



## **Cisco IOS XR Session Border Controller Debug Command Reference**

Cisco IOS XR Software Release 3.4

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## Preface

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This preface contains high-level information about Cisco documentation. It includes the following sections:

- [Changes to This Document, page iii](#)
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## Changes to This Document

[Table 1](#) lists the technical changes made to this document since it was first printed.

**Table 1** *Changes to This Document*

Revision	Date	Change Summary
OL-8528-01	April 2006	Initial release of this document.

## Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

### Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/techsupport>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

## Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

The Product Documentation DVD is created and released regularly. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

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You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

If you do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

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You can provide feedback about Cisco technical documentation on the Cisco Technical Support & Documentation site area by entering your comments in the feedback form available in every online document.

## Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

[http://www.cisco.com/en/US/products/products\\_psirt\\_rss\\_feed.html](http://www.cisco.com/en/US/products/products_psirt_rss_feed.html)

## Reporting Security Problems in Cisco Products

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- For emergencies only—[security-alert@cisco.com](mailto:security-alert@cisco.com)

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- For nonemergencies—[psirt@cisco.com](mailto:psirt@cisco.com)

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

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We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

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Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>



### Note

Use the **Cisco Product Identification Tool** to locate your product serial number before submitting a request for service online or by phone. You can access this tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.



### Tip

Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing F5.

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To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

## Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411

Australia: 1 800 805 227

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

## Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

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## Obtaining Additional Publications and Information

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<http://www.cisco.com/univercd/cc/td/doc/abtunicd/136957.htm>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

<http://www.cisco.com/en/US/learning/index.html>



# Session Border Controller Debug Commands on Cisco IOS XR Software

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This chapter describes the session border controller (SBC) commands used to debug the session border controller-related services on a router running Cisco IOS XR software.

## debug services sbc filter

To turn on debugging messages related to Session Border Controller (SBC) services, use the **debug services sbc filter** command in EXEC mode. To disable debugging, use the **no** form of this command.

```
debug services sbc sbc-name filter {[adjacency name] [bill billing-id] [billing] [bm] [cac] [call] [control] [h323] [icc] [ipv4 ip-address] [media] [mgm] [number number] [overview] [protocol] [radius] [routing] [sip] }
```

```
no debug services sbc sbc-name filter {[adjacency name] [bill billing-id] [billing] [bm] [cac] [call] [control] [h323] [icc] [ipv4 ip-address] [media] [mgm] [number number] [overview] [protocol] [radius] [routing] [sip] }
```

### Syntax Description

<i>sbc-name</i>	Specifies the SBC instance name.
<b>adjacency name</b>	(Optional) Turns on debugging messages filtered by the given adjacency (for example, (h323ToIsp42”).
<b>bill billing-id</b>	(Optional) Turns on the debugging messages filtered by the given billing ID. The billing ID can be obtained from the <b>show sbc sbc-name call call-id</b> branches command.
<b>billing</b>	(Optional) Turns on billing-related debugging messages.
<b>bm</b>	(Optional) Turns on bandwidth manager-related debugging messages.
<b>cac</b>	(Optional) Turns on call admission control related debugging messages.
<b>call</b>	(Optional) Turns on call debugging messages.
<b>control</b>	(Optional) Turns on debugging messages in the H.248 distributes DBE/MG control layer.
<b>h323</b>	(Optional) Turns on H.323 debugging messages.
<b>icc</b>	(Optional) Turns on debugging messages in the interworking call control layer.
<b>ipv4 ip-address</b>	(Optional) Turns on debugging messages filtered by the given IP address.
<b>media</b>	(Optional) Turns on media-related debugging messages.
<b>mgm</b>	(Optional) Turns on MGM component-related debugging messages.
<b>number number</b>	(Optional) Turns on debugging messages filtered by the given destination or calling number.
<b>overview</b>	(Optional) Turns on all call progress-related debugging messages through SBC. This shows the inter-component communications within the SBC.
<b>protocol</b>	(Optional) Turns on protocol-related debugging messages.
<b>radius</b>	(Optional) Turns on RADIUS-related debugging messages.
<b>routing</b>	(Optional) Turns on routing policy-related debugging messages.
<b>sip</b>	(Optional) Turns on SIP-related debugging messages.

### Defaults

The **debug services sbc filter** command is off by default.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.3.0	This command was introduced on the Cisco CRS-1.
	Release 3.4.0	No modification.

**Usage Guidelines** To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to *Using Debug Commands on Cisco IOS XR Software*.



**Note**

Not all options are compatible with all other options. Please use the help (?) feature to determine which options can be grouped on one command line.

Task ID	Task ID	Operations
	—	—

**Examples** The following example shows how to use **debug services sbc** command to filter on adjacency for hte adjacency name aaa and billing ID 23 as well as logging routing components:

```
RP/0/RP0/CPU0:router# debug services sbc mySbc filter adjacency aaa bill 23 routing
```

# debug services sbc ips

To turn on debugging messages related to SBC inter-process signal (ips) tracing, use the **debug services sbc ips** command in EXEC mode. To disable debugging, use the **no** form of this command.

**debug services sbc** *sbc-name* **ips**

**no debug services sbc** *sbc-name* **ips**

Syntax Description	<i>sbc-name</i>	Specifies the SBC instance name.
--------------------	-----------------	----------------------------------

Defaults	The <b>debug services sbc ips</b> command is off by default.
----------	--

Command Modes	EXEC
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Command History	Release	Modification
	Release 3.3.0	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.4.0	No modification.	

Usage Guidelines	To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the <i>Configuring AAA Services on Cisco IOS XR Software</i> module of the <i>Cisco IOS XR System Security Configuration Guide</i> .
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Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to Using Debug Commands on Cisco IOS XR Software.

Task ID	Task ID	Operations
—	—	—

Examples	The following example shows how to turn on SBC ips tracing:
----------	---

```
RP/0/RP0/CPU0:router# debug services sbc ips
```

# debug services sbc log-level

To set the logging level for debugging messages related to SBC services, use the **debug services sbc log-level** command in EXEC mode. To disable debugging, use the **no** form of this command.

```
debug services sbc sbc-name log-level {buffer | console | file} level
```

```
no debug services sbc sbc-name log-level {buffer | console | file} level
```

## Syntax Description

<i>sbc-name</i>	Specifies the SBC instance name.
<b>buffer</b>	Directs SBC logging messages to a cyclic buffer.
<b>console</b>	Directs SBC logging messages to the console.
<b>file</b>	Directs SBC logging messages to a file.
<i>level</i>	Sets the logging level. Range is 0 to 100.

## Defaults

The **debug services sbc logging** command is off by default.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1.
Release 3.4.0	No modification.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to *Using Debug Commands on Cisco IOS XR Software*.

## Task ID

Task ID	Operations
—	—

## Examples

The following example shows how to direct logging output to a cyclic buffer with a logging level of 50:

```
RP/0/RP0/CPU0:router# debug services sbc log-level buffer 50
```

# debug mpf

To turn on debugging messages in the Media Packet Forwarder (mpf) for both SBC services and low-level drivers, use the **debug mpf** command in EXEC mode. To disable debugging, use the **no** form of this command.

```
debug mpf {error | info | fib | flow | packet} [location node-id]
```

```
no debug mpf {error | info | fib | flow | packet} [location node-id]
```

## Syntax Description

<b>(no option)</b>	Turns on all types of debugging messages in the Media Packet Forwarder (including error, information, FIB, and flow messages).
<b>error</b>	Turns on error debugging messages in the Media Packet Forwarder.
<b>info</b>	Turns on info debugging messages in the Media Packet Forwarder.
<b>fib</b>	Turns on FIB debugging messages in the Media Packet Forwarder.
<b>flow</b>	Turns on flow debugging messages in the Media Packet Forwarder.
<b>packet</b>	Turns on packet debugging messages from the Media Packet Forwarder.
<b>location node-id</b>	(Optional) Specifies debug information to enable a specified location (for example, 0/2/CPU0). The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Defaults

The **debug mpf** command is off by default.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1.
Release 3.4.0	No modification.

## Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to Using Debug Commands on Cisco IOS XR Software.

Task ID	Task ID	Operations
—	—	—

**Examples**

The following example shows sample output with the **debug mpf** command:

```
RP/0/RP0/CPU0:router# debug mpf
```

■ debug mpf



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- DHR** Cisco IOS XR Interface and Hardware Component Debug Command Reference
  - DIR** Cisco IOS XR IP Addresses and Services Debug Command Reference
  - DMCR** Cisco IOS XR Multicast Debug Command Reference
  - DMPR** Cisco IOS XR MPLS Debug Command Reference
  - DQR** Cisco IOS XR Modular Quality of Service Debug Command Reference
  - DRR** Cisco IOS XR Routing Debug Command Reference
  - DSB** Cisco IOS XR Session Border Controller Command Reference
  - DSMR** Cisco IOS XR System Management Debug Command Reference
  - DSR** Cisco IOS XR System Security Debug Command Reference

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## **M**

mpf, debug [DSB-6](#)

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## **S**

services sbc filter, debug [DSB-2](#)

services sbc ips, debug [DSB-4](#)

services sbc log-level, debug [DSB-5](#)