



Cisco Unified IP Phone 7970G and 7971G-GE Release Notes for Firmware Release 8.0(3) for Cisco Unified CallManager 5.0 (SIP)

May 17, 2006



Note

This SIP firmware was designed and tested to interoperate with Cisco call control, most notably Cisco Unified CallManager release 5.0. Although this SIP deployment is IETF RFC 3261 compliant, it is not supported by Cisco TAC or Engineering for use with non-Cisco call control systems.

Use these release notes with a Cisco Unified IP Phone 7970G and 7971G-GE running SIP firmware release 8.0(3) and Cisco Unified CallManager release 5.0.

You might need to notify your Cisco Unified IP Phone users about some of the information provided in this document.

Contents

These release notes provide the following information. You might need to notify your users about some of the information provided in this document.

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Related Documentation

Cisco Unified IP Phone Documentation

Refer to publications that are specific to your language, phone model and Cisco Unified CallManager release. Navigate from the following documentation URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/index.htm

Cisco Unified CallManager Documentation

Refer to the Cisco Unified CallManager Documentation Guide and other publications specific to your Cisco Unified CallManager release. Navigate from the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm

New and Changed Information



Note

Cisco Unified IP Phone firmware release 8.0(3) for SIP phones supports Cisco Unified CallManager 5.0. For a complete list of new and changed phone features introduced in this Cisco Unified CallManager release, refer to the Release Notes for Cisco Unified CallManager 5.0. See the “[Related Documentation](#)” [section on page 2](#) for help locating these documents.

The topics below contain new and changed information about features that are introduced in Cisco Unified IP Phone firmware release 8.0(3) for SIP phones, but that are not documented in the latest release of the Cisco Unified IP Phone SIP Administration Guide or User Guide for your phone model.

This section contains these topics:

- [Additional Device Information on the Web, page 2](#)
- [Call History Management Improvements, page 3](#)

Additional Device Information on the Web

Firmware release 8.0(3) supports additional items in the Device Information area on the phone’s web page, including Cisco Unique Device Identifier (UDI) information.

To view the phone’s web page, open a web browser and enter the following URL, where *IP_address* is the IP address of the Cisco Unified IP Phone: http://IP_address.

[Table 1](#) shows the new Device Information items introduced in the 8.0(3) firmware load.

Table 1 **Additional Device Information Area Items Supported by 8.0(3)**

Item	Description
UDI	Displays the following Cisco Unique Device Identifier (UDI) information about the phone: Device Type—indicates hardware type. For example, <i>phone</i> displays for all phone models Device Description—displays the name of the phone associated with the indicated model type Device Model—specifies the phone model Device Version Identifier—represents the hardware version of the phone Device Serial Number—displays the phone’s unique serial number
Time	Time obtained from the Date/Time Group in Cisco Unified CallManager to which the phone belongs
Time Zone	Timezone obtained from the Date/Time Group in Cisco Unified CallManager to which the phone belongs
Date	Date obtained from the Date/Time Group in Cisco Unified CallManager to which the phone belongs

Call History Management Improvements

Firmware release 8.0(3) supports several call history management improvements to give phone users more options for managing call logs. These improvements include:

- Line associations for missed, placed, and received calls—Allows phone users to see which phone line a missed or received call was intended for, and which phone line was used to place an outgoing call. This option is relevant for users who have multiple phone lines.
- Delete all records in a particular log—Allows phone users to delete all of the records in the displayed call log (Missed Calls, Placed Calls, or Received Calls).
- Delete an individual call record—Allows phone users to delete the highlighted call record in any call log.
- Call duration for placed and received calls—Allows phone users to see the call duration for the highlighted call record in the Placed and Received Calls logs.

User Tips

To use the new call history management features on your phone, do the following:

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- Step 1** Press the **Directories** button.
 - Step 2** Choose a call log (Missed, Placed, or Received).
 - Step 3** Highlight a call record.
 - Step 4** Choose one of the following softkeys to complete an action:
 - **Clear**—Deletes all of the call records in the displayed log.
 - **Delete**—Deletes only the highlighted call record.
 - **Details**—Displays details for the highlighted call record, including called number, calling number, time of day, and call duration (for placed and received calls).



Note To access some of these softkeys, you might need to press the **more** softkey first.

Installation Notes

This section contains these topics:

[Firmware Upgrade Issues, page 4](#)

[Firmware Installation Procedure, page 4](#)

Firmware Upgrade Issues

If you are currently running firmware 6.0(2) to 7.0(2) on a Cisco Unified IP Phone 7970G and 7971G-GE and want to upgrade to 8.0(x), be aware that upgrading will take up to twice as long to complete as usual.

Firmware Installation Procedure

Before using the Cisco Unified IP Phone 7970G and 7971G-GE with Cisco Unified CallManager 5.0, you must install the latest firmware on all Cisco Unified CallManager servers in the cluster.

To download and install the firmware, follow these steps:

Procedure

- Step 1** Go to the following URL:
<http://www.cisco.com/cgi-bin/tablebuild.pl/ip-7900ser>
- Step 2** Double-click the following hyperlink, and follow the prompts to download the firmware:
cmterm-7970_7971-sip.8-0-3.cop
- Step 3** Go back to the URL shown in [Step 1](#), double-click the following hyperlink, and follow the prompts to download the Readme file, which contains installation instructions for the corresponding firmware:
cmterm-7970_7971-sip.8-0-3-readme.htm
- Step 4** Follow the instructions in the Readme file to install the firmware.
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Important Notes

This section contains these topics:

- [Failover Time Using TCP is Faster than Failover Time with UDP](#), page 5
- [Cisco Unified CallManager Load Server Setting for Firmware Upgrades](#), page 5
- [Secure PC Logoff in an 802.1X Network](#), page 6

Failover Time Using TCP is Faster than Failover Time with UDP

You can configure SIP profiles for the Cisco Unified IP Phone 7970G and 7971G-GE to operate with TCP or UDP by using the SIP Phone Security Profile Configuration window in Cisco Unified CallManager Administration. If you select TCP as a transport protocol, the failover time between primary, secondary, and tertiary Cisco Unified CallManagers is approximately 5 seconds or less. If you select UDP, the failover time is approximately 120 seconds. The failover time is the maximum time that the phone waits before it can detect Cisco Unified CallManager failure status. The difference in the failover times is due to the behavior of TCP and UDP and is not a defect on the Cisco Unified IP Phones or Cisco Unified CallManager.

Cisco Unified CallManager Load Server Setting for Firmware Upgrades

Cisco Unified CallManager Administration contains a setting to optimize installation time for phone firmware upgrades.



Note

The setting is intended for future use, and is not yet a supported feature.

The Load Server setting is visible on the Phone Configuration page (Product Specific Configuration section) in the Cisco Unified CallManager Administration application. This setting lets you specify an external TFTP server IP address or name (other than the TFTP Server 1 or TFTP Server 2) from which the phone firmware can be retrieved for upgrades on the phones. When the Load Server is set, the phone contacts the designated server for the firmware upgrade.



Note

- If the firmware load is not found on the Load Server, the phone does not upgrade and is not redirected to the TFTP Server 1 or TFTP Server 2.
 - On a factory reset or during a software recovery operation, the phone may fall back to using TFTP Server 1 or TFTP Server 2 to recover the phone load. In these scenarios, the phone will recover the phone load either via the term70.default.loads or term71.default.loads file, or it will attempt to recover the phone load based on its load.hist file.
 - If the phone is auto-registering with Cisco Unified CallManager for the first time, the phone will request the phone load via TFTP Server 1 or TFTP Server 2. This will only occur once when the phone is first installed into the system. This can be mitigated by preloading the phones with the correct firmware so that no firmware upgrade is required in combination with the auto-registration, or by auto-registering the phones at the main site prior to deployment at a remote site.
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You can view the Load Server setting on the phone from **Settings > Device Configuration > Network Configuration > Load Server**. If the value in the Load Server setting is invalid, a “Load Server is invalid” message is displayed on the phone in **Settings > Status > Status Messages**.

Secure PC Logoff in an 802.1X Network

Firmware release 8.0(3) provides support for the Cisco Unified IP Phone 7970G and 7971G-GE to monitor IEEE 802.1X messages between an authenticating switch and a connected PC (supplicant).

When a PC is disconnected from the Cisco Unified IP Phone, the phone issues an EAPOL-Logoff message on behalf of the PC to the authenticating switch. The proxy EAPOL-Logoff message causes the authenticating switch to set the port to an unauthenticated state.

If you have an 802.1X network and upgrade to Cisco Unified IP Phone firmware release 7.0(2) or greater, be aware that you must re-authenticate a PC that is connected to the Cisco Unified IP Phone 7970G and 7971G-GE.

For more information about 802.1X re-authentication, refer to the Cisco Catalyst switch configuration guides at:

http://www.cisco.com/en/US/products/hw/switches/tsd_products_support_category_home.html

Caveats

This section contains these topics:

- [Using Bug Toolkit, page 6](#)
- [Open Caveats, page 7](#)

Using Bug Toolkit

Known problems (bugs) are graded according to severity level. These release notes contain descriptions of:

- All severity level 1 or 2 bugs.
- Significant severity level 3 bugs.

You can search for problems by using the Cisco Software Bug Toolkit.

To access Bug Toolkit, you need the following items:

- Internet connection
- Web browser
- Cisco.com user ID and password

To use the Software Bug Toolkit, follow these steps:

Procedure

-
- Step 1** To access the Bug Toolkit, go to http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.
 - Step 2** Log on with your Cisco.com user ID and password.
 - Step 3** Click the **Launch Bug Toolkit** hyperlink.
 - Step 4** To look for information about a specific problem, enter the bug ID number in the “Enter known bug ID” field and click **Search**.
-

Open Caveats

Table 2 lists Severity 1, 2, and 3 defects that are open for Cisco Unified IP Phone 7970G and 7971G-GE for firmware release 8.0(3).

For more information about an individual defect, you can access the online record for the defect by clicking the Identifier or going to the URL shown. You must be a registered Cisco.com user to access this online information.

Because defect status continually changes, be aware that Table 2 reflects a snapshot of the defects that were open at the time this report was compiled. For an updated view of open defects, access Bug Toolkit as described in the “Using Bug Toolkit” section on page 6.

Table 2 Open Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3)

Identifier	Headline and Bug Toolkit Link
CSCsd11752	SIP phone created files should be removed during recovery http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd11752
CSCsd26849	Phone login attempt says Host not found when tomcat is closed http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd26849
CSCsd33163	Forwarded call information does not scroll http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd33163
CSCsd74844	Phone in InUseRemote state is not cleared within 5 minutes http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd74844
CSCsd82538	Third softkey position on secondary phone lines is inactive http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd82538
CSCsd94168	No audible ringback on redial http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd94168
CSCsd97873	CTI DTMF digits are not notified in 2833 http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd97873
CSCsd98089	Phone flips back and forth with Cisco Unified CallManager on TCP link problem http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd98089
CSCse01461	Phone does not display calling number when RPID privacy equals name http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse01461
CSCse05959	Phone crashed when testing cascaded conference with four phones http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse05959
CSCse07214	Use non block option for TLS connect http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse07214
CSCse11119	SIP phone should accept receive only for multi-cast MOH http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse11119
CSCse12436	Relative DTMF volume may remain at the nominal amplitude even when configured to be relatively higher or lower http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse12436

Table 2 Open Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3) (continued)

Identifier	Headline and Bug Toolkit Link
CSCse22502	Phone uses SRST for both active and standby during failover http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse22502
CSCse22532	Phone UI shows wrong Cisco Unified CallManager registration status after call preservation in failover http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse22532
CSCsd98089	Phone flips back and forth with Cisco Unified CallManager on TCP link problem http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd98089
CSCse07214	Use non block option for TLS connect http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse07214
CSCse19960	UDP phone won't stop message retransmission in call preservation mode http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse19960
CSCse18857	Dial plan is not supported when failover to SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse18857
CSCse16078	Phone uses default softkey template with Cisco Unified CallManager after fallback from SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse16078
CSCse22698	Message corruption http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse22698

Resolved Caveats

Table 3 lists Severity 1, 2, and 3 defects that are resolved for Cisco Unified IP Phone 7970G and 7971G-GE for firmware release 8.0(3).

Table 3 Resolved Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3)

Identifier	Headline and Bug Toolkit Link
CSCek32771	Call forward no answer from SCCP to SIP phone failed http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCek32771
CSCsb11707	PLAR result is short dialtone prior to invite being sent http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsb11707
CSCsb19394	SetLamp request from TAPI application does not turn on the lamp http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsb19394
CSCsb78781	Phone disconnects if it doesn't accept SDP body in a re-invite http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsb78781
CSCsb99327	SIP line not obey Retain Forward Information service parameter http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsb99327
CSCsc46668	Anonymous versus. Private when Privacy is enabled http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsc46668

Table 3 Resolved Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3) (continued)

Identifier	Headline and Bug Toolkit Link
CSCsc53597	Ack is sent to 0.0.0.0 when DNS lookup of record-route header fails http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsc53597
CSCsc56616	Phone does not renew IP address if reservation is changed on the DHCP server http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsc56616
CSCsc73646	Display shows restricted connected number (Anonymous) in diversion header http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsc73646
CSCsc99166	Initial voice clipping on phone http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsc99166
CSCsd06032	Phone interdigit timeout is not reset after each digit is selected http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd06032
CSCsd09502	Phone does not send DHCP traffic to the PC port http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd09502
CSCsd16501	UDP phones show incorrect registration status http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd16501
CSCsd17448	Line reports as unregistered after failover, but it is not http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd17448
CSCsd18797	Partial UI freeze on the phone when selecting service buttons rapidly http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd18797
CSCsd27794	Message button yields simultaneous voice prompt and dial tone http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd27794
CSCsd35155	Phone update response is missing the From tag http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd35155
CSCsd39250	Caller crashes after failover/fallback on call managers and SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd39250
CSCsd40864	Hold and Resume on Barger fails for G.729 codec http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd40864
CSCsd41028	Phone wont update line and call manager status during a DHCP refresh http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd41028
CSCsd42135	Line drop fails to drop the call when the phone is in the off-hook state with dial tone http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd42135
CSCsd45187	Callback does not work when speed dial exists before the line http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd45187
CSCsd46480	Callback to busy line fails if digest authentication is on the phone http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd46480
CSCsd47985	Distinctive ring fails if the called phone is on an active call http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd47985

Table 3 Resolved Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3) (continued)

Identifier	Headline and Bug Toolkit Link
CSCsd49239	Display on the phone is incorrect in a transfer scenario http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd49239
CSCsd49254	CallBack softkey is not grayed out for wrong numbers http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd49254
CSCsd49814	Meetme transfer causes the phone to core dump http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd49814
CSCsd50795	Phone failed to resume remote held causes phone to send wrong invite http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd50795
CSCsd52896	Phone does not show CFwdAll indication for a forwarded phone on SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd52896
CSCsd55393	AutoAnswer fails if 1st call is cancelled after a second call comes in http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd55393
CSCsd55638	Remote held shared line hangs when Cisco Unified CallManager is down http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd55638
CSCsd56871	Delay four seconds prior to invite for dial during CallBack PLAR scenario http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd56871
CSCsd61893	Shared line select does not work when digest is enabled http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd61893
CSCsd61920	During CFA to voicemail, voicemail string is not localized http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd61920
CSCsd65512	Phone User Preference > Rings window UI is (Overlapping) http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd65512
CSCsd66998	http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd66998 http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd66998
CSCsd67201	Transfer doesn't work properly http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd67201
CSCsd73993	Shared line does not put up a select mark when transferring http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd73993
CSCsd75689	Phone fails to come back from SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd75689
CSCsd76840	Phone does not fallback shows Restarting http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd76840
CSCsd88822	Active calls failover to SRST fail after some time http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd88822
CSCsd88830	Error Pass Limit is no longer displayed when the maximum number of calls is reached http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd88830

Table 3 Resolved Caveats for Cisco Unified IP Phone 7970G and 7971G-GE for Firmware Release 8.0(3) (continued)

Identifier	Headline and Bug Toolkit Link
CSCsd94259	Phone does not resubscribe after a Cisco Unified CallManager reboot is detected http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd94259
CSCsd95276	http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd95276 http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd95276
CSCsd99237	Crash on a Barge attempt of a barged line http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCsd99237
CSCse06880	Cfwdall fails when SRST is in redirect mode http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse06880
CSCse06889	Cfwdall fails to come back on Cisco Unified CallManager after fallback from SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse06889
CSCse09914	Call fails when there is no dial plan and registered to SRST http://www.cisco.com/cgi-bin/Support/Bugtool/onebug.pl?bugid=CSCse09914

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

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

Product Documentation DVD

The Product Documentation DVD is a comprehensive library of technical product documentation on a portable medium. The DVD enables you to access multiple versions of installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the same HTML documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .PDF versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at this URL:

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

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Registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:

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

Nonregistered Cisco.com users can order technical documentation from 8:00 a.m. to 5:00 p.m. (0800 to 1700) PDT by calling 1 866 463-3487 in the United States and Canada, or elsewhere by calling 011 408 519-5055. You can also order documentation by e-mail at tech-doc-store-mkpl@external.cisco.com or by fax at 1 408 519-5001 in the United States and Canada, or elsewhere at 011 408 519-5001.

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Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

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

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

- 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

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For Emergencies only—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For Nonemergencies—psirt@cisco.com

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

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



Tip

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 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

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

If you do not have or use PGP, contact PSIRT at the aforementioned e-mail addresses or phone numbers before sending any sensitive material to find other means of encrypting the data.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:

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

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 (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI 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.

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.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco offerings. To order and find out more about the Cisco Product Quick Reference Guide, go to this URL:

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

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

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

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

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

or view the digital edition at this URL:

<http://ciscoiq.texterity.com/ciscoiq/sample/>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

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

- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

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

- Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

<http://www.cisco.com/discuss/networking>

- 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>

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