

# Commands for Fast Ethernet Ring Protection Mechanism

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# Chapter 1 Commands for Fast Ethernet Ring Protection Mechanism

## 1.1 Global Configuration Commands

### 1.1.1 ether-ring

To configure the node of the Ethernet ring, you need enter the node configuration mode first and then run the following command.

**ether-ring** *id*

To cancel the node of the Ethernet ring, run the following command:

**no ether-ring** *id*

#### Parameter

| Parameter | Description    |
|-----------|----------------|
| id        | ID of the node |

#### Default value

By default, the node of the Ethernet ring is not configured.

#### Command mode

Global configuration mode

#### Usage Explanation

Before configuring the node, you need shut down the spanning tree protocol by running **no spanning-tree**.

#### Example

```
S1_config#no spanning-tree
S1_config#ether-ring 1
S1_config_ring1#
```

#### Related command

None

### 1.1.2 control-vlan

To configure the control VLAN of the ring node, run the following command:

**control-vlan** *vlan-id*

#### Parameter

| Parameter | Description                                   |
|-----------|---|
| vlan-id   | ID of the control VLAN<br>Value range: 1-4094 |

#### Default value

By default, the control VLAN of a node is not configured.

#### Command mode

Node configuration mode for the Ethernet ring

#### Usage Explanation

1. Any VLAN can be configured as the control VLAN of the node. However, the establishment of the control VLAN does not mean that the corresponding system VLAN can be created. The user need create the system VLAN manually.

2. After the control VLAN and node types of the Ethernet ring are configured, you cannot modify the control VLAN even if the system exits from the Ethernet ring configuration mode because the Ethernet ring has already been started.

#### Example

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
```

#### Related command

[ether-ring](#)

[master-node](#)

[transit-node](#)

### 1.1.3 master-node

To configure an Ethernet ring as a master node, run the following command:

**master-node**

**Parameter**

None

**Default value**

By default, the node type is not configured.

**Command mode**

Node configuration mode

**Usage Explanation**

1. A node can be set to be a master node or a transit node.
2. After the control VLAN and node types of the Ethernet ring are configured, you cannot modify the control VLAN even if the system exits from the Ethernet ring configuration mode because the node of the Ethernet ring has already been started.

**Example**

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
S1_config_ring1#master-node
```

**Related command**

[control-vlan](#)

[transit-node](#)

**1.1.4 transit-node**

To configure the node type to a transit node, run the following command:

```
transit-node
```

**Parameter**

None

**Default value**

By default, the node type is not configured.

## Command mode

Node configuration mode

## Usage Explanation

1. A node can be set to be a master node or a transit node.
2. After the control VLAN and node types of the Ethernet ring are configured, you cannot modify the control VLAN even if the system exits from the Ethernet ring configuration mode because the node of the Ethernet ring has already been started.

## Example

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
S1_config_ring1#transit-node
```

## Related command

[control-vlan](#)

[master-node](#)

### 1.1.5 hello-time

To configure the cycle for the master node to transmit the HEALTH packets of the Ethernet ring, run the following command:

**hello-time** *value*

To resume the default value of the cycle, run the following command:

**no hello-time**

## Parameter

| Parameter | Description   |
|-----------|---|
| value     | Stands for a time value, whose unit is second.<br><br>The default value is one second. The value ranges between 1 and 10 seconds. |

## Default value

By default, the hello-time is one second.

## Command mode

Node configuration mode for the Ethernet ring

## Usage Explanation

1. The hello-time configuration validates only on the master node.
2. By default, the value of the hello-time is smaller than that of the fail-time, which avoids the Ethernet ring protocol from being shocked. After the hello-time is modified, the corresponding fail-time need be modified too.

## Example

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
S1_config_ring1#master-node
S1_config_ring1#hello-time 2
```

## Related command

[fail-time](#)

### 1.1.6 fail-time

To configure the time cap of waiting for the HEALTH packets for the secondary port of the master node, run the following command:

**fail-time** *value*

To resume the default value of the fail-time, run the following command:

**no fail-time**

## Parameter

| Parameter | Description  |
|-----------|--|
| value     | Stands for a time value, whose unit is second.<br>The default value is three seconds. The value ranges between 3 and 30 seconds. |

## Default value

By default, the fail-time is 3 seconds.

## Command mode

Node configuration mode for the Ethernet ring

## Usage Explanation

1. The fail-time configuration validates only on the master node.
2. By default, the value of the fail-time is triple of the hello-time, which avoids the Ethernet ring protocol from being shocked. After the hello-time is modified, the corresponding fail-time need be modified too.

## Example

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
S1_config_ring1#master-node
S1_config_ring1#hello-time 2
S1_config_ring1#fail-time 6
```

## Related command

[hello-time](#)

### 1.1.7 pre-forward-time

To configure the time of maintaining the pre-forward state on the transit port, run the following command:

**pre-forward-time** *value*

To resume the default value of the pre-forward-time, run the following command:

**no pre-forward-time**

## Parameter

| Parameter | Description  |
|-----------|--|
| value     | Stands for a time value, whose unit is second.<br><br>The default value is three seconds. The value ranges between 3 and 30 seconds. |

## Default value

By default, the pre-forward-time is 3 seconds.



## Command mode

Node configuration mode for the Ethernet ring

## Usage Explanation

1. The pre-forward-time configuration validates only on the transit node.
2. By default, the pre-forward-time on the transit node is three times the value of the hello-time on the master node, which avoids the network loop from being occurred after the transmission link recovers from disconnection. After the hello-time of the master node is modified, the corresponding pre-forward-time on the transit node need be adjusted.

## Example

```
S1_config#ether-ring 1
S1_config_ring1#control-vlan 2
S1_config_ring1#transit-node
S1_config_ring1#pre-forward-time 8
```

## Related command

None

### 1.1.8 distributed-mode

To configure the protection of wire-card-distributed Ethernet ring, run **distributed-mode**.

## Parameter

None

## Default value

By default, the configured node of the Ethernet ring automatically works in distributed mode.

## Command mode

Node configuration mode for the Ethernet ring

## Usage Explanation

1. The command validates only on S6800 and S8500.

2. In distributed mode, all events about the Ethernet ring such as the link disconnection of the Ethernet ring are handled in priority by the wire card of the switch to obtain the higher convergence performance.

#### Example

```
S1_config#ether-ring 1
S1_config_ring1#distributed-mode
```

#### Related command

[centralized-mode](#)

### 1.1.9 centralized-mode

To set the working mode of the Ethernet ring protection protocol to the MSU centralized control, run **centralized-mode**.

#### Parameter

None

#### Default value

By default, the Ethernet-ring protection protocol works in distributed mode.

#### Command mode

Node configuration mode for the Ethernet ring

#### Usage Explanation

1. The command validates only on S6800 and S8500.
2. After the MSU centralized mode is configured, the wire card of the switch does not handle the Ethernet ring events.

#### Example

```
S1_config#ether-ring 1
S1_config_ring1#distributed-mode
```

#### Related command

[distributed-mode](#)

## 1.2 Port Configuration Commands

### 1.2.1 ether-ring primary-port

To set a port to be the primary port of a master node, run the following command:

**ether-ring *id* primary-port**

To cancel the primary port configuration of a port, run the following command:

**no ether-ring *id* primary-port**

#### Parameter

| Parameter | Description    |
|-----------|----------------|
| id        | ID of the node |

#### Default value

The primary port is not configured by default.

#### Command mode

The physical port configuration mode and the converged port configuration mode

Note: The versions of switch software prior to version 2.0.1L and the versions of hi-end switch software prior to version 4.0.0M do not support the configuration of the converged port.

#### Usage Explanation

The primary port can be configured only after the control VLAN and node type of the Ethernet ring are configured, and when the node type is the master node.

#### Example

```
S1_config#interface fastEthernet 0/1
S1_config_f0/1#ether-ring 1 primary-port
S1_config_f0/1#exit
```

#### Related command

[master-node](#)

[ether-ring secondary-port](#)

## 1.2.2 ether-ring secondary-port

To set a port to be the secondary port of a master node, run the following command:

**ether-ring *id* secondary-port**

To cancel the secondary port configuration, run the following command:

**no ether-ring *id* secondary-port**

### Parameter

| Parameter | Description    |
|-----------|----------------|
| id        | ID of the node |

### Default value

The secondary port on the master node is not configured by default.

### Command mode

The physical port configuration mode and the converged port configuration mode

Note: The versions of switch software prior to version 2.0.1L and the versions of hi-end switch software prior to version 4.0.0M do not support the configuration of the converged port.

### Usage Explanation

The secondary port can be configured only after the control VLAN and node type of the Ethernet ring are configured, and when the node type must be the master node.

### Example

```
S1_config#interface fastEthernet 0/3
S1_config_f0/3#ether-ring 1 secondary-port
S1_config_f0/3#exit
```

### Related command

[master-node](#)

[ether-ring primary-port](#)

## 1.2.3 ether-ring transit-port

To set a port to be the transit port of a transit node, run the following command:

**ether-ring *id* transit-port**

To cancel the transit port, run the following command:

**no ether-ring *id* transit-port**

## Parameter

| Parameter | Description    |
|-----------|----------------|
| id        | ID of the node |

## Default value

The transit port on the transit node is not configured by default.

## Command mode

The physical port configuration mode and the converged port configuration mode

Note: The versions of switch software prior to version 2.0.1L and the versions of hi-end switch software prior to version 4.0.0M do not support the configuration of the converged port.

## Usage Explanation

The transit port can be configured only after the control VLAN and node type of the Ethernet ring are configured, and when the node type must be the transit node. Two transit ports can be configured on one transit node.

## Example

```
S1_config_ring1#exit
S1_config#interface fastEthernet 0/1
S1_config_f0/1#ether-ring 1 transit-port
S1_config_f0/1#exit
S1_config#interface fastEthernet 0/3
S1_config_f0/3#ether-ring 1 transit-port
S1_config_f0/3#exit
```

## Related command

[transit-node](#)

## 1.3 Show-Related Commands

### 1.3.1 show ether-ring

To display the summary information about the Ethernet-ring node, run the following command:

**show ether-ring *id***

To display the detailed information about the Ethernet-ring node, run the following command:

**show ether-ring *id* detail**

To display the information about the Ethernet-ring port, run the following command:

**show ether-ring *id* interface *intf-name***

#### Parameter

| Parameter | Description          |
|-----------|----------------------|
| id        | ID of the node       |
| intf-name | Name of an interface |

#### Default value

None

#### Command mode

Monitoring mode, global configuration mode, node configuration mode or port configuration mode

#### Usage Explanation

None

#### Example

None

#### Related command

None