



Release Notes for Cisco Unity-CM TSP

Release 8.0(1)

Published April 14, 2005

These release notes contain download and installation instructions, and information on new and changed requirements and support, new and changed functionality, and caveats for Cisco Unity-CM TAPI service provider (TSP) Release 8.0(1).

The Cisco Unity-CM TSP is used only for the Cisco CallManager and Cisco CallManager Express integrations. Cisco Unity-CM TSP version 8.0(1) is automatically installed with Cisco Unity version 4.0(5).

[Table 1](#) lists the versions of Cisco CallManager, Cisco CallManager Express, and Cisco Unity that are supported with Cisco Unity-CM TSP 8.0(1).

Table 1 **Supported Versions of Cisco CallManager, Cisco CallManager Express, and Cisco Unity with Cisco Unity-CM TSP 8.0(1)**

Phone System	Phone System Versions	Cisco Unity Versions	Cisco Unity-CM TSP
Cisco CallManager	4.1(3), 4.1(2), 4.0(2), 4.0(1), 3.3(4), 3.3(3), 3.3(2), 3.3(1), 3.2(3), 3.2(2), 3.2(1)	4.0(5), 4.0(4), 4.0(3), 4.0(2), 4.0(1), 3.1(6), 3.1(5), 3.1(4), 3.1(3), 3.1(2c), 3.1(2b), 3.1(2), 3.1(1), 3.0(4), 3.0(3), 3.0(2), 3.0(1)	8.0(1)
Cisco CallManager Express	3.2, 3.1, 3.0(3), 3.0(2), 3.0(1)	4.0(5)	8.0(1)



Note

For the most current list of all qualified version combinations of the Cisco Unity-CM TSP with Cisco Unity, Cisco CallManager, and Cisco CallManager Express—including versions qualified since the release of Cisco Unity-CM TSP 8.0(1)—and for the version support policy for Cisco Unity and Cisco CallManager, refer to *Compatibility Matrix: Cisco Unity, the Cisco Unity-CM TSP, Cisco CallManager, and Cisco CallManager Express* at http://www.cisco.com/en/US/docs/voice_ip_comm/unity/compatibility/matrix/cutspmtx.html.



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

Copyright © 2005 Cisco Systems, Inc. All rights reserved.

Cisco CallManager Support Patch (sp) releases are not listed in [Table 1](#) unless they affect compatibility with Cisco Unity or the Cisco Unity-CM TSP. If not listed, a support patch has the same compatibility as the base release. In addition, rereleased versions—for example, 3.x(xa) rereleased as 3.x(xb)—are assumed to have the same compatibility unless noted.

Cisco Unity service releases (SR) are not listed in [Table 1](#) unless they affect compatibility with Cisco CallManager or the Cisco Unity-CM TSP. If not listed, a service release has the same compatibility as the base release.

Access the latest software upgrades for the Cisco Unity-CM TSP on the Cisco Unity-CM TSP Software Download page at <http://www.cisco.com/cgi-bin/tablebuild.pl/unity-cm-tsp>.

Contents

- [System Requirements, page 2](#)
- [Determining the Software Version, page 3](#)
- [Downloading Cisco Unity-CM TSP Version 8.0\(1\), page 4](#)
- [Installing the Cisco Unity-CM TSP, page 4](#)
- [New and Changed Requirements and Support—Release 8.0\(1\), page 6](#)
- [New and Changed Functionality—Release 8.0\(1\), page 7](#)
- [Installation and Upgrade Notes, page 7](#)
- [Caveats, page 8](#)
- [Troubleshooting, page 10](#)
- [Cisco Unity Documentation, page 10](#)
- [Obtaining Documentation, page 10](#)
- [Documentation Feedback, page 11](#)
- [Cisco Product Security Overview, page 11](#)
- [Obtaining Technical Assistance, page 12](#)
- [Obtaining Additional Publications and Information, page 14](#)

System Requirements

- A supported version of Cisco Unity running on the Cisco Unity server:
 - For an integration with Cisco CallManager, Cisco Unity 3.0(1) through 4.0(x).
 - For an integration with Cisco CallManager Express, Cisco Unity 4.0(5) or later.
- An account with local administrator privileges must be used to upgrade the Cisco Unity-CM TSP. Otherwise, no Cisco Unity ports will be available after the upgrade.
- If you are changing the number of voice messaging ports on the Cisco Unity system, you must adjust the ports in Cisco CallManager before installing the Cisco Unity-CM TSP. Refer to the “Changing the Number of Voice Messaging Ports” section in the applicable version of the Cisco CallManager integration guide. Cisco CallManager integration guides are available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_installation_and_configuration_guides_list.html.

- If you are setting up a Cisco CallManager integration for the first time, refer to the applicable version of the Cisco CallManager integration guide, instead of using the instructions in these release notes. Cisco CallManager integration guides are available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_installation_and_configuration_guides_list.html.

Determining the Software Version

This section contains procedures for determining the version in use for the following software:

- [Cisco Unity-CM TSP, page 3](#)
- [Cisco Unity, page 3](#)

Cisco Unity-CM TSP

To Determine the Cisco Unity-CM TSP Version in Use by Using the Cisco Unity Telephony Integration Manager

-
- Step 1** On the Windows Start menu of the Cisco Unity server, click **Programs > Cisco Unity > Manage Integrations**. The UTIM window appears.
- Step 2** In the left pane, click the Cisco CallManager integration.
- Step 3** In the right pane, click **Properties**. On the Integration tab, the Cisco Unity-CM TSP version is displayed in the TSP Version field.
-

To Determine the Cisco Unity-CM TSP Version in Use by Using the AvSkinny.tsp File

-
- Step 1** Browse to the WinNT\System32 directory.
- Step 2** Right-click **AvSkinny.tsp**, and click **Properties**.
- Step 3** In the Properties window, click the **Version** tab.
- Step 4** In the Item Name list, click **Product Version**. The Cisco Unity-CM TSP version is displayed in the Value window.
-

Cisco Unity

To Determine the Cisco Unity Version in Use by Using the Cisco Unity Administrator

In the Cisco Unity Administrator, go to the **System > Configuration > Software Versions** page. The Cisco Unity version is displayed in the Cisco Unity Build Number field.

To Determine the Cisco Unity Version in Use by Using the AvCsMgr.exe File (Version 3.0(4) and Later Only)

-
- Step 1** Browse to the **CommServer** directory.
- Step 2** Right-click **AvCsMgr.exe**, and click **Properties**.
- Step 3** In the Properties window, click the **Version** tab.
- Step 4** In the Item Name list, click **Product Version**. The Cisco Unity version is displayed in the Value window.
-

Downloading Cisco Unity-CM TSP Version 8.0(1)

Do the procedure in this section only if you are installing Cisco Unity-CM TSP 8.0(1) on a Cisco Unity version 4.0(4) or earlier system. (Version 8.0(1) is automatically installed with Cisco Unity 4.0(5).)

To Download the Cisco Unity-CM TSP

-
- Step 1** Confirm that the Cisco Unity server has at least 6 MB of hard-disk space available for the download file and the extracted files.
- Step 2** On a computer with a high-speed Internet connection, go to the Cisco Unity-CM TSP Software Download page at <http://www.cisco.com/cgi-bin/tablebuild.pl/unity-cm-tsp>.



Note To access the software download page, you must be logged on to Cisco.com as a registered user.

- Step 3** Download the file **CiscoUnityCMTSP8.0.1.exe** to the directory of your choice.
- Step 4** Unzip the file **CiscoUnityCMTSP8.0.1.exe** to the default directory or to the directory of your choice.
- Step 5** Delete the file **CiscoUnityCMTSP8.0.1.exe** to free hard disk space.
-

Installing the Cisco Unity-CM TSP

This section contains procedures for installing the Cisco Unity-CM TSP depending on the version of Cisco Unity:

- [For a Cisco Unity 4.0\(x\) System, page 4](#)
- [For a Cisco Unity 3.1\(x\) or 3.0\(x\) System, page 5](#)

For a Cisco Unity 4.0(x) System

Do the procedure in this section only if you are installing Cisco Unity-CM TSP 8.0(1) on a Cisco Unity version 4.0(x) system. (Note that version 8.0(1) is automatically installed with Cisco Unity 4.0(5).)

Note that if you are changing the number of voice messaging ports on the Cisco Unity system, you must add a voice messaging port to Cisco CallManager for each port that you are connecting to Cisco Unity before you install the Cisco Unity-CM TSP. Refer to the “Changing the Number of Voice Messaging

Ports” section in the applicable version of the Cisco CallManager integration guide. Cisco CallManager integration guides are available at

http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_installation_and_configuration_guides_list.html.

You can keep the previous voice messaging ports, and the Cisco Unity-CM TSP configuration is automatically retained.

To Install the Cisco Unity-CM TSP on a Cisco Unity 4.0(x) System

-
- Step 1** Stop Cisco Unity (right-click the **Cisco Unity** icon in the system tray, then click **Stop Cisco Unity**).
 - Step 2** Browse to the directory in which you saved the extracted Cisco Unity-CM TSP files in the “[Downloading Cisco Unity-CM TSP Version 8.0\(1\)](#)” section on page 4, and double-click **SkinnySetup.exe**.
 - Step 3** Follow the on-screen prompts.
 - Step 4** Restart the Cisco Unity server.
-

For a Cisco Unity 3.1(x) or 3.0(x) System

Do the procedure in this section only if you are installing Cisco Unity-CM TSP 8.0(1) on a Cisco Unity version 3.1(x) or 3.0(x) system.

Note that if you are changing the number of voice messaging ports on the Cisco Unity system, you must add a voice messaging port to Cisco CallManager for each port that you are connecting to Cisco Unity before you install the Cisco Unity-CM TSP. Refer to the “Changing the Number of Voice Messaging Ports” section in the applicable version of the Cisco CallManager integration guide. Cisco CallManager integration guides are available at

http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_installation_and_configuration_guides_list.html.

You can keep the previous voice messaging ports, and the Cisco Unity-CM TSP configuration is automatically retained.

To Install the Cisco Unity-CM TSP on a Cisco Unity 3.1(x) or 3.0(x) System

-
- Step 1** Stop Cisco Unity (right-click the **Cisco Unity** icon in the system tray, then click **Stop Cisco Unity**).
 - Step 2** Browse to the directory in which you saved the extracted Cisco Unity-CM TSP files in the “[Downloading Cisco Unity-CM TSP Version 8.0\(1\)](#)” section on page 4, and double-click **SkinnySetup.exe**.
 - Step 3** Follow the on-screen prompts.
 - Step 4** In the Cisco Unity-CM TSP dialog box, in the Select Cisco CallManager list, click the Cisco CallManager or Cisco CallManager Express server to which Cisco Unity is connected.

If the Select Cisco CallManager list is empty, click **Add**, enter the IP address of the Cisco CallManager server to which Cisco Unity is connected, then click **OK**.
 - Step 5** In the Cisco Unity-CM TSP Settings dialog box, verify the information in the following three fields:
 - Primary CallManager IP Address

- Number of Voice Ports
- Device Name Prefix (The prefix must match the prefix for the Voice Mail ports. Note that the device name prefix is case-sensitive.)

Step 6 Confirm that the dial numbers in the MessageWaitingOffDN and MessageWaitingOnDN fields match the Cisco CallManager settings on the applicable Cisco CallManager Administration page:

Cisco CallManager version 3.2(1) and later	Settings are on the Features > Voice Mail > Message Waiting page in Cisco CallManager Administration.
Cisco CallManager version 3.1(4) and earlier	Settings are on the Service > Service Parameters page in Cisco CallManager Administration

If the dial numbers are not in the MessageWaiting fields of the Cisco Unity-CM TSP Settings dialog box, enter them.

Step 7 Confirm that the Cisco CallManager Device list displays the correct number of Cisco Unity ports and that the port names match the names of the Voice Mail ports.

Step 8 Click **OK**.

Step 9 In the Cisco Unity-CM Service Provider dialog box, click **Test**.

Step 10 In the Test Configuration and Connection dialog box, click **OK**.

Step 11 If the configuration is correct, the Test Succeeded dialog box appears. Click **OK**, then skip to [Step 13](#).

If incorrect information was entered during configuration, the Error dialog box appears. Errors can be caused by:

- Entering the wrong IP address for the Cisco CallManager server during configuration.
- Entering the wrong device name prefix during configuration.

Step 12 Correct errors in the Service Provider dialog box.

In Windows 2000, on the Start menu, click **Settings > Control Panel > Phone and Modem Options > Advanced > Cisco Unity-CM Service Provider > Settings**.

or

In Windows NT, on the Start menu, click **Settings > Control Panel > Telephony > Telephony Drivers > Cisco Unity-CM Service Provider > Settings**.

Step 13 Restart the Cisco Unity server.

New and Changed Requirements and Support—Release 8.0(1)

This section contains information about new and changed requirements and support for Cisco Unity-CM TSP Release 8.0(1) only. Refer to the applicable release notes for information on new and changed functionality in earlier versions of the Cisco Unity-CM TSP. Release notes for all versions of the Cisco Unity-CM TSP are available at

http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

Cisco CallManager Express Integration Must Use Cisco Unity 4.0(5) or Later

With Cisco Unity-CM TSP 8.0(1), a Cisco CallManager Express integration is supported only with Cisco Unity 4.0(5) and later. The integration will fail if Cisco Unity-CM TSP 8.0(1) is used with Cisco Unity 4.0(4) or earlier.

In addition, in the Cisco Unity Telephony Integration Manager, you must check the This Cluster Is Cisco CallManager Express check box.

New and Changed Functionality—Release 8.0(1)

This section contains information about new and changed functionality for Cisco Unity-CM TSP Release 8.0(1) only. Refer to the applicable release notes for information on new and changed functionality in earlier versions of the Cisco Unity-CM TSP. Release notes for all versions of the Cisco Unity-CM TSP are available at

http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

Cisco Unity-CM TSP Redesigned

The Cisco Unity-CM TSP has been redesigned (refactored) to improve the Cisco Unity integration with Cisco CallManager and to resolve certain defects against the integration.

Cisco CallManager Authentication and Encryption

With Cisco Unity-CM TSP 8.0(1), a Cisco Unity 4.0(5) and later system integrated with Cisco CallManager 4.1(3) and later can take advantage of Cisco CallManager authentication and encryption to provide security for the Cisco Unity voice messaging ports. For details, refer to the *Cisco CallManager 4.1 Integration Guide for Cisco Unity 4.0* at

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/integuid/callma41/ccm41u40.htm.

RTP Port Cycling

With Cisco Unity-CM TSP 8.0(1), Cisco Unity will cycle through RTP ports 24576 through 32768 for the media stream. This feature prevents interference caused by rogue media streams that are not completely closed when the call is completed.

Installation and Upgrade Notes

Uninstalling the Cisco Unity-CM TSP

It is not necessary to uninstall an earlier version of the Cisco Unity-CM TSP before installing version 8.0(1). The installation process automatically removes the older Cisco Unity-CM TSP.

Caveats

This section describes only severity 1, 2, and select severity 3 caveats.

If you have an account with Cisco.com, you can use Bug Toolkit to find more information on the caveats in this section, in addition to caveats of any severity for any release. Bug Toolkit is available at the website http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Note that this section contains caveat information for Cisco Unity-CM TSP Release 8.0(1) only. For caveat information for earlier versions of the Cisco Unity-CM TSP, refer to the applicable release notes. Release notes for all versions of the Cisco Unity-CM TSP are available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

Open Caveats—Release 8.0(1)

Table 2 Cisco Unity-CM TSP Release 8.0(1) Open Caveats

Caveat Number	Severity	Component	Description
CSCsa67988	3	telephony	<p>Although the Cisco Unity-CM TSP is properly configured with primary, secondary, and tertiary Cisco CallManager servers, when the Cisco CallManager service on the primary Cisco CallManager server is stopped, the Cisco Unity voice messaging ports will not fail over to the secondary or tertiary Cisco CallManager servers. According to the Cisco CallManager Administration web interface, the Cisco Unity voice messaging ports will remain in the “Unregistered” or “Not Found” state.</p> <p>This problem may occur with any current version of Cisco CallManager, Cisco Unity, and Cisco Unity-CM TSP including Cisco CallManager 4.0(2a) SR1, Cisco Unity 4.0(4) SR1, and Cisco Unity-CM TSP 7.0(4b) or any earlier versions.</p> <p>This problem will occur when the Cisco CallManager service on the primary Cisco CallManager server is stopped, but the server is still listening on TCP port 2000. This scenario can occur due to defect CSCsa67507 or other similar scenarios.</p> <p>Workarounds</p> <p>There are two workarounds:</p> <ul style="list-style-type: none"> Reboot the primary Cisco CallManager server to clear any and all TCP sessions stuck in the LAST_ACK state on TCP port 2000. From http://www.sysinternals.com/ntw2k/source/tcpview.shtml, download the TCP View utility, and run the utility on the primary Cisco CallManager server. You use this utility to close manually any TCP session hung in the LAST_ACK state on TCP port 2000. Closing hung TCP sessions will cause the Cisco CallManager server to stop listening on TCP port 2000 and let Cisco Unity fail over to the secondary Cisco CallManager server. Remove the TCP View utility from the Cisco CallManager server after you complete the workaround.

Table 2 *Cisco Unity-CM TSP Release 8.0(1) Open Caveats (continued)*

Caveat Number	Severity	Component	Description
CSCsa79169	2	telephony	<p>Transfers from Cisco Unity 4.x will be dropped if the destination DN is out of bandwidth and the DN has call waiting enabled.</p> <p>This problem occurs with Cisco Unity 4.x and Cisco CallManager 4.x, when locations and call waiting are enabled.</p> <p>Workaround</p> <p>Disable call waiting on the extensions that Cisco Unity needs to transfer calls to.</p>

Resolved Caveats—Release 8.0(1)

Table 3 *Cisco Unity-CM TSP Release 8.0(1) Resolved Caveats*

Caveat Number	Severity	Component	Description
CSCdz82495	3	telephony	Avaudio.sys should not accept multiple IP streams to the same source.
CSCed52913	2	telephony	The Cisco Unity RTP stream has jitter with when the G.729 codec is set to 30 and 60 ms, or the G.711 codec is set to 30 ms.
CSCed54449	3	telephony	A Cisco CallManager integration loses a voice messaging port due to MIU thread corruption.
CSCee09717	3	telephony	Cisco CallManager intermittently fails to transfer calls from Cisco Unity to the PSTN.
CSCee43394	3	telephony	Recalling supervised transfers does not work with Cisco CallManager Express.
CSCee57683	3	telephony	The caller is disconnected when transferring to a subscriber (the caller should receive a busy signal).
CSCee59871	3	telephony	Cisco Unity ports time out on abandoned supervised transfers.
CSCee64869	3	telephony	The phone rings even after the caller is disconnected in a supervised transfer.
CSCee92998	3	telephony	Incorrect RTP sequence numbers are in the comfort noise packets.
CSCef10291	3	telephony	Upon clicking the Verify Servers command button for a given Cisco CallManager cluster in UTIM (Cisco Unity Telephony Integrations Manager), the Cisco Unity-CM TSP activity to test connectivity and registration to the Cisco CallManager server is not written in any diagnostics file.
CSCef29258	2	telephony	Cisco Unity makes about 100 attempts per minute to toggle an MWI for a phone and logs an event log error/warning for each attempt. The failure (CiscoUnity_TSP source id 127) notes that a collision occurred with an incoming call on the same port.
CSCef51624	3	telephony	Intermittently, when a call arrives from the PSTN and the caller dials zero so that Cisco Unity will transfer the call to a receptionist IP phone, the call will fail and the IP phone will ring only half a ring. The caller from the PSTN will also hear half a ringback on the transfer. This problem happens for around 50 percent of the transfer calls.

Table 3 *Cisco Unity-CM TSP Release 8.0(1) Resolved Caveats (continued)*

Caveat Number	Severity	Component	Description
CSCef79341	3	telephony	Cisco Unity voice messaging ports lock up when the media stream stops (when Cisco Unity is put on hold).
CSCeg73337	3	telephony	For Cisco CallManager Express, the message is not announced as from another subscriber on a release transfer of a subscriber-to-subscriber call.
CSCsa60597	3	telephony	For Cisco CallManager Express, the source name is incorrect for calls transferred to voice mail.
CSCsa71042	3	telephony	The Cisco Unity supervised (consult) transfer functionality breaks when the Cisco CallManager Transfer On-Hook Enabled service parameter is set to True.

Troubleshooting

For information on troubleshooting the Cisco Unity-CM TSP and the phone system integration, refer to the *Cisco Unity Troubleshooting Guide*, available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_troubleshooting_guides_list.html.

Cisco Unity Documentation

For descriptions and URLs of Cisco Unity documentation on Cisco.com, refer to the *Cisco Unity Documentation Guide*. The document is shipped with Cisco Unity and is available at http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/about/aboutdoc.htm.

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/univercd/home/home.htm>

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

Documentation DVD

Cisco documentation and additional literature are available in a Documentation DVD package, which may have shipped with your product. The Documentation DVD is updated regularly and may be more current than printed documentation. The Documentation DVD package is available as a single unit.

Registered Cisco.com users (Cisco direct customers) can order a Cisco Documentation DVD (product number DOC-DOCDVD=) from the Ordering tool or Cisco Marketplace.

Cisco Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/>

Cisco Marketplace:

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

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:
<http://www.cisco.com/en/US/partner/ordering/>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

Documentation Feedback

You can send comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

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 can perform these tasks:

- 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 and notices for Cisco products is available at this URL:

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

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from 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 might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com
- Nonemergencies—psirt@cisco.com



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one that has the most recent creation date in this public key server list:

<http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&exact=on>

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

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

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, Cisco Technical Support provides 24-hour-a-day, award-winning technical assistance. The Cisco Technical Support Website on Cisco.com features extensive online support resources. In addition, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not hold a valid Cisco service contract, contact your reseller.

Cisco Technical Support Website

The Cisco Technical Support 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, 365 days a year, at this URL:

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

Access to all tools on the Cisco Technical Support 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 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 TAC 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 TAC 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)—Your 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 operation 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 your network is impaired, but 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.

- Cisco Marketplace provides a variety of Cisco books, reference guides, 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>

- *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>

- 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>

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)

© 2005 Cisco Systems, Inc. All rights reserved.