component-state>state-marginal</component-state>
    </component-status>
    <component-status>
      <component-name>Temperatures monitor</component-name>
      <component-state>state-healthy</component-state>
    </component-status>
    <component-status>
      <component-name>Fans monitor</component-name>
      <component-state>state-healthy</component-state>
    </component-status>
  </switch-status>
</rpc-reply>
```

Parameters

switch-name

Displays the name of the switch

switch-ip

Displays the IP address of the switch

switch-state

Displays the switch status based on components

switch-state-reason

Displays the component reason for switch status

report-time

Displays the switch report time stamp

component-name

Displays the component name

component-state

Displays the component status based on thresholds

user-session-info

Returns user role information.

Usage

```
<user-session-info></user-session-info>

<rpc-reply xmlns="urn:ietf:params:xml:ns:netconf:base:1.0"
xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="20">
  <user-role xmlns="urn:brocade.com:mgmt:brocade-aaa-ext">admin</user-role>
</rpc-reply>
```

Parameters

user-role

Displays the user role.