# IS-IS Caching of Redistributed Routes

The IS-IS Caching of Redistributed Routes feature improves Intermediate System-to-Intermediate System (IS-IS) convergence time when routes are being redistributed into IS-IS. This document introduces new commands for monitoring and maintaining IS-IS redistributed routes.

**History for the IS-IS Caching of Redistributed Routes Feature**

| Release | Modification |
|---|---|
| 12.0(27)S | This feature was introduced. |
| 12.3(7)T | This feature was integrated into Cisco IOS Release 12.3(7)T. |
| 12.2(25)S | This feature was integrated into Cisco IOS Release 12.2(25)S. |
| 12.2(18)SXE | This feature was integrated into Cisco IOS Release 12.2(18)SXE. |
| 12.2(27)SBC | This feature was integrated into Cisco IOS Release 12.2(27)SBC. |

### Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

## Contents




CISCO SYSTEMS

**Corporate Headquarters:**
**Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA**

# Information About IS-IS Caching of Redistributed Routes

The IS-IS Caching of Redistributed Routes feature is enabled by default. However, you should understand the concept in the following section:

- Benefits of Caching of Redistributed Routes, page 2

## Benefits of Caching of Redistributed Routes

Beginning with Cisco IOS Release 12.0(27)S, IS-IS caches routes that are redistributed from other routing protocols or from another IS-IS level into a local redistribution cache that is maintained by IS-IS. Caching occurs automatically and requires no configuration. The caching of redistributed routes improves IS-IS convergence time when routes are being redistributed into IS-IS.

# How to Use the IS-IS Caching of Redistributed Routes Feature

This section contains the following procedure:

- Monitoring the IS-IS Caching of Redistributed Routes Feature, page 2 (optional)

## Monitoring the IS-IS Caching of Redistributed Routes Feature

This task monitors the IS-IS Caching of Redistributed Routes feature. The commands in Steps 2 through 4 of this task can be entered in any order, as needed.

### SUMMARY STEPS

1. **enable**
2. **clear isis rib redistribution** [**level-1** | **level-2**] [*network-prefix*] [*network-mask*]
3. **debug isis rib redistribution** [**level-1** | **level-2**] [*access-list*]
4. **show isis rib redistribution** [**level-1** | **level-2**] [*network-prefix*]

### DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br><br>**Example:**<br>`Router> enable` | Enables privileged EXEC mode.<br>• Enter your password if prompted. |
| **Step 2** | **clear isis rib redistribution** [**level-1** \| **level-2**] [*network-prefix*] [*network-mask*]<br><br>**Example:**<br>`Router# clear isis rib redistribution level-2` | Clears some or all prefixes in the local redistribution cache. |

| | Command or Action | Purpose |
|---|---|---|
| **Step 3** | **debug isis rib redistribution** [**level-1** \| **level-2**] [*access-list*]<br><br>**Example:**<br>`Router# debug isis rib redistribution level-2` | Debugs the local redistribution cache events. |
| **Step 4** | **show isis rib redistribution** [**level-1** \| **level-2**] [*network-prefix*]<br><br>**Example:**<br>`Router# show isis rib redistribution level-2` | Displays the prefixes in the local redistribution cache.<br>• You can verify if desired routes have been redistributed into IS-IS. |

# Additional References

The following sections provide references related to the IS-IS Caching of Redistributed Routes feature.

## Related Documents

| Related Topic | Document Title |
|---|---|
| IS-IS commands | "Integrated IS-IS Commands" chapter in the *Cisco IOS IP Command Reference, Volume 2 of 4: Routing Protocols*, Release 12.3T |
| IS-IS configuration tasks | "Configuring Integrated IS-IS" chapter in the *Cisco IOS IP Configuration Guide* |

## Standards

| Standards | Title |
|---|---|
| None | — |

## MIBs

| MIBs | MIBs Link |
|---|---|
| None | To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:<br><br>http://www.cisco.com/go/mibs |

## RFCs

| RFCs | Title |
|---|---|
| RFC 2328 | *OSPF Version 2* |

## Technical Assistance

| Description | Link |
|---|---|
| The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content. | http://www.cisco.com/techsupport |

# Command Reference

This section documents the following new commands only:

- **clear isis rib redistribution**
- **debug isis rib redistribution**
- **show isis rib redistribution**

# clear isis rib redistribution

To clear some or all prefixes in the Intermediate System-to-Intermediate System (IS-IS) redistribution cache, use the **clear isis rib redistribution** command in privileged EXEC mode.

**clear isis rib redistribution** [**level-1** | **level-2**] [*network-prefix*] [*network-mask*]

## Syntax Description

| | |
|---|---|
| **level-1** | (Optional) Clears Level 1 IS-IS redistributed prefixes from the redistribution cache. |
| **level-2** | (Optional) Clears Level 2 IS-IS redistributed prefixes from the redistribution cache. |
| *network-prefix* | (Optional) The network ID in the A.B.C.D format for the specific network prefix you want to clear from the redistribution Routing Information Base (RIB). If you do not provide a network mask for the prefix, the major net of the prefix will be used for the network mask. |
| network-mask | (Optional) The network ID in the A.B.C.D format for the network mask for the specific network prefix you want to clear from the RIB. If you do not provide a network mask for the prefix, the major net of the prefix will be used for the network mask. |

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| 12.0(27)S | This command was introduced. |
| 12.3(7)T | This command was integrated into Cisco IOS Release 12.3(7)T. |
| 12.2(25)S | This command was integrated into Cisco IOS Release 12.2(25)S. |
| 12.2(18)SXE | This command was integrated into Cisco IOS Release12.2(18)SXE. |
| 12.2(27)SBC | This command was integrated into Cisco IOS Release12.2(27)SBC. |

## Usage Guidelines

We recommend that you use this command in a troubleshooting situation only when a Cisco Technical Assistance Center representative requests you to do so following a software error.

## Examples

The following example clears the network prefix 10.1.0.0 from the IP local redistribution cache:

```
Router# clear isis rib redistribution 10.1.0.0 255.255.0.0
```

**Related Commands**

| Command | Description |
|---|---|
| **debug isis rib redistribution** | Debugs the local redistribution cache event. |
| **show isis rib redistribution** | Displays the prefixes in the IS-IS redistribution cache. |

# debug isis rib redistribution

To debug the events that update the Intermediate System-to-Intermediate System (IS-IS) redistribution cache, use the **debug isis rib redistribution** command in privileged EXEC mode. To turn off debugging, use the **no** form of this command.

**debug isis rib redistribution** [**level-1** | **level-2**] [*access-list*]

**no debug isis rib redistribution** [**level-1** | **level-2**] [*access-list*]

## Syntax Description

| | |
|---|---|
| **level-1** | (Optional) Displays debug information for level 1 redistribution cache. |
| **level-2** | (Optional) Displays debug information for level 2 redistribution cache. |
| *access-list* | (Optional) An access list number from 1 to 199 or from 1300 to 2699. |

## Command Modes

Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| 12.0(27)S | This command was introduced. |
| 12.3(7)T | This command was integrated into Cisco IOS Release 12.3(7)T. |
| 12.2(25)S | This command was integrated into Cisco IOS Release 12.2(25)S. |
| 12.2(18)SXE | This command was integrated into Cisco IOS Release12.2(18)SXE. |
| 12.2(27)SBC | This command was integrated into Cisco IOS Release12.2(27)SBC. |

## Usage Guidelines

We recommend that you use this command only when a Cisco Technical Assistance Center representative requests you to do so to gather information for a troubleshooting purpose.

## Examples

In the following example, the **debug isis rib redistribution** command is used to display information about events that update the IS-IS redistribution cache. The output is self-explanatory.

```
Router# debug isis rib redistribution level-1 123

IS-IS IPv4 redistribution RIB debugging is on for access list 123 for L1

Router# router isis
Router(config-router)# redistribute connected level-1
Router(config)# access-list 123 permit ip 10.0.0.0 0.255.255.255 any
Router(config)# interface Loopback123
Router(config-if)# ip address 10.123.123.3 255.255.255.255

Nov 25 00:33:46.532: ISIS-RR: 10.123.123.3/32: Up event, from 0x607CAF60
Nov 25 00:33:46.532: ISIS-RR:   looking at L1 redist RIB
Nov 25 00:33:46.532: ISIS-RR:     redistributed to ISIS
Nov 25 00:33:46.532: ISIS-RR:   added    10.123.123.3/32 to L1 redist RIB: [Connected/0]
tag 0 external
Nov 25 00:33:47.532: ISIS-RR: Scanning L1 redist RIB
Nov 25 00:33:47.532: ISIS-RR:   adv 10.123.123.3/32 as L1 redist route
```

```
Nov 25 00:33:47.532: ISIS-RR: End of scanningL1 redist RIB
```

The following line indicates that the connected route 10.123.123.3/32 was added to the IS-IS level 1 local redistribution cache with cost 0, metric type external, and administrative tag of 0:

```
Nov 25 00:33:46.532: ISIS-RR:   added    10.123.123.3/32 to L1 redist RIB: [Connected/0]
tag 0 external
```

The following line indicates that the redistributed route 10.123.123.3/32 was advertised in an IS-IS link-state packet (LSP) as a level 1 redistributed route:

```
Nov 25 00:33:47.532: ISIS-RR:   adv 10.123.123.3/32 as L1 redist rout
```

## Related Commands

| Command | Description |
|---|---|
| **clear isis rib redistribution** | Clears some or all prefixes in the local redistribution cache. |
| **show isis rib redistribution** | Displays the prefixes in the IS-IS redistribution cache. |

# show isis rib redistribution

To display the prefixes in the local redistribution cache, use the **show isis rib redistribution** command in user EXEC or privileged EXEC mode.

**show isis rib redistribution** [**level-1** | **level-2**] [*network-prefix*]

## Syntax Description

| | |
|---|---|
| **level-1** | (Optional) Displays level 1 local redistribution cache information. |
| **level-2** | (Optional) Displays level 2 local redistribution cache information. |
| *network-prefix* | (Optional) The network ID in the A.B.C.D format for a specific network. |

## Command Modes

User EXEC
Privileged EXEC

## Command History

| Release | Modification |
|---|---|
| 12.0(27)S | This command was introduced. |
| 12.3(7)T | This command was integrated into Cisco IOS Release 12.3(7)T. |
| 12.2(25)S | This command was integrated into Cisco IOS Release 12.2(25)S. |
| 12.2(18)SXE | This command was integrated into Cisco IOS Release12.2(18)SXE. |
| 12.2(27)SBC | This command was integrated into Cisco IOS Release12.2(27)SBC. |

## Usage Guidelines

You can use the **show isis rib redistribution** command to verify that desired routes have been redistributed into Intermediate System-to-Intermediate System (IS-IS). The command output will show the network prefixes in the local redistribution cache.

## Examples

In the following example, the output from the **show isis rib redistribution** command verifies that Internet Protocol version 4 (IPv4) routes have been redistributed into IS-IS. The output is self-explanatory.

```
Router# show isis rib redistribution

IPv4 redistribution RIB for IS-IS process
====== Level 1 ======
10.3.3.0/24
  [Connected/0] external
10.0.18.48/28
  [Connected/0] external
====== Level 2 ======
```

The following lines indicate that the prefix 10.3.3.0 with a mask 24 was redistributed from the connected routing protocol into IS-IS as a level 1 route, cost 0, with a metric type external:

```
10.3.3.0/24
  [Connected/0] external
```

The following lines show that the connected routing protocol owns the prefix 10.0.18.48 and that the metric for the route is 28:

```
10.0.18.48/28
  [Connected/0] external
```

## Related Commands

| Command | Description |
|---|---|
| **clear isis rib redistribution** | Clears some or all prefixes in the local redistribution cache. |
| **debug isis rib redistribution** | Debugs the local redistribution cache event. |