STP Optional Characteristic Configuration Commands

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Chapter 1 STP Optional Characteristic Configuration Commands

1.1 STP Optional Characteristic Configuration Commands

1.1.1 spanning-tree portfast

Syntax

To configure the portfast attribute in global configuration mode, run spanning-tree portfast {bpdufilter default | bpduguard default | default}. To cancel this attribute in global configuration mode, run no spanning-tree portfast {bpdufilter default | bpduguard default | default}.

spanning-tree portfast {bpdufilter | bpduguard | default}

no spanning-tree portfast {bpdufilter | bpduguard | default}

To configure the portfast attribute in port configuration mode, run spanning-tree portfast [disable | trunk]. To cancel this attribute in port configuration mode, run no spanning-tree portfast.

spanning-tree portfast [disable]

no spanning-tree portfast

Parameters

Parameters	Description
bpdufilter	Starts the BPDU filtration.
bpduguard	Starts the BPDU protection.
default	Means the default mode.

Default Value

This function is not enabled by default.

Usage Guidelines

The portfast attribute enables a port in SSTP/PVST mode to promptly enter the forwarding state without state change. This configuration invalidates in RSTP/MSTP mode.

After the portfast attribute is configured, it need be protected through BPDU Guard configuration or BPDU Filter configuration.

Command Mode

Global or port configuration mode

Example

The following example shows how to enable the Port Fast attribute in global configuration mode.

Switch_config# spanning-tree portfast default
Switch_config#

The following example shows how to enable the attributes of port g0/1:

Switch_config_g0/1# spanning-tree portfast
Switch_config_g0/1#

1.1.2 spanning-tree bpduguard

Syntax

To configure BPDU Guard, run spanning-tree bpduguard {disable | enable}. To cancel BPDU Guard, run no spanning-tree bpduguard.

spanning-tree bpduguard {disable | enable}

no spanning-tree bpduguard

Parameters

None

Default Value

This function is not enabled by default.

Usage Guidelines

In SSTP/PVST mode, if a port that has the BPDU Guard function and the Portfast function configured receives BPDU, this port will be manadatorily shut down. You have to configure the port manually to resume this port. In RSTP/MSTP mode, if a BPDU-Guard-configured port receives BPDU, the port will be set to the Blocking state in a period of time.

Command Mode

Port configuration mode

Example

The following example shows how to enable BPDU protection on port g0/1.

Switch_config_g0/1# spanning-tree bpduguard enable

Switch_config_g0/1#

1.1.3 spanning-tree bpdufilter

Syntax

To configure the BPDU filtration, run spanning-tree bpdufilter {disable | enable}. To cancel the BPDU filtration, run no spanning-tree bpdufilter.

spanning-tree bpdufilter {**disable** | **enable**}

no spanning-tree bpdufilter

Parameters

None

Default Value

This function is not enabled by default.

Usage Guidelines

In SSTP/PVST mode, a port which has the BPDU Filter function and the Port Fast function configured receives BPDU, the BPDU Filter attribute and the Port Fast attribute are automatically shut down. In this case, the port resumes to be a normal port which first enters the listening state, the learning state and then the forwarding state.

This function invalidates in RSTP/MSTP mode.

Command Mode

Port configuration mode

Example

The following example shows how to enable BPDU filtration on port g0/1.

Switch_config_g0/1# spanning-tree bpdufilter enable

Switch_config_g0/1#

1.1.4 spanning-tree uplinkfast

Syntax

To configure the Uplink Fast function, run this command. To return to the default setting, use the no form of this command.

spanning-tree uplinkfast

no spanning-tree uplinkfast

Parameters

None

Default Value

This function is not enabled by default.

Usage Guidelines

The Uplink Fast function validates only in SSTP/PVST mode.

Command Mode

Global configuration mode

Example

The following example shows how to enable the Uplink Fast attribute.

Switch_config# spanning-tree uplinkfast
Switch_config#

1.1.5 spanning-tree backbonefast

Syntax

To configure the backbonefast function, run spanning-tree backbonefast. To cancel the backbonefast function, run no spanning-tree backbonefast.

spanning-tree backbonefast

no spanning-tree backbonefast

Parameters

None

Default Value

This function is not enabled by default.

Usage Guidelines

The backbonefast function validates only in SSTP/PVST mode.

Command Mode

Global configuration mode

Example

The following example shows how to enable the backbonefast function:

Switch_config# spanning-tree backbonefast
Switch_config#

1.1.6   spanning-tree guard

Syntax

To configure the Port Guard function, run spanning--tree guard {loop | none | root}. To cancel this function, run no spanning--tree guard.

spanning-tree guard {loop | none | root}

no spanning-tree guard

Parameters

Parameters	Description
loop	Guard loop.
none	Guard none.
root	Guard root

Default Value

This protection function is not enabled.

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Usage Guidelines

The Root Guard attribute can prevent a port from serving as a root port after it receives a higher-priority BPDU.

The Loop Guard attribute can protect a port after it changes from a root port or an alternate port to a designated port. This function can prevent a port from generating a loop when the port cannot receive BPDU continuously.

Command Mode

Port configuration mode

Example

The following example shows how to prevent port g0/1 from being the root:

Switch_config_g0/1# spanning-tree guard root
Switch_config_g0/1#

1.1.7   spanning-tree loopguard

Syntax

To configure the guard loop in global configuration mode, run spanning-tree loopguard default. To cancel the guard loop in global configuration mode, run no spanning-tree loopguard default.

spanning-tree loopguard default

Parameters

None

Default Value

None

Usage Guidelines

None

Command Mode

Global configuration mode

Example

The following example shows how to enable the loopguard function.

Switch_config# spanning-tree loopguard default
Switch_config#

1.1.8 spanning-tree loopfast

Syntax

To enable Loop Fast in global configuration mode, run spanning-tree loopfast. To return to the default setting, use the no form of this command.

spanning-tree loopfast

To set Loop Fast attribute, run this command.

spanning-tree loopfast

To disable the Loop Fast attribute, use the no form of this command.

spanning-tree loopfast disable

Parameters

None

Default Value

None

Usage Guidelines

Please configure this command under the guide of technical engineers.

Command Mode

Global configuration mode and interface configuration mode

Example

The following example shows how to enable loopfast in global configuration mode and disable the function on port G0/1.

Switch_config#spanning-tree loopfast
Switch_config#int g0/1
Switch_config_g0/1#spanning-tree loopfast disable
Switch_config_g0/1#exit

Switch_config#

1.1.9   spanning-tree fast-aging

Syntax

To enable or disable the fast aging mechanism of the address table, run the following commands.

spanning-tree fast-aging

no spanning-tree fast-aging

To enable or disable the protection of fast aging of the address table, run the following commands.

spanning-tree fast-aging protection

no spanning-tree fast-aging protection

To configure the time of aging protection of the address table, run the following commands.

spanning-tree fast-aging protection time *value*

no spanning-tree fast-aging protection time

Parameters

Parameters	Description
value	Stands for the aging protection time. 10-60 seconds (15 seconds by default)

Default Value

Fast aging is enabled by default. However protection is not enabled by default.

Usage Guidelines

None

Command Mode

Global configuration mode

Example

The following example shows how to enable fast aging protection and set the protection time to 30 seconds.

Switch_config#spanning-tree fast-aging protection
Switch_config#spanning-tree fast-aging protection time 30

1.1.10   spanning-tree fast-aging flush-fdb

Syntax

To enable or disable FDB-Flush, run the following commands.

spanning-tree fast-aging flush-fdb

no spanning-tree fast-aging flush-fdb

Parameters

None

Default Value

FDB-Flush is enabled by default.

Usage Guidelines

Please configure this command under the guide of technical engineers.

FDB-Flush is independent of fast aging.FDB-Flush can be configured while**nono spanning-tree fast-aging**is configured. But fast aging protection function has no effect on FDB-Flush.

Command Mode

Global configuration mode

Example

The following example shows how to disable fast aging and enable FDB-Flush.

Switch_config#no spanning-tree fast-aging
Switch_config#spanning-tree fast-aging flush-fdb

1.1.11   spanning-tree bpdu-terminal

Syntax

To enable or disable BPDU Terminal, run the following commands.

spanning-tree bpdu-terminal

no spanning-tree bpdu-terminal

Parameters

None

Default Value

BPDU Terminal is disabled by default.

Usage Guidelines

BPDU terminal function can forbid forwarding BPDU when there is no STP running.

Command Mode

Global configuration mode

Example

The following example shows how to enable BPDU Terminal:

Switch_config#spanning-tree bpdu-terminal