

MEAPS Configuration Commands

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Chapter 1 MEAPS Configuration Commands

1.1 Global Commands

1.1.1 `mether-ring id1 domain id2`

To set an instance of ring and enter the node mode, run the following command:

`mether-ring id1 domain id2`

To cancel an instance of ring, run the following command:

`no mether-ring id1 domain id2`

Parameter

Parameter	Description
Id1	Stands for the node instance ID, which ranges from 0 to 7.
Id2	Stands for the domain instance ID, which ranges from 0 to 3.

Default value

By default, the ring node is not configured.

Command mode

Global configuration mode

Explanation

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#
```

Related command

N/A.

1.1.2 master-node

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

master-node

Parameter

N/A.

Default value

By default, the node type is not configured.

Command mode

Node configuration mode

Explanation

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#
```

Related command

[transit-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

1.1.3 transit-node

Configures the node type to be a transit node.

transit-node

Parameter

N/A.

Default value

By default, the node type is not configured.

Command mode

Node configuration mode

Explanation

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.

2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# transit-node
S1_config_ring1#
```

Related command

[master-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

1.1.4 edge-node

To set the node type to be an edge node, run the following command:

edge-node

Parameter

N/A.

Default value

By default, the node type is not configured.

Command mode

Node configuration mode

Explanation

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# edge-node
S1_config_ring1#
```

Related command

[master-node](#)

[transit-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

1.1.5 assistant-node

To set the node type to be an assistant edge node, run the following command:

assistant-node

Parameter

N/A.

Default value

By default, the node type is not configured.

Command mode

Node configuration mode

Explanation

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# assistant-node
S1_config_ring1#
```

Related command

master-

node transit-

node edge-

node major-

ring sub-ring

control-vlan

1.1.6 major-ring

To set the node ring's level to be the major ring node, run the following command:

major-ring

Parameter

N/A.

Default value

By default, the node ring's level is not configured.

Command mode

Node configuration mode

Explanation

1. The node ring's level can only be set to one of the two levels: major-ring or sub-ring.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node ring's level can never be modified.
3. The edge node and the assistant node cannot be set to major ring.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# transit-node
S1_config_ring1#major-ring
S1_config_ring1#
```

Related command

master-node

transit-node

edge-node

assistant-node

sub-ring

control-vlan

1.1.7 sub-ring

To set the node ring's level to be the sub-ring node, run the following command:

sub-ring

Parameter

N/A.

Default value

By default, the node type is not configured.

Command mode

Node configuration mode

Explanation

1. The node ring's level can only be set to one of the two levels: major-ring or sub-ring.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node ring's level can never be modified.
3. If the edge node or the assistant node is set, they are regarded as sub-rings by default. Of course, you can set them not to be sub-rings.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#
```

Related command

master-node

transit-node

edge-node

assistant-node

major-ring

control-vlan

1.1.8 control-vlan

To set 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 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

Explanation

1. You can set any VLAN to be the control VLAN of a node and at the same time the system will create the corresponding system VLAN and another control VLAN according to the ring level.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the ring control VLAN can never be modified.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#
```

Related command

[master-node](#)

[transit-node](#)

[edge-node](#)

[assistant-node](#)

major-ring

sub-ring

1.1.9 single-subring-mode

To enable the edge node or the assistant edge node to enter the single sub-ring mode, run the following command:

single-subring-mode

Parameter

N/A

Default value

The edge node or the assistant edge node does not enter the single sub-ring mode by default.

Command mode

Node configuration mode for the Ethernet ring

Explanation

1. The single-subring-mode command takes effect only on the edge node or the assistant edge node.

In single sub-ring networking mode, the channel state of sub-ring protocol packet is not checked, and dual-affiliation networking must not exist in the ring.

Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#edge-node
S1_config_ring1#control-vlan 2
S1_config_ring1#single-subring-mode
```

Related command

N/A

1.1.10 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. The default value is three seconds. The value ranges between 1 and 10 seconds.

Default value

By default, the hello-time is three seconds.

Command mode

Node configuration mode for the Ethernet ring

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#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#hello-time 4
```

Related command

[fail-time](#)

1.1.11 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. The default value is three seconds. The value ranges between 3 and 30 seconds.

Default value

By default, the fail-time is 9 seconds.

Command mode

Node configuration mode for the Ethernet ring

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#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#hello-time 4
S1_config_ring1#fail-time 12
```

Related command

hello-time

1.1.12 pre-forward-time

Configures the time of maintaining the pre-forward state on the transit port.

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. The default value is three seconds. The value ranges between 3 and 30 seconds.

Default value

By default, the pre-forward-time is 9 seconds.

Command mode

Node configuration mode for the Ethernet ring

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#mether-ring 1 domain 2
S1_config_ring1#transit-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#pre-forward-time 12
```

Related command

N/A.

1.2 Port Configuration Commands

1.2.1 mether-ring *id1* domain *id2* primary-port

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

```
mether-ring id1 domain id2 primary-port
```

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

no mether-ring *id1* domain *id2* primary-port

Parameter

Parameter	Description
id1	ID of the node
id2	ID of domain instance

Default value

The primary port is not configured by default.

Command mode

The physical port configuration mode and the converged port configuration mode

Explanation

The primary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the master node.

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 1 domain 2 primary-port
S1_config_g0/1#exit
```

Related command

[master-node](#)

[mether-ring *id1* domain *id2* secondary-port](#)

1.2.2 mether-ring *id1* domain *id2* secondary-port

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

mether-ring *id1* domain *id2* secondary-port

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

no mether-ring *id1* domain *id2* secondary-port

Parameter

Parameter	Description
Id1	ID of the node
Id2	ID of domain instance

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

Explanation

The secondary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the master node.

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 1 domain 2 secondary-port
S1_config_g0/3#exit
```

Related command

master-node

mether-ring id1 domain id2 primary-port

1.2.3 mether-ring *id1* domain *id2* transit-port

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

mether-ring *id1* domain *id2* transit-port

To cancel the transit port, run the following command:

no mether-ring *id1* domain *id2* transit-port

Parameter

Parameter	Description
-----------	-------------

Id1	ID of the node
Id2	ID of domain instance

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

Explanation

The primary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the transit node. Two transit ports can be configured on one transit node.

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config_ring1#exit
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 1 domain 2 transit-port
S1_config_g0/1#exit
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 1 domain 2 transit-port
S1_config_g0/3#exit
```

Related command

[transit-node](#)

1.2.4 mether-ring *id1* domain *id2* common-port

To set a port to be a public port of an edge node (assistant edge node), run the following command:

mether-ring *id1* domain *id2* common-port

To cancel the public port, run the following command:

no mether-ring *id1* domain *id2* common-port

Parameter

Parameter	Description
-----------	-------------

Id1	ID of the node
Id2	ID of domain instance

Default value

By default, there is no configuration of the public port of an edge node.

Command mode

The physical port configuration mode and the converged port configuration mode

Explanation

The public port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the edge node.

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config_ring1#exit
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 2 domain 2 common-port
S1_config_g0/1#exit
```

Related command

[edge-node](#)

[assistant-node](#)

[mether-ring id1 domain id2 edge-port](#)

1.2.5 mether-ring *id1* domain *id2* edge-port

To set a port to be an edge port of an edge node (assistant edge node), run the following command:

mether-ring *id1* domain *id2* edge-port

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

no mether-ring *id1* domain *id2* edge-port

Parameter

Parameter	Description
-----------	-------------

Id1	ID of the node
Id2	ID of domain instance

Default value

By default, there is no configuration of the edge port of an edge node.

Command mode

The physical port configuration mode and the converged port configuration mode

Explanation

The edge port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the edge node.

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

```
S1_config_ring1#exit
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 2 domain 2 edge-port
S1_config_g0/3#exit
```

Related command

[edge-node](#)

[assistant-node](#)

[mether-ring id1 domain id2 common-port](#)

1.3 Show

1.3.1 show mether-ring

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

```
show mether-ring id1 domain id2
```

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

```
show mether-ring id1 domain id2 detail
```

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

show mether-ring *id1* **domain** *id2* **interface** *intf-name*

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

show mether-ring

Parameter

Parameter	Description
Id1	ID of the node
Id2	ID of domain instance
intf-name	Name of an interface

Default value

N/A.

Command mode

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

Explanation

If the configured domain is 0, that is, id2 is 0, domain id2 can be omitted.

Example

N/A.

Related command

N/A.