



Cisco Voice Provisioning Tool Installation and Upgrade Guide Release 1.0(2)

This document describes how to install the Cisco Voice Provisioning Tool (VPT) release 1.0(2) by using the Cisco Voice Provisioning Tool disk. The Cisco Voice Provisioning Tool, which works in conjunction with Cisco Unified CallManager, Cisco Unity Connection, and Cisco Unity, allows you to perform the following tasks:

- Add, find, modify, and delete users, phones, and device profiles
- Configure VPT templates and apply template settings to device profiles, phones, and users
- Add and modify users, phones, and device profiles through bulk provisioning
- Associate a device profile or phone with a user

Contents

This document contains information on the following topics:

- [Introduction, page 2](#)
- [Installing the Cisco Voice Provisioning Tool, page 3](#)
- [Upgrading the Cisco Voice Provisioning Tool to Version 1.0\(2\), page 9](#)
- [Uninstalling the Cisco Voice Provisioning Tool, page 11](#)
- [Post-Installation Considerations, page 11](#)
- [Documentation Conventions, page 13](#)
- [Related Documentation, page 14](#)
- [Obtaining Documentation, page 15](#)
- [Documentation Feedback, page 16](#)
- [Cisco Product Security Overview, page 16](#)
- [Obtaining Technical Assistance, page 17](#)
- [Obtaining Additional Publications and Information, page 19](#)



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

© 2006 Cisco Systems, Inc. All rights reserved.

Introduction

This document provides information on how to install and uninstall the Cisco Voice Provisioning Tool on a standalone server that is designated specifically for the tool. It also provides information on viewing the installation logs, cancelling the installation, and additional topics.

You install the tool on a standalone server that does not run any other applications. Cisco does not support running the tool on a Cisco Unity, Cisco Unity Connection, or Cisco Unified CallManager server.

When you install the Cisco Voice Provisioning Tool from the VPT installation disk, the following components are installed automatically:

- Java Developer Kit (JDK), if it does not already exist on the server.
- Tomcat, even if it is already installed on the server.

Installing Tomcat with the Cisco Voice Provisioning Tool does not overwrite other instances of Tomcat that may exist on the server.

During the installation, you must specify whether you want the Tomcat web server to connect to the client through a secure connection (SSL) or a nonsecure connection. If you choose to use SSL, you must either create a self-signed certificate that is installed on the server or you must specify a valid existing certificate that was issued by a certificate authority (for example, a VeriSign certificate).

To configure Tomcat, you must specify an HTTP port that Tomcat can use to listen for requests. The installation determines whether the specified port is available for use; if it is not available, the installation prompts you to enter a different port, which is validated again by the installation.

Tomcat is installed as a Windows service. Every time that the server is rebooted, the Voice Provisioning Tool Tomcat service is started automatically.

- Microsoft SQL Server Desktop Engine (MSDE), if MS SQL Server does not already exist on the server.

If the package determines that Microsoft SQL Server does not exist on the server, MSDE is installed automatically. After MSDE is installed, the installation starts the MSSQLSERVER service, which is required to create the Cisco Voice Provisioning Tool database.

- The Cisco Voice Provisioning Tool software.

If you choose to use the default installation directory, the Cisco Voice Provisioning Tool executable, Setup.exe, is installed in C:\Program Files\Cisco Systems\Voice Provisioning Tool.

In the installation directory, a folder named Extra contains sample bulk files that you can use for bulk operations. For more information on bulk operations, see the *Cisco Voice Provisioning Tool User and Phone Management Guide*.

- Cisco Unified CallManager 5.0(2) plug-in
- Cisco Unified CallManager 4.1(3) plug-in
- Cisco Unity 4.1(1) plug-in



Note

A Cisco Unity 4.2(1) plug-in is also available as a separate download at <http://www.cisco.com/cgi-bin/tablebuild.pl/VPT>. For more information on this plug-in, including installation instructions, see *Release Notes for Cisco Unity 4.2(1) Plug-in, Release 1.0 (for Cisco Voice Provisioning Tool)* at http://www.cisco.com/en/US/products/ps6524/prod_release_notes_list.html.

- Cisco Unity 4.0(5) plug-in

- Cisco Unity Connection 1.2(1) plug-in

**Tip**

Plug-ins are modules that extend the Cisco Voice Provisioning Tool capabilities by adding support for various products and/or features; each plug-in includes all of the components required to work with a single product.

Installing the Cisco Voice Provisioning Tool

This section contains information on the following topics:

- [System Requirements, page 3](#)
- [Installation Considerations, page 3](#)
- [Information Entered During the Cisco Voice Provisioning Tool Installation, page 4](#)
- [Installing the Operating System, page 5](#)
- [Installing the Cisco Voice Provisioning Tool, page 5](#)
- [Viewing the Cisco Voice Provisioning Tool Installation Log, page 7](#)
- [Messages That Display During the Cisco Voice Provisioning Tool Installation, page 7](#)

System Requirements

Before you install the Cisco Voice Provisioning Tool, ensure that your VPT system, including the operating system and hardware, meet the system requirements that are described in the applicable *Cisco Voice Provisioning Tool Release Notes* at http://www.cisco.com/en/US/products/ps6524/prod_release_notes_list.html.

Installation Considerations

Before you install the Cisco Voice Provisioning Tool, review the following information:

- Do not use Windows Terminal Services or any other network access/management application to install the Cisco Voice Provisioning Tool.
- When you install the Cisco Voice Provisioning Tool, you are prompted to choose the plug-ins that you want to install. For information on installing additional plug-ins after VPT is installed, see the *Cisco Voice Provisioning Tool Release Notes*.

Information Entered During the Cisco Voice Provisioning Tool Installation

Depending on the choices that you make during the installation, the package may prompt you for the information in [Table 1](#).

Table 1 Information Entered During Installation

Installation Setting	Your Entry
User name	
Company name	
Destination location	
<p>Temporary Superadmin password</p> <p>The first time that you log in to the Cisco Voice Provisioning Tool graphical user interface, a prompt tells you to change the password. The password must contain characters from three of the following:</p> <ul style="list-style-type: none"> • Upper-case letters • Lower-case letters • Numbers • The symbols ~`!@#%&*()_+={ }[]\ /;'"<>.,.?` <p>Do not repeat any character more than three times consecutively.</p>	
Plug-ins to install	<ul style="list-style-type: none"> • Cisco Unity Connection 1.2(1) • Cisco Unity 4.1(1) • Cisco Unity 4.0(5) • Cisco Unified CallManager 5.0(2) • Cisco Unified CallManager 4.1(3)
<p>HTTP port number</p> <p>The port number must contain numbers only; The port number must be greater than 1024, unless you use port 80 for non-SSL connections and port 443 for SSL connections. The installation displays examples that you can enter for ports.</p>	
<p>Keystore password</p> <p>The password must contain a minimum of 6 characters; do not use quotation marks.</p>	
External interface (hostname or IP address) that the web server uses to accept secure connections	
Organizational unit	
Organization	
City or locality	
State or province	
Two-letter country code	

Table 1 Information Entered During Installation (continued)

Installation Setting	Your Entry
Existing certificate password The password must contain a minimum of 6 characters; do not use quotation marks.	
Fully qualified path of the existing certificate (for example, c:\temp\mycert.cert)	

Installing the Operating System

Before you install the Cisco Voice Provisioning Tool, you must install a compatible operating system on a standalone server that meets system requirements. For information on hardware requirements and operating systems that are compatible with the Cisco Voice Provisioning Tool, see the *Cisco Voice Provisioning Tool Release Notes*.

Installing the Cisco Voice Provisioning Tool

The following procedure assumes that your system meets the criteria that are specified in the *Cisco Voice Provisioning Tool Release Notes*. It also assumes that you installed a compatible operating system on the server prior to the VPT installation, as specified in the *Cisco Voice Provisioning Tool Release Notes*.

To Install the Cisco Voice Provisioning Tool

-
- Step 1** Log on to the VPT server by using an account that is a member of the local Administrators group.
 - Step 2** Insert the VPT disk into the drive, browse to the root directory, and run Setup.exe.
 - Step 3** On the Welcome page, click **Next**.
 - Step 4** On the License Agreement page, review the license agreement, click **I Accept the Terms of the License Agreement**, and click **Next**.
 - Step 5** On the Customer Information page, enter a user and company name, and click **Next**.
 - Step 6** On the Choose Destination Location page, choose the directory in which to install VPT, and click **Next**.
 - Step 7** On the Obtain Superadmin Password page, enter a password, and click **Next**.
 - Step 8** On the Product Plugins page, check the applicable check boxes for the VPT plug-ins that you want to install, and click **Next**.
 - Step 9** On the Obtaining Information page, choose whether you want the Tomcat webserver to use SSL and, if so, which port to use. Do one of the following:
 - If you want to use SSL, click **Yes**, enter the applicable HTTP port number, and then click **Next**.
The system suggests non-SSL port 80 after it validates that the port is available for use. If the system identifies that port 80 is taken, it suggests port 8080. After you click Next, the system immediately validates that the port is available; if the port is in use or invalid, enter a different port number in the window.
The port is validated again during the Tomcat installation. If the port is in use or invalid at that time, the installation prompts you to enter a different port number.

- If you do not want to use SSL, click **No**, and click **Next**. Then skip to [Step 13](#).

Step 10 On the Obtaining a Certificate for SSL page, click the applicable button:

Create a Self-Signed Certificate	Click this button if you want the installation package to create a self-signed certificate for you. Then go to Step 11 .
Import an Existing Certificate	Click this button if you want the installation package to install a certificate from a certificate authority. Then skip to Step 12 .

Step 11 If you chose to import an existing certificate, skip to [Step 12](#).

If you chose to create a self-signed certificate, enter the following information on the Creating a Self-Signed Certificate page:

Keystore Password and Confirm Password	Enter and confirm a password that is six characters or more long. Do not use quotation marks in the password.
What Is the External Interface (Hostname or IP Address) That the Web Server Uses to Accept Secure Connections?	Enter the server name or IP address for the web server that accepts secure connections, for example, abc.cisco.com.
What Is the Name of Your Organizational Unit?	Enter the business unit where this VPT server is being installed.
What Is the Name of Your Organization?	Enter the name of the company where this VPT server is being installed.
What Is the Name of Your City or Locality?	Enter the city or locality where this VPT server is being installed.
What Is the Name of Your State or Province?	Enter the state or province where this VPT server is being installed.
What Is the Two-Letter Country Code for This Unit?	Enter the two-letter country code where your business unit is located; for example, enter US for the United States.

When you are finished, click **Next**, and skip to [Step 13](#).

Step 12 If you chose to import an existing certificate, enter the following information, and click **Next**:

Existing Certificate Password and Confirm Password	Enter and confirm a password that is six characters or more in length. Do not use quotation marks in the password.
Enter a Qualified Name of the Existing Certificate (Full Path)	Enter the full path where the certificate is located on the server, for example, c:\temp\mycert.cert. Alternatively, you can click the Browse button to browse to the location.

Step 13 On the Ready to Install the Program page, click **Install**.

Step 14 Follow the on-screen prompts to complete the installation.

Viewing the Cisco Voice Provisioning Tool Installation Log

To view the installation log, on the server where you installed the tool, find the file <Windows boot drive>:\vpt_install.log.

Messages That Display During the Cisco Voice Provisioning Tool Installation

The messages in [Table 2](#) may display during the installation.

Table 2 *Installation Messages*

Message	Possible Cause	Corrective Action
Setup failed to create required files; the installation process will abort.	<ul style="list-style-type: none"> The login user who ran the installer does not have the appropriate permission to list folder contents and create files in the installation directory. The drive appears full. 	<ul style="list-style-type: none"> Give the user Full Control permissions to the installation directory that is provided at the beginning of the installation process. Free space to the drive.
Failed creating <Windows boot drive>:\vpt_install.log.	<ul style="list-style-type: none"> The login user who ran the installer does not have the permissions to create a file on the Windows boot drive. The drive appears full. 	<ul style="list-style-type: none"> Make sure the login user has writer (or higher) permission to the Windows boot drive. Ensure that the disk drive has the required disk space.
Failed writing message to log.	The log file was created but appears locked; a user may be viewing the file, which prevents the installer from writing to the file.	Ensure that a user does not have the <Windows boot drive>:\vpt_install.log opened or that it is not locked by any other processor while the installer runs.
Your Operating System is not supported; you may encounter problems during the installation.	The server is not a Windows platform.	Verify the system requirements for supported platforms.
Unable to copy DLL files to [system32]. For Windows XP [system32] = C:\Windows\System32\ For all other Windows platforms [system32] = C:\WINNT\System32\	<ul style="list-style-type: none"> Login user has no permissions to write to the [system32] directory. The drive appears full. 	<ul style="list-style-type: none"> Ensure that the login user has write permission to [system32] drive. Make sure the disk drive has the required disk space.
[system32] directory does not exist; unable to copy files.	The server appears to be a Windows platform, but someone removed, renamed (or otherwise made unavailable) the system32 drive.	Reinstall the operating system so that [system32] is created appropriately; manually creating the system drive does not guarantee the server will function correctly.

Table 2 *Installation Messages (continued)*

Message	Possible Cause	Corrective Action
Port # [port_number] has been taken! You must use a different port that is not being used by another process.	The user provided a HTTP port number that is allocated for another application.	To view all the ports that are allocated, run netstat -an at the command window and enter a HTTP port that is not on the list.
Failed to stop VPT Tomcat Service, error message = [error message].	The VPT Tomcat service does not respond to the stop command or exists in a pending state.	<ol style="list-style-type: none"> 1. Access the service, VPT Tomcat, from the Services window under Administrative Tools on the Windows server. 2. Manually stop the service.
Failed Starting VPT Tomcat Service! Please check the System Log from the Event Viewer for details. Contact Technical Support for assistance.	The VPT Tomcat service was not configured correctly.	Check the install log, <Windows boot drive>:\vpt_install.log for ERROR messages; contact technical support for assistance.
Failed launching the MSDE setup to un-install MSDE.	[install_directory]\msde\setup does not contain the MSDE installation file.	Verify that the setup.exe file exists in [install_directory] msde\setup. Verify that all files exist in this directory.
Failed starting MSSQLSERVER; error message = [error_message].	<ul style="list-style-type: none"> • MSDE did not install successfully. • The MSSQLSERVER service does not respond to the start command. 	<ul style="list-style-type: none"> • For errors related to the MSDE installation, check the <Windows boot drive>:\vpt_install.log. • Access the MSSQLSERVER service from the Service window for Windows; start the service manually.
Failed to install JDK. Reason: The JDK installation file is not found in [install_directory]\jdk].	The JDK installation process was interrupted.	Exit the installation and reinstall to see if the problem occurs again. If the problem occurs again, check the <Windows boot drive>:\vpt_install.log and contact technical support for assistance.
Failed configuring Tomcat for VPT!	<ul style="list-style-type: none"> • The installation cannot find Java_Home. • Tomcat server.xml does not appear to be accessible. • JAR files appear to be missing. 	Check <Windows boot drive>:\vpt_install.log for errors and contact technical support if the error message does not clearly state or suggest a corrective action.
FAILED installing MSDE; manually installing MSDE is required to complete VPT Installation!	Error occurred during the MSDE installation; for example, the MSDE registry key was not correctly set as expected.	<ul style="list-style-type: none"> • For details of the failure, review <Windows boot drive>:\vpt_install.log. • Uninstall MSDE manually from Add/Remove Programs and run the installation again.
HTTP Port must be a numeric number.	The HTTP port number that you entered contains invalid characters.	Enter a HTTP port number that contains numbers only, for example, 8001.
You must provide data for all input fields to continue.	You did not enter information in a required field, or the field contains a space.	In the required fields, enter alphanumeric characters only.

Table 2 *Installation Messages (continued)*

Message	Possible Cause	Corrective Action
Certificate password is required and must be at least 6 characters long.	The password that you entered does not contains at least six characters.	Enter at least 6 alphanumeric characters for the password.
Certificate password can not contain double quotes (“”).	For the certificate password, you entered double quotes (“”).	Do not use double quotes when you enter the certificate password.
File [existing_cert_file] is NOT found! Please enter an existing certificate file.	The certificate file that you entered does not exist in the directory that you specified.	Verify the location of the certificate file, and enter the location again.
The Confirm password does not match the password field.	You did not enter the same password in the Confirm Password field that you entered in the Password field.	In the Password field, enter the password. Enter the same password in the Confirm Password field.

Upgrading the Cisco Voice Provisioning Tool to Version 1.0(2)

The software for upgrading from VPT version 1.0(1) to version 1.0(2) is available only as a download from the Cisco website, not on the CDs that you receive when you purchase VPT.

To upgrade from VPT version 1.0(1) to VPT version 1.0(2), do the following procedures in the order presented:

- [To Download the Software for Upgrading to VPT 1.0\(2\), page 9](#)
- [To Back Up the VPT Database, page 10](#)
- [To Upgrade to VPT Version 1.0\(2\), page 10](#)

To Download the Software for Upgrading to VPT 1.0(2)

-
- Step 1** Confirm that the computer you are using has twice the space required to download the image. (The download file size appears on the Cisco Voice Provisioning Tool Software Download page.)
 - Step 2** On a computer with a high-speed Internet connection, go to the Cisco Voice Provisioning Tool Software Download page at <http://www.cisco.com/cgi-bin/tablebuild.pl/VPT>.



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

- Step 3** Click **vpt_1_0_2_upgrade.zip**, and follow the on-screen prompts to complete the download.
 - Step 4** Extract the upgrade software from the downloaded file:
 - a. In Windows Explorer, double-click the file.
 - b. In WinZip, specify a directory to which the files will be extracted.
 - Step 5** Burn a CD for the software and label the CD “VPT upgrade to version 1.0(2).”
Use the Joliet file system, which accommodates file names up to 64 characters long.
 - Step 6** When you are done extracting the files, delete the downloaded .zip file to free disk space.
-

To Back Up the VPT Database

Step 1 On the VPT server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.

Step 2 In the Command Prompt window, enter:

```
osql -S localhost -E -Q "backup database usadb to disk='<File Name>' with init"
```

and press **Enter**.



Note The file name must end with the extension .dat.

Step 3 When the backup is complete, close the Command Prompt window.



Tip You can use the Windows AT command in conjunction with the osql command in [Step 2](#) to schedule a periodic backup of the database. For help with the AT command, enter AT /? in a Command Prompt window.

To Upgrade to VPT Version 1.0(2)

Step 1 Log on to the VPT server by using an account that is a member of the local Administrators group.

Step 2 Insert the disk that you created in the previous procedure into the drive, browse to the root directory, and run **Upgrade.exe**.

Step 3 On the Welcome page, click **Next**.

Step 4 On the License Agreement page, review the license agreement, click **I Accept the Terms of the License Agreement**, and click **Next**.

Step 5 On the Specify Voice Provisioning Tool Installed Location page, choose the directory where VPT is currently installed, and click **Next**.

Step 6 On the Product Plugins page, check the applicable check boxes for the VPT plug-ins that you want to install, and click **Next**.

Step 7 On the Ready to Install the Program page, click **Install**.

Step 8 Follow the on-screen prompts to complete the upgrade.

Viewing the Log That Is Created When You Upgrade VPT

If you want to view the log that is created when you upgrade VPT, on the server where VPT was installed, find the file <Windows boot drive>:\vpt_upgrade.log.

Uninstalling the Cisco Voice Provisioning Tool

This section contains information on the following tasks:

- [Uninstalling the Cisco Voice Provisioning Tool, page 11](#)
- [Viewing the Log That Is Created When You Uninstall VPT, page 11](#)

Uninstalling the Cisco Voice Provisioning Tool



Tip

An existing version of JDK or MS SQL Server (for example, a version that exists on the server prior to the tool installation) is not uninstalled when you delete the Cisco Voice Provisioning Tool.

To uninstall the Cisco Voice Provisioning Tool, do the following procedure:

To Uninstall the Cisco Voice Provisioning Tool While Overwriting the VPT Database

-
- Step 1** From the Start menu, choose **Settings > Control Panel**.
- Step 2** Double-click the **Add/Remove Programs** icon.
- Step 3** Scroll down until you locate the Cisco Voice Provisioning Tool and click **Change/Remove**.
- Step 4** In the Welcome window, click **Remove**, and then click **Next**.
- Step 5** A window displays asking whether you want to completely remove the selected application and all of its features. To continue uninstalling, click **Yes**.
- Step 6** When prompted to delete the existing database, click **Yes**.
- Step 7** When the uninstall process is complete, you are prompted to reboot the server.
- To reboot the server immediately, click the **Yes, I Want to Restart My Computer Now** radio button.
 - To reboot the server at a later time, click the **No, I Will Restart My Computer Later** radio button.
 - Click **Finish**.
-

Viewing the Log That Is Created When You Uninstall VPT

If you want to view the log that is created when you uninstall VPT, on the server where VPT was installed, find the file <Windows boot drive>:\vpt_uninstall.log.

Post-Installation Considerations

After you enter the temporary superadmin password during the installation, an administrator account named superadmin is created automatically, and is associated with the predefined SuperAdmin role, which allows all permissions available in the Cisco Voice Provisioning Tool. After the installation, you should change the superadmin password, as described in the *Cisco Voice Provisioning Tool System Management and Security Guide*.

Along with the superadmin account and Super Admin role, two other predefined roles are automatically created during installation: Full Provisioning, which allows all provisioning actions on all product systems that the VPT manages (but does not allow configuration of settings in the tool itself); and View-only Provisioning, which allows associated accounts to search for and view users and phones on all product systems but does not allow any configuration changes. These roles assist you in setting up the VPT, but you can create additional roles that are tailored to your deployment needs and add new administrator accounts that you can associate with any number of these roles.

The *Cisco Voice Provisioning Tool System Management and Security Guide* describes these and other tasks that you can do after the installation, for example, how to stop and start the Voice Provisioning Tool Tomcat service, configure your product system, configure a SSL connection after the installation, change the Tomcat port number, and so on.

For information on how to access the VPT graphical user interface, see the [“Accessing the Cisco Voice Provisioning Tool Graphical User Interface \(GUI\)”](#) section on page 12.

Accessing the Cisco Voice Provisioning Tool Graphical User Interface (GUI)

By using the VPT GUI, you can view, add, update, or delete a single user/phone or multiple users/phones at the same time. The following procedure, which describes how to access the VPT GUI, assumes that your system meets the criteria that is specified in the [“System Requirements”](#) section on page 3.



Tip

The Cisco Voice Provisioning Tool website uses pop-up windows. If you have pop-up blocker software installed, configure it to enable pop-ups for this site. For other browser considerations, see the *Cisco Voice Provisioning Tool System Management and Security Guide* and the *Cisco Voice Provisioning Tool User and Phone Management Guide*.

To Access the Cisco Voice Provisioning Tool GUI

Step 1 Open a supported web browser.

The URL that you enter to access the tool depends on the following factors:

- Whether SSL is enabled.
- The HTTP port number that you configured during or after the installation.



Tip

To perform provisioning tasks in the GUI directly on the host server, double-click the Cisco Voice Provisioning Tool icon displayed on the desktop.



Step 2 Enter the URL, as follows:

- If SSL is enabled, use the following formula as a guide when you enter the URL:
https://<server name or IP address>:<port number>/vpt
- If SSL is disabled, use the following formula as a guide when you enter the URL:
http://<server name or IP address>:<port number>/vpt

Changing the Default Administrator Password After the Installation

After the installation completes, for security purposes you should log in to the Cisco Voice Provisioning Tool web interface and change the login password for the superadmin account that was created during installation.

To Change the Default Administrator Password

-
- Step 1** Access the Cisco Voice Provisioning Tool GUI, as described in the [“Accessing the Cisco Voice Provisioning Tool Graphical User Interface \(GUI\)”](#) section on page 12.
- Step 2** After the GUI displays, enter **superadmin** in the Admin ID field.
- Step 3** In the Admin Password field, enter the temporary Superadmin password that you entered during the VPT installation.
- Step 4** Click **Login**. You will be prompted to change the default password as soon as you log in.
- Step 5** Click **Change**.
-  **Note** For detailed information on password recommendations, see the “Configuring System Security” chapter of the *Cisco Voice Provisioning Tool System Management and Security Guide*.
-
- Step 6** When you have successfully changed the password, click **Continue**.
-  **Tip** The superadmin account has access to all product data and VPT settings; you cannot delete it because it provides the master account to ensure that you always have access to the tool. Be sure to keep the password safe.
-
- Step 7** To exit the VPT, click **Log Out**.
-

Documentation Conventions

Consider the following documentation conventions as you review this guide.

Table 3 Documentation Conventions

Convention	Description
boldface screen font	Information that you must enter displays in boldface screen font.
blue text	Information acts as a hyperlink; click the blue text to go to the step, URL, section, and so on.

Notes use the following convention:



Note

Means take note. Notes contain helpful suggestions or references to material not covered in the publication.

Timesavers use the following convention:



Timesaver

Means the described action saves time. You can save time by performing the action described in the paragraph.

Tips use the following convention:



Tip

Means the information contains useful tips.

Cautions use the following convention:



Caution

Means be careful. In this situation, you might do something that could result in equipment damage or loss of data.

Warnings use the following convention:



Warning

Means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.

Related Documentation

See the following documents for information on the Cisco Voice Provisioning Tool, Cisco Unified CallManager, Cisco Unity Connection, and Cisco Unity:

- Cisco Voice Provisioning Tool System Management and Security Guide*, at http://www.cisco.com/en/US/products/ps6524/prod_maintenance_guides_list.html

Provides descriptions of the Cisco Voice Provisioning Tool and its components, as well as step-by-step instructions for configuring and managing the tool.
- Cisco Voice Provisioning Tool Release Notes*, at http://www.cisco.com/en/US/products/ps6524/prod_release_notes_list.html

Describe unresolved bugs that are categorized as severity 1, 2, and 3, as well as provide information on documentation updates, system requirements, and compatibility considerations.
- Cisco Voice Provisioning Tool User and Phone Management Guide*, at http://www.cisco.com/en/US/products/ps6524/prod_maintenance_guides_list.html

Describes how to provision users and phones by using the Cisco Voice Provisioning Tool. It describes how to view, add, update, or delete a single user/phone or multiple users/phone at the same time. It also describes how to use the bulk administration feature that is available through the VPT.

- *Cisco Unified CallManager Documentation Guide*, at http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_documentation_roadmaps_list.html
Provides a list of Cisco Unified CallManager documents that are available with the release (for example, the 4.1(3) release). The document also provides a URL for each document so that you can locate the document on the web.
- *Cisco Unity Documentation Guide*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_documentation_roadmaps_list.html
Provides a list of Cisco Unity documents that are available with the release (for example, the 4.0(5) release). The document also provides a URL for each document so that you can locate the document on the web.
- *Cisco Unity Connection Documentation Guide*, at http://www.cisco.com/en/US/products/ps6509/products_documentation_roadmaps_list.html
Provides a list of Cisco Unity Connection documents that are available with the release (for example, the 1.0(2) release). The document also provides a URL for each document so that you can locate the document on the web.

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/>

Ordering Documentation

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.

Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com.

You can submit comments about Cisco documentation 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 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



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>

CCSP, CCVP, the Cisco Square Bridge logo, Follow Me Browsing, and StackWise are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, and iQuick Study are service marks of Cisco Systems, Inc.; and Access Registrar, Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, FormShare, GigaDrive, GigaStack, HomeLink, Internet Quotient, IOS, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, LightStream, Linksys, MeetingPlace, MGX, the Networkers logo, Networking Academy, Network Registrar, *Packet*, PIX, Post-Routing, Pre-Routing, ProConnect, RateMUX, ScriptShare, SlideCast, SMARTnet, StrataView Plus, TeleRouter, 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. (0502R)