

# 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

##### Description

To enable bridge protocol data unit (BPDU) filtering by default on all PortFast ports, use the **spanning-tree portfast** command in global configuration mode. To return to the default settings, use the negative 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 negative form of this command.

**spanning-tree portfast** [disable | trunk]

**no spanning-tree portfast**

##### Parameter

Parameter	Description
bpdufilter default	Enables bpdu filter.
bpduguard default	Enables bpdu guard.
default	Specifies the default method.

##### Default

Disabled

##### Instruction

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 or 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 f0/0:

```
Switch(config_f0/0)# spanning-tree portfast
Switch(config_f0/0)#
```

## 1.1.2 spanning-tree bpduguard

### Description

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 negative form of this command.

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

**no spanning-tree bpduguard**

### Parameter

None

### Default

Disabled

### Instruction

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**

Interface configuration

**Example**

This example shows how to enable BPDU guard on this interface:

```
Switch(config_f0/0)# spanning-tree bpduguard enable
Switch(config_f0/0)#
```

**1.1.3 spanning-tree bpdufilter****Description**

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 **negative form of** this command.

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

```
no spanning-tree bpdufilter
```

**Parameter**

None

**Default**

Disabled

**Instruction**

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**

Interface configuration

**Example**

This example shows how to enable BPDU filtering on this interface:

```
Switch(config_f0/0)# spanning-tree bpdufilter enable
```

```
Switch(config_f0/0)#
```

### 1.1.4 spanning-tree uplinkfast

#### Description

To enable the debugging of the spanning-tree UplinkFast events, use the **debug spanning-tree uplinkfast** command. To disable the debugging output, use the negative form of this command.

**spanning-tree uplinkfast** [max-update-rate pkts-per-second]

**no spanning-tree uplinkfast** [*max-update-rate*]

#### Parameter

None

#### Default

disabled

#### Instruction

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

#### Description

To enable debugging of the spanning-tree BackboneFast events, use the **debug spanning-tree backbonefast** command. To disable the debugging output, use the negative form of this command.

**spanning-tree backbonefast**

**no spanning-tree backbonefast****Parameter**

None

**Default**

Disabled

**Instruction**

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****Description**

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 negative form of this command.

**spanning-tree guard** {loop | none | root}**no spanning-tree guard****Parameter**

Parameter	Description
<i>loop</i>	Enables the loop-guard mode on the interface. Value is from 1 to 0xfe.
<i>none</i>	Sets the guard mode to none. Value is 48-bit.
<i>root</i>	Enables root-guard mode on the interface.

**Default**

Disabled

**Instruction**

Root Guard characteristic can prevent a port from becoming Root port due to receiving 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 occurring the loop when it cannot continuously receive BPDU.

**Command mode**

Interface configuration

**Example**

This example shows how to enable root guard:

```
Switch(config_f0/0)# spanning-tree guard root
```

```
Switch(config_f0/0)#
```

**1.1.7 spanning-tree loopguard****Description**

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 **negative form of** this command.

```
spanning-tree loopguard default
```

**Parameter**

None

**Default**

None

**Instruction**

None



**Command mode**

Global configuration

**Example**

The following command enables loopguard function:

```
Switch(config)# spanning-tree loopguard default
```

```
Switch(config)#
```