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 enable bridge protocol data unit (BPDU) filtering by Default on all PortFast ports, use the spanning-tree portfast bpdufilter Default command in global configuration mode. To return to the Default settings, use the no form of this command.

spanning-tree portfast {bpdufilter Default | bpduguard Default | Default}

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

To enable PortFast mode where the interface is immediately put into the forwarding state upon linkup without waiting for the timer to expire, use the spanning-tree portfast command in interface configuration mode. To return to the Default settings, use the no form of this command.

spanning-tree portfast [disable]

no spanning-tree portfast

Parameter

Parameter	description
bpdufilter	Enables bpdu flter.
bpduguard	Enables bpdu guard.
Default	Specifies the Default method.

Default value

disabled

Usage guidelines

In SSTP/PVST mode, the Port Fast characteristic makes a port immediately enter Forwarding state without experiencing any status change process. This configuration is invalid in RSTP/MSTP mode.

After configuring Port Fast, BPDU Guard or BPDU Filter needs to be configured for protection.

Command mode

global and interface configuration mode

Example

This example shows how to enable PortFast mode globally:

Switch(config)# spanning-tree portfast Default

Switch(config)#

This example shows how to enable PortFast mode on the interface g0/1:

Switch_config_g0/1# spanning-tree portfast

Switch_config_g0/1#

1.1.2. spanning-tree bpduguard

Syntax

To enable bridge protocol data unit (BPDU) guard on the interface, use the spanning-tree bpduguard command in interface configuration mode. To return to the Default settings, use the no form of this command.

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

no spanning-tree bpduguard

Parameter

Default value

disabled

Usage guidelines

In SSTP/PVST mode, if a port that configured BPDU Guard and Port Fast receives BPDU, this port will be forced to shutdown. User can restore it by the manual configuration. In RSTP/MSTP mode, if a port that configured BPDU Guard receives BPDU, this port will be configured to Blocking state for a period of time.

Command mode

Uplink interface configuration

Example

This example shows how to enable BPDU guard on the interface G0/1:

Switch_config_g0/1# spanning-tree bpduguard enable

Switch_config_g0/1#

1.1.3. spanning-tree bpdufilter

Syntax

To enable bridge protocol data unit (BPDU) filtering on the interface, use the **spanning-tree bpdufilter** command in interface configuration mode. To return to the Default settings, use the **no** form of this command.

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

no spanning-tree bpdufilter

Parameter

Default value

disabled

Usage guidelines

In SSTP/PVST mode, if a port that configured BPDU Filter and Port Fast receives BPDU, the BPDU Filter and Port Fast characteristics on that port will be disabled automatically to restore the port to an ordinary port. Then this port must endure the wait from Listening to Learning before entering Forwarding state.

This feature is invalid in RSTP/MSTP mode.

Command mode

uplink interface configuration

Example

This example shows how to enable BPDU filtering on the interface G0/1:

Switch_config_g0/1# spanning-tree bpdufilter enable

Switch_config_g0/1#

1.1.4. spanning-tree uplinkfast

Syntax

To enable the debugging of the spanning-tree UplinkFast events, use the debug spanning-tree uplinkfast command. To disable the debugging output, use the no form of this command.

spanning-tree uplinkfast

no spanning-tree uplinkfast

Parameter

Default value

disabled

Usage guidelines

Uplink Fast characteristic is only valid in SSTP/PVST mode.

Command mode

global configuration

Example

The following example enables uplinkfast characteristic:

Switch(config)# spanning-tree uplinkfast

Switch(config)#

1.1.5. spanning-tree backbonefast

Syntax

To enable debugging of the spanning-tree BackboneFast events, use the debug spanning-tree backbonefast command. To disable the debugging output, use the no form of this command.

spanning-tree backbonefast

no spanning-tree backbonefast

Parameter

Default value

disabled

Usage guidelines

Backbone Fast characteristic is only valid in SSTP/PVST mode.

Command mode

global configuration

Example

The following command enables backbonefast characteristic:

Switch(config)# spanning-tree backbonefast

Switch(config)#

1.1.6. spanning-tree guard

Syntax

To enable or disable the guard mode, use the spanning-tree guard command in interface configuration mode. To return to the Default settings, use the no form of this command.

spanning-tree guard {loop | none | root}

no spanning-tree guard

Parameter

Parameter	description
loop	Guard loop.

none	Guard none.
root	Guard root.

Default value

disabled

Usage guidelines

Root Guard characteristic can prevent a port from becoming Root port due to receving high priority BPDU.

Loop Guard characteristic can protect a Root Port or a Alternate Port when it becomes the Designated Port. This function can prevent a port from occuring the loop when it cannot continuously receive BPDU.

Command mode

uplink interface configuration

Example

This example shows how to enable G0/1 to root guard:

Switch_config_g0/1# spanning-tree guard root

Switch_config_g0/1#

1.1.7. spanning-tree loopguard

Syntax

To enable loop guard as a Default on all ports of a given bridge, use the **spanning-tree loopguard Default** command in global configuration mode. To disable loop guard, use the **no** form of this command.

spanning-tree loopguard Default

Default value

Usage guidelines

Command mode

global configuration

Example

The following command enables loopguard function:

Switch(config)# spanning-tree loopguard Default

Switch(config)#

1.1.8. spanning-tree loopfast

Syntax

spanning-tree loopfast

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

spanning-tree loopfast

spanning-tree loopfast disable

To configure Loop Fast, run **spanning-tree loopfast**. To return to the Default setting, use the no form of this command.

Parameter

None

Default value

None

Description

Please configure this command under the guide of XXCOM's technical engineers.

Command mode

Global configuration and interface configuration

Example

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

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

spanning-tree fast-aging

no spanning-tree fast-aging

The commands are used to enable/disable address table fast aging.

spanning-tree fast-aging protection

no spanning-tree fast-aging protection

The commands are used to enable/disable address table fast aging protection.

spanning-tree fast-aging protection time value

no spanning-tree fast-aging protection time

The commands are used to configure address table aging protection time.

Parameter

Parameter	ParameterDescription
value	Aging protection time. The Default is 15 seconds. The range is 10 to 60 seconds.

Default value

Enable **fast-aging** and disable **protection** by Default.

Description

None

Command mode

Global configuration

Example

The following example shows how to enable fast aging protection and configure the protection time to 30s.

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

spanning-tree fast-aging flush-fdb

no spanning-tree fast-aging flush-fdb

Enable/disable FDB-Flush.

Parameter

None

Default value

Enable FDB-Flush by Default.

Description

Please configure this command under the guide of XXCOM's technical engineers.

FDB-Flush is independent of fast aging. FDB-Flush can be configured while **no spanning-tree fast-aging** is configured. Fast aging protection is invalid to FDB-Flush.

Command mode

Global configuration

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