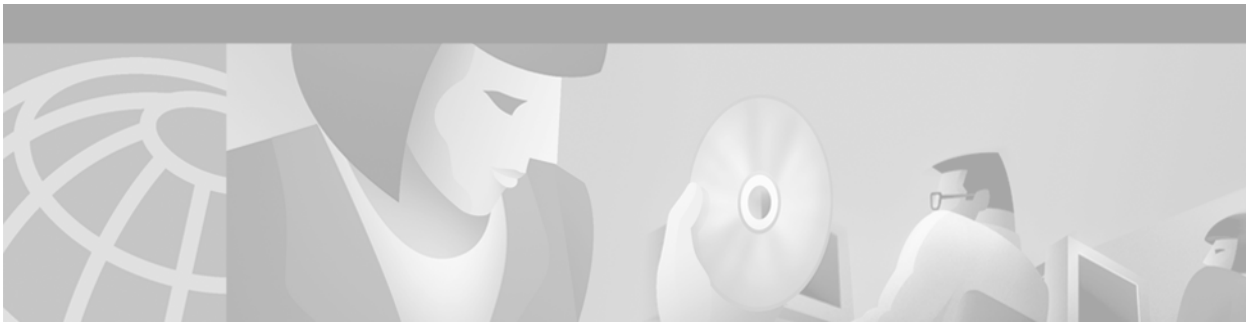

Signaling IS-IS When dCEF Is Disabled

Feature History

Release	Modification
12.0(10)S	This feature was introduced.
12.0(10)ST	This command was integrated into Cisco IOS Release 12.0(10)ST.

This feature module describes the Signaling IS-IS When dCEF Is Disabled feature and includes the following sections:

- Feature Overview, page 1
- Benefits, page 2
- Related Features and Technologies, page 2
- Supported Platforms, page 2
- Supported Standards, MIBs, and RFCs, page 3
- Configuration Tasks, page 4
- Configuration Examples, page 5
- Command Reference, page 5

Feature Overview

The Intermediate System-to-Intermediate System (IS-IS) routing protocol uses the International Organization for Standardization (ISO) Connectionless Network System (CLNS) protocol as its transport mechanism for distributing link-state information across the network. CLNS operates as a network layer protocol and does not depend on IP services including Cisco Express Forwarding (CEF). IS-IS builds and maintains adjacencies on an interface independently of the status of CEF. When distributed Cisco Express Forwarding (dCEF) is configured, dCEF sometimes can be disabled on an interface. IS-IS processes on adjacent routers continue to forward IP routing information to the interface where dCEF is disabled because CLNS operates independently of the status of CEF or dCEF. IS-IS needs the ability to tear down the adjacencies to an interface where dCEF is disabled because some platforms are incapable of forwarding IP traffic through the interface unless dCEF is enabled. A new command, **external overload signalling**, has been implemented to ensure that IS-IS will tear down adjacencies when dCEF is disabled on an interface, even though the interface may still be up. IS-IS does not rebuild adjacencies for the interface until it receives a signal from dCEF.

Use the **no external overload signalling** command when dCEF does not send a signal to IS-IS to indicate that dCEF is enabled.

Benefits

The Signaling IS-IS When dCEF Is Disabled feature allows the network operator to ensure that fast traffic is quickly rerouted away from an interface when dCEF is disabled on the interface.

Related Features and Technologies

The Signaling IS-IS When dCEF Is Disabled feature is an extension of the IS-IS routing protocol. For more information about configuring IS-IS, refer to the "Configuring Integrated IS-IS" chapter of the Cisco IOS Release 12.0 *Network Protocols Configuration Guide, Part 1* and the "Integrated IS-IS Commands" chapter of the Cisco IOS Release 12.0 *Network Protocols Command Reference, Part 1*.

For more information about configuring CEF and dCEF, refer to the "Configuring Cisco Express Forwarding" chapter of the Cisco IOS Release 12.0 *Switching Services Configuration Guide* and the "Cisco Express Forwarding Commands" chapter of the Cisco IOS Release 12.0 *Switching Services Command Reference*.

Supported Platforms

The Signaling IS-IS When dCEF Is Disabled feature is supported only on the Cisco 12000 series routers.

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that are supported by specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at http://www.cisco.com/register.

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

http://www.cisco.com/go/fn

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, Cisco Feature Navigator.

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

No new or modified MIBs are supported by this feature.

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

http://www.cisco.com/register

RFCs

No new or modified RFCs are supported by this feature.

Configuration Tasks

See the following sections for configuration tasks for the Signaling IS-IS When dCEF Is Disabled feature. Each task in the list is identified as required or optional.

- Configuring the Signaling IS-IS When dCEF Is Disabled Feature (required)
- Verifying the Signaling IS-IS When dCEF Is Disabled Feature (optional)

Configuring the Signaling IS-IS When dCEF Is Disabled Feature

To configure this feature, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# router isis area-tag`	Creates an IS-IS process and enters router configuration mode.
Step 2	`Router(config-router)# external overload signalling`	When dCEF is disabled on a line card, the IS-IS adjacency through that interface is brought down. When dCEF is enabled on the line card, the IS-IS adjacency is brought up. By default, this command is disabled.
Step 3	`Router(config-router)# end`	Saves the configuration and exits router configuration mode.

Verifying the Signaling IS-IS When dCEF Is Disabled Feature

To verify that a signal is received when dCEF is disabled, use the **show clns interface** command.

In this example, when dCEF is disabled the output includes a line “external overload signalled” to indicate that a signal has been sent to IS-IS to tear down its adjacencies on the affected interface.

```
Router# show clns interface pos 5/0

POS5/0 is up, line protocol is up
  Checksums enabled, MTU 4470, Encapsulation FRAME-RELAY
  ERPDUs enabled, min. interval 10 msec.
  CLNS fast switching disabled
  CLNS SSE switching disabled
  DEC compatibility mode OFF for this interface
  Next ESH/ISH in 20 seconds
  Routing Protocol: IS-IS
    Circuit Type: level-1-2
    Interface number 0x0, local circuit ID 0x1
    Level-1 Metric: 10, Priority: 64, Circuit ID: country.01
    DR ID: 0000.0000.0000.00
    Number of active level-1 adjacencies: 0
    Level-2 Metric: 10, Priority: 64, Circuit ID: country.01
    DR ID: 0000.0000.0000.00
    Number of active level-2 adjacencies: 0
    Next IS-IS LAN Level-1 Hello in 5 seconds
    Next IS-IS LAN Level-2 Hello in 6 seconds
    External overload signalled
```

Troubleshooting Tips

To enable diagnostic output concerning the Signaling IS-IS When dCEF Is Disabled feature, use the **debug clns events** EXEC command. In the following example, the output shows the debugging messages when dCEF is disabled:

```
Router# debug clns events

00:09:32: CLNS-Adj: External overload condition (POS5/0) signalled
.
.
.
00:09:50: CLNS-Adj: External overload condition (POS5/0) cleared
```

Configuration Examples

This section provides the following configuration example:

- Configuring the Signaling IS-IS When dCEF Is Disabled Feature

Configuring the Signaling IS-IS When dCEF Is Disabled Feature

In the following example, an IS-IS process called area1 is configured where IS-IS adjacencies are brought down when dCEF is disabled on an interface:

```
Router(config)# router isis area1
Router(config-router)# external overload signalling
```

Command Reference

This section documents the **external overload signalling** command that configures the Signaling IS-IS When dCEF Is Disabled feature. All other commands used with this feature are documented in the Cisco IOS Release 12.0 command reference publications.

external overload signalling

To configure the router to tear down Intermediate System-to-Intermediate System (IS-IS) adjacencies when distributed Cisco Express Forwarding (dCEF) is disabled on an interface, use the **external overload signalling** command in router configuration mode. When dCEF does not send a signal to IS-IS to indicate that dCEF is enabled, use the **no** form of this command to prevent the router from tearing down the IS-IS adjacencies.

external overload signalling

no external overload signalling

Syntax Description

This command has no arguments or keywords.

Defaults

IS-IS adjacencies are not brought down when dCEF is disabled on an interface.

Command Modes

Router configuration

Command History

Release	Modification
12.0(10)S	This command was introduced.
12.0(10)ST	This command was integrated into Cisco IOS Release 12.0(10)ST.

Usage Guidelines

When dCEF is disabled on a line card, the IS-IS adjacency through that interface should be brought down. When CEF is enabled on the line card, the IS-IS adjacency should be brought back up. IS-IS will not rebuild adjacencies for the interface until it receives a signal indicating that dCEF is enabled on the interface.

Examples

The following example configures the IS-IS process to tear down IS-IS adjacencies on any interface where dCEF is disabled:

```
Router(config)# router isis area1
Router(config-router)# external overload signalling
```