

55- MSTP Configuration Commands

55.1 MSTP Configuration Command Tree	55-1622
55.2 MSTP general configuration Command	55-1623
55.3 MSTP Instance configuration Command	55-1625
55.4 MSTP Vlan-Instance Mapping configuration Command	55-1626
55.5 MSTP Port configuration Command	55-1627
55.6 MSTP Port-Instance configuration Command	55-1629

55.1 MSTP Configuration Command Tree

Description

This chapter gives an overview of nodes that are handled by "MSTP Configuration Commands".

Command Tree

```
----configure
  ----xstp
    ----general
      - [no] enable-stp
      - [no] priority
      - [no] max-instance-num
      - [no] max-age
      - [no] hello-time
      - [no] forward-delay
      - [no] version
      - [no] tx-hold-count
      - [no] path-cost-type
      - [no] max-hop-count
      - region-name
      - [no] region-version
      - [no] config-id-sel
    ----[no] instance
      - (instance)
      - [no] priority
    ----[no] associate-vlan
      - (vlan)
  ----port
    - (port)
    - [no] priority
    - [no] enable-stp
    - path-cost
    - [no] edge-port
    - [no] admin-p2p
    - [no] hello-time
  ----port-instance
    - (port)
    - instance
    - [no] priority
    - [no] enable-stp
    - path-cost
```

55.2 MSTP general configuration Command

Command Description

This command allows the operator to configure the general MSTP parameters. The configuration of the parameters apply for the whole bridge.

The port, instance and port-instance specific MSTP parameters are in subsequent chapters.

*The bridge max-age value should be less than or equal to $(2 * ((\text{forward-delay}/100) - 1))$ and should be greater than or equal to $(2 * ((\text{Port hello-time}/100) + 1))$.*

The bridge hello-time is only applicable when the version is stp/rstp, in case of version mstp the port hello-time is used.

User Level

The command can be accessed by operators with mstp privileges, and executed by operators with mstp privileges.

Command Syntax

The command has the following syntax:

```
> configure xstp general [ [ no ] enable-stp ] [ no priority | priority <Mstp::StpPriority> ] [ no max-instance-num |
max-instance-num <Mstp::StpMaxInstanceNumber> ] [ no max-age | max-age <Mstp::StpMaxAge> ] [ no
hello-time | hello-time <Mstp::StpHelloTime> ] [ no forward-delay | forward-delay <Mstp::StpFwDelay> ] [ no
version | version <Mstp::StpProtVersion> ] [ no tx-hold-count | tx-hold-count <Mstp::StpTxHoldCount> ] [ no
path-cost-type | path-cost-type <Mstp::StpPathCostType> ] [ no max-hop-count | max-hop-count
<Mstp::StpMaxHopCount> ] [ region-name <Mstp::StpRegionName> ] [ no region-version | region-version
<Mstp::StpRegionVersion> ] [ no config-id-sel | config-id-sel <Mstp::StpConfigIdSelector> ]
```

Command Parameters

Table 55.2-2 "MSTP general configuration Command" Command Parameters

Parameter	Type	Description
[no] enable-stp	Parameter type: boolean	<i>optional parameter</i> all stp protocol operations start
[no] priority	Parameter type: <Mstp::StpPriority> Format: - stp bridge priority(n*4096) - range: [0...61440]	<i>optional parameter with default value: 32768</i> stp bridge priority(n*4096)
[no] max-instance-num	Parameter type: <Mstp::StpMaxInstanceNumber> Format: - the max spanning trees number - range: [1...65]	<i>optional parameter with default value: 65</i> the maximum number of spanning trees to be allowed
[no] max-age	Parameter type: <Mstp::StpMaxAge> Format: - stp max-age for root-bridge(n*100) - unit: 10msec - range: [600...4000]	<i>optional parameter with default value: 2000</i> stp max-age for root-bridge(n*100)

55 MSTP Configuration Commands

Parameter	Type	Description
[no] hello-time	Parameter type: <Mstp::StpHelloTime> Format: - stp bridge hello time(n*100) - unit: 10msec - range: [100...1000]	<i>optional parameter with default value: 200</i> stp hello-time for bridge acting as root(n*100)
[no] forward-delay	Parameter type: <Mstp::StpFwDelay> Format: - stp bridge forward delay(n*100) - unit: 10msec - range: [400...3000]	<i>optional parameter with default value: 1500</i> forward delay value (n*100)
[no] version	Parameter type: <Mstp::StpProtVersion> Format: (stp-compatible rstp mstp) Possible values: - stp-compatible : spanning tree protocol IEEE 802.1D - rstp : rapid spanning tree protocol IEEE 802.1w - mstp : multiple spanning tree protocol IEEE 802.1s	<i>optional parameter with default value: "mstp"</i> spanning tree protocol version
[no] tx-hold-count	Parameter type: <Mstp::StpTxHoldCount> Format: - maximum transmission rate limit - range: [1...10]	<i>optional parameter with default value: 3</i> maximum transmission rate limit
[no] path-cost-type	Parameter type: <Mstp::StpPathCostType> Format: (16-bit 32-bit) Possible values: - 16-bit : stp-8021d-1998 path cost - 32-bit : stp-8021t-2001 path cost	<i>optional parameter with default value: "32-bit"</i> version of stp default path costs
[no] max-hop-count	Parameter type: <Mstp::StpMaxHopCount> Format: - maximum hop count value - unit: 10msec - range: [600...4000]	<i>optional parameter with default value: 2000</i> max hop count(n*100)
region-name	Parameter type: <Mstp::StpRegionName> Format: - name of the regions configuration - length: x<=32	<i>optional parameter</i> name of regions configuration(by default the bridge mac address)
[no] region-version	Parameter type: <Mstp::StpRegionVersion> Format: - version of the MSTP region - range: [0...65535]	<i>optional parameter with default value: 0</i> version of the MSTP region
[no] config-id-sel	Parameter type: <Mstp::StpConfigIdSelector> Format: - configuration id format selector to identify the bridge - range: [0...255]	<i>optional parameter with default value: 0</i> configuration id selector used to identify the bridge

55.3 MSTP Instance configuration Command

Command Description

This command allows the operator to configure the MSTP parameters for a specific MSTP instance.

User Level

The command can be accessed by operators with mstp privileges, and executed by operators with mstp privileges.

Command Syntax

The command has the following syntax:

```
> configure xstp ( no instance (instance) ) | ( instance (instance) [ no priority | priority <Mstp::StpPriority> ] )
```

Command Parameters

Table 55.3-1 "MSTP Instance configuration Command" Resource Parameters

Resource Identifier	Type	Description
(instance)	Format: - MSTP Instance - range: [1...64]	MSTP instance

Table 55.3-2 "MSTP Instance configuration Command" Command Parameters

Parameter	Type	Description
[no] priority	Parameter type: <Mstp::StpPriority> Format: - stp bridge priority(n*4096) - range: [0...61440]	<i>optional parameter with default value: 32768</i> the Bridge Priority(n*4096)

55.4 MSTP Vlan-Instance Mapping configuration Command

Command Description

This command allows the operator to map/unmap VLANs to a specific MSTP instance. The VLAN can be associated with the MSTP instance without being configured first. One or more VLANs can be associated to an instance, but one VLAN can not be assigned to different instances.

User Level

The command can be accessed by operators with mstp privileges, and executed by operators with mstp privileges.

Command Syntax

The command has the following syntax:

```
> configure xstp instance (instance) ( no associate-vlan (vlan) ) | ( associate-vlan (vlan) )
```

Command Parameters

Table 55.4-1 "MSTP Vlan-Instance Mapping configuration Command" Resource Parameters

Resource Identifier	Type	Description
(instance)	Format: - MSTP Instance - range: [1...64]	MSTP instance
(vlan)	Format: (<Network::UVlanIndex> stacked : <Network::SVlanIndex> <Network::CVlanIndex>) Possible values: - stacked : stacked vlan identity Field type <Network::UVlanIndex> - unstacked vlan identity - range: [1...4093] Field type <Network::SVlanIndex> - service vlan identity - range: [2...4093] Field type <Network::CVlanIndex> - customer vlan identity - range: [0...4093]	vlan id to be associated with the mstp instance

55.5 MSTP Port configuration Command

Command Description

This command allows the operator to configure the port parameters for the Common Instance.

By default mstp is disabled on the ports.

User Level

The command can be accessed by operators with mstp privileges, and executed by operators with mstp privileges.

Command Syntax

The command has the following syntax:

```
> configure xstp port (port) [ no priority | priority <Mstp::MstpPortPriority> ] [ [ no ] enable-stp ] [ path-cost
<Mstp::MstpPathCost> ] [ [ no ] edge-port ] [ no admin-p2p | admin-p2p <Mstp::MstpAdminP2PPort> ] [ no
hello-time | hello-time <Mstp::StpHelloTime> ]
```

Command Parameters

Table 55.5-1 "MSTP Port configuration Command" Resource Parameters

Resource Identifier	Type	Description
(port)	Format: <Eqpt::RackId> / <Eqpt::ShelfId> / <Eqpt::SlotId> / <Eqpt::PortId> Field type <Eqpt::RackId> - the rack number Field type <Eqpt::ShelfId> - the shelf number Field type <Eqpt::SlotId> - the LT slot number Field type <Eqpt::PortId> - the port number	Interface index of the lag

Table 55.5-2 "MSTP Port configuration Command" Command Parameters

Parameter	Type	Description
[no] priority	Parameter type: <Mstp::MstpPortPriority> Format: - mstp port priority(n*16) - range: [0...240]	<i>optional parameter with default value: 128</i> mstp port priority(n*16)
[no] enable-stp	Parameter type: boolean	<i>optional parameter</i> current Msti port state enabled
path-cost	Parameter type: <Mstp::MstpPathCost> Format: - port path cost - range: [1...200000000]	<i>optional parameter</i> port path cost
[no] edge-port	Parameter type: boolean	<i>optional parameter</i>

55 MSTP Configuration Commands

Parameter	Type	Description
[no] admin-p2p	Parameter type: <Mstp::MstpAdminP2PPort> Format: (force-true force-false auto) Possible values: - force-true : p2p link connection - force-false : shared media connection - auto : auto	port state enabled for the MSTP <i>optional parameter with default value: "auto"</i> admin p2p status of the LAN segment attached to the port
[no] hello-time	Parameter type: <Mstp::StpHelloTime> Format: - stp bridge hello time(n*100) - unit: 10msec - range: [100...1000]	<i>optional parameter with default value: 200</i> port hello time(n*100)

55.6 MSTP Port-Instance configuration Command

Command Description

This command allows the operator to configure the MSTP parameters for a specific port-instance configuration. In order to be able to configure the port-instance parameters, the port must be member of the vlan-port map. This configuration applies to the Mstp.

User Level

The command can be accessed by operators with mstp privileges, and executed by operators with mstp privileges.

Command Syntax

The command has the following syntax:

```
> configure xstp port-instance (port) instance <Mstp::MstpInstance> [ no priority | priority
<Mstp::MstpPortPriority> ] [ [ no ] enable-stp ] [ path-cost <Mstp::MstpPathCost> ]
```

Command Parameters

Table 55.6-1 "MSTP Port-Instance configuration Command" Resource Parameters

Resource Identifier	Type	Description
(port)	Format: <Eqpt::RackId> / <Eqpt::ShelfId> / <Eqpt::SlotId> / <Eqpt::PortId> Field type <Eqpt::RackId> - the rack number Field type <Eqpt::ShelfId> - the shelf number Field type <Eqpt::SlotId> - the LT slot number Field type <Eqpt::PortId> - the port number	interface index of the lag
instance	Parameter type: <Mstp::MstpInstance> Format: - MSTP Instance - range: [1...64]	mstp instance

Table 55.6-2 "MSTP Port-Instance configuration Command" Command Parameters

Parameter	Type	Description
[no] priority	Parameter type: <Mstp::MstpPortPriority> Format: - mstp port priority(n*16) - range: [0...240]	<i>optional parameter with default value: 128</i> mstp port priority(n*16)
[no] enable-stp	Parameter type: boolean	<i>optional parameter</i> current Msti port state enabled
path-cost	Parameter type: <Mstp::MstpPathCost> Format:	<i>optional parameter</i> port path cost

55 MSTP Configuration Commands

Parameter	Type	Description
	- port path cost - range: [1...200000000]	