



Release Notes for Cisco Unity ViewMail for Microsoft Outlook Release 4.1(1)

Published November 11, 2005

These release notes contain requirements, download and installation instructions, limitations and restrictions, and open and resolved caveats for Cisco Unity ViewMail for Microsoft Outlook Release 4.1(1).

ViewMail 4.1(1) is available on the ViewMail for Microsoft Outlook Software Download page at <http://www.cisco.com/cgi-bin/tablebuild.pl/unity-vmo>. Note that the ViewMail file available for download is U.S. English only; no multilingual version of the release is planned.



Note

For full access to the Software Center website, you must be logged on to Cisco.com as a registered user.

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Compatibility Information

ViewMail version 4.1(1) has been qualified for the following version combinations with Cisco Unity with Microsoft Exchange and the software on subscriber workstations that is required with ViewMail.

Table 1 *Supported Version Combinations for ViewMail 4.1(1), Cisco Unity with Exchange, and the Software on Subscriber Workstations*

Cisco Unity ViewMail for Microsoft Outlook on Workstation	Cisco Unity	Operating System on Workstation	Messaging Client on Workstation
<ul style="list-style-type: none"> • 4.1(1) 	<ul style="list-style-type: none"> • 4.1(1) • 4.0(x) • 3.1(x) 	Windows <ul style="list-style-type: none"> • XP • 2000 • NT 4.0 • ME • 98 	Outlook <ul style="list-style-type: none"> • 2003 • 2002 (XP) • 2000 • 98¹

1. Subscribers who use Outlook 98 with Windows 2000 or Windows XP must have local administrative rights to their workstations in order to use ViewMail. For more information, refer to caveat CSCeb51411. Bug Toolkit is available at http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.



Note

ViewMail does not support voice messages stored on an IBM Lotus Domino server, even if you use Microsoft Outlook 2002 Connector.

For a current list of all qualified version combinations of ViewMail, Cisco Unity with Exchange, and the software on subscriber workstations—including combinations qualified since the release of ViewMail version 4.1(1), and the support policy for software on subscriber workstations—refer to *Compatibility Matrix: Cisco Unity and the Software on Subscriber Workstations* at http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/cmptblty/clientmx.htm.

Requirements

- To install ViewMail, you must have local administrator rights on the subscriber workstation.
- The subscriber workstation must have at least 1.91MB of hard-disk space available for ViewMail.
- Outlook should not be running and virus-scanning services should be disabled on subscriber workstations when ViewMail is installed.
- Any previously installed 2.4(6.x) version of ViewMail must be removed from subscriber workstations before ViewMail 4.1(1) is installed. See the [“Removing a Previously Installed 2.4\(6.x\) Version of ViewMail”](#) section on page 4.

- Any previously installed 3.0(x) version of ViewMail must be removed from subscriber workstations before ViewMail 4.1(1) is installed. You can uninstall it at the same time that you install ViewMail 4.1(1), or you can use Add/Remove Programs in Windows to remove it. In either case, however, further steps are required to completely remove the application. For more information, see the “[ViewMail Version 3.x Fails to Uninstall Completely](#)” section on page 8.

Determining the ViewMail Version

There are two ways to determine the version of ViewMail in use on a subscriber workstation. Do either procedure, as applicable.

To Determine the ViewMail Version in Use from Add/Remove Programs (ViewMail version 4.05 and Later Only)

-
- Step 1** On the Windows Start menu on the subscriber workstation, click **Settings > Control Panel > Add/Remove Programs**.
- Step 2** In the Currently Installed Programs list, find **ViewMail for Outlook**.
-

To Determine the ViewMail Version in Use from Outlook

In the Outlook Inbox on the subscriber workstation, on the Help menu, click **About ViewMail**.

Upgrading from an Earlier Version of ViewMail

Subscribers are not required to have special class of service (COS) privileges or passwords to use ViewMail version 4.0(x). Any subscriber who has ViewMail installed can use it.

It is not necessary to uninstall ViewMail version 4.0(x) before upgrading to version 4.1(1). The ViewMail 4.1(1) installation process automatically removes any previously installed ViewMail 4.0(x) versions. (If you encounter a problem removing ViewMail 4.x, refer to the section on manually uninstalling ViewMail in the tech tip, *Cisco Unity VMO is Installed, but not Published in Outlook*, available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_tech_note09186a008015c158.shtml.)

If subscribers in your organization currently use ViewMail 3.x or ViewMail 2.4(6), consider the following before installing ViewMail 4.1(1):

- Any previously installed 3.1(x) or 3.0(x) version of ViewMail must be removed from subscriber workstations before ViewMail 4.1(1) is installed. You can uninstall it at the same time that you install ViewMail 4.1(1), or you can use Add/Remove Programs in Windows to remove it. In either case, however, further steps are required to completely remove the application. For more information, see the “[ViewMail Version 3.x Fails to Uninstall Completely](#)” section on page 8.

- If subscribers are using ViewMail 2.4(6.x), see the following section, “[Removing a Previously Installed 2.4\(6.x\) Version of ViewMail](#),” for specific instructions on uninstalling 2.4(6) versions of ViewMail before you install version 4.1(1).

See the applicable sections in these release notes to download and install ViewMail 4.1(1).

Removing a Previously Installed 2.4(6.x) Version of ViewMail

Any previously installed 2.4(6.x) version of ViewMail and the associated LightningFAX registry keys, if applicable, must be removed from subscriber workstations before ViewMail 4.1(1) is installed.

Note that after ViewMail is removed, the first voice message a subscriber receives appears as a voice message with the ViewMail icon. When the subscriber opens the message, Outlook displays an error message indicating that the voice message form is not available. However, the error message does not prevent the subscriber from opening the voice message.

Subsequent voice messages appear as e-mail messages with WAV attachments without the ViewMail icon, and no error message is displayed when subscribers open them.

To Remove ViewMail Version 2.4(6.x) and Associated LightningFAX Registry Keys

-
- Step 1** On each subscriber workstation running ViewMail, on the Windows Start menu, click **Settings > Control Panel > Add/Remove Programs**.
- Step 2** In the Currently Installed Programs list, click **ViewMail for Outlook**, and click **Change/Remove**.
- Step 3** Follow the on-screen prompts to remove ViewMail for Outlook. If prompted to delete a shared file, such as a DLL, click **No to All**.
- Step 4** If the system was not using LightningFAX, you are finished with this procedure.
If the system was using LightningFAX, start Regedit.



Caution Changing the wrong registry key or entering an incorrect value can cause the workstation to malfunction. Before you edit the registry, confirm that you know how to restore it if a problem occurs. (Refer to the “Restoring” topics in Registry Editor Help.) If you have any questions about changing registry key settings, contact Cisco TAC.

- Step 5** If you do not have a current backup of the registry, click **Registry > Export Registry File**, and save the registry settings to a file.
- Step 6** Remove the following two registry keys:
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Management\ARPCache\LightningFAX 6.5 - PrintToMail.
 - HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Control\Print\Monitors\LightningFAX.
- Step 7** Exit Regedit.
-

Downloading ViewMail 4.1(1)

Do the following procedure to download ViewMail from the ViewMail for Microsoft Outlook Software Download page.

(The ViewMail file is available in U.S. English only.)

To Download ViewMail 4.1(1)

- Step 1** Confirm that the computer you are using has at least 3.3 MB of hard-disk space available for the extracted files, in addition to the space required to download the file. (The download file size appears on the download page.)
- Step 2** On a computer with a high-speed Internet connection, go to the ViewMail for Microsoft Outlook Software Download page at <http://www.cisco.com/cgi-bin/tablebuild.pl/unity-vmo>.



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

- Step 3** Download the file **CiscoUnity.VMO4.1.1.exe** to the directory of your choice.
- Step 4** Double-click **CiscoUnity.VMO4.1.1.exe**, and follow the on-screen prompts to extract the files to the directory of your choice on a network drive (or to a writeable compact disc, for copying to the network at a later time).

The executable extracts the files to a CiscoUnity.VMO4.1.1 directory that it creates within your chosen directory.
- Step 5** Delete the file **CiscoUnity.VMO4.1.1.exe** to free hard-disk space.

Installing ViewMail 4.1(1)

ViewMail can be installed on subscriber workstations throughout your organization in a number of ways. Installation and deployment methods include:

- Installing ViewMail from a disc or a network drive. See the “[Installing ViewMail 4.1\(1\) from a Network Drive](#)” section on page 6. Alternatively, consider providing subscribers with network access to the ViewMail setup application and a procedure so that they can install ViewMail themselves.
- Using a software publishing tool—such as Microsoft IntelliMirror or Microsoft Systems Management Server (SMS) version 2.0 or 1.2—to deploy ViewMail to multiple subscriber workstations at one time. For information on using either of the tools, refer to the Microsoft website.

When using IntelliMirror, deploy ViewMail by assigning or publishing it to a computer, rather than to an individual user. You can also use IntelliMirror or SMS for future upgrades of ViewMail.
- Deploying ViewMail with Microsoft Office, as part of the Office 2000 or Office XP suites.



Caution

When installing a new version of Microsoft Outlook on subscriber workstations, you must first uninstall ViewMail. After you have installed Outlook, reinstall ViewMail. Otherwise, ViewMail will seem to be installed properly with the new version of Outlook, but it will not work.

By default, ViewMail files are installed in the directory C:\Program Files\ViewMail. You can specify a different directory if you are performing a new installation of ViewMail. If you are upgrading from a 4.0x version of ViewMail, ViewMail 4.1(1) installs in the same directory that was used for the previous version.

ViewMail installs and uses the following files and registry keys:

Files¹	<ul style="list-style-type: none"> • AvResLoaderSvrSL.dll • AvResSvr.dll • AvTrapConnectionHolderSvr.dll • AvTsmSL.dll • AvVox.acm • AvWavSL.dll • SL_g729a.acm
Registry keys	<ul style="list-style-type: none"> • HKEY_CURRENT_USER\Software\Cisco Systems\Cisco Unity\Media Master\Profiles • HKEY_CURRENT_USER\Software\Cisco Systems\Cisco Unity\Media Master\Profiles\default • HKEY_CURRENT_USER\Software\Cisco Systems\Cisco Unity\Media Master\Profiles\<subscriber 1 alias> • HKEY_CURRENT_USER\Software\Cisco Systems\Cisco Unity\Media Master\Profiles\<subscriber 2 alias> • HKEY_CURRENT_USER\Software\Cisco Systems\Cisco Unity\VMO\Options • HKEY_LOCAL_MACHINE\SOFTWARE\Active Voice • HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems\Cisco Unity\VMO\NoTextToVM • HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Exchange\Client\Extensions\ViewMail Extensions

1. Depending on the Windows version, the files are installed in one of three directories: C:\Windows\System, C:\Winnt\System32, or C:\Windows\System32.

Installing ViewMail 4.1(1) from a Network Drive

Do the following procedure to install ViewMail on the workstations used by subscribers from a network drive. You can also install ViewMail for multiple subscribers who share a workstation.

To Install ViewMail 4.1(1) from a Network Drive

- Step 1** Confirm that ViewMail requirements have been met. See the [“Requirements” section on page 2](#).
- Step 2** Browse to the **ViewMail** directory on the network drive where you downloaded the ViewMail files.
- Step 3** In the ViewMail directory, browse to the **ENU** language folder.
- Step 4** Double-click the **ViewMail.msi** file.

**Note**

If your version of Windows NT, Windows ME, or Windows 98 does not support MSI packages, you can download an MSI installer from Microsoft (search the Microsoft website for “Windows Installer downloads”). Also, Windows Installer logging is not on by default. For details on how to turn on logging before installing ViewMail, or afterward for troubleshooting purposes, search the Microsoft website for “MSI Logging” topics.

Step 5 Follow the on-screen prompts to complete the installation.

New and Changed Functionality—Release 4.1(1)

ViewMail for Outlook No Longer Requires Manual Update to Server Name in the Media Master When Failover or Failback Occur

When subscribers use ViewMail version 4.1(1) with Cisco Unity version 4.1(1), Cisco Unity administrators no longer need to ask subscribers to update their server name in the Media Master control bar during failover or after failback. Assuming that subscribers had already set up the Media Master to use the phone as a recording or playback device for Cisco Unity ViewMail for Microsoft Outlook, they can continue to do so when failover or failback occur without having to manually update the Media Master with the applicable server name.

Subscribers enter their extension and the Cisco Unity server name in order to use the phone as a playback and recording device with the Cisco Unity Administrator and ViewMail. Although the connection works anyway, the server name is not updated in the Phone Record and Playback Settings dialog box of the Media Master during failover and failback.

For an overview of how the Cisco Unity Administrator, ViewMail, and other Cisco Unity applications such as the Status Monitor and the Cisco PCA work when failover or failback occur, refer to the “Effects on Cisco Unity Web Applications When Failover or Failback Occurs” section in the “Cisco Unity Failover Configuration and Administration Guide” chapter of the *Cisco Unity Documentation Addendum, Release 4.1* at http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/unity41/add/index.htm.

Installation and Upgrade Notes

Microsoft Hot Fix Required for Outdated Versions of Operating System File

When ViewMail is installed on a subscriber workstation that is running Windows 98 or Windows ME, ViewMail automatically confirms that the operating system file Rpltscm.dll is version 4.71.3400 or later before completing the installation. Earlier versions of Rpltscm.dll cause ViewMail to disrupt the Cisco Unity server.

If the Rpeltscm.dll version is outdated, the ViewMail installation stops and displays an error message, directing that a Microsoft hot fix be installed before proceeding. For information and instructions on downloading and installing the hot fix, refer to Knowledge Base article 315575 (*DCOM Program Hangs After Server Reboot Creating DCOM Object*) on the Microsoft Product Support Services website.

Caveat CSCdz48740 also addresses the hot fix requirement. Bug Toolkit is available at http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Limitations and Restrictions

Authentium Command AntiVirus for Windows Is Not Supported

Authentium Command AntiVirus for Microsoft Windows is not supported on Cisco Unity subscriber workstations.

Some Software on Subscriber Workstations Can Cause ViewMail to Fail

Some security and VPN software installed on subscriber workstations can cause ViewMail to fail when subscribers use the phone as the playback device for the Media Master. In particular, software that offers personal firewalls is problematic.

Disable or remove security and VPN software from subscriber workstations. Alternatively, you can set up the Media Master so subscribers can play messages in ViewMail with computer speakers.

ViewMail Form Will Not Load When Subscriber Has a Full Mailbox

When a subscriber mailbox reaches the Prohibit Send and Receive limit, ViewMail will not load when the subscriber starts Outlook. The ViewMail form cannot be published until the mailbox size is reduced.

ViewMail Version 3.x Fails to Uninstall Completely

When you attempt to uninstall ViewMail versions 3.1(x) or 3.0(x), ViewMail typically fails to uninstall completely: some ViewMail files remain on the subscriber workstation; ViewMail components remain in Outlook; and ViewMail is not removed from the Windows Add/Remove Programs list. In addition, uninstalling ViewMail version 3.x generates a Dr. Watson error log in Windows 2000 or an application violation error in Windows 98.

For more information, refer to caveat CSCdv16845. Bug Toolkit is available at http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Note that the caveat has been resolved in ViewMail 4.0(x) but not in earlier versions. For earlier versions, do the following three procedures in the order listed to manually remove the remaining ViewMail files from a subscriber workstation, the ViewMail components from Outlook, and the ViewMail listing from Windows Add/Remove Programs.

To Remove ViewMail Files from a Subscriber Workstation

-
- Step 1** Delete the directory **Program Files\ViewMail** and all of its components.

- Step 2** Delete the following seven files (if they exist) from either the C:\Windows\System, C:\Winnt\System32, or C:\Windows\System32 directory, depending on the version of Windows:
- AvResLoaderSvrSL.dll
 - AvTrapConnectionHolderSvr.exe
 - AvTsmSL.dll
 - AvVox.acm
 - AvWavSl.dll
 - AvResSvr.dll
 - SL_G729A.acm

To Remove ViewMail Components from Outlook

- Step 1** In Outlook, on the Tools menu, click **Options**.
- Step 2** Click the **Other** tab, and click **Advanced Options**.
- Step 3** In the Advanced Options dialog box, click **Custom Forms**.
- Step 4** In the Options dialog box, click **Manage Forms**.
- Step 5** In the Form Manager dialog box, confirm that **ViewMail for Outlook** is listed under Personal Forms.
- Step 6** Select **ViewMail for Outlook**, and click **Delete**. When prompted, click **Yes** to delete the form.
- Step 7** Click **Close**, and click **OK**.
- Step 8** In the Advanced Options dialog box, click **Add-In Manager**.
- Step 9** In the Add-In Manager dialog box, uncheck the **ViewMail Extensions** check box, and click **OK**.
- Step 10** Click **OK** to close the remaining dialog boxes.
- Step 11** Start Regedit.



Caution Changing the wrong registry key or entering an incorrect value can cause the workstation to malfunction. Before you edit the registry, confirm that you know how to restore it if a problem occurs. (Refer to the “Restoring” topics in Registry Editor Help.) If you have any questions about changing registry key settings, contact Cisco TAC.

- Step 12** If you do not have a current backup of the registry, click **Registry > Export Registry File**, and save the registry settings to a file.
- Step 13** Expand the key
HKEY_LOCAL_MACHINE\Software\Microsoft\Exchange\Client\Extensions.
- Step 14** Delete the **ViewMail Extensions** key.
- Step 15** Exit Regedit.
- Step 16** Restart Outlook.
-

To Manually Remove ViewMail from the Windows Add/Remove Programs List

Refer to Knowledge Base article 247501 (*How to Manually Remove Programs from the Add/Remove Programs List*) on the Microsoft Product Support Services website.

Windows Terminal Services Is Not Supported

Windows Terminal Services (WTS) is not supported for use on subscriber workstations with ViewMail.

Yamaha Synthesizer Software Is Not Supported

Yamaha sound synthesizer software is not supported on Cisco Unity subscriber workstations with ViewMail.

Caveats

This section describes 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 ViewMail Release 4.1(1) only. For caveat information for earlier versions of ViewMail, refer to the applicable release notes. Release notes for all versions of ViewMail are available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

Open Caveat—Release 4.1(1)

Table 2 ViewMail Release 4.1(1) Open Caveat

Caveat Number	Severity	Description
CSCsa76767	3	Messages recorded via the Media Master in ViewMail are recorded and stored in the G.711 codec—even if this is not the record format selected for the Cisco Unity server. There is no workaround.
CSCsa86453	3	VMO installation is not cached properly at the client PCs when install from the network. This will cause failure when client try to complete the installation without access to the installation folder on the network. Workaround Grant access to the installation folder on the network to the users.

Table 2 *ViewMail Release 4.1(1) Open Caveat (continued)*

Caveat Number	Severity	Description
CSCsb95535	3	<p>While trying to degrade from 4.1 to 4.0.5, it did detect that there is another version of VMO (it didn't say a newer version) is installed using a different program and if you want to continue with this installation click remove. If user selects Remove, will see 2 Viewmail 4.1 and VMO 4.0.5 in the Add/Remove programs. This happens only if user tries to degrade.</p> <p>Workaround If user needs an older version, then he has to Uninstall 4.1 and reinstall the required version.</p>
CSCsc05890	3	<p>Cannot upgrade VMO 4.1(1) on Windows 98 and Windows ME. The upgrade installation completed without any errors. However, there is only one dll files in C:\Program Files\ViewMail. Thus, Outlook complain that it couldn't open tfxEXT32.dll.</p> <p>Workaround Uninstall the older version of VMO and reinstall 4.1.</p>
CSCsc17733	3	<p>The Media Master Control drop-down menu available in voice messages with the ViewMail for Outlook application provides the ability to configure a phone or sound card device to be used. This menu may either not show a device that is expected to be available or it may not allow a device to be selected. This problem can occur only for a playback device, only for a recording device or for both.</p> <p>This can occur in the ViewMail for Outlook application used with Cisco Unity unified messaging.</p> <p>Workaround Use ViewMail Options available under the Tools menu from Outlook or a voice message, if the option to configure a record or playback device is not available or not working from the Media Master Control drop-down menu in a voice message.</p>

Table 2 *ViewMail Release 4.1(1) Open Caveat (continued)*

Caveat Number	Severity	Description
CSCsc17824	3	<p>Discarded voicemail messages are placed in the Outbox folder in Microsoft Outlook.</p> <p>Conditions: Seen with Cisco Unity ViewMail for Outlook version 4.1 with Microsoft Outlook 2003. This is intermittent. Sometimes it is seen when creating new voicemail message using VMO. It can be reproduced very easily if the user chooses to “Reply with Voice” to an email message. The draft is immediately copied to the Outbox folder upon creation.</p> <p>There is no workaround. Just delete the voicemail draft if you do not intend to send it. Outlook won't try to send the message in this state.</p>
CSCsc25001	3	<p>A lot of AvCs warnings are logged to a client workstation during normal Cisco Unity ViewMail for Outlook usage. An example warning would be:</p> <p>Event Type: Warning Event Source: CiscoUnity_AvCs Event Category: None Event ID: 101 Date: 10/20/2005 Time: 12:38:32 PM User: N/A Computer: <client> Description:</p> <p>The description for Event ID (101) in Source (CiscoUnity_AvCs) cannot be found. The local computer may not have the necessary registry information or message DLL files to display messages from a remote computer. The following information is part of the event: VMO Error: HRESULT 0x80040119, e:\Views\cs_CU4.1.0.60\un_Client\VMO\Ext\CmdExt.cpp, 1816.</p> <p>Conditions: Seen on a client workstation when Cisco Unity ViewMail for Outlook version 4.1 is installed.</p> <p>There is no workaround. The warnings appear harmless.</p>

Resolved Caveat—Release 4.1(1)

Table 3 *ViewMail Release 4.1(1) Resolved Caveat*

Caveat Number	Severity	Description
CSCsb19566	1	VMO playback with IP phone causes VSF*.tmp files buildup on Unity.

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_inpck/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>

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