



Configuring the Connection

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Note

For more information regarding the physical installation of the Cisco SCE 8000 platform and cabling the connections, see the [Cisco SCE8000 10GBE Installation and Configuration Guide](#) and in particular, the following sections:

- [Information About the SCE Platform](#) (illustrations of modules and information regarding LEDs and interfaces)
- [The Cisco SCE8000 Optical Bypass](#) (information regarding the optical bypass module)
- [Physical Topologies](#) (topology diagrams)
- [Connecting the Line Ports to the Network](#) (cabling charts and diagrams)

Configuring the Connection Mode

The connection mode command allows you to configure the topology of the system in one command. The connection mode is determined by the physical installation of the Cisco SCE platform.



Caution

This command can only be used if the line card is in either **no-application** or **shutdown** mode. If an application is installed on the Cisco SCE platform, the command will fail with an error message and help instructions.

Options

The following topology-related parameters are included in the connection mode command. Note that some options are relevant for cascaded topologies only.

- **Connection mode**—Can be any one of the following, depending on the physical installation of the Cisco SCE platform:
 - Inline—Single Cisco SCE platform inline
 - Receive-only—Single Cisco SCE platform receive-only
 - Inline-cascade—Two cascaded Cisco SCE platforms inline
 - Receive-only-cascade—Two cascaded Cisco SCE platforms receive-only

The default is **inline**. Inline-cascade and Receive-only-cascade options are available only if cascade topology is configured. For an overview of the cascade topology, see the [Cisco Service Control Product Installation Guide](#).

- **sce-id**—In cascaded topologies, defines which link is connected to this Cisco SCE platform.

The sce-id parameter, which identifies the Cisco SCE platform, replaces the physically-connected-link parameter, which identified the link. This change was required with the introduction of the Cisco SCE 8000 GBE platform, which supports multiple links. In the Cisco SCE 8000 10GBE, the number assigned to the sce-id parameter (0 or 1) will be defined as the of number of the physically-connected-link.



Note

For backwards compatibility, the physically-connected-link parameter is currently still recognized.

Possible values are '0' and '1'.

Not applicable to single Cisco SCE platform topologies.

- **Priority**—This parameter defines which is the primary Cisco SCE platform. It is applicable only in a two Cisco SCE platform topology.

Possible values are 'primary' and 'secondary'

Not applicable to single Cisco SCE platform topologies

- **On-failure**—This parameter determines the behavior of the system when the Cisco SCE platform either has failed or is booting:
 - cut the traffic (cutoff)
 - bypass the traffic (bypass)
 - automatically direct traffic through the external bypass module (external-bypass)

**Note**

If the *external-bypass* option is configured, two optical bypass devices must be properly connected, one on each link. If an optical bypass device is not detected, the command is executed but a warning is issued. The system then enters warning mode until either the command is changed, or the presence of an optical bypass device is detected.

**Note**

If the *bypass* option is configured and the connection mode is 'inline-cascade', a single optical bypass device must be connected on link #0 (SPA bays 0 and 1). As explained above, the command is executed, but the system enters warning mode.

Default:

- inline mode: **external-bypass**
- inline-cascade mode: **bypass**

Not applicable to receive-only topologies.

**Note**

Do not change the connection mode unless the physical installation has been changed.

Step 1

From the SCE(config if)# prompt, type **connection-mode (inline | receive-only | inline-cascade | receive-only-cascade) [sce-id (0|1)] [priority (primary | secondary)] on-failure (bypass|external-bypass|cutoff)** and press **Enter**.

Configuring the Connection Mode Examples

Example 1

This example defines a primary Cisco SCE 8000 in a cascaded inline topology. Link 0 is connected to this device, and the link mode on failure is bypass (default).

```
SCE(config if)# connection-mode inline-cascade sce-id 0 priority primary
```

Example 2

This example defines a single-Cisco SCE platform, dual link, receive-only topology. The link mode **on-failure**, **sce-id**, and **priority** options are not applicable.

```
SCE(config if)# connection-mode receive-only
```

Monitoring the Connection Mode and Related Parameters

The following table shows the commands used to monitor the connection mode.

Note that the **show** commands are entered in Viewer mode.

Command	Purpose
show interface linecard 0 connection-mode	Displays the connection mode configuration.
show interface linecard 0 sce-id	Displays the Cisco SCE-ID.
show interface linecard 0 cascade redundancy-status	Displays the current redundancy status of the Cisco SCE platform.
show interface linecard 0 cascade peer-sce-information	Displays information about the peer Cisco SCE platform.
show interface linecard 0 cascade connection-status	Displays information about the cascade connections.

Connection Mode Examples

Monitoring the Connection Mode: Examples

The following example shows the current configuration of the connection mode for a single platform.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 connection-mode

Slot 0 connection mode
Connection mode is inline
slot failure mode is external-bypass
Redundancy status is standalone
SCE>
```

The following example shows the current configuration of the connection mode for a cascaded system.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 connection-mode

Slot 0 connection mode
Connection mode is inline-cascade
slot 0 sce-id is 1
slot 0 is secondary
slot 0 is connected to peer
slot failure mode is bypass
Redundancy status is active
SCE>
```

Viewing the Cisco SCE-ID: Example

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 sce-id

slot 0 sce-id is 1
```

Viewing the Current Redundancy Status of the Cisco SCE Platform: Example

The following example shows typical output of this command.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 cascade redundancy-status

Redundancy status is active
```

Viewing Information about the Peer Cisco SCE Platform: Example

The following example shows typical output of this command.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 cascade peer-sce-information

Peer SCE's IP address is 10.10.10.10
```

Monitoring the Connection Status: Examples

The following example shows the output of this command in the case of two cascaded Cisco SCE 8000 10GBE platforms where the cascade interfaces have not been connected correctly.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 cascade connection-status

SCE is improperly connected to peer SCE
Please verify that each cascade port is connected to the correct port of the peer SCE.
Note that in the current topology, the SCE must be connected to its peer as follows:
Port 3/2/0 must be connected to port 3/3/0 at peer
Port 3/3/0 must be connected to port 3/2/0 at peer
SCE>
```

The following example shows the output of this command in the case of two cascaded Cisco SCE platforms where the cascade interfaces have been connected correctly.

```
SCE> enable 5
Password:<cisco>
SCE> show interface linecard 0 cascade connection-status

SCE is connected to peer SCE
SCE>
```

Configuring the Link Mode

- [About the Link Mode, page 8-6](#)
- [Options, page 8-6](#)

About the Link Mode

The Cisco SCE platform has an internal hardware card used to maintain the links even when the Cisco SCE platform fails. This hardware card has three possible modes of operation:

- bypass
- forwarding
- cutoff

Normally, the link mode is selected by the Cisco SCE platform software according to the configured connection-mode. However, the **link mode** command can be used to enforce a specific desired mode. This may be useful when debugging the network, or in cases where we would like the Cisco SCE platform just to forward the traffic. (Note that this is only relevant to inline topologies even though the configuration is available also when in receive-only mode.)

Options

The following link mode options are available:

- **Forwarding**—Forwards traffic to the Cisco SCE platform for processing.
- **Bypass**—Stops all forwarding of traffic to the Cisco SCE platform. Traffic still flows through the Cisco SCE platform, but is not processed by it in any way.
This does not affect the redundancy states.
- **Cutoff**—Completely cuts off flow of traffic through the Cisco SCE platform.

Recommendations and restrictions

Note the following recommendations and restrictions:

- For the Cisco SCE 8000 platform, the link mode setting is global, and cannot be set for each link separately. Therefore the **all-links** keyword must be used.
- Link mode is relevant only to inline topologies.
- The default link mode is forwarding.
When other link modes are selected, active service control is not available and any service control configuration will not be applicable.
- It is recommended that in cascaded topologies, both Cisco SCE platforms be configured for the same link mode, otherwise the service will be unpredictable.

From the SCE(config if)# prompt, type:

Command	Purpose
link mode all-links (forwarding bypass cutoff)	Enforces a specific desired mode.

External Optical Bypass

- [How to Activate the External Bypass, page 8-7](#)
- [How to Deactivate the External Bypass, page 8-8](#)
- [How to Set the External Bypass to the Default State, page 8-8](#)
- [How to Display the State of the External Bypass, page 8-8](#)

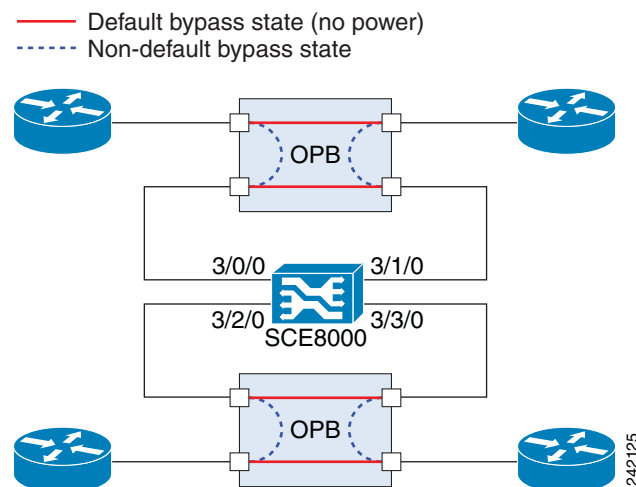
The Cisco SCE 8000 supports connection to up to two external optical bypass devices. These protect the line against power failure or total hardware failure, which prevents the hardware card from bypassing the traffic. Each external optical device protects a single traffic link passing through the Cisco SCE platform. The main objective of the external bypass is to provide automatic redundancy and failover support. However, the user can also manually enable the external bypass, assuming it is connected.

At power failure the external bypass is automatically activated. The external bypass can also be controlled by the software and by hardware in case of software failure.

In case of power failure, the bypass shortcuts the interfaces that are connected to the two sides of the Cisco SCE 8000, bypassing all the traffic, as illustrated in [Figure 8-1](#).

The Cisco SCE 8000 can detect the presence of each external optical bypass device, and warns the user by various means (CLI **show** command, system operational-state, SNMP traps) if an expected external bypass device is not detected as present.

Figure 8-1 External Optical Bypass Connectivity



How to Activate the External Bypass

From the SCE(config if)# prompt, type:

Command	Purpose
external-bypass	Activates the external bypass.

How to Deactivate the External Bypass

From the SCE(config if)# prompt, type:

Command	Purpose
<code>no external-bypass</code>	Deactivates the external bypass.

How to Set the External Bypass to the Default State

From the SCE(config if)# prompt, type:

Command	Purpose
<code>default external-bypass</code>	Sets the external bypass to the default state. The default state of the external optical bypass is deactivated.

How to Display the State of the External Bypass

From the SCE> prompt, type the following **show** command. Note that the **show** command is entered in the Viewer mode.

Command	Purpose
<code>show interface linecard 0 external-bypass</code>	Displays the state of the external bypass.

Output Sample: Both Optical Bypass Modules Functional

```
External bypass current state is 'not activated'.
External bypass failure state is 'activated'.
Amount of expected external bypass devices: 2 (automatically configured).
```

Output Sample: One Optical Bypass Module Not Detected

```
External bypass current state is 'not activated'.
External bypass failure state is 'activated'.
Amount of expected external bypass devices: 2 (automatically configured).
Warning: External bypass device expected but not detected on link #1
```


Hardware Bypass

- [How to Enable the Hardware Bypass Mode, page 8-9](#)
- [How to Disable the Hardware Bypass Mode, page 8-10](#)
- [How to Display the Status of the Hardware Bypass Mode, page 8-10](#)
- [How to Set the Hardware Bypass Status for a Static Party, page 8-10](#)
- [How to Reset the Hardware Bypass Status of a static party, page 8-10](#)
- [How to Display the Hardware Bypass Status of a Static Party, page 8-11](#)
- [How to Display the Startup Configuration Party Database, page 8-11](#)
- [How to Display the Currently Running Party Database Configuration, page 8-12](#)
- [How to Copy the Running Configuration Party Database to the Startup Configuration Party Database, page 8-12](#)
- [How to Copy the Startup Configuration Party Database and Create a Backup File, page 8-12](#)

The Cisco SCE 8000 platform supports the Hardware Bypass feature for IPv4 traffic. The main objective of this feature is to bypass the traffic of the configured static parties created in the hardware bypass mode at the hardware (SIP module) level, based on their IP address or IP range. By default, the hardware bypass mode is disabled. However, users can enable the hardware bypass mode through the **hw-bypass mode** CLI command.



Note

Before performing the party configurations, Engage Service Management Language (SML) 3.7.0 application should be installed in interface linecard configuration mode.

How to Enable the Hardware Bypass Mode

From the SCE(config)#> prompt, type:

Command	Purpose
hw-bypass mode	Enables the hardware bypass mode of the Cisco SCE 8000 platform. It also allows you to set the hardware bypass state for the specified static parties when these parties are configured in this mode.

How to Disable the Hardware Bypass Mode

From the SCE(config)#> prompt, type:

Command	Purpose
no hw-bypass mode	Disables the hardware bypass mode of the Cisco SCE 8000 platform. It also allows you to reset the hardware bypass state for the specified static parties when these parties are configured in this mode.

How to Display the Status of the Hardware Bypass Mode

From the SCE(config)#> prompt, type:

Command	Purpose
show hw-bypass mode	Displays the hardware bypass status of the Cisco SCE 8000 platform.

The following example shows how to display the status of the hardware bypass mode:

```
SCE>enable 15
Password:<cisco>
SCE#>show hw-bypass mode
hw-bypass mode is enabled
SCE(config)#>
```

How to Set the Hardware Bypass Status for a Static Party

From the SCE(config)#> prompt, type:

Command	Purpose
party name <i>party-name</i> hw-bypass	Sets the hardware bypass status for a specified static party in the hardware bypass mode of the Cisco SCE 8000 platform.

How to Reset the Hardware Bypass Status of a static party

From the SCE(config)#> prompt, type:

Command	Purpose
no party name <i>party-name</i> hw-bypass	Resets the hardware bypass status of a specified static party in the hardware bypass mode of the Cisco SCE 8000platform.

How to Display the Hardware Bypass Status of a Static Party

From the SCE(config)#> prompt, type:

Command	Purpose
show party name <i>party-name</i> hw-bypass	Displays the hardware bypass status of a specified static party in the hardware bypass mode of the Cisco SCE platform.



Note

The hardware bypass action can be performed only on the static parties created in the hardware bypass mode.

The following example shows how to display the hardware bypass of a specified static party:

```
SCE>enable 15
Password:<cisco>
SCE#>show party name [party-name] hw-bypass
SCE#> hw-bypass for party "[party-name]" is disabled
```

How to Display the Startup Configuration Party Database

From the SCE(config)#> prompt, type:

Command	Purpose
show startup-config-party-db	Displays the contents of the startup configuration party database of the static parties that are configured in the Cisco SCE platform.



Note

The configuration file contents will be displayed only if the corresponding startup configuration party database is copied from the running configuration party database.

The following example shows how to display the contents of the startup party database:

```
SCE>enable 15
Password:<cisco>
SCE#>show startup-config-party-db
#This is a party database configuration file (running-config-party-db) for static parties
only.
#Created on 13:34:02 UTC TUE July 12 2011
#cli-type 1
#version 1
hw-bypass mode
party name "N/A"
party name "[party-name]"
party mapping ip-address 24.11.52.128 name [party-name]
party mapping ip-address 110.10.10.10 name [party-name]
party name [party-name] hw-bypass
SCE#>
```

How to Display the Currently Running Party Database Configuration

From the SCE(config)#> prompt, type:

Command	Purpose
show running-config-party-db	Displays the contents of the currently running party database configuration for the static parties that are configured in the Cisco SCE 8000 platform.

The following example shows how to display the contents of the running party database configuration:

```
SCE>enable 15
Password:<cisco>
SCE#>show running-config-party-db
#This is a party database configuration file (running-config-party-db) for static parties
only.
#Created on 13:34:02 UTC TUE July 12 2011
#cli-type 1
#version 1
hw-bypass mode
party name "N/A"
party name "[party-name]"
party mapping ip-address 24.11.52.128 name [party-name]
party mapping ip-address 110.10.10.10 name [party-name]
party name [party-name] hw-bypass
SCE#>
```

How to Copy the Running Configuration Party Database to the Startup Configuration Party Database

From the SCE(config)#> prompt, type:

Command	Purpose
copy running-config-party-db startup-config-party-db	Enables the task of copying the currently running configuration party database to the startup configuration party database of the static parties that are configured on the Cisco SCE platform.

How to Copy the Startup Configuration Party Database and Create a Backup File

From the SCE(config)#> prompt, type:

Command	Purpose
copy startup-config-party-db backup-file name	Enables the task of copying the startup configuration party database and create a backup file of the configured static parties in the Cisco SCE 8000 platform.

Configuring the Static Subscribers

The following sections provide details on how to configure static subscribers for IPv4 and IPv6:

- [How to the Set the IP Address for a Static Subscriber, page 8-13](#)
- [How to Set the IP Range for a Static Subscriber, page 8-13](#)
- [How to Display All Mappings to Dual Stack Static Subscriber, page 8-13](#)
- [How to Display IPv6 Mappings to Dual Stack Static Subscriber, page 8-14](#)
- [How to Display Dual Stack Static Subscriber, page 8-14](#)

How to the Set the IP Address for a Static Subscriber

From the SCE(config)#> prompt, type:

Command	Purpose
party mapping ip-address <i>ip-address name party-name</i>	Sets the IPv4 address for the specified static party in the Cisco SCE 8000 platform.
party mapping ipv6-address <i>ip-address name party-name</i>	Sets the IPv6 address for the specified static party in the Cisco SCE 8000 platform.

How to Set the IP Range for a Static Subscriber

From the SCE(config)#> prompt, type:

Command	Purpose
party mapping ip-range <i>ip-address/mask-value name party-name</i>	Sets the IPv4 range for a specified static party in the Cisco SCE 8000 platform.
party mapping ip-range <i>ipv6-address:mask-value name party-name</i>	Sets the IPv6 range for a specified static party in the Cisco SCE 8000 platform.



Note

If the mask value is not provided for the corresponding IP address, the complete mask value of 32 will be taken into consideration for the specified IP address.

How to Display All Mappings to Dual Stack Static Subscriber

From the SCE(config)#> prompt, type:

Command	Purpose
show part name <i>party-name mappings all</i>	Displays all mappings to dual stack static subscriber.

How to Display IPv6 Mappings to Dual Stack Static Subscriber

From the SCE(config)#> prompt, type:

Command	Purpose
<code>show part name <i>party-name</i> IPv6-ranges</code>	Displays IPv6 mappings to dual stack static subscriber.

How to Display Dual Stack Static Subscriber

From the SCE(config)#> prompt, type:

Command	Purpose
<code>show part name <i>party-name</i></code>	Displays dual stack static subscribers.
<code>show interface LineCard 0 subscriber name <i>party-name</i></code>	Displays dual stack static subscribers.

Link Failure Reflection

- [How to Enable Link Failure Reflection, page 8-15](#)
- [How to Disable Link Failure Reflection, page 8-15](#)
- [Enabling and Disabling Link Failure Reflection on All Ports, page 8-15](#)
- [Configuring Link Failure Reflection in Linecard-Aware Mode, page 8-16](#)

In some topologies, link failure on one port must be reflected to the related port to allow the higher layer redundancy protocol in the network to detect the failure and function correctly.

The **link failure-reflection** command determines the behavior of the system when there is a link problem. The link failure-reflection command enables reflection of a link failure. Use the [no] form of this command to disable failure reflection on the link.

The default value is **disabled**.

How to Enable Link Failure Reflection

From the SCE(config if)# prompt, type:

Command	Purpose
link failure-reflection	Enables link failure-reflection.

How to Disable Link Failure Reflection

From the SCE(config if)# prompt, type:

Command	Purpose
no link failure-reflection	Disables link failure-reflection.

Enabling and Disabling Link Failure Reflection on All Ports

- [Options, page 8-16](#)
- [How to Enable Link Failure Reflection on All Ports, page 8-16](#)
- [How to Disable Link Failure Reflection on All Ports, page 8-16](#)

The **link reflection on all ports** feature extends the link failure reflection feature. It allows the user to determine whether all ports should be taken down if a single port link fails.

In certain topologies, when a failure state occurs on one link, the link state must be reflected to all ports to signal any element using this Cisco SCE platform that the device is in a failure state, and therefore cannot be used.

In **link reflection on all ports** mode, all ports of the Cisco SCE platform are forced down and the link state of the first port is reflected on all the ports.

When recovering from the failure state, the forced down ports (the other link) are brought up only after the first failed port (link) has recovered. In addition, the reflection algorithm will not try to reflect failure for this link again for the next 15 seconds, to avoid link stability problems on auto-negotiation.

Options

The following options are available:

- The **on-all-ports** keyword enables reflection of a link failure to all ports.
- Use the **no** form of this command to disable failure reflection to all ports (the **on-all-ports** keyword is not used in the **no** form of the command).

The default value is **disabled**.

How to Enable Link Failure Reflection on All Ports

From the SCE(config if)# prompt, type:

Command	Purpose
link failure-reflection on-all-ports	Enables failure reflection to all ports.

How to Disable Link Failure Reflection on All Ports

From the SCE(config if)# prompt, type:

Command	Purpose
no link failure-reflection	Disables failure reflection to all ports.

Configuring Link Failure Reflection in Linecard-Aware Mode

- [How to Enable Linecard-Aware Mode, page 8-17](#)
- [How to Disable Linecard-Aware Mode, page 8-17](#)

The **linecard-aware-mode** option is an additional extension of the link failure reflection feature for use in MGSCP topologies. Use this option when the subscriber-side interface and the corresponding network-side interface of the same link are connected to the same linecard in the router.

This mode reflects a failure of one port to the other three ports of the Cisco SCE platform differently, depending on different failure conditions, as follows:

- One interface of the Cisco SCE 8000 is down: Link failure is reflected to the all other Cisco SCE platform ports.
- Two reciprocal ports of the Cisco SCE 8000 are down simultaneously, indicating a possible problem in the linecard of the router to which the Cisco SCE platform is connected: In this case the failure is not reflected to any of the other interfaces. This allows the second link in the Cisco SCE platform to continue functioning without interruption.

Use the **no** form of this command with the **linecard-aware-mode** keyword to disable the linecard aware mode without disabling link failure reflection itself.

How to Enable Linecard-Aware Mode

From the SCE(config if)# prompt, type:

Command	Purpose
link failure-reflection on-all-ports linecard-aware-mode	Enables failure reflection to all ports with linecard aware mode.

How to Disable Linecard-Aware Mode

From the SCE(config if)# prompt, type:

Command	Purpose
no link failure-reflection linecard-aware-mode	Disables linecard aware mode. Note that this command does not disable link failure reflection on all ports.

Asymmetric Routing Topology

- [Asymmetric Routing and Other Service Control Capabilities, page 8-18](#)
- [Enabling Asymmetric Routing, page 8-18](#)
- [Monitoring Asymmetric Routing, page 8-19](#)

In some Service Control deployments, asymmetrical routing occurs between potential service control insertion points. Asymmetrical routing can cause a situation in which the two directions of a bi-directional flow pass through different Cisco SCE platforms, resulting in each Cisco SCE platform seeing only one direction of the flow (either the inbound traffic or the outbound traffic).

This problem is typically solved by connecting the two Cisco SCE platforms through an MGSCP cluster, thereby making sure that both directions of a flow run through the same Cisco SCE platform. However, this is sometimes not feasible, due to the fact that the Cisco SCE platforms sharing the split flow are geographically remote (especially common upon peering insertion). In this type of scenario, the asymmetric routing solution enables the Cisco SCE platform to handle such traffic, allowing SCA BB to classify traffic based on a single direction and to apply basic reporting and global control features to uni-directional traffic.

Asymmetric Routing and Other Service Control Capabilities

Asymmetric routing can be combined with most other Service Control capabilities, however there are some exceptions.

Service Control capabilities that cannot be used in an asymmetric routing topology include the following:

- Subscriber redirect
- Subscriber notification
- Any kind of subscriber integration, including MPLS VPN. (Use subscriber-less mode or anonymous subscriber mode instead)
- Classical open flow mode, including the following:
 - Flow-open-mode classical explicitly enabled (ROOT level configuration)
 - VAS traffic forwarding mode enabled
 - Analysis layer transport mode enabled (ROOT level configuration)
 - ‘no TCP bypass-establishment’ mode enabled (ROOT level configuration)
 - A traffic rule is configured for certain flows to use the classical open flow mode (ROOT level configuration)

Enabling Asymmetric Routing

The asymmetric routing mode is disabled by default. It is typically enabled by the SCA-BB application when applying an appropriate service configuration.

Note that the detection of uni-directional flows is done by the Cisco SCE platform regardless of the asymmetric routing mode, but the appropriate configuration will assure that the uni-directional flows are properly classified and controlled.

For more information, see the [Cisco Service Control Application for Broadband User Guide](#).

Monitoring Asymmetric Routing

Use the command below to display the following information regarding asymmetric routing:

- Current status of asymmetric routing mode (enabled or disabled)
- TCP unidirectional flows ratio: the ratio of TCP unidirectional flows to total TCP flows per traffic processor, calculated over the period of time since the Cisco SCE platform was last reloaded (or since the counters were last reset).

From the SCE> prompt, type:

Command	Purpose
<code>show interface linecard 0 asymmetric-routing-topology</code>	Displays the asymmetric routing information.

Monitoring Asymmetric Routing: Example

This example shows how to display the current asymmetric routing information.

```
SCE>show interface linecard 0 asymmetric routing-topology
Asymmetric Routing Topology mode is disabled
TCP Unidirectional flows ratio statistics:
=====
Traffic Processor 1   :   0%
Traffic Processor 2   :   0%
Traffic Processor 3   :   0%
Traffic Processor 4   :   0%
Traffic Processor 5   :   0%
Traffic Processor 6   :   0%
Traffic Processor 7   :   0%
Traffic Processor 8   :   0%
Traffic Processor 9   :   0%
Traffic Processor 10  :   0%
Traffic Processor 11  :   0%
Traffic Processor 12  :   0%
```

Note that the statistics are updated only if the system is configured to work in Enhanced Open Flow (i.e. following settings are disabled: Classical Open Flow mode, VAS, TCP no bypass est, etc.). The statistics are updated once every two minutes
SCE>

Configuring a Forced Failure

Use the following commands to force a virtual failure condition, and to exit from the failure condition when performing an application upgrade.

From the SCE(config if)# prompt, type:

Command	Purpose
force failure-condition	Forces a virtual failover condition. The system asks for confirmation Forcing failure will cause a failover - do you want to continue? n Type ' Y ' and press Enter to confirm the forced failure.
no force failure-condition	Exits from the virtual failure condition.

Configuring the Failure Recovery Mode

The **failure-recovery operation-mode** command defines the behavior of the system after boot resulting from failure.

Options

The following options are available:

- **operational**—After failure, the system will return to operational mode.
- **non-operational**—After failure, the system will remain not operational.

The default value is **operational**.

From the SCE(config)# prompt, type:

Command	Purpose
failure-recovery operation-mode operationalnon-operational	Specifies the desired failure recovery mode.

Configure the Failure Recovery Mode: Examples

Example 1

This example sets the system to boot as non-operational after a failure.

```
SCE(config)#failure-recovery operation-mode non-operational
```

Example 2

This example sets the system to the default failure recovery mode.

```
SCE(config)# default failure-recovery operation-mode
```

Configuring the Cisco SCE Platform/SM Connection

- [Configuring the Behavior of the Cisco SCE Platform in Case of Failure of the SM, page 8-22](#)
- [Configuring the SM-SCE Platform Connection Timeout, page 8-22](#)

The user can configure the behavior of the Cisco SCE platform in case of failure of the Subscriber Manager (SM):

- If SM functionality is critical to the operation of the system—configure the desired behavior of the Cisco SCE platform if any loss of connection with the SM (may be due either to failure of the SM or failure of the connection itself).
- If SM functionality is not critical to the operation of the system—no action needs to be configured. In this case you can specify that the system operational-status of the Cisco SCE platform should be 'warning' when the link is down.

Configuring the Behavior of the Cisco SCE Platform in Case of Failure of the SM

Options

The following options are available:

- **action**—The specified action will be performed in case of loss of connection between the Cisco SCE platform and the SM.

Possible actions are:

- **force-failure**—Force failure of Cisco SCE platform. The Cisco SCE platform then acts according to the behavior configured for the failure state.
- **remove-mappings**—Remove all current subscriber mappings.
- **shut**—The Cisco SCE platform shuts down and quits providing service.
- **none** (default)—Take no action.
- **warning**—The system operational-status of the Cisco SCE platform should be 'warning' in case of loss of connection between the Cisco SCE platform and the SM. No action is taken.

From the SCE(config if)# prompt, type:

Command	Purpose
subscriber sm-connection-failure action [force-failure none remove-mappings shut]	Specifies the action that the Cisco SCE platform will perform if the Cisco SCE-SM connection fails.
subscriber sm-connection-failure warning	Specifies that the system operational-status of the Cisco SCE platform should be 'warning' if the Cisco SCE-SM connection fails.

Configuring the SM-SCE Platform Connection Timeout

You can also configure the timeout interval; the length of time that the SM-SCE platform connection is disrupted before a failed connection is recognized and the configured behavior is applied.

Options

The following option is available:

- **interval**—The timeout interval in seconds

From the SCE(config if)# prompt, type:

Command	Purpose
subscriber sm-connection-failure timeout <i>interval</i>	Configures the connection timeout.

