STP Configuration Commands

Table of Contents

Chapter 1 **STP Configuration Commands**

1.1 SSTP Configuration Commands

1.1.1 spanning-tree mode

description

To switch between RSTP and SSTP modes, use the **spanning-tree mode** command. To return to the default settings, use the no form of this command.

spanning-tree mode {rstp|sstp}

no spanning-tree mode

parameter

parameter	description
rstp	Enables RSTP mode
sstp	Enbales SSRP mode

default

SSTP

instruction

command mode

global configuration

example

The following example enables SSTP mode:

Switch(config)# spanning-tree mode sstp
Switch(config)#

1.1.2 spanning-tree sstp priority

description

To set the sstp bridge priority, use the spanning-tree sstp priority command. To return to the default settings, use the no form of this command.

spanning-tree sstp priority *value*

no spanning-tree sstp priority

parameter

parameter	description
value	Value is from 0 to 61440.

default

32768

Instruction

The switch becomes the root of the whole network spanning-tree when configured the priority value. You can set the bridge priority in increments of 4096 only. When you set the priority, valid values are 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, and 61440.

Command mode

global configuration

example

This example shows how to set the SSTP priority:

Switch(config)# spanning-tree sstp priority 4096
Switch(config)#

1.1.3 spanning-tree sstp hello-time

description

To set the hello-time delay timer, use the spanning-tree sstp hello-time command. To return to the default settings, use the no form of this command.

spanning-tree sstp hello-time *time*

no spanning-tree sstp hello-time

parameter

parameter	description
time	Number of seconds to set the hello-time delay timer; valid values are from 1 to 10 seconds.

default

4s

Instruction

The hello-time configured by the local switch is valid only when the local switch is the root switch.

Command mode

Global configuration

Example

The following example sets the SSTP hello-time to 8 seconds:

Switch(config)# spanning-tree sstp hello-time 8
Switch(config)#

1.1.4 spanning-tree sstp max-age

description

To set the SSTP max-age timer, use the spanning-tree sstp max-age command. To return to the default settings, use the no form of this command.

spanning-tree sstp max-age *time*

no spanning-tree sstp max-age

parameter

parameter	description
seconds	Number of seconds to set the max-age timer; valid values are from 6 to 40 seconds.

default

- 4 -

    20s

instruction

    none

command mode

    global configuration

example

    This example shows how to set the max-age timer:
    Switch(config)# spanning-tree sstp max-age 24
    Switch(config)#

1.1.5   spanning-tree sstp forward-time

description

To set the forward-delay timer, use the spanning-tree sstp forward-time command in global configuration mode. To return to the default settings, use the no form of this command.

spanning-tree sstp forward-time *time*

no spanning-tree sstp forward-time

parameter

parameter	description
time	Number of seconds to set the forward-delay timer; valid values are from 4 to 30 seconds.

default

    15 seconds

instruction

    none

command mode

- 5 -

> global configuration

example

> The following example shows how to set forward delay timer:
>
> Switch(config)# spanning-tree sstp forward-delay 20
> Switch(config)#

1.1.6 spanning-tree sstp cost

description

To set the path cost of the interface for SSTP calculations, use the spanning-tree sstp cost command in interface configuration mode. To revert to the default value, use the no form of this command.

> **spanning-tree sstp cost** *value*
>
> **no spanning-tree sstp cost**

parameter

parameter	description
value	Path cost. Valid values are from 1 to 200000000

default

> 10M Ethernet:100 。
>
> 100M Ethernet: 19 。
>
> 1000M Ethernet: 1 。

instruction

> none

command mode

> interface configuration

example

This example shows how to set a path cost value of 100 for the spanning tree VLAN associated with the interface F1/10:

Switch(config_f0/10)#spanning-tree sstp cost 100
Switch(config_f0/10)#

1.1.7 spanning-tree cost

description

To set the path cost of the interface for Spanning Tree Protocol (STP) calculations, use the spanning-tree cost command in interface configuration mode. To revert to the default value, use the no form of this command.

spanning-tree cost *value*

no spanning-tree cost

parameter

parameter	description
value	Path cost; valid values are from 1 to 200000000

default

The default path cost is computed from the bandwidth setting of the interface.

instruction

The configuration result of this command is valid to all spanning-tree modes. In STP mode, the path cost of all VLAN spanning-trees on the interface will be updated. In MSTP mode, the path cost of all spanning-tree examples will be updated.

But the configuration result of the command will not influence the independent configuration in various modes. For example, the switch respectively configured with the spanning-tree sstp cost 100 and the spanning-tree cost 110 in SSTP mode, the port priority will be 100.

command mode

interface configuration mode

example

This example shows how to set a path cost value of 24 for the spanning tree VLAN associated with that interface:

Switch(config_f0/0)# spanning-tree cost 24
Switch(config_f0/0)#

1.1.8   spanning-tree sstp port-priority

description

To set the priority value in SSTP mode, use the spanning-tree sstp port-priority command. Use the no form of this command to restore the default value.

spanning-tree sstp port-priority *value*

no spanning-tree sstp port-priority

parameter

parameter	description
value	Port priority。Value is from 0 to 255

default

128（0x80）

instruction

The port priority must be set in increments of 16 only.

command mode

interface configuration

example

The following example sets 32 as the priority value on interface f0/0:

Switch(config_f0/0)# spanning-tree sstp port-priority 32
Switch(config_f0/0)#

1.1.9　spanning-tree port-priority

description

To prioritize an interface when two bridges compete for position as the root bridge, use the spanning-tree port-priority command. The priority you set breaks the tie. To revert to the default setting, use the no form of this command.

spanning-tree port-priority *value*

no spanning-tree port-priority

parameter

parameter	parameter
value	Port priority。Value is from 0 to 255，

default

Port priority value is 128

instruction

The configuration result of this command is valid to all spanning-tree modes. In STP mode, the priority of all VLAN spanning-trees on the interface will be updated. In MSTP mode, the priority of all spanning-tree examples will be updated.

But the configuration result of the command will not influence the independent configuration in various modes. For example, the switch respectively configured with the spanning-tree sstp port-priority 100 and the spanning-tree port-priority 110 in SSTP mode, the port priority will be 100.

command mode

interface configuration

example

This example shows how to set the priority value:

Switch(config_f1/10)#spanning-tree port-priority 16
Switch(config_f1/10)#

1.1.10   show spanning-tree

description

To display spanning-tree information for the specified spanning-tree instances, use the show spanning-tree command.

show spanning-tree [detail | interface *intf-i*]

parameter

parameter	Description
intf-i	Pory name，like F0/10, G1/1

default

instruction

Show spanning-tree state.

command mode

Interface configuration/EXEC/global configuration

example

```
Switch_config#show span
Spanning tree enabled protocol SSTP
SSTP
    Root ID        This bridge is the root
    Bridge ID      Priority                 32768
                   Address                  00E0.0F64.8365
                   Hello/MaxAge/FwdDly      4/20/15(s)
Intf      Port ID                     Designated             Port ID
Name       Pri.Nbr Role Sts Cost        Bridge ID             Pri.Nbr Cost
-------- ------- ---- --- --------- -------------------- ------- ---------
F0/47      128.47   Desg LIS 12          32768 00E0.0F64.8365 128.47   0
Switch_config#
```

1.2   RSTP Configuration Commands

1.2.1   spanning-tree mode rstp

description

To enable RSTP feature, use the spanning-tree mode rstp command. Use the no form of this command to disable RSTP.

spanning-tree mode rstp

no spanning-tree mode

parameter

default

RSTP disabled，SSTP enabled

instruction

example

The following example enables rstp on the switch:

switch(config)# spanning-tree mode rstp
switch(config)#

1.2.2   spanning-tree rstp forward-time

description

To set the rstp forward-delay timer, use the spanning-tree rstp forward-time command in global configuration mode. To return to the default settings, use the no form of this command.

spanning-tree rstp forward-time *time*

no spanning-tree rstp forward-time

parameter

parameter	description
time	Number of seconds to set the forward-delay timer; valid values are from 4 to 30 seconds.

default

    15 seconds

instruction

    none

example

The following example sets 20 seconds as the rstp forward-delay timer:

switch(config)# spanning-tree rstp forward-time 20
switch(config)#

1.2.3   spanning-tree rstp hello-time

description

To set the   RSTP hello-time delay timer, use the spanning-tree rstp hello-time command in global configuration mode. To return to the default settings, use the no form of this command.

spanning-tree rstp hello-time *time*

no spanning-tree rstp hello-time

parameter

parameter	description
time	Number of seconds to set the hello-time delay timer; valid values are from 1 to 10 seconds.

default

    4 seconds

instruction

The hello-time configured by the local switch is valid only when the local switch is the root switch.

example

The following example sets 8 seconds as the rstp hello-time:

switch(config)# spanning-tree rstp hello-time 8
switch(config)#

1.2.4   spanning-tree rstp max-age

description

To set the RSTP max-age timer, use the spanning-tree rstp max-age command. To return to the default settings, use the no form of this command.

spanning-tree rstp max-age *time*

no spanning-tree rstp max-age

parameter

parameter	description
time	Number of seconds to set the max-age timer; valid values are from 6 to 40 seconds.

default

20 seconds

instruction

example

The following example sets 24 seconds as the rstp max-age timer:

switch(config)# spanning-tree rstp max-age 24
switch(config)#

1.2.5 spanning-tree rstp priority

description

To set the rstp bridge priority, use the spanning-tree rstp priority command. To return to the default settings, use the no form of this command.

spanning-tree rstp priority *value*

no spanning-tree rstp priority

parameter

parameter	description
value	Bridge priority。 Value is from 0 to 61440，

default

32768

instruction

example

The following example sets 4096 as the bridge priority:

switch(config)# spanning-tree rstp priority 4096
switch(config)#

1.2.6 spanning-tree rstp cost

description

To set the path cost of the interface, use the spanning-tree rstp cost command. To revert to the default value, use the no form of this command.

spanning-tree rstp cost *value*

no spanning-tree rstp cost

parameter

parameter	description
value	Path cost; valid values are from 1 to 200000000

default

The default path cost is computed from the bandwidth setting of the interface

10 Mbps: 2000000

100 Mbps: 200000

1000 Mbps: 20000

instruction

example

The following example sets a path cost value of 24 for the interface f0/0:

```
switch(config_f0/0)# spanning-tree rstp cost 24
switch(config_f0/0)#
```

1.2.7   spanning-tree rstp port-priority

description

To set an interface priority, use the spanning-tree rstp port-priority command. To revert to the default value, use the no form of this command.

spanning-tree rstp port-priority *value*

no spanning-tree rstp port-priority

parameter

parameter	description
value	Port priority; valid values are from 0 to 255.

default

128

instruction

example

The following example sets 24 as the priority value on interface f0/0:

switch(config_f0/0)# spanning-tree rstp port-priority 24
switch(config_f0/0)#

1.2.8   spanning-tree rstp migration-check

Command description

spanning-tree rstp migration-check

Restart the protocol coversion check at the port of the RSTP.

Parameter

None

Default

None

Usage description

It is used to restart the protocol coversion check at the port, change the port from the STP-compatible mode to the RSTP mode, enabling the port to send RSTP BPDU.

The command is supported only in the switches that support IEEE 802.1D 2004 RSTP.

Command mode

Global/port configuration mode

Example

The following example shows the protocol coversion check is performed on port F0/10:

Switch(config_f0/10)#spanning-tree rstp migration-check
Switch(config_f0/10)

Chapter 2   **MSTP Configuration Commands**

2.1   MSTP Configuration Command

2.1.1   spanning-tree mode mstp

Command description

spanning-tree mode mstp

no spanning-tree mode

Run the **spanning-tree mode mstp** command to set the running mode of STP to **MSTP**. Run the **no spanning-tree mode** command to disable STP.

Parameter

None

Default

The MSTP mode is closed, while the SSTP mode is running.

Usage description

None

Example

The following commands are used to enable the MSTP protocol on the switch:

switch(config)# spanning-tree mode mstp
switch(config)#

2.1.2   spanning-tree mstp name

Command description

spanning-tree mstp name *string*

no spanning-tree mstp name

Run the **spanning-tree mstp name** *string* command to configure the regional name of the STP. Run the **no spanning-tree mstp name** command to resume the default name.

Parameter

Parameter	Description
String	Configures the character string of the name. The character string can have up to 32 characters, capital sensitive. The default value is in the form of character string like the MAC address of the switch.

Default

Character string form of the switch's MAC address

Usage description

None

Example

The following commands are used to set the configuration name of the switch's STP to **reg-01**.

switch(config)# spanning-tree mstp name reg-01
switch(config)#

2.1.3 spanning-tree mstp revision

Command description

spanning-tree mstp revision *value*

no spanning-tree mstp revision

Run the **spanning-tree mstp revision** *value* command to generate the revision number of STP. Run the **no spanning-tree mstp revision** to restore the revision number to the default value.

Parameter

Parameter	Description
Value	Revision number: 0 ~65535 Its default value is **0**.

Default

The default value of the revision number is **0**.

Usage description

None

Example

The following commands are used to set the regional revision number of STP to **100**.

switch(config)# spanning-tree mstp revision 100
switch(config)#

2.1.4   spanning-tree mstp instance

Command description

spanning-tree mstp instance *instance-id* **vlan** *vlan-list*

no spanning-tree mstp instance *instance-id*

Run the command **spanning-tree mstp instance** *instance-id* **vlan** *vlan-list* to map the VLAN to the MSTI. Run the command **no spanning-tree mstp instance** *instance-id* to re-map the VLAN to the CIST.

Parameter

Parameter	Description
instance-id	Instance number of the STP, meaning an MSTI which ranges from 1 to 15.
vlan-list	VLAN list which is mapped to the STP, ranging from 1 to 4094.

Default

All VLANs are mapped to the CIST (MST00).

Usage description

instance-id is an unique value representing an STP instance.

vlan-list represents a VLAN group, such as "1,2,3", "1-5" and "1,2,5-10".

Example

The following commands map VLAN1 to instance 1 of STP, and VLAN5,7,10-20 to instance 2 of STP, and then re-map these VLANs to MST00.

switch(config)# spanning-tree mstp instance 1 vlan 2

switch(config)# spanning-tree mstp instance 2 vlan 5,7,10-20

switch(config)# no spanning-tree mstp instance 2

2.1.5   spanning-tree mstp root

Command description

spanning-tree mstp *instance-id* **root {primary | secondary}**

[**diameter** *net-diameter* [**hello-time** *seconds*]]

no spanning-tree mstp root

Configure the specified MSTP instance to the primary/secondary root. Run its negative form to restore the priority of MSTP instance to the default value.

Both the **diameter** command and the **hello-time** command can modify the network diameter and the **HelloTime** parameter of the MSTP when they are setting the root.

Parameter

Parameter	Description
instance-id	MSTP instance, ranging from 0 to 15
Primary	Sets the MSTP instance to the primary root.
Secondary	Sets the MSTP instance to the secondary root.
net-diameter	Network diameter, which is optional When the **instance-id** parameter is **0**, it is effective. It ranges from 2 to 7.
Seconds	Hello time, an optional parameter, which ranges from 1 to 10 seconds

Default

The priority value of all default roots of all MSTP instances are 32768, the network diameter is 7 and the HelloTime is 2 seconds.

Usage description

Both the **diameter** command and the **hello-time** command are valid only when **instanc-id** is **0**.

Generally, after you run the command to set the primary root, the protocol automatically checks the ID of the current network root and then sets the priority field of the root identifier to 24576 if this value gurantees the current switch to be the root of the MSTP instance. If the priority value of the root is smaller than 24576, the protocol will automatically set the MSTP priority of the current root to a value which is 4096 smaller than the root's priority. Here, 4069 is the step of the root priority.

Different from the configuration of the primary root, the protocol directly sets the MSTP priority of the switch to **28672** after the command for configuring the secondary root is run. Thus, the current switch can be the secondary root when the priorities of other switches are the default value **28672**.

Example

The following commands are used to set tbe switch to the primary root in the CIST and recalculate the time parameter of the MSTP through network diameter 3 and HelloTime3, and at last set the switch to the secondary root in the MST01.

switch(config)# spanning-tree mstp 0 root primary diameter 3 hello-time 3

switch(config)# spanning-tree mstp 1 root secondary

2.1.6   spanning-tree mstp priority

Command description

spanning-tree mstp *instance-id* **priority** *value*

no spanning-tree mstp priority

It is used to configure the bridge priority of the MSTP instance. Its negative form is used to resume the default value of the priority.

Parameter

Parameter	Description
instance-id	MSTP instance number, ranging from 0 to 15
Value	Bridge priority, which can be one of the given values: 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, 61440

Default

The default priority of the bridges of all MSTP instances is 32768.

Usage description

Each priority value in the MSTP instance is independent and can be configured independently.

Example

The following commands are used to set the priority of the switch in the CIST and MST01 to 4096 and 8192 respectively.

switch(config)# spanning-tree mstp 0 priority 4096
switch(config)# spanning-tree mstp 1 priority 8192

2.1.7   spanning-tree mstp hello-time

Command description

spanning-tree mstp hello-time *seconds*

no spanning-tree mstp hello-time

It is used to configure the hello-time of the MSTP, and its negative form is used to resume the default settings of the HelloTime.

Parameter

Parameter	Description
Seconds	It ranges from 1 to 10 seconds. Its default value is 2 seconds.

Default

Two seconds

Usage description

None

Example

The following commands are used to set the HelloTime of the MSTP to **10**.

switch(config)# spanning-tree mstp hello-time 10
switch(config)# no spanning-tree mstp hello-time

2.1.8   spanning-tree mstp forward-time

Command description

spanning-tree mstp forward-time *seconds*

no spanning-tree mstp forward-time

It is used to configure the Forward Delay of the MTSP. Its negative is used to resume the default settings.

Parameter

Parameter	Description
Seconds	It ranges from 4 to 30 seconds. Its default value is 15 seconds.

Default

15 seconds

Usage description

None

Example

The following commands are used to set the **Forward Delay** parameter of the MTSP to **10**.

switch(config)# spanning-tree mstp forward-time 10
switch(config)# no spanning-tree mstp forward-time

2.1.9   spanning-tree mstp max-age

Command description

spanning-tree mstp max-age *seconds*

no spanning-tree mstp max-age

It is used to configure the **Max Age** parameter of the MSTP. Its negative is used to resume the default settings.

Parameter

Parameter	Description
Seconds	Range: 6 – 40 seconds The default value is 20 seconds.

Default

20 seconds

Usage description

None

Example

The following commands are used to set the **MaxAge** parameter of the MSTP to **10**.

switch(config)# spanning-tree mstp max-age 10
switch(config)# no spanning-tree mstp max-age

2.1.10   spanning-tree mstp diameter

Command description

spanning-tree mstp diameter *net-diameter*

no spanning-tree mstp diameter

It is used to configure the network diameter of the MSTP. Its negative is used to resume the default settings.

Parameter	Description
net-diameter	Range: 2 – 7 Its default value is 7.

Default

The default network diameter is 7.

Usage description

The **net-diameter** parameter is not saved as an independent settings in the switch. The time parameter that is modified through network diameter configuration can be saved. The **net-diameter** parameter is valid in the CIST. After settings, the three time parameters of the STP can be automatically updated to a relatively advantageous value.

It is recommended to set the time parameters of the STP through root configuration or network diameter configuration. In this way, the reasonability of the time parameters can be assured.

Example

The following first command is to set the bridge diameter of MSTP to 5. The second command is to resume the default value of the bridge diameter.

switch(config)# spanning-tree mstp diameter 5

switch(config)# no spanning-tree mstp diameter

2.1.11 spanning-tree mstp max-hops

Command description

spanning-tree mstp max-hops *hop-count*

no spanning-tree mstp max-hops

The **spanning-tree mstp max-hops *hop-count*** command is used to set the maximum number of hops of the MSTP BPDU. Its negative is used to resume the default settings.

Parameter

Parameter	Description
hop-count	Range: 1 -40
	Its default value is 20.

Default

The default vaue of the maximum hop counts is 20.

Usage description

None

Example

The first command is to set the maximum hop counts of the MSTP BPDU to 5. The second command is to restore the default value of the maximum hop counts.

switch(config)# spanning-tree mstp max-hops 5
switch(config)# no spanning-tree mstp max-hops

2.1.12 spanning-tree mstp port-priority

Command description

spanning-tree mstp *instance-id* **port-priority** *value*

no spanning-tree *instance-id* **port-priority**

The **spanning-tree mstp *instance-id* port-priority *value*** command is used to the port priority in the specified STP instance. Its negative is used to resume the default settings.

Parameter

Parameter	Description
instance-id	Number of the STP instance, ranging from 0 to 15
Value	Port priority, which is one of the following values: 0, 16, 32, 48, 64, 80, 96, 112 128, 144, 160, 176, 192, 208, 224, 240

Default

The default priority value of the port in all STP instances is 128.

Usage description

None

Example

The first command is to set the priority of port F0/1 in the CIST to 16. The second command is to resume the default value.

switch(config_f0/1)# spanning-tree mstp 0 port-priority 16
switch(config_f0/1)# no spanning-tree mstp 0 port-priority

2.1.13   spanning-tree mstp cost

Command description

spanning-tree mstp *instance-id* **cost** value

no spanning-tree mstp *instance-id* **cost**

The command **spanning-tree mstp *instance-id* cost value** is used to set the path cost of the port in the specified STP instance. Its negative is used to resume the default settings.

Parameter

Parameter	Description
instance-id	Number of the STP instance, ranging from 0 to 15
Value	Path cost of the port, ranging from 1 to 200000000

Default

It depends on the connection rate of the port:

10 Mbps: 2000000

100 Mbps: 200000

1000 Mbps: 20000

Usage description

None

Example

The following commands are used to set the path cost of port F0/1 in the CIST to **200**.

switch(config_f0/1)# spanning-tree mstp 0 cost 200
switch(config_f0/1)#

2.1.14   spanning-tree mstp mst-compatible

Command description

spanning-tree mstp mst-compatible

no spanning-tree mstp mst-compatible

Activate or shut down the MST-compatible mode.

Parameter

None

Default

The MSTP-compatible mode is not activated.

Usage description

After the MST-compatible mode is enabled, configure other connected switches that are running other MSTP protocols to the roots of CIST, ensuring that the switch can enter the MSTP-compatible mode by receiving the message.

Example

The following command is to activate the MST-compatible mode in global configuration mode:

switch(config)#spanning-tree mstp mst-compatible

2.1.15   spanning-tree mstp migration-check

Command description

spanning-tree mstp migration-check

Clear the STP information that is checked by the port, and restart the protocol conversion process.

Parameter

None

Default

None

Usage description

The command is valid in global configuration mode and in port configuration mode.

Example

The following commands are used to check the protocol conversion on all ports first, and then check the protocol conversion on port F0/1 again.

switch(config)# spanning-tree mstp migration-check
switch(config)# interface f 0/1
switch(config_f0/1)# spanning-tree mstp migration-check

2.1.16   show spanning-tree mstp

Command description

show spanning-tree mstp [**instance** *instance-id*]

The command above is used to check the MSTP information. If you run the command **show spanning-tree mstp**, the information about all STP instances is displayed.

Parameter

Parameter	Description
instance-id	Number of the STP instance, ranging from 0 to 15

Default

None

Usage description

It is valid in monitoring mode, global configuration mode or port mode.

Example

The following shows how to view all STP instances through the command. Here, **MST00** stands for CIST, and the **Type** field stands for the port connection type.

Switch#show spanning-tree mstp

MST00   Vlans Mapped: 1,4-4094
Root   Address   00E0.0F64.8365   Priority   32768 (32768 mst-id 0)
Root   This root is the CIST and regional root
Configured   Hello Time 2, Forward Delay 15, Max Age 20, Max Hops 20
Root Times   Hello Time 2, Forward Delay 15, Max Age 20

Interface   Role Sts Cost   Pri.Nbr Type
---------------- ---- --- -------- ------- -------------------------------
F0/1   Desg FWD 200000   128.1   P2p
F0/3   Back BLK 200000   128.3   P2p
F0/47   Desg FWD 200000   128.47   Edge

MST01   Vlans Mapped: 2
Root   Address   00E0.0F64.8365   Priority   32769 (32768 mst-id 1)
Root   This root for MST01

Interface   Role Sts Cost   Pri.Nbr Type
---------------- ---- --- -------- ------- -------------------------------
F0/1   Desg FWD 200000   128.1   P2p

MST02   Vlans Mapped: 3
Root   Address   00E0.0F64.8365   Priority   32770 (32768 mst-id 2)
Root   This root for MST02

Interface   Role Sts Cost   Pri.Nbr Type
---------------- ---- --- -------- ------- -------------------------------
F0/1   Desg FWD 200000   128.1   P2p

2.1.17   show spanning-tree mstp region

Command description

show spanning-tree mstp region

Check the regional configuration information about the MSTP.

Parameter

None

Default

None

Usage description

None

Example

See the following information. **MST Config Table** shows the relation between VLAN and STP instance.

switch(config)# show spanning-tree mstp region

```
MST Region:
   Name:     [reg01]
   Revision:[0]

MST Config Table:
    Instance       VLAN IDs
  ----------      ----------
           0      1,4-4094
           1      2
           2      3
```

2.1.18   show spanning-tree mstp detail

Command description

show spanning-tree mstp detail

The command above is used to check the detailed information about MSTP.

Parameter

None

Default

None

Usage description

None

Example

The following example shows the detailed STP information after the command is run, including the port connection type and optional characteristics:

Switch#show spanning-tree mstp detail

MST00   Vlans Mapped: 1,4-4094
Root   Address   00E0.0F64.8365   Priority   32768 (32768 mst-id 0)
Root   This root is the CIST and regional root
Configured   Hello Time 2, Forward Delay 15, Max Age 20, Max Hops 20
Root Times   Hello Time 2, Forward Delay 15, Max Age 20

FastEthernet0/1 of MST00 is designated forwarding
Port Info   Port ID 128.1   Priority 128   Cost 200000
Designated Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
CIST Regional Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
Designated Root   Address 00E0.0F64.8365   Priority 32768   Port ID 128.1
Edge Port: disabled   Link Type: point-to-point (auto)
Bpdu Guard: disabled (default)   Root Guard: disabled (default)
Loop Guard: disabled (default)
Timers: message expires in 0 sec, forward delay 0 sec, up time 662 sec
Number of transitions to forwarding state: 1
Bpdu sent 335, received 5

FastEthernet0/3 of MST00 is backup blocking
Port Info   Port ID 128.3   Priority 128   Cost 200000
Designated Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
CIST Regional Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
Designated Root   Address 00E0.0F64.8365   Priority 32768   Port ID 128.1
Edge Port: disabled   Link Type: point-to-point (auto)
Bpdu Guard: disabled (default)   Root Guard: disabled (default)
Loop Guard: disabled (default)
Timers: message expires in 5 sec, forward delay 15 sec, up time 662 sec

Number of transitions to forwarding state: 0

Bpdu sent 5, received 335

FastEthernet0/47 of MST00 is designated forwarding

Port Info   Port ID 128.47   Priority 128   Cost 200000

Designated Root   Address 00E0.0F64.8365   Priority 32768   Cost 0

CIST Regional Root   Address 00E0.0F64.8365   Priority 32768   Cost 0

Designated Root   Address 00E0.0F64.8365   Priority 32768   Port ID 128.47

Edge Port: enabled (auto)   Link Type: point-to-point (auto)

Bpdu Guard: disabled (default)   Root Guard: disabled (default)

Loop Guard: disabled (default)

Timers: message expires in 0 sec, forward delay 0 sec, up time 1485 sec

Number of transitions to forwarding state: 1

Bpdu sent 744, received 0

MST01   Vlans Mapped: 2

Root   Address   00E0.0F64.8365   Priority   32769 (32768 mst-id 1)

Root   This root for MST01

FastEthernet0/1 of MST01 is designated forwarding

Port Info   Port ID 128.1   Priority 128   Cost 200000

Designated Root   Address 00E0.0F64.8365   Priority 32769   Cost 0

Desingated Root   Address 00E0.0F64.8365   Priority 32769   Port ID 128.1

Timers: message expires in 0 sec, forward delay 0 sec, up time 662 sec

Number of transitions to forwarding state: 1

MST Config Message transmitted 335, received 0

MST02   Vlans Mapped: 3

Root   Address   00E0.0F64.8365   Priority   32770 (32768 mst-id 2)

Root   This root for MST02

FastEthernet0/1 of MST02 is designated forwarding

Port Info   Port ID 128.1   Priority 128   Cost 200000

Designated Root   Address 00E0.0F64.8365   Priority 32770   Cost 0

Desingated Root   Address 00E0.0F64.8365   Priority 32770   Port ID 128.1

Timers: message expires in 0 sec, forward delay 0 sec, up time 662 sec

Number of transitions to forwarding state: 1

MST Config Message transmitted 335, received 0

2.1.19   show spanning-tree mstp interface

Command description

show spanning-tree mstp interface *interface-id*

The command above is used to check the information about the port which is run under MSTP.

Parameter

Parameter	Description
interface-id	Port name, such as F0/1 and FastEtnernet0/3

Default

None

Usage description

None

Example

The following example shows the information about port F0/1 after you run the command **show spanning-tree mstp interface f0/1**:

Switch#show spanning-tree mstp interface f0/1

FastEthernet0/1 of MST00 is designated forwarding
Port Info   Port ID 128.1   Priority 128   Cost 200000
Designated Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
CIST Regional Root   Address 00E0.0F64.8365   Priority 32768   Cost 0
Designated Root   Address 00E0.0F64.8365   Priority 32768   Port ID 128.1
Edge Port: disabled   Link Type: point-to-point (auto)
Bpdu Guard: disabled (default)   Root Guard: disabled (default)
Loop Guard: disabled (default)
Timers: message expires in 0 sec, forward delay 0 sec, up time 851 sec
Number of transitions to forwarding state: 1
Bpdu sent 430, received 5

FastEthernet0/1 of MST01 is designated forwarding
Port Info   Port ID 128.1   Priority 128   Cost 200000
Designated Root   Address 00E0.0F64.8365   Priority 32769   Cost 0
Desingated Root   Address 00E0.0F64.8365   Priority 32769   Port ID 128.1
Timers: message expires in 0 sec, forward delay 0 sec, up time 851 sec
Number of transitions to forwarding state: 1
MST Config Message transmitted 430, received 0

FastEthernet0/1 of MST02 is designated forwarding
Port Info   Port ID 128.1   Priority 128   Cost 200000
Designated Root   Address 00E0.0F64.8365   Priority 32770   Cost 0

Desingated Root   Address 00E0.0F64.8365   Priority 32770   Port ID 128.1

Timers: message expires in 0 sec, forward delay 0 sec, up time 851 sec

Number of transitions to forwarding state: 1

MST Config Message transmitted 430, received 0

Instance Role Sts Cost   Pri.Nbr Vlans Mapped

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0   Desg FWD 200000   128.1   1,4-4094

1   Desg FWD 200000   128.1   2

2   Desg FWD 200000   128.1   3show spanning-tree mstp protocol-migration

Command description

show spanning-tree mstp protocol-migration

The command above is used to check the protocol conversion information when the port is running under MSTP.

Parameter

None

Default

None

Usage description

None

Example

The following example shows the information about protocol conversion after the command **show spanning-tree mstp protocol-migration** is run. Note that port F0/2 has transferred to the 802.1D STP mode.

Switch#show spanning-tree mstp protocol-migration

MSTP Port Protocol Migration

Interface   Protocol   Info

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F0/2   802.1D

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