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# Ethernet link aggregation commands

## bandwidth

Use **bandwidth** to set the expected bandwidth for an interface.

Use **undo bandwidth** to restore the default.

### Syntax

```
bandwidth bandwidth-value
```

```
undo bandwidth
```

### Default

The expected bandwidth (in kbps) is the interface baud rate divided by 1000.

### Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

Layer 3 aggregate subinterface view

### Predefined user roles

network-admin

### Parameters

*bandwidth-value*: Specifies the expected bandwidth in the range of 1 to 400000000 kbps.

### Usage guidelines

The expected bandwidth is an informational parameter used only by higher-layer protocols for calculation. You cannot adjust the actual bandwidth of an interface by using this command.

### Examples

```
# Set the expected bandwidth to 10000 kbps for Layer 2 aggregate interface Bridge-Aggregation 1.
```

```
<Sysname> system-view
```

```
[Sysname] interface bridge-aggregation 1
```

```
[Sysname-Bridge-Aggregation1] bandwidth 10000
```

## default

Use **default** to restore the default settings for an aggregate interface.

### Syntax

```
default
```

### Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

Layer 3 aggregate subinterface view

### Predefined user roles

network-admin

## Usage guidelines

---

### CAUTION:

The **default** command might interrupt ongoing network services. Make sure you are fully aware of the impacts of this command when you execute it on a live network.

---

This command might fail to restore the default settings for some commands for reasons such as command dependencies and system restrictions. Use the **display this** command in interface view to identify these commands, and then use their **undo** forms or follow the command reference to restore their default settings. If your restoration attempt still fails, follow the error message instructions to resolve the problem.

## Examples

```
# Restore the default settings for Layer 2 aggregate interface 1.
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] default
```

## description

Use **description** to configure the description of an interface.

Use **undo description** to restore the default.

## Syntax

```
description text
undo description
```

## Default

The description of an interface is *interface-name* **Interface**. For example, the default description of Bridge-Aggregation 1 is **Bridge-Aggregation1 Interface**.

## Views

Layer 2 aggregate interface view  
Layer 3 aggregate interface view  
Layer 3 aggregate subinterface view

## Predefined user roles

network-admin

## Parameters

*text*: Specifies a description, a case-sensitive string of 1 to 255 characters.

## Examples

```
# Configure the description as connect to the lab for Layer 2 aggregate interface
Bridge-Aggregation 1.
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] description connect to the lab
```

## display interface

Use **display interface** to display aggregate interface information.

## Syntax

```
display interface [ { bridge-aggregation | route-aggregation }  
[ interface-number ] ] [ brief [ description | down ] ]
```

## Views

Any view

## Predefined user roles

network-admin  
network-operator

## Parameters

**bridge-aggregation:** Specifies Layer 2 aggregate interfaces.

**route-aggregation:** Specifies Layer 3 aggregate interfaces.

*interface-number:* Specifies an existing aggregate interface number.

**brief:** Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

**description:** Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of each interface description.

**down:** Displays information about interfaces in down state and the causes for the down state. If you do not specify this keyword, the command displays information about interfaces in all states.

## Usage guidelines

If you do not specify an aggregate interface type, the command displays information about all interfaces.

If you specify an aggregate interface type but do not specify an interface number, the command displays information about all aggregate interfaces of the specified type.

## Examples

# Display detailed information about Layer 2 aggregate interface Bridge-Aggregation 1.

```
<Sysname> display interface bridge-aggregation 1  
Bridge-Aggregation1  
Current state: UP  
Line protocol state: UP  
IP packet frame type: Ethernet II, hardware address: 000f-e207-f2e0  
Description: Bridge-Aggregation1 Interface  
Bandwidth: 1000 kbps  
2Gbps-speed mode, full-duplex mode  
Link speed type is autonegotiation, link duplex type is autonegotiation  
PVID: 1  
Port link-type: Access  
Tagged VLANs: None  
UnTagged VLANs: 1  
Last clearing of counters: Never  
Last 300 seconds input: 6900 packets/sec 885160 bytes/sec 0%  
Last 300 seconds output: 3150 packets/sec 404430 bytes/sec 0%  
Input (total): 5364747 packets, 686688416 bytes  
2682273 unicasts, 1341137 broadcasts, 1341337 multicasts, 0 pauses  
Input (normal): 5364747 packets, 686688416 bytes
```

```

        2682273 unicasts, 1341137 broadcasts, 1341337 multicasts, 0 pauses
Input:  0 input errors, 0 runts, 0 giants, 0 throttles
        0 CRC, 0 frame, 0 overruns, - aborts
        - ignored, - parity errors
Output (total): 1042508 packets, 133441832 bytes
          1042306 unicasts, 0 broadcasts, 202 multicasts, - pauses
Output (normal): 1042508 packets, 133441832 bytes
          1042306 unicasts, 0 broadcasts, 202 multicasts, 0 pauses
Output:  0 output errors, - underruns, - buffer failures
        0 aborts, 0 deferred, 0 collisions, 0 late collisions
        - lost carrier, - no carrier

```

**# Display detailed information about Layer 3 aggregate interface Route-Aggregation 1.**

```

<Sysname> display interface route-aggregation 1
Route-Aggregation1
Current state: UP
Line protocol state: UP
Description: Route-Aggregation1 Interface
Bandwidth: 1000 kbps
Maximum transmission unit: 1500
Internet protocol processing: Disabled
IP packet frame type: Ethernet II, hardware address: 0000-0000-0000
IPv6 packet frame type: Ethernet II, hardware address: 0000-0000-0000
Link speed type is autonegotiation, link duplex type is autonegotiation
Last clearing of counters: Never
    Last 300 seconds input rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
    Last 300 seconds output rate: 0 bytes/sec, 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 drops
    0 packets output, 0 bytes, 0 drops

```

**# Display brief information about Layer 2 aggregate interface Bridge-Aggregation 1.**

```

<Sysname> display interface bridge-aggregation 1 brief
Brief information on interfaces in bridge mode:
Link: ADM - administratively down; Stby - standby
Speed: (a) - auto
Duplex: (a)/A - auto; H - half; F - full
Type: A - access; T - trunk; H - hybrid
Interface      Link Speed  Duplex Type PVID Description
BAGG1          DOWN auto   A     A    1

```

**# Display brief information about Layer 3 aggregate interface Route-Aggregation 1.**

```

<Sysname> display interface route-aggregation 1 brief
Brief information on interfaces in route mode:
Link: ADM - administratively down; Stby - standby
Protocol: (s) - spoofing
Interface      Link Protocol Primary IP      Description
RAGG1          UP    UP           --

```

**Table 1 Command output**

Field	Description
Bridge-Aggregation1	Layer 2 aggregate interface name.
Route-Aggregation1	Layer 3 aggregate interface name.
Current state	Physical link state of the interface: <ul style="list-style-type: none"> <li>• <b>Administratively DOWN</b>—The interface has been shut down by using the <b>shutdown</b> command.</li> <li>• <b>DOWN</b>—The interface is administratively up, but its physical state is down (possibly because no physical link exists or the link has failed).</li> <li>• <b>UP</b>—The interface is both administratively and physically up.</li> </ul>
IP packet frame type	IPv4 packet framing format.
IPv6 packet frame type	IPv6 packet framing format.
Description	Description of the interface.
Bandwidth	Expected bandwidth of the interface. This field is not displayed when the bandwidth is 0 kbps.
Port priority	Port priority of the interface.
Unknown-speed mode, unknown-duplex mode	The interface speed and duplex mode are unknown.
Port link-type	Port link type: <ul style="list-style-type: none"> <li>• Access.</li> <li>• Trunk.</li> <li>• Hybrid.</li> </ul>
Tagged VLANs	VLAN whose packets are sent out of this interface with a tag.
Untagged VLANs	VLAN whose packets are sent out of this interface without a tag.
Last clearing of counters	Time when the <b>reset counters interface</b> command was last used to clear the interface statistics. This field displays <b>Never</b> if the <b>reset counters interface</b> command has never been used on the interface since device startup.
Last 300 seconds input/output rate	Average input or output rate over the last 300 seconds.
Input/Output (total)	Statistics of all packets received or sent on the interface.
Input/Output (normal)	Statistics of all normal packets received or sent on the interface.
Line protocol state	Data link layer state of the interface: <ul style="list-style-type: none"> <li>• <b>UP</b>.</li> <li>• <b>DOWN</b>.</li> </ul>
Maximum transmission unit	MTU of the interface.
Internet protocol processing: Disabled	The interface is not assigned an IP address and cannot process IP packets.
Internet address	IP address of the interface. The <b>primary</b> attribute indicates that the address is the primary IP address.
Brief information on interfaces in route mode	Brief information about Layer 3 interfaces.
Brief information on interfaces in bridge mode	Brief information about Layer 2 interfaces.

Field	Description
Interface	Abbreviated interface name.
Link	Physical link state of the interface: <ul style="list-style-type: none"> <li>• <b>UP</b>—The interface is physically up.</li> <li>• <b>DOWN</b>—The interface is physically down.</li> <li>• <b>ADM</b>—The interface has been shut down by using the <b>shutdown</b> command. To restore the physical state of the interface, use the <b>undo shutdown</b> command.</li> </ul>
Speed	Speed of the interface, in bps. This field displays the <b>(a)</b> flag next to the speed if the speed is automatically negotiated. This field displays <b>auto</b> if the interface is configured to autonegotiate its speed but the autonegotiation has not started.
Duplex	Duplex mode of the interface: <ul style="list-style-type: none"> <li>• <b>A</b>—Autonegotiation. The interface is configured to autonegotiate its duplex mode but the autonegotiation has not started.</li> <li>• <b>F</b>—Full duplex.</li> <li>• <b>F(a)</b>—Autonegotiated full duplex.</li> <li>• <b>H</b>—Half duplex.</li> <li>• <b>H(a)</b>—Autonegotiated half duplex.</li> </ul>
Type	Link type of the interface: <ul style="list-style-type: none"> <li>• <b>A</b>—Access.</li> <li>• <b>H</b>—Hybrid.</li> <li>• <b>T</b>—Trunk.</li> </ul>
Protocol	Data link layer protocol state of the interface: <ul style="list-style-type: none"> <li>• <b>UP</b>—The data link layer protocol of the interface is up.</li> <li>• <b>DOWN</b>—The data link layer protocol of the interface is down.</li> <li>• <b>UP(s)</b>—The data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. The <b>(s)</b> attribute represents the spoofing flag. This value is typical of null interfaces and loopback interfaces.</li> </ul>
Primary IP	Primary IP address of the interface. This field displays two hyphens (--) if the interface does not have an IP address.
Cause	Cause for the physical link state of an interface to be <b>DOWN</b> .

## display lacp system-id

Use `display lacp system-id` to display the local system ID.

### Syntax

```
display lacp system-id
```

### Views

Any view

### Predefined user roles

network-admin

network-operator

## Usage guidelines

You can use the `lACP system-priority` command to change the LACP priority of the local system. The LACP priority value is specified in decimal format in the `lACP system-priority` command. However, it is displayed in hexadecimal format in the output from the `display lACP system-id` command.

## Examples

```
# Display the local system ID.
<Sysname> display lACP system-id
Actor System ID: 0x8000, 0000-fc00-6504
```

**Table 2 Command output**

Field	Description
Actor System ID: 0x8000, 0000-fc00-6504	Local system ID, which contains the LACP system priority (0x8000 in this sample output) and the LACP system MAC address (0000-FC00-6504 in this sample output).

## Related commands

`lACP system-priority`

# display link-aggregation load-sharing mode

Use `display link-aggregation load-sharing mode` to display the global link-aggregation load sharing mode.

## Syntax

```
display link-aggregation load-sharing mode
```

## Views

Any view

## Predefined user roles

network-admin  
network-operator

## Examples

```
# Display the global link-aggregation load sharing mode. This example displays the default setting.
<Sysname> display link-aggregation load-sharing mode
Link-aggregation load-sharing mode:
Layer 2 traffic: packet type-based sharing
Layer 3 traffic: packet type-based sharing

# Display the global link-aggregation load sharing mode. This example displays a user-configured setting.
<Sysname> display link-aggregation load-sharing mode
Link-aggregation load-sharing mode:
destination-mac address          source-mac address
```

**Table 3 Command output**

Field	Description
Link-aggregation load-sharing mode	Global link-aggregation load sharing mode.

Field	Description
	By default, this field displays the link-aggregation load sharing modes for Layer 2 and Layer 3 traffic. If you have configured the global link-aggregation load sharing mode, this field displays the configured mode.
Layer 2 traffic: packet type-based sharing	Default link-aggregation load sharing mode for Layer 2 traffic. In this sample output, Layer 2 traffic is distributed based on the source and destination IP addresses, source and destination MAC addresses, and source and destination port numbers.
Layer 3 traffic: packet type-based sharing	Default link-aggregation load sharing mode for Layer 3 traffic. In this sample output, Layer 3 traffic is distributed based on the source and destination IP addresses, source and destination MAC addresses, and source and destination port numbers.
destination-mac address, source-mac address	User-configured link-aggregation load sharing mode. In this sample output, traffic is load shared based on source and destination MAC addresses.

## display link-aggregation member-port

Use **display link-aggregation member-port** to display detailed link aggregation information about the specified member ports.

### Syntax

```
display link-aggregation member-port [ interface-list | auto ]
```

### Views

Any view

### Predefined user roles

network-admin  
network-operator

### Parameters

*interface-list*: Specifies a list of link aggregation member ports, in the format *interface-type interface-number1* [ **to** *interface-type interface-number2* ]. The value for the *interface-number2* argument must be equal to or greater than the value for the *interface-number1* argument.

**auto**: Specifies all link aggregation member ports that are enabled with automatic assignment.

### Usage guidelines

A member port in a static aggregation group cannot obtain information about the peer group. For such member ports, the command displays the port number, port priority, and operational key of only the local end.

### Examples

```
# Display detailed information about Ten-GigabitEthernet 1/0/1, which is a member port of a static aggregation group.
```

```
<Sysname> display link-aggregation member-port ten-gigabitethernet 1/0/1
Flags: A -- LACP_Activity, B -- LACP_Timeout, C -- Aggregation,
       D -- Synchronization, E -- Collecting, F -- Distributing,
       G -- Defaulted, H -- Expired
```

```
Ten-GigabitEthernet1/0/1:
Aggregate Interface: Bridge-Aggregation1
Port Number: 1
Port Priority: 32768
Oper-Key: 1
```

**# Display detailed information about Ten-GigabitEthernet 1/0/2, which is a member port of a dynamic aggregation group.**

```
<Sysname> display link-aggregation member-port ten-gigabitethernet 1/0/2
Flags: A -- LACP_Activity, B -- LACP_Timeout, C -- Aggregation,
       D -- Synchronization, E -- Collecting, F -- Distributing,
       G -- Defaulted, H -- Expired
```

```
Ten-GigabitEthernet1/0/2:
Aggregate Interface: Bridge-Aggregation10
Local:
```

```
    Port Number: 2
    Port Priority: 32768
    Oper-Key: 2
    Flag: {ACDEF}
```

```
Remote:
```

```
    System ID: 0x8000, 000f-e267-6c6a
    Port Number: 26
    Port Priority: 32768
    Oper-Key: 2
    Flag: {ACDEF}
```

```
Received LACP Packets: 5 packet(s)
```

```
Illegal: 0 packet(s)
```

```
Sent LACP Packets: 7 packet(s)
```

**# Display detailed information about all link aggregation member ports that are enabled with automatic assignment.**

```
<Sysname> display link-aggregation member-port auto
Flags: A -- LACP_Activity, B -- LACP_Timeout, C -- Aggregation,
       D -- Synchronization, E -- Collecting, F -- Distributing,
       G -- Defaulted, H -- Expired
```

```
Ten-GigabitEthernet1/0/3:
Preference Aggregation Interface: Bridge-Aggregation11
Aggregate Interface: Bridge-Aggregation11
Local:
```

```
    Port Number: 3
    Port Priority: 32768
    Oper-Key: 1
    Flag: {ACDEF}
```

```
Remote:
```

```
    System ID: 0x8000, a057-75a2-0100
    Port Number: 3
    Port Priority: 32768
    Oper-Key: 1
```

```

Flag: {ACDEF}
Received LACP Packets: 3 packet(s)
Illegal: 0 packet(s)
Sent LACP Packets: 6 packet(s)

```

**Table 4 Command output**

Field	Description
Flags	<p>LACP state flags. This field is one byte long, represented by ABCDEFGH from the least significant bit to the most significant bit. A letter appears when its bit is 1 and does not appear when its bit is 0.</p> <ul style="list-style-type: none"> <li>• <b>A</b>—Indicates whether LACP is active on the port. 1 indicates active. 0 indicates passive.</li> <li>• <b>B</b>—Indicates the LACP timeout interval. 1 indicates the short timeout interval. 0 indicates the long timeout interval.</li> <li>• <b>C</b>—Indicates whether the sending system considers that the link is aggregatable. 1 indicates yes. 0 indicates no.</li> <li>• <b>D</b>—Indicates whether the sending system considers that the link has been aggregated. 1 indicates yes. 0 indicates no.</li> <li>• <b>E</b>—Indicates whether the sending system considers that the link can collect frames. 1 indicates yes. 0 indicates no.</li> <li>• <b>F</b>—Indicates whether the sending system considers that the link can distribute frames. 1 indicates yes. 0 indicates no.</li> <li>• <b>G</b>—Indicates whether the RX state machine of the sending system is in default state. 1 indicates yes. 0 indicates no.</li> <li>• <b>H</b>—Indicates whether the RX state machine of the sending system is in expired state. 1 indicates yes. 0 indicates no.</li> </ul>
Aggregate Interface	Aggregate interface to which the member port belongs.
Preferred Aggregate Interface	Aggregate interface to which you prefer to assign the member port during automatic assignment.
Local	Information about the local end.
Oper-key	Operational key.
Flag	LACP protocol state flag.
Remote	Information about the peer end.
System ID	Peer system ID, containing the LACP system priority and the LACP system MAC address.
Received LACP Packets	Total number of LACP packets received.
Illegal	Total number of illegal packets.
Sent LACP Packets	Total number of LACP packets sent.

## display link-aggregation summary

Use **display link-aggregation summary** to display brief information about all aggregation groups.

### Syntax

```
display link-aggregation summary
```

### Views

Any view

## Predefined user roles

network-admin  
network-operator

## Usage guidelines

Static link aggregation groups cannot obtain information about the peer groups. As a result, the **Partner ID** field displays **None** for a static link aggregation group.

## Examples

# Display brief information about all aggregation groups.

```
<Sysname> display link-aggregation summary
```

Aggregate Interface Type:

BAGG -- Bridge-Aggregation, BLAGG -- Blade-Aggregation, RAGG -- Route-Aggregation, SCH-B  
- Schannel-Bundle

Aggregation Mode: S -- Static, D -- Dynamic

Loadsharing Type: Shar -- Loadsharing, NonS -- Non-Loadsharing

Actor System ID: 0x8000, 000f-e267-6c6a

AGG Interface	AGG Mode	Partner ID	Selected Ports	Unselected Ports	Individual Ports	Share Type
RAGG10	S	None	1	0	0	NonS
BAGG20	D	0x8000,00e0-fcff-ff01	2	0	0	Shar

**Table 5 Command output**

Field	Description
Aggregate Interface Type	Aggregate interface type: <ul style="list-style-type: none"><li>• <b>BAGG</b>—Layer 2.</li><li>• <b>RAGG</b>—Layer 3.</li></ul>
Aggregation Mode	Aggregation group type: <ul style="list-style-type: none"><li>• <b>S</b>—Static.</li><li>• <b>D</b>—Dynamic.</li></ul>
Loadsharing Type	Load sharing type: <ul style="list-style-type: none"><li>• <b>Shar</b>—Load-sharing.</li><li>• <b>NonS</b>—Non-load-sharing.</li></ul>
Actor System ID	Local system ID, which contains the local LACP system priority and the local LACP system MAC address.
AGG Interface	Type and number of the aggregate interface.
AGG Mode	Aggregation group type.
Partner ID	System ID of the peer system, which contains the peer LACP system priority and the peer LACP system MAC address.
Selected Ports	Total number of Selected ports.
Unselected Ports	Total number of Unselected ports.
Individual Ports	Total number of Individual ports.
Share Type	Load sharing type.

# display link-aggregation verbose

Use **display link-aggregation verbose** to display detailed information about the aggregation groups that correspond to the specified aggregate interfaces.

## Syntax

```
display link-aggregation verbose [ { bridge-aggregation |  
route-aggregation } [ interface-number ] ]
```

## Views

Any view

## Predefined user roles

network-admin  
network-operator

## Parameters

**bridge-aggregation**: Specifies Layer 2 aggregate interfaces.

**route-aggregation**: Specifies Layer 3 aggregate interfaces.

*interface-number*: Specifies an existing aggregate interface by its number.

## Usage guidelines

If you do not specify an aggregate interface type, the command displays detailed information about all aggregation groups.

If you specify an aggregate interface type but do not specify an interface number, the command displays detailed information about all aggregation groups of the specified type.

The **bridge-aggregation** or **route-aggregation** keyword is available only when aggregate interfaces of the corresponding type exist on the device.

This command does not display the interfaces that are enabled with automatic assignment if they have not joined an aggregation group.

## Examples

```
# Display detailed information about Layer 2 aggregation group 10, which is a dynamic aggregation group.
```

```
<Sysname> display link-aggregation verbose bridge-aggregation 10  
Loadsharing Type: Shar -- Loadsharing, NonS -- Non-Loadsharing  
Port Status: S -- Selected, U -- Unselected, I -- Individual  
Port: A -- Auto port, M -- Management port, R -- Reference port  
Flags: A -- LACP_Activity, B -- LACP_Timeout, C -- Aggregation,  
D -- Synchronization, E -- Collecting, F -- Distributing,  
G -- Defaulted, H -- Expired
```

```
Aggregate Interface: Bridge-Aggregation10
```

```
Creation Mode: Manual
```

```
Aggregation Mode: Dynamic
```

```
Loadsharing Type: Shar
```

```
Management VLANs: None
```

```
System ID: 0x8000, 000f-e267-6c6a
```

```
Local:
```

Port	Status	Priority Index	Oper-Key	Flag
------	--------	----------------	----------	------

```

XGE1/0/1          S          32768   61      2          {ACDEF}
XGE1/0/2          S          32768   62      2          {ACDEF}
XGE1/0/3          S          32768   63      2          {AG}

```

Remote:

```

Actor             Priority Index   Oper-Key SystemID          Flag
XGE1/0/1(R)      32768   111     2          0x8000, 000f-e267-57ad {ACDEF}
XGE1/0/2         32768   112     2          0x8000, 000f-e267-57ad {ACDEF}
XGE1/0/3         32768   113     0          0x8000, 0000-0000-0000 {DEF}

```

# Display detailed information about Layer 2 aggregation group 20, which is a static aggregation group.

```

<Sysname> display link-aggregation verbose bridge-aggregation 20
Loadsharing Type: Shar -- Loadsharing, NonS -- Non-Loadsharing
Port Status: S -- Selected, U -- Unselected, I -- Individual
Port: A -- Auto port, M -- Management port, R -- Reference port
Flags: A -- LACP_Activity, B -- LACP_Timeout, C -- Aggregation,
       D -- Synchronization, E -- Collecting, F -- Distributing,
       G -- Defaulted, H -- Expired

```

Aggregate Interface: Bridge-Aggregation20

Aggregation Mode: Static

Loadsharing Type: Shar

Management VLANs: None

```

Port             Status  Priority Oper-Key
XGE1/0/1(R)     S       32768   1
XGE1/0/2        S       32768   1
XGE1/0/3        S       32768   1

```

**Table 6 Command output**

Field	Description
Loadsharing Type	Load sharing type: <ul style="list-style-type: none"> <li><b>Shar</b>—Load-sharing.</li> <li><b>NonS</b>—Non-load-sharing.</li> </ul>
Port Status	Port state: <ul style="list-style-type: none"> <li><b>Selected.</b></li> <li><b>Unselected.</b></li> <li><b>Individual.</b></li> </ul>
Port	Port type: <ul style="list-style-type: none"> <li><b>Auto port</b>—The port was assigned to the aggregation group by the automatic link aggregation feature or the automatic member port assignment feature.</li> <li><b>Management port</b>—The port is a management port. This value is not supported in the current software version.</li> <li><b>Reference port</b>—The port is a reference port.</li> </ul>
Flags	LACP state flags. This field is one byte long, represented by ABCDEFGH from the least significant bit to the most significant bit. A letter appears when its bit is 1 and does not appear when its bit is 0. <ul style="list-style-type: none"> <li><b>A</b>—Indicates whether LACP is active on the port. 1 indicates active. 0 indicates passive.</li> <li><b>B</b>—Indicates the LACP timeout interval. 1 indicates the short timeout</li> </ul>

Field	Description
	<p>interval. 0 indicates the long timeout interval.</p> <ul style="list-style-type: none"> <li>• <b>C</b>—Indicates whether the sending system considers that the link is aggregatable. 1 indicates yes. 0 indicates no.</li> <li>• <b>D</b>—Indicates whether the sending system considers that the link has been aggregated. 1 indicates yes. 0 indicates no.</li> <li>• <b>E</b>—Indicates whether the sending system considers that the link can collect frames. 1 indicates yes. 0 indicates no.</li> <li>• <b>F</b>—Indicates whether the sending system considers that the link can distribute frames. 1 indicates yes. 0 indicates no.</li> <li>• <b>G</b>—Indicates whether the RX state machine of the sending system is in default state. 1 indicates yes. 0 indicates no.</li> <li>• <b>H</b>—Indicates whether the RX state machine of the sending system is in expired state. 1 indicates yes. 0 indicates no.</li> </ul>
Aggregate Interface	Name of the aggregate interface.
Creation Mode	<p>Creation mode of the dynamic aggregate interface:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b>.</li> <li>• <b>Manual</b>.</li> </ul>
Aggregation Mode	<p>Aggregation group type:</p> <ul style="list-style-type: none"> <li>• <b>S</b>—Static.</li> <li>• <b>D</b>—Dynamic.</li> </ul>
Management VLANs	(This field is not supported in the current software version.) Management VLANs. If no management VLANs are specified, this field displays <b>None</b> .
System ID	Local system ID, containing the local LACP system priority and the local LACP system MAC address.
Local	<p>Information about the local end:</p> <ul style="list-style-type: none"> <li>• <b>Port</b>—Port type and number.</li> <li>• <b>Status</b>—Port state, which can be Selected, Unselected, or Individual.</li> <li>• <b>Priority</b>—Port priority.</li> <li>• <b>Index</b>—Port index.</li> <li>• <b>Oper-Key</b>—Operational key.</li> <li>• <b>Flag</b>—LACP state flag.</li> </ul> <p><b>NOTE:</b> For static aggregation groups, the <b>Index</b> and <b>Flag</b> fields are not displayed.</p>
Remote	<p>Information about the peer end:</p> <ul style="list-style-type: none"> <li>• <b>Actor</b>—Type and number of the local port. This field displays the <b>(R)</b> flag next to the port if its peer port is the reference port.</li> <li>• <b>Priority</b>—Priority of the peer port.</li> <li>• <b>Index</b>—Index of the peer port.</li> <li>• <b>Oper-Key</b>—Operational key of the peer port.</li> <li>• <b>System ID</b>—System ID of the peer end.</li> <li>• <b>Flag</b>—LACP state flag of the peer end.</li> </ul>

## interface bridge-aggregation

Use **interface bridge-aggregation** to create a Layer 2 aggregate interface and enter its view, or enter the view of an existing Layer 2 aggregate interface.

Use **undo interface bridge-aggregation** to delete a Layer 2 aggregate interface.

## Syntax

```
interface bridge-aggregation interface-number  
undo interface bridge-aggregation interface-number
```

## Default

No Layer 2 aggregate interfaces exist.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*interface-number*: Specifies a Layer 2 aggregate interface number. The value range for the *interface-number* argument is 1 to 1024.

## Usage guidelines

When you create a Layer 2 aggregate interface, the system automatically creates a Layer 2 aggregation group with the same number. The aggregation group operates in static aggregation mode by default.

Deleting a Layer 2 aggregate interface also deletes the Layer 2 aggregation group. At the same time, the member ports of the aggregation group, if any, leave the aggregation group.

## Examples

# Create Layer 2 aggregate interface Bridge-Aggregation 1, and enter its view.

```
<Sysname> system-view  
[Sysname] interface bridge-aggregation 1  
[Sysname-Bridge-Aggregation1]
```

# interface route-aggregation

Use **interface route-aggregation** to create a Layer 3 aggregate interface or subinterface and enter its view, or enter the view of an existing Layer 3 aggregate interface or subinterface.

Use **undo interface route-aggregation** to delete a Layer 3 aggregate interface or subinterface.

## Syntax

```
interface route-aggregation { interface-number |  
interface-number.subnumber }  
undo interface route-aggregation { interface-number |  
interface-number.subnumber }
```

## Default

No Layer 3 aggregate interfaces or subinterfaces exist.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*interface-number*: Specifies a Layer 3 aggregate interface number. The value range for the *interface-number* argument is 1 to 1024.

*interface-number.subnumber*: Specifies a subinterface of a Layer 3 aggregate interface. The *interface-number* argument specifies the main interface number. The *subnumber* argument specifies the subinterface number and is separated from the main interface number by a dot (.). The value range for the *subnumber* argument is 1 to 4094.

## Usage guidelines

When you create a Layer 3 aggregate interface, the system automatically creates a Layer 3 aggregation group with the same number. The Layer 3 aggregation group operates in static aggregation mode by default.

Deleting a Layer 3 aggregate interface also deletes the Layer 3 aggregation group and all its aggregate subinterfaces. At the same time, the member ports of the aggregation group, if any, leave the aggregation group.

Deleting a Layer 3 aggregate subinterface does not affect the state of the main interface and the corresponding aggregation group.

## Examples

# Create Layer 3 aggregate interface Route-Aggregation 1 and enter its view.

```
<Sysname> system-view
[Sysname] interface route-aggregation 1
[Sysname-Route-Aggregation1]
```

# Create Layer 3 aggregate subinterface Route-Aggregation 1.1 and enter its view.

```
<Sysname> system-view
[Sysname] interface route-aggregation 1.1
[Sysname-Route-Aggregation1.1]
```

## jumboframe enable

Use **jumboframe enable** to allow the jumbo frames on an interface to pass through.

Use **undo jumboframe enable** to deny jumbo frames on an interface.

Use **undo jumboframe enable size** to restore the default.

## Syntax

```
jumboframe enable [ size ]
undo jumboframe enable [ size ]
```

## Default

An interface allows jumbo frames with a maximum length of 10000 bytes to pass through.

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Parameters

*size*: Specifies the maximum length of jumbo frames, in bytes. The value range for this argument is 1536 to 10000.

## Usage guidelines

If you execute this command multiple times, the most recent configuration takes effect.

## Examples

```
# Allow jumbo frames on Layer 2 aggregate interface Bridge-Aggregation 1.
<Sysname> System-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] jumboframe enable
```

# lacp default-selected-port disable

Use **lacp default-selected-port disable** to disable the default port selection action for dynamic aggregation groups.

Use **undo lacp default-selected-port disable** to enable the default port selection action for dynamic aggregation groups.

## Syntax

```
lacp default-selected-port disable
undo lacp default-selected-port disable
```

## Default

The default port selection action is enabled for dynamic aggregation groups.

## Views

System view

## Predefined user roles

network-admin

## Usage guidelines

The default port selection action applies to dynamic aggregation groups.

This action automatically chooses the port with the lowest ID from among all up member ports as a Selected port if none of them has received LACPDU before the LACP timeout interval expires.

After this action is disabled, a dynamic aggregation group will not have any Selected ports to forward traffic if it has not received LACPDU before the LACP timeout interval expires.

## Examples

```
# Disable the default port selection action.
<Sysname> system-view
[Sysname] lacp default-selected-port disable
```

# lacp edge-port

Use **lacp edge-port** to configure an aggregate interface as an edge aggregate interface.

Use **undo lacp edge-port** to restore the default.

## Syntax

```
lacp edge-port
```

```
undo lacp edge-port
```

## Default

An aggregate interface does not operate as an edge aggregate interface.

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Usage guidelines

Use this command on the aggregate interface that connects the device to a server if dynamic link aggregation is configured only on the device. This feature improves link reliability by enabling all member ports of the aggregation group to forward packets.

This command takes effect only on an aggregate interface corresponding to a dynamic aggregation group.

Link-aggregation traffic redirection cannot operate correctly on an edge aggregate interface.

## Examples

```
# Configure Layer 2 aggregate interface Bridge-Aggregation 1 as an edge aggregate interface.  
<Sysname> System-view  
[Sysname] interface bridge-aggregation 1  
[Sysname-Bridge-Aggregation1] lacp edge-port
```

# lacp mode

Use **lacp mode passive** to configure LACP to operate in passive mode on a port.

Use **undo lacp mode** to restore the default.

## Syntax

```
lacp mode passive
```

```
undo lacp mode
```

## Default

LACP operates in active mode on a port.

## Views

Layer 2 Ethernet interface view

Layer 3 Ethernet interface view

## Predefined user roles

network-admin

## Usage guidelines

This command takes effect only on member ports of dynamic aggregation groups.

When LACP is operating in passive mode on a local member port and its peer port, both ports cannot send LACPDU. When LACP is operating in active mode on either end of a link, both ports can send LACPDU.

## Examples

```
# Configure LACP to operate in passive mode on Ten-GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] lacp mode passive
```

## lacp period short

Use **lacp period short** to enable the short LACP timeout interval (3 seconds) on an interface.

Use **undo lacp period** to restore the default.

### Syntax

```
lacp period short
undo lacp period
```

### Default

The LACP timeout interval is the long timeout interval (90 seconds) on an interface.

### Views

Layer 2 Ethernet interface view

Layer 3 Ethernet interface view

### Predefined user roles

network-admin

### Usage guidelines

To avoid traffic interruption during an ISSU, do not enable the short LACP timeout interval before performing the ISSU. For more information about ISSU, see *Fundamentals Configuration Guide*.

## Examples

```
# Enable the short LACP timeout interval (3 seconds) on Ten-GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] lacp period short
```

## lacp select speed

Use **lacp select speed** to configure a dynamic aggregation group to use port speed as the prioritized criterion for reference port selection.

Use **undo lacp select speed** to restore the default.

### Syntax

```
lacp select speed
undo lacp select speed
```

### Default

Port ID is the prioritized criterion for reference port selection in a dynamic aggregation group.

### Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Usage guidelines

### CAUTION:

Changing reference port selection criteria might cause transient traffic interruption. When you use this command, make sure you understand its impact on your network.

This command enables a dynamic aggregation group to select a high-speed member port as the reference port.

You must execute this command at both ends of the aggregate link so the peer aggregation systems use the same criteria for reference port selection.

As a best practice, shut down the peer aggregate interfaces before you execute this command and bring up the interfaces after this command is executed on both of them.

This command takes effect only on dynamic aggregate interfaces. On a static aggregate interface, you can execute this command, but the setting cannot take effect.

## Examples

```
# Specify port speed as the prioritized criterion for reference port selection on Layer 2 dynamic aggregate interface Bridge-Aggregation 1.
```

```
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] link-aggregation mode dynamic
[Sysname-Bridge-Aggregation1] lacp select speed
```

## lacp system-mac

Use **lacp system-mac** to set the LACP system MAC address.

Use **undo lacp system** to restore the default.

## Syntax

```
lacp system-mac mac-address
```

```
undo lacp system-mac
```

## Default

The LACP system MAC address is the bridge MAC address of the device.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*mac-address*: Specifies a MAC address in the format of H-H-H. The MAC address cannot be an all-zero, all-F, or multicast MAC address.

## Usage guidelines

All S-MLAG devices must use the same LACP system MAC address.

The LACP system MAC address configured by using this command takes effect only on aggregate interfaces in S-MLAG groups. Aggregate interfaces not in S-MLAG groups do not use the configured

LACP system MAC address to send LACPDU. To identify the LACP system MAC address used by a link aggregation group, examine the **System ID** field in the output from the **display link-aggregation verbose** command.

## Examples

```
# Set the LACP system MAC address to 0001-0001-0001.
<Sysname> system-view
[Sysname] lacp system-mac 1-1-1
```

## Related commands

**display link-aggregation verbose**

# lacp system-number

Use **lacp system-number** to set the LACP system number used by the local device.

Use **undo lacp system-number** to restore the default.

## Syntax

```
lacp system-number number
undo lacp system-number
```

## Default

The LACP system number is not set.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*number*: Specifies a number in the range of 1 to 3.

## Usage guidelines

You must assign a unique LACP system number to each S-MLAG device.

The LACP system number configured by using this command takes effect only on aggregate interfaces in S-MLAG groups. Aggregate interfaces not in S-MLAG groups do not use the configured LACP system number in LACPDU. To view the LACP system number in LACPDU, examine the **Index** field in the output from the **display link-aggregation verbose** command.

## Examples

```
# Set the LACP system number to 1.
<Sysname> system-view
[Sysname] lacp system-number 1
```

## Related commands

**display link-aggregation verbose**

# lacp system-priority

Use **lacp system-priority** to set the LACP system priority.

Use **undo lacp system-priority** to restore the default.

## Syntax

```
lacp system-priority priority  
undo lacp system-priority
```

## Default

The LACP system priority is 32768.

## Views

System view

## Predefined user roles

network-admin

## Parameters

*priority*: Specifies the LACP system priority in the range of 0 to 65535. The smaller the value, the higher the LACP system priority.

## Usage guidelines

All S-MLAG devices must use the same LACP system priority.

## Examples

```
# Set the LACP system priority to 64.  
<Sysname> system-view  
[Sysname] lacp system-priority 64
```

## Related commands

```
link-aggregation port-priority
```

# link-aggregation auto-aggregation enable

Use `link-aggregation auto-aggregation enable` to enable automatic link aggregation.

Use `undo link-aggregation auto-aggregation enable` to disable automatic link aggregation.

## Syntax

```
link-aggregation auto-aggregation enable  
undo link-aggregation auto-aggregation enable
```

## Default

Automatic link aggregation is disabled.

## Views

System view

## Predefined user roles

network-admin

## Usage guidelines

After you enable automatic link aggregation and LLDP on two connected devices, they automatically establish a dynamic link aggregation based on the information in incoming LLDP frames. The devices each automatically create a dynamic aggregate interface and assign the redundant ports connected to the peer to the aggregation group of that interface. If you disable LLDP or automatic link aggregation on one device, that device removes the aggregation member ports from the

aggregation group, but it will retain the aggregate interface. This event will not trigger member port removal actions on the peer device.

If automatic link aggregation is enabled, subinterface creation might fail on LLDP-enabled Layer 3 Ethernet interfaces. As a best practice, do not create subinterfaces on LLDP-enabled Layer 3 Ethernet interfaces.

To ensure correct operation of an automatically created aggregate interface, do not modify the configuration on the member ports of its aggregation group. Doing so might cause the member ports to be removed from the aggregation group.

On an interface, the **port link-aggregation group** setting takes precedence over automatic link aggregation. The interface will not be added to the aggregation group of an automatically created aggregate interface if it has been the member port of a manually created aggregate interface.

## Examples

```
# Enable automatic link aggregation.
<Sysname> system
[Sysname] link-aggregation auto-aggregation enable
```

## Related commands

```
lldp enable
lldp global enable
port link-aggregation group
```

# link-aggregation bfd ipv4

Use **link-aggregation bfd ipv4** to enable BFD for an aggregation group.

Use **undo link-aggregation bfd** to disable BFD for an aggregation group.

## Syntax

```
link-aggregation bfd ipv4 source ip-address destination ip-address
undo link-aggregation bfd
```

## Default

BFD is disabled for an aggregation group.

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Parameters

**source** *ip-address*: Specifies the unicast source IP address of BFD sessions. The source IP address cannot be 0.0.0.0.

**destination** *ip-address*: Specifies the unicast destination IP address of BFD sessions. The destination IP address cannot be 0.0.0.0.

## Usage guidelines

Make sure the source and destination IP addresses are reversed between the two ends of an aggregate link. For example, if you execute **link-aggregation bfd ipv4 source 1.1.1.1 destination 2.2.2.2** at the local end, execute **link-aggregation bfd ipv4 source**

**2.2.2.2 destination 1.1.1.1** at the peer end. The source and destination IP addresses cannot be the same.

The BFD parameters configured on an aggregate interface take effect on all BFD sessions established by the member ports in its aggregation group. BFD on an aggregate link supports only control packet mode for session establishment and maintenance. The two ends of an established BFD session can only operate in Asynchronous mode. For more information about BFD, see *High Availability Configuration Guide*.

As a best practice, do not configure BFD for any protocols on a BFD-enabled aggregate interface.

Make sure the number of member ports in the BFD-enabled aggregation group is less than or identical to the number of BFD sessions supported by the device. If the aggregation group contains more member ports than the supported sessions, some Selected ports might change to the Unselected state.

If the number of BFD sessions differs between the two ends of an aggregate link, check their settings for inconsistency in the maximum number of Selected ports. You must make sure the two ends have the same setting for the maximum number of Selected ports.

## Examples

```
# Enable BFD for Layer 2 aggregation group 1, and specify the source and destination IP addresses as 1.1.1.1 and 2.2.2.2 for BFD sessions.
```

```
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] link-aggregation bfd ipv4 source 1.1.1.1 destination
2.2.2.2
```

## link-aggregation global load-sharing mode

Use **link-aggregation global load-sharing mode** to set the global link-aggregation load sharing mode.

Use **undo link-aggregation global load-sharing mode** to restore the default.

### Syntax

```
link-aggregation global load-sharing mode { destination-ip |
destination-mac | destination-port | ingress-port | source-ip | source-mac
| source-port } *
```

```
undo link-aggregation global load-sharing mode
```

### Default

Packets are load shared based on the following information:

- Source and destination IP addresses.
- Source and destination MAC addresses.
- Source and destination ports.

### Views

System view

### Predefined user roles

network-admin

### Parameters

**destination-ip**: Distributes traffic based on destination IP addresses.

**destination-mac**: Distributes traffic based on destination MAC addresses.

**destination-port**: Distributes traffic based on destination ports.

**ingress-port**: Distributes traffic based on ingress ports.

**source-ip**: Distributes traffic based on source IP addresses.

**source-mac**: Distributes traffic based on source MAC addresses.

**source-port**: Distributes traffic based on source ports.

## Usage guidelines

If you execute this command multiple times, the most recent configuration takes effect.

If an unsupported load sharing mode is set, the device displays an error message.

The following are global load sharing modes supported on the device:

- Default mode (load sharing mode automatically determined based on the packet type).
- Source IP.
- Destination IP.
- Source MAC.
- Destination MAC.
- Ingress port.
- Source IP and destination IP.
- Source IP and source port.
- Destination IP and destination port.
- Source IP, source port, destination IP, and destination port.
- Any combinations of ingress port, source MAC, and destination MAC.

## Examples

# Set the global load sharing mode to load share packets based on destination MAC addresses.

```
<Sysname> system-view
```

```
[Sysname] link-aggregation global load-sharing mode destination-mac
```

## link-aggregation lacp traffic-redirect-notification enable

Use **link-aggregation lacp traffic-redirect-notification enable** to enable link-aggregation traffic redirection.

Use **undo link-aggregation lacp traffic-redirect-notification enable** to disable link-aggregation traffic redirection.

## Syntax

```
link-aggregation lacp traffic-redirect-notification enable
```

```
undo link-aggregation lacp traffic-redirect-notification enable
```

## Default

Link-aggregation traffic redirection is disabled.

## Views

System view

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Usage guidelines

This feature redirects traffic on a Selected port to the remaining available Selected ports of an aggregation group if one of the following events occurs:

- The port is shut down by using the **shutdown** command.
- The slot that hosts the port reboots, and the aggregation group spans multiple slots.

---

### NOTE:

The device does not redirect traffic to member ports that become Selected during the traffic redirection process.

---

This feature ensures zero packet loss for known unicast traffic, but does not protect unknown unicast traffic.

This feature applies only to dynamic link aggregation groups.

To prevent traffic interruption, enable link-aggregation traffic redirection on devices at both ends of the aggregate link.

To prevent packet loss that might occur when a slot reboots, do not enable spanning tree together with link-aggregation traffic redirection.

Link-aggregation traffic redirection cannot operate correctly on an edge aggregate interface.

Global link-aggregation traffic redirection settings take effect on all aggregation groups. A link aggregation group preferentially uses the group-specific link-aggregation traffic redirection settings. If group-specific link-aggregation traffic redirection is not configured, the group uses the global link-aggregation traffic redirection settings.

As a best practice, enable link-aggregation traffic redirection on a per-interface basis. If you enable this feature globally, communication with a third-party peer device might be affected if the peer is not compatible with this feature.

## Examples

```
# Enable link-aggregation traffic redirection.  
<Sysname> system-view  
[Sysname] link-aggregation lacp traffic-redirect-notification enable
```

## link-aggregation load-sharing mode local-first

Use **link-aggregation load-sharing mode local-first** to enable local-first load sharing for link aggregation.

Use **undo link-aggregation load-sharing mode local-first** to disable local-first load sharing for link aggregation.

### Syntax

```
link-aggregation load-sharing mode local-first  
undo link-aggregation load-sharing mode local-first
```

### Default

Local-first load sharing is enabled for link aggregation.

### Views

System view

## Predefined user roles

network-admin

## Usage guidelines

Use local-first load sharing in a multidevice link aggregation scenario to distribute traffic preferentially across member ports on the ingress card or device. Local-first load sharing takes effect only on known unicast traffic.

If you disable local-first load sharing, packets of an aggregate interface are load shared among all Selected ports on IRF member devices.

## Examples

```
# Disable local-first load sharing for link aggregation.
<Sysname> system-view
[Sysname] undo link-aggregation load-sharing mode local-first
```

# link-aggregation mode

Use **link-aggregation mode dynamic** to configure an aggregation group to operate in dynamic aggregation mode and enable LACP.

Use **undo link-aggregation mode** to restore the default.

## Syntax

```
link-aggregation mode dynamic
undo link-aggregation mode
```

## Default

An aggregation group operates in static aggregation mode.

## Views

Layer 2 aggregate interface view  
Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Usage guidelines

When you change the aggregation mode, make sure you understand the impact of the change on services.

Aggregation mode change might cause Selected member ports to become Unselected.

## Examples

```
# Configure Layer 2 aggregation group 1 to operate in dynamic aggregation mode.
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] link-aggregation mode dynamic
```

# link-aggregation port-priority

Use **link-aggregation port-priority** to set the port priority of an interface.

Use **undo link-aggregation port-priority** to restore the default.

## Syntax

```
link-aggregation port-priority priority  
undo link-aggregation port-priority
```

## Default

The port priority of an interface is 32768.

## Views

Layer 2 Ethernet interface view  
Layer 3 Ethernet interface view

## Predefined user roles

network-admin

## Parameters

*priority*: Specifies the port priority in the range of 0 to 65535. The smaller the value, the higher the port priority.

## Examples

```
# Set the port priority to 64 for Layer 2 Ethernet interface Ten-GigabitEthernet 1/0/1.  
<Sysname> system-view  
[Sysname] interface ten-gigabitethernet 1/0/1  
[Sysname-Ten-GigabitEthernet1/0/1] link-aggregation port-priority 64  
# Set the port priority to 64 for Layer 3 Ethernet interface Ten-GigabitEthernet 1/0/2.  
<Sysname> system-view  
[Sysname] interface ten-gigabitethernet 1/0/2  
[Sysname-Ten-GigabitEthernet1/0/2] link-aggregation port-priority 64
```

## Related commands

```
lACP system-priority
```

# link-aggregation selected-port maximum

Use **link-aggregation selected-port maximum** to set the maximum number of Selected ports allowed in an aggregation group.

Use **undo link-aggregation selected-port maximum** to restore the default.

## Syntax

```
link-aggregation selected-port maximum max-number  
undo link-aggregation selected-port maximum
```

## Default

The maximum number of Selected ports allowed in an aggregation group is 8.

## Views

Layer 2 aggregate interface view  
Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Parameters

*max-number*: Specifies the maximum number of Selected ports allowed in an aggregation group. The value range for this argument is 1 to 8.

## Usage guidelines

Executing this command might cause some of the Selected ports in an aggregation group to become Unselected ports.

The maximum number of Selected ports allowed in the aggregation groups must be the same for the local and peer ends.

For an aggregation group, the maximum number of Selected ports must be equal to or higher than the minimum number of Selected ports.

The maximum number of Selected ports allowed in an aggregation group is limited by one of the following values, whichever value is smaller:

- Maximum number set by using the **link-aggregation selected-port maximum** command.
- Maximum number of Selected ports allowed by the link aggregation capability.

You can implement backup between two ports by performing the following tasks:

- Assigning two ports to an aggregation group.
- Setting the maximum number of Selected ports to 1 for the aggregation group.

Then, only one Selected port is allowed in the aggregation group at any point in time, while the Unselected port acts as a backup port.

## Examples

```
# Set the maximum number of Selected ports to 5 for Layer 2 aggregation group 1.
```

```
<Sysname> system-view
```

```
[Sysname] interface bridge-aggregation 1
```

```
[Sysname-Bridge-Aggregation1] link-aggregation selected-port maximum 5
```

## Related commands

```
link-aggregation selected-port minimum
```

# link-aggregation selected-port minimum

Use **link-aggregation selected-port minimum** to set the minimum number of Selected ports in an aggregation group.

Use **undo link-aggregation selected-port minimum** to restore the default.

## Syntax

```
link-aggregation selected-port minimum { min-number | percentage number }  
undo link-aggregation selected-port minimum
```

## Default

The minimum number of Selected ports in an aggregation group is not specified.

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Parameters

*min-number*: Specifies the minimum number of Selected ports in an aggregation group required to bring up the aggregate interface. The value range for this argument is 1 to 8.

**percentage** *number*: Sets the minimum percentage of Selected ports in an aggregation group. The value range for the *number* argument is 1 to 100.

## Usage guidelines

### ⓘ IMPORTANT:

After you set the minimum percentage of Selected ports for an aggregation group, aggregate interface flapping might occur when ports join or leave an aggregation group. Make sure you are fully aware of the impacts of this setting when you configure it on a live network.

You can set either the minimum number or the minimum percentage of Selected ports for an aggregation group. If you configure both settings on an aggregate interface, the higher Selected port number limit takes effect.

Executing this command might cause all member ports in the aggregation group to become Unselected ports.

You must set the same minimum number or minimum percentage of Selected ports at the two ends of an aggregate link.

For an aggregation group, the minimum number of Selected ports must be equal to or lower than the maximum number of Selected ports.

## Examples

```
# Set the minimum number of Selected ports to 3 for Layer 2 aggregation group 1.
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] link-aggregation selected-port minimum 3
```

## Related commands

`link-aggregation selected-port maximum`

## link-delay

Use `link-delay` to set the physical state change suppression interval on an aggregate interface.

Use `undo link-delay` to restore the default.

## Syntax

```
link-delay { down | up } [ msec ] delay-time
undo link-delay { down | up }
```

## Default

Each time the physical link of an aggregate interface goes up or comes down, the system immediately reports the change to the CPU.

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

## Predefined user roles

network-admin

## Parameters

**down**: Suppresses the link-down events.

**up**: Suppresses the link-up events.

**msec**: Sets the physical state change suppression interval in milliseconds. If you do not specify this keyword, the suppression interval is in seconds.

*delay-time*: Sets the physical state change suppression interval. To report a physical state change immediately to the CPU, set the interval to 0.

- If you do not specify the **msec** keyword, the value range is 0 to 120 seconds.
- If you specify the **msec** keyword, the value range is 0 to 10000 milliseconds, and the value must be a multiple of 100.

## Usage guidelines

You can configure this feature to suppress link-down events, link-up events, or both. If an event of the specified type still exists when the suppression interval expires, the system reports the event.

On an interface, you can configure different suppression intervals for link-up and link-down events. If you execute the **link-delay** command multiple times for an event type, the most recent configuration takes effect on that event type.

## Examples

```
# Set the link-down event suppression interval to 8 seconds on Bridge-Aggregation 1.
```

```
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] link-delay down 8
```

```
# Set the link-down event suppression interval to 8 seconds on Route-Aggregation 1.
```

```
<Sysname> system-view
[Sysname] interface route-aggregation 1
[Sysname-Route-Aggregation1] link-delay down 8
```

## mtu

Use **mtu** to set the MTU for a Layer 3 aggregate interface or subinterface.

Use **undo mtu** to restore the default.

## Syntax

```
mtu size
undo mtu
```

## Default

The MTU for Layer 3 aggregate interfaces and subinterfaces is 1500 bytes.

## Views

Layer 3 aggregate interface view  
Layer 3 aggregate subinterface view

## Predefined user roles

network-admin

## Parameters

*size*: Specifies the MTU in bytes. The value range for this argument is 128 to 1560.

## Examples

```
# Set the MTU to 1430 bytes for Layer 3 aggregate interface Route-Aggregation 1.
<Sysname> system-view
[Sysname] interface route-aggregation 1
[Sysname-Route-Aggregation1] mtu 1430
```

## Related commands

`display interface`

# port link-aggregation group

Use `port link-aggregation group` to assign an interface to an aggregation group.

Use `undo port link-aggregation group` to remove an interface from the aggregation group to which it belongs.

## Syntax

```
port link-aggregation group { group-id [ force ] | auto [ group-id ] }
undo port link-aggregation group
```

## Default

An interface does not belong to any aggregation group.

## Views

Layer 2 Ethernet interface view

Layer 3 Ethernet interface view

## Predefined user roles

network-admin

## Parameters

*group-id*: Specifies an aggregation group by its aggregate interface number. The value range for the *number* argument is 1 to 1024.

**force**: Enables the current interface to synchronize attribute configurations from the aggregate interface. If you do not specify this keyword, the current interface does not synchronize attribute configurations from the aggregate interface when it joins the aggregation group. This keyword is supported only on Layer 2 Ethernet interfaces.

**auto**: Enables automatic assignment.

## Usage guidelines

A Layer 2 Ethernet interface can be assigned to a Layer 2 aggregation group only. A Layer 3 Ethernet interface can be assigned to a Layer 3 aggregation group only.

An interface can belong to only one aggregation group.

An interface cannot join an aggregation group if it has different attribute configurations from the aggregate interface. After joining an aggregation group, an interface inherits the attribute configurations on the aggregate interface. You can modify the attribute configurations only on the aggregate interface.

The **force** keyword takes effect only when you assign the interface to an aggregation group. It cannot be saved in the running configuration or a configuration file.

Automatic assignment is available only on Layer 2 and Layer 3 Ethernet interfaces.

When you enable automatic assignment, you can specify a preferred aggregation group, which must be in dynamic mode.

The device assigns the interface to the preferred aggregation group as long as the LACPDU received on the interface match the peer information of the reference port in the group.

If you do not specify a preferred group or if the preferred group match fails, the device attempts to select a matching group from the existing dynamic aggregation groups. If no match is found, the device creates a dynamic aggregation group based on the LACPDU and assigns the interface to that aggregation group.

As a best practice, do not modify the configuration on an automatically created aggregate interface or its member ports.

## Examples

```
# Assign Layer 2 Ethernet interface Ten-GigabitEthernet 1/0/1 to Layer 2 aggregation group 1.
```

```
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/1
[Sysname-Ten-GigabitEthernet1/0/1] port link-aggregation group 1
```

```
# Assign Layer 3 Ethernet interface Ten-GigabitEthernet 1/0/2 to Layer 3 aggregation group 2.
```

```
<Sysname> system-view
[Sysname] interface ten-gigabitethernet 1/0/2
[Sysname-Ten-GigabitEthernet1/0/2] port link-aggregation group 2
```

## port s-mlag group

Use **port s-mlag group** to assign an aggregate interface to an S-MLAG group.

Use **undo port s-mlag group** to restore the default.

### Syntax

```
port s-mlag group group-id
undo port s-mlag group
```

### Default

An aggregate interface is not in any S-MLAG group.

### Views

Layer 2 aggregate interface view

### Predefined user roles

network-admin

### Parameters

*group-id*: Specifies an S-MLAG group number in the range of 1 to 1024.

### Usage guidelines

You can assign only Layer 2 aggregate interfaces in dynamic mode to an S-MLAG group.

Each S-MLAG group can contain only one aggregate interface on each device.

## Examples

```
# Assign Bridge-Aggregation 1 to S-MLAG group 1.
```

```
<Sysname> system-view
[Sysname] interface bridge-aggregation 1
[Sysname-Bridge-Aggregation1] port s-mlag group 1
```

# reset counters interface

Use **reset counters interface** to clear statistics for the specified aggregate interfaces.

## Syntax

```
reset counters interface [ { bridge-aggregation | route-aggregation }  
[ interface-number ] ]
```

## Views

User view

## Predefined user roles

network-admin

## Parameters

**bridge-aggregation**: Specifies Layer 2 aggregate interfaces.

**route-aggregation**: Specifies Layer 3 aggregate interfaces.

*interface-number*: Specifies an existing aggregate interface number.

## Usage guidelines

Use this command to clear history statistics before you collect traffic statistics for a time period.

If you do not specify an aggregate interface type, the command clears statistics for all interfaces in the system.

If you specify only an aggregate interface type, the command clears statistics for all aggregate interfaces of the specified type.

The **bridge-aggregation** or **route-aggregation** keyword is available only when aggregate interfaces of the corresponding type exist on the device.

## Examples

```
# Clear statistics for Layer 2 aggregate interface Bridge-Aggregation 1.
```

```
<Sysname> reset counters interface bridge-aggregation 1
```

# reset lacp statistics

Use **reset lacp statistics** to clear LACP statistics for the specified link aggregation member ports.

## Syntax

```
reset lacp statistics [ interface interface-list ]
```

## Views

User view

## Predefined user roles

network-admin

## Parameters

**interface *interface-list***: Specifies a list of link aggregation member ports, in the format *interface-type interface-number1* [ **to** *interface-type interface-number2* ]. The value for the *interface-number1* argument must be equal to or greater than the value for the *interface-number2* argument. If you do not specify any member ports, the command clears LACP statistics for all member ports.

## Examples

```
# Clear LACP statistics for all link aggregation member ports.  
<Sysname> reset lacp statistics
```

## Related commands

```
display link-aggregation member-port
```

# shutdown

Use **shutdown** to shut down an aggregate interface or subinterface.

Use **undo shutdown** to bring up an aggregate interface or subinterface.

## Syntax

```
shutdown
```

```
undo shutdown
```

## Views

Layer 2 aggregate interface view

Layer 3 aggregate interface view

Layer 3 aggregate subinterface view

## Predefined user roles

```
network-admin
```

## Usage guidelines

Shutting down or bringing up a Layer 3 aggregate interface shuts down or brings up its subinterfaces. Shutting down or bringing up a Layer 3 aggregate subinterface does not affect its main interface.

## Examples

```
# Bring up Layer 2 aggregate interface Bridge-Aggregation 1.  
<Sysname> system-view  
[Sysname] interface bridge-aggregation 1  
[Sysname-Bridge-Aggregation1] undo shutdown
```