



Release Notes for Cisco Secure User Registration Tool Release 2.5.1 and VLAN Policy Server

These release notes are for use with Cisco Secure User Registration Tool (URT) Release 2.5.1 and the VLAN Policy Server (VPS).

These release notes contain:

- [New Features in Release 2.5, page 2](#)
- [Feature Enhancements in Release 2.5.1, page 3](#)
- [Upgrading URT from Release 2.5 to Release 2.5.1, page 7](#)
- [URT Documentation, page 13](#)
- [Additional Information Online, page 14](#)
- [Documentation Updates, page 14](#)
- [Known and Resolved Problems, page 21](#)
- [Obtaining Documentation, page 43](#)
- [Obtaining Technical Assistance, page 44](#)



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New Features in Release 2.5

The VLAN Policy Server hardware has been superseded by the Cisco 1101 VLAN Policy Server.

URT Release 2.5 contains the following new features:

- Web-based logon from Windows, Macintosh, and Linux clients.
- Support for Lightweight Directory Access Protocol (LDAP) directory authentication for Active Directory (AD) and Novell Directory Service (NDS).
- RADIUS web authentication and accounting.
- Secure link between the client and VLAN Policy Server (VPS).
- Support for Windows XP clients.
- Support for multiple users per port based on user ID (web logons only). This feature allows several users to connect to the Internet through a hub that is served by a single switch port. (All users behind the hub must be assigned to the same VLAN.)
- Protection against network access by unregistered MAC addresses.
- Viewing of MAC registration events through the user interface.
- Automatic save of all changes to the URT database; database changes are reflected immediately in the network.
- Support for additional Cisco Catalyst switches.

Feature Enhancements in Release 2.5.1

URT Release 2.5.1 contains the following feature enhancements:

- [Platforms Supported, page 3](#)
- [Clarification about Auto-Install, page 3](#)
- [Collecting Troubleshooting Data from the VLAN Policy Server, page 4](#)
- [Disabling the URT Event Bus, page 5](#)
- [Changes to AdminServerAttributes, page 5](#)
- [vlancmd Feature Available on Linux Clients, page 6](#)
- [Setting DNS Settings on the VLAN Policy Server, page 6](#)
- [Support for International Java Runtime Environment, page 6](#)
- [Support for Netscape 7.0, page 7](#)

Platforms Supported

URT Release 2.5.1 has been tested on the following platforms:

- Windows 2000 Professional, Server, and Advanced Server running Service Pack 1, Service Pack 2, and Service Pack 3.
- Windows XP Professional.

Clarification about Auto-Install

For the auto-install feature to work properly, the PC domain membership must match the domain of the *domain\domain_user* logging into the PC.

Collecting Troubleshooting Data from the VLAN Policy Server

You can collect data from VLAN Policy Server (VPS) log files and XML files to provide troubleshooting information to the Cisco Technical Assistance Center (TAC). The log files (UrtVmppsServer.log) and XML files reside in the /opt/CSCOpX/objects/urt/data directory on the VPS.

To collect this information, you must first enable trace on the primary (active) VPS:

-
- Step 1** Open a browser window.
 - Step 2** Enter the following URL in the address field:
`http://VPS_address:1741`
where *VPS_address* is the IP address of the active VPS.
 - Step 3** In the CiscoWorks2000 Login Manager window, enter **admin** in both the Username and Password fields.
 - Step 4** Under the Diagnostics tab, click **URT Debugging**.
 - Step 5** At the bottom of the window, click **Enable Debug Trace Mode**.
 - Step 6** In the URT Debugging window, click **Confirm**.
The following message is displayed:
URT VPS Server has been restarted and debug trace mode is now enabled.
 - Step 7** Under the Diagnostics tab, click **URT Debugging** again.
 - Step 8** To download the .tgz file, click the **Download URT Debug Information** link.
 - Step 9** In the next dialog box, select **Save to Disk**.
 - Step 10** In the Save As... dialog box, navigate to the location in which you wish to save the debug file.

Step 11 Click **Save**.

The diagnostic information is saved (in compressed format) to the location you specified in Step 10. You can send this file to the Cisco TAC for troubleshooting assistance.

Step 12 To disable trace on the VPS, select URT VPS Servers from the URT Administrative interface.**Step 13** Double-click the appropriate VPS.**Step 14** In the URT VPS Server Configuration window, deselect the Enable Trace setting.

Disabling the URT Event Bus

In the Options dialog box of the Administrative tab, the Disable URT Event Bus feature allows you to disable the TIBCO event bus to suppress the display of exception messages during client logon and logoff.

Changes to AdminServerAttributes

Three of the administrative options previously saved in UrtOptions.xml are now saved in UrtAttributes.xml.

These options, available from the URT Administrative interface by selecting **View>Options**, then clicking the Admin tab, are:

- Enabling and disabling trace on the Administrative Server.
- The UrtAdminServer.log file location.
- The Group Membership setting.

A new administrative option, Disable URT Event Bus, is also saved in UrtAttributes.xml.

vlancmd Feature Available on Linux Clients

The vlancmd feature is now available for use on Linux clients.

Setting DNS Settings on the VLAN Policy Server

When the VPS is used as a DNS server, the clients in the logon VLAN must know the Windows domain controller hostnames and corresponding IP addresses.

You can use the new option in the URT Administrative interface, **Customize>Options>DNS>DNS Settings>Add**, to enter the hostname and IP address mappings.

Support for International Java Runtime Environment

Release 2.5.1 includes the English JRE plug-in and the International JRE plug-in. By default, the English JRE plug-in is used. However, if the client system is running a non-US-localized Windows operating system (for example, Japanese), you must use the International JRE plug-in.



Caution

You must use *only* the English JRE on systems running a US English (non-localized) Windows operating system.

To change the JRE default from English to International, go to the Customize tab, then select Options. In the Options window, click the Web tab, then select the check box **Use International JRE Version as default download**. (If the check box is deselected, the English version is used).



Note

The JRE is downloaded only if the client system does not already have a JRE or native Java installed.

Support for Netscape 7.0

URT 2.5.1 now supports Netscape 7.0; although Netscape 6.2 is still supported, Netscape 7.0 is recommended.

Upgrading URT from Release 2.5 to Release 2.5.1

As part of the upgrade, you must perform some reconfiguration tasks to activate URT Release 2.5.1 in the network.

- [Upgrading the URT Administrative Server, page 7](#)
- [Upgrading the VLAN Policy Server 1100, page 9](#)
- [Upgrading the VLAN Policy Server 1101, page 11](#)

Upgrading the URT Administrative Server



Note

A single URT Administrative Server is recommended. If more than one URT Administrative Server is installed, URT will not coordinate logons between the servers.

-
- Step 1** Log into URT using an account that has local Administrator privileges.
- Step 2** Insert the URT 2.5.1 Administrative Server CD in the Windows system.
- Step 3** Select **Start>Run**, then enter:
- `drive:\setup.exe`
- where *drive*: is your CD-ROM drive.
- Step 4** Click **OK**.
- The installation program starts.
- Step 5** In the uninstallation dialog box, select **Yes** to uninstall.

- Step 6** In the confirmation dialog box, select **Yes**.
The uninstallation program begins. When uninstallation is complete, a dialog box opens.
- Step 7** Click **OK**.
The installation program begins.
- Step 8** In the Welcome window, click **Next** to continue.
- Step 9** In the User Information text box, enter the username and the company name.
The installation program displays the destination location.
- Step 10** To continue, click **Next**.
- Step 11** In the URT VPS Port Number dialog box, click **Next**.




Note Do not change the port number that the VPS uses to connect to the URT Administrative Server. This setting is preconfigured on the server.

- Step 12** In the Create URT Administrative Services text box, enter the user ID and the system password. (The user ID must have administrator privileges on this system.)
The installation program begins copying files to your system.
- Step 13** To complete the installation, select **Yes** to reboot.
After you restart the system, the URT Administrative Server begins to run, the URT Administrative Client Interface is installed, and URT is added to the program list in the **Start>Programs** menu.
-

Upgrading the VLAN Policy Server 1100



Note During the upgrade, the VPS will reboot twice.

- Step 1** Obtain the upgrade image in one of the following ways:
- Download it from Cisco.com—From any system on the network that can connect to the VPS, open a web browser, then download the URT VLAN Policy Server Release 2.5.1 upgrade.
The upgrade image folder opens.
 - Use the upgrade CD:
 - a. Insert the User Registration Tool VPS Upgrade CD (version 2.5.1 Cisco 1100 VLAN Policy Server) into the CD-ROM drive of any Windows system on the network that can connect to the VPS.
 - b. Using Windows Explorer, access the CD-ROM drive.
 - c. Double-click the vps1100UpgradeCDImage folder.
The upgrade image folder opens.
- Step 2** Double-click autorun.bat.
-  **Note** A DOS command window opens; do not close this window.
- Step 3** In the next dialog box, click **Select to update VPS appliance**.
The Setup dialog box is displayed.
- Step 4** In the Appliance Host field, enter the VPS IP address.
- Step 5** In the Appliance Port field, enter **1741**.
- Step 6** In the User name and Password fields, enter **admin**.
- Step 7** Click **Install**.

- Step 8** Select the radio button for the URT Releases 2.5.1 upgrade.
- Step 9** Click **Install**.
- The installation process begins.
- After installation has completed, you are asked if you wish to upgrade another VPS.
- Step 10** To upgrade another VPS, select **Install next**; otherwise, select **Cancel** to end the upgrade.
-

Verifying the VLAN Policy Server 1100 Upgrade


After upgrading the VPS, you should verify the upgrade.

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- Step 1** Open a web browser on the system where you performed the upgrade.
- Step 2** Enter the following address:
- `http://VPS IP address:1741/index.html.`
- CiscoWorks2000 starts.
- Step 3** In the CiscoWorks2000 desktop, enter admin in both the Name and Password fields.
- Step 4** From the CiscoWorks2000 desktop, select **Server Configuration > Appliance Management > Appliance Status > Software Update History**.
- Step 5** To verify that the last installation was successful, review the information in the Status column.
-

Upgrading the VLAN Policy Server 1101



Note During the upgrade, the VPS will reboot twice.

- Step 1** Obtain the upgrade image in one of the following ways:
- Download it from Cisco.com—From any system on the network that can connect to the VPS, open a web browser, then download the URT VLAN Policy Server Release 2.5.1 upgrade.
The upgrade image folder opens.
 - Use the upgrade CD:
 - a. Insert the User Registration Tool VPS Upgrade CD (version 2.5.1 Cisco 1100 VLAN Policy Server) into the CD-ROM drive of any Windows system on the network that can connect to the VPS.
 - b. Using Windows Explorer, access the CD-ROM drive.
 - c. Double-click the vps1100UpgradeCDImage folder.
The upgrade image folder opens.
- Step 2** Double-click autorun.bat.
-  **Note** A DOS command window opens; do not close this window.
- Step 3** In the next dialog box, click **Select to update VPS appliance**.
The Setup dialog box is displayed.
- Step 4** In the Appliance Host field, enter the VPS IP address.
- Step 5** Click **Install**.
- Step 6** In the User name and Password fields, enter **admin**.
- Step 7** Click **Login**.

- Step 8** Select the radio button for the URT Release 2.5.1 upgrade.
- Step 9** Click **Install**.
The installation process begins.
After installation has completed, you are asked if you wish to upgrade another VPS.
- Step 10** To upgrade another VPS, select **Install next**; otherwise, select **Cancel** to end the upgrade.
-

Verifying the VLAN Policy Server 1101 Upgrade

After upgrading the VPS, you should verify the upgrade.

-
- Step 1** On the system where you performed the upgrade, open a web browser.
- Step 2** Enter the following address:
`http://VPS_IP_address:1741/index.html`.

CiscoWorks2000 starts.
- Step 3** In the CiscoWorks2000 desktop, enter **admin** in both the Name and Password fields.
- Step 4** From the CiscoWorks2000 desktop, select **Server Configuration > Appliance Management > Appliance Status > Software Update History**.
- Step 5** To verify that the last installation was successful, review the information in the Status column.
-

URT Documentation

**Note**

Although every effort has been made to validate the accuracy of the information in the printed and electronic documentation, you should also review the URT documentation on Cisco.com for any updates.

The following documents are provided in PDF on your product CD:

- *User Guide for the Cisco Secure User Registration Tool*
- *Installation and Setup Guide for the Cisco Secure User Registration Tool*
- *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server*
- *Regulatory Compliance and Safety Information for the Cisco 1101 VLAN Policy Server*
- *User Registration Tool Software Developer's Guide*

**Note**

Adobe Acrobat Reader 4.0 or later is required.

Use these documents to learn how to install and use URT:

- *Installation and Setup Guide for the Cisco Secure User Registration Tool* (DOC-7813389=)—Provides instructions for installing URT, and quick-start steps for using URT. This publication is available on the URT CD-ROM in PDF.
- *User Guide for the Cisco Secure User Registration Tool* (DOC-7813391=)—Describes URT and provides instructions for configuring, administering, and operating it. This publication is available on the URT CD-ROM in PDF.
- URT online help—Contains all of the information available in *User Guide for the Cisco Secure User Registration Tool*. This ensures that you have complete information, even if you do not have the manual readily available while using URT.

Use this publication to learn how to install the Cisco 1101 VLAN Policy Server:

- *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server* (DOC-7814482=)—Provides instructions for installing and setting up the 1101 VLAN Policy Server. This publication is available on the URT CD-ROM in PDF.

Additional Information Online

For information about URT supported devices, refer to the following URL, or check the documentation on Cisco.com for the correct location:

http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/fam_prod/user_reg/2_5_1/urt_dvcs.htm

Documentation Updates

This section contains late-breaking updates to the URT documentation.

User Guide Updates

This section contains late-breaking updates to *User Guide for the Cisco Secure User Registration Tool*.

Chapter 1 Update

The following information was omitted after the second note in the “Understanding Traditional Logons and Web Logons” section on page 1-5:

For traditional logons, you can specify the same Active Directory server as both an NT domain and an LDAP directory; users can be associated with both. The LDAP association takes precedence over the NT domain association.

Chapter 4 Updates

These topics contain updates to Chapter 4:

- [Managing LDAP Servers, page 15](#)
- [Adding LDAP Servers, page 16](#)
- [Overview of RADIUS Authentication Support, page 16](#)
- [Adding RADIUS Servers, page 17](#)

Managing LDAP Servers

On page 4-11, the following italicized information was omitted after the second paragraph in the section:

URT supports redundant LDAP servers. If the primary LDAP server fails, URT can query a second or third LDAP server for the user, group, or organizational unit assignment.

It is recommended that redundant LDAP servers use the same Base Distinguished Name.

In the Add Directory window, you can select multiple LDAP servers from the list of IP addresses. During logons, the VPS queries a random LDAP server from the list. If a connection to that server fails, logon attempts continue with other servers in the list until an available server is located.

LDAP associations are arranged in a hierarchical tree. An example tree might be structured as follows:

United States : Western States : California : San Francisco : Ken

URT might assign a VLAN to any place in the tree. If the username Ken has multiple organizational unit associations, URT searches for the username Ken first when looking for a VLAN association, and uses the first association it finds.

Adding LDAP Servers

On page 4-12, the following italicized information was omitted from Step 7:

Step 7 Select the interval at which the Client Module looks up the user in the LDAP tree to determine if the user's Distinguished Name (DN) has changed.

- *When you use a long interval, the LDAP server is queried less frequently, resulting in less network traffic. If you change the interval, the change is not recognized until the original interval has elapsed.*

For example, if you first set the interval to 3 hours, and you make changes every hour thereafter, the changes are not recognized until 3 hours have passed.

- *When you use a short interval, network load on the LDAP server and the URT VPS increases.*

Overview of RADIUS Authentication Support

At the top of page 4-16, the following note was omitted from the description of the RADIUS attribute syntax example:

```
URT:Vlan-Association=URT-1:Vlan6;  
URT:Vlan-Association=URT-2:Vlan16;  
URT:Allow-Multiple-Users=TRUE;  
URT:Logon-User-Only=FALSE
```



Note

For a description of these attributes, see Step 4 in the “Setting Web Associations” section on page 6-3.

Adding RADIUS Servers

On page 4-18, the following italicized information was omitted from Step 8:

- Step 8** Enter the interval for verifying client attributes. A client sync message takes 5 minutes and the default interval is 12 minutes; therefore, verification occurs every 60 minutes (12 x 5).
- *When you use a long interval, the RADIUS server is queried less frequently, resulting in less network traffic. If you change the interval, the change is not recognized until the original interval has elapsed.*
- For example, if you first set the interval to 3 hours, and you make changes every hour thereafter, the changes are not recognized until 3 hours have passed.*
- *When you use a short interval, network load on the RADIUS server and the URT VPS increases.*

Chapter 6 Update

This information supercedes the information documented in the “Logging on as a Web Client” section on page 6-7 and the information published at http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/fam_prod/user_reg/2_5/user/urt_web.htm#xtocid12.

To achieve URT web logon, you must logon twice, as follows:

-
- Step 1** Logon to the local system from an account that has privileges to release and renew IP addresses.
- On Windows systems, you must logon to the local system as *Administrator*.
 - On Macintosh systems, you must logon as *root*.
 - On Linux systems, you can either:
 - Logon as *root*.
 - Allow non-root users to perform web logon. To do so, enter the following command to allow non-root users to control the dhcp client (pump, dhcpcd, or dhclient):

```
chmod u+s /sbin/pump
```

**Note**

If you are using the `dhcpcd` or `dhclient` dhcp client instead of `pump`, make the appropriate command substitution.

**Caution**

This method provides users with higher privileges than they would normally have. If non-root users are allowed to control the dhcp client on the Linux client systems, those users can release and renew IP addresses on that system. Therefore, verify your security policy before doing this.

Step 2

Launch a supported web browser, then logon to URT.

URT Installation and Setup Guide Update

This section contains late-breaking updates to *Installation and Setup Guide for the Cisco Secure User Registration Tool*.

Chapter 1 Update

In Table 1-1 on page 1-4, eDirectory should not be listed as a supported domain server.

Chapter 5 Update

The following information was omitted from the beginning of Chapter 5:

**Note**

To ensure proper operation, you must be running the same URT environment on each component of your network (the URT Administrative Server, the VLAN Policy Server, and the URT client system).

For example, you can run a combination of Release 2.0.7 with 2.0.8, or a combination of Release 2.5 with 2.5.1; however, you cannot run a combination of Release 2.0.x with Release 2.5.x.

Cisco 1101 VLAN Policy Server Installation and Setup Guide Updates

This section contains late-breaking updates to *Installation and Setup Guide for the Cisco 1101 VLAN Policy Server*.

Chapter 3 Update

On page 3-12, disregard the second paragraph of Step 4, including Table 3-3.

Chapter 4 Updates

On pages 4-3 and 4-4, disregard the information in the “Administering User Accounts” and “Backing Up and Restoring Your VLAN Policy Server” sections.

Shutting Down and Reloading the VLAN Policy Server

On page 4-5, substitute the following procedure for the second paragraph:

To restart the VLAN Policy Server using the web interface:

-
- | | |
|---------------|---|
| Step 1 | Select Diagnostic > Restart . |
| Step 2 | Click Yes in the dialog box.
The VLAN Policy Server restarts. |
-

Preparing to Install the Replacement VLAN Policy Server

On page 4-11, disregard Step 3.

Appendix C Updates

Command Summary

In Table C-1 on pages C-3 through C-6, disregard the following commands:

- backup
- backupconfig
- restore
- show anilog
- show backupconfig
- show collectorlog

In Table C-1, note the following changes to these commands:

Old Command	New Command
show hseaccesslog	show webaccesslog
show hseerrorlog	show weberrorlog
show hsslaccesslog	show websslaccesslog

Privilege Level 15 Commands

Starting on page C-15 in the “Privilege Level 15 Commands” section, and all subsections therein, disregard the following commands:

- Backup
- Backupconfig
- Restore
- Show anilog
- Show backupconfig
- Show collectorlog

On page C-37, substitute the following italicized paragraph for the existing first paragraph:

To configure the VLAN Policy Server to be a repository, and to download software updates and images from an ftp server (or the product CD-ROM), enter the following command:

On pages C-53 through C-55, note the following changes to these commands:

Old Command	New Command
show hseaccesslog	show webaccesslog
show hseerrorlog	show weberrorlog
show hsesslaccesslog	show websslaccesslog

Known and Resolved Problems

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

- All severity level 1 or 2 bugs.
- Significant severity level 3 bugs.
- All customer-found bugs (regardless of severity level).

[Table 1](#) describes the problems known to exist in Release 2.5 and Release 2.5.1. [Table 2](#) describes the problems resolved in Release 2.5. [Table 3](#) describes the problems resolved in Release 2.5.1.

You can search for problems using the Cisco Software Bug Toolkit. To access the Software Bug Toolkit:

-
- Step 1** Log into Cisco.com.
 - Step 2** Select **Service & Support>Technical Support Help—Cisco TAC>Tool Index**.
 - Step 3** In the Jump to: links at the top of the page, click the letter **S**, then select **Software Bug Toolkit**.
-

You can also access the Software Bug Toolkit by entering the following URL in your web browser:

<http://www.cisco.com/cgi-bin/Support/Bugtool/home.pl>.

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1*

Bug ID (Severity)	Summary	Explanation
None	When Windows 2000 laptop systems are connected to a docking station, login is unsuccessful.	<p>The default setting for a Windows 2000 laptop system when connected to docking a station is for all network adaptors to be enabled. The system cannot log on when more than one network adapter is enabled.</p> <p>To work around this problem, set up your hardware profiles using the Hardware Device Manager option. Configure your system so that the network adapter for the docking station is the only network adapter enabled when the system is connected to the docking station.</p>
CSCdu52546 (3)	VPS1100 cannot set or delete an NTP server.	<p>If you logon to a VLAN Policy Server 1100 series as administrator or root, then try to delete an NTP command, the command-line interface returns an error. You cannot delete the NTP setting.</p> <p>There is no workaround.</p>
CSCdw08035 (3)	On MacOS 10.1 systems, the release and renew feature does not update the TCP/IP panel.	<p>When logging onto a MacOS 10.1 system, the IP address is changed according to the VLAN assigned to the user. However, when you select TCP/IP>Properties, the new IP address is not shown.</p> <p>There is no known workaround; however, you can obtain a client IP address by entering the command <code>ifconfig en0</code> in a terminal window.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdw46686 (3)	The client is not assigned to a user VLAN when using a Catalyst 1900 or 2820 as the access layer switch.	<p>When using a Cisco Catalyst 1900 (v 9.00.05) or Cisco Catalyst 2820 (v 9.00.05) as an access layer switch, the client is not assigned to a user VLAN. This occurs when the client system uses any port from 1 through 9.</p> <p>The logon user is assigned to a logon VLAN, but was not assigned to a user VLAN.</p> <p>This problem has been resolved in Catalyst Release v 9.00.06.</p>
CSCdx20706 (3)	When synchronization packet fails, no error message is displayed.	<p>When logged onto either a RADIUS or LDAP server using a web client, and the client system fails to send a sync packet to the VPS, an error message appears only in the web client log. You do not see an error message to indicate that the sync packet has failed.</p> <p>There is no workaround.</p>
CSCdx35302 (3)	The web logon does not log off automatically when logging off Windows systems.	<p>When using the web client on any supported Windows system, the web client does not automatically log you off when you log off your Windows system. When you log back onto your system, you are still in the user VLAN. You remain in the user VLAN for approximately 5 minutes before being switched to the logon VLAN.</p> <p>To work around this problem, log off the web client at the same time you log off your Windows system.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx45576 (4)	Search feature does not work on Windows XP systems after installing the URT Web Client.	<p>This is a known Windows XP problem.</p> <p>To work around this problem:</p> <ol style="list-style-type: none"> 1. Log in as Administrator or as a member of the Administrators group. 2. From the Windows desktop, select Start>Run, then enter <code>%systemroot%\inf</code>. 3. To open the INF folder, click OK. 4. Right-click the Srchasst.inf file. 5. From the drop-down menu, select Install to reinstall the files that the search feature requires to proceed normally. 6. Using Windows Explorer, navigate to the C:\Windows\srchasst\mui\0409 folder. 7. Right-click each of the following files: <ul style="list-style-type: none"> – Balloon.xml – Bar.xml – Lclsrch.xml 8. For each file, select Properties in the drop-down menu. 9. In the Properties dialog box, select the Read-only checkbox. 10. Click OK. 11. Repeat Step 7 through Step 10 for each file.

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx50935 (3)	Netscape 6.2.2 on Windows NT systems requires you to download the Java plug-in even when it is already installed.	<p>When attempting to log on using a web client, you are prompted to download the Java plug-in. Even after installing the plug-in, you are prompted every time you open the browser to download and install the plug-in.</p> <p>To work around this problem:</p> <ol style="list-style-type: none"> 1. Uninstall the Java plug-in. 2. Delete the NPJAVA*.dll and NPOJI600.dll files from the <netscape6>/plugins/ directory. 3. Reboot the system. 4. Install the Java plug-in. 5. If requested, reboot the system. 6. Verify that all files are copied into the <netscape6>/plugins directory. 7. Start the web client.
CSCdx51792 (3)	Cannot download the Java plug-in on Linux Mandrake 8.1 running Netscape 6.2.2.	<p>If the Java plug-in is not installed and you try to install it, the download dialog box does not allow you to select anything, and you cannot download the plug-in.</p> <p>To work around this problem, download the plug-in using Netscape 4.7.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx53561 (2)	The VQP sends trunking port MAC address requests.	<p>These requests occur when the client system is connected to a dynamic switch port and another switch port is set to trunking mode.</p> <p>The VQP sends a request for two MAC addresses on the switch port:</p> <ul style="list-style-type: none"> • One MAC address is that of the client attached to the switch port. • The other MAC address is that of the trunking port. <p>The switch behaves as if there are two MAC addresses on the switch port, causing the client to be switched back to the logon VLAN.</p> <p>This behavior has been observed on Cisco Catalyst 2900XL, 2950, and 3500XL switches.</p> <p>There is no workaround.</p>
CSCdx57155 (3)	The web client logon redirection does not work when using an IP address as the URL.	<p>When entering an IP address in the web browser and the URT web client is still in the logon VLAN, the web client logon redirect does not work.</p> <p>To work around this problem, enter the server name in the web browser.</p>
CSCdx57498 (4)	Install on Demand message box is displayed when Java plug-in is not installed.	<p>When logging on using Internet Explorer 6.0 on a Windows XP web client, and the Java plug-in is not installed, the Install on Demand message box opens.</p> <p>To work around this problem, do one of the following:</p> <ul style="list-style-type: none"> • In the Internet Options window, disable the Install on Demand option. • When Internet Explorer 6.0 starts, click Cancel in the Install on Demand message box.

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx60047 (3)	The Administrative Server help search on Windows XP systems does not work with the Java plug-in.	<p>The online help search feature does not work if the Administrative Server is installed on a system on which the Java plug-in is installed.</p> <p>To work around this problem, install the Windows update on the Windows XP system <i>before</i> installing the URT Administrative Server.</p>
CSCdx60072 (3)	Switch sends out an incorrect VQP message when using a hub.	<p>When a client is connected to a hub, the switch caches the client information (the switch port to which the hub is connected):</p> <ol style="list-style-type: none"> 1. The client is moved to another switch in the same VTP domain. 2. The VQP update is sent by the first switch; the VPS responds as if the user is on both switch ports. 3. The user is moved to the logon VLAN, and the history log shows the client on both the new port and the hub port. <p>There is no workaround.</p>
CSCdx60911 (3)	Cannot save the History log file with a file extension on Windows XP systems.	<p>You can save a history log file as a text file or as a comma-separated value (CSV) file. Regardless of which format you select, the file is saved without a file extension.</p> <p>To work around this problem, right-click the file, then use the Windows Notepad application to read it.</p>
CSCdx61384 (3)	The history events file logs multiple logon events if there is no response from the VPS.	<p>The history events log file reports multiple logon events for the same user if the VPS does not response immediately.</p> <p>There is no workaround.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx62862 (3)	The option to close the web browser after logon does not work on VA Linux operating systems.	<p>The web browser remains open after logon, even if you select the Close browser window on logon checkbox in the Web Options settings of the Administrative interface.</p> <p>There is no workaround.</p>
CSCdx63169 (4)	When using the command-line interface, a message incorrectly states that the process has completed.	<p>This message is displayed when you use the following CLI command to import a text file containing the MAC address to VLAN mappings:</p> <pre>urtgui -cli [full path\filename]</pre> <p>If the VTP domain is not valid, an error message indicates that the VTP domain is unknown. The last message says:</p> <pre>Completed loading data into URT</pre> <p>The message should indicate that the import failed.</p>
CSCdx63706 (3)	On Mandrake Linux systems using Netscape, the active and Grant Session windows close.	<p>This problem occurs on Mandrake Linux web clients using Netscape 6.2.2. When you launch Netscape for web logon, and do not click Grant Session or Grant All within 1 minute, the active Netscape window and the Grant session window close.</p> <p>The following message appears in the browser status bar:</p> <pre>error: java.lang.NoClassDefFoundError.</pre> <p>You cannot log on because the Logon dialog box is not open.</p> <p>To work around this problem, close, then reopen the browser. When you log on, click Grant Session. The Logon dialog box is displayed.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx63741 (4)	Non-DHCP hosts with static IP addresses can install the URT client service.	<p>When you manually install the URT Client service through a Windows NT host, the following message appears:</p> <p>NOTE:Install will fail on non-DHCP hosts.</p> <p>You can disregard this message.</p>
CSCdx70808 (3)	Client system is moved to the logon VLAN when the Energy Saver option is activated.	<p>When the Energy Saver option is enabled on a client system and the client system powers down, the timer (clock) on the URT Administrative Interface stops. The user is moved to the logon VLAN.</p> <p>When the system is rebooted, the clock restarts and the user is moved back to the user VLAN during the next sync.</p> <p>To work around this problem, disable the Energy Saver option.</p>
CSCdx70956 (3)	Linux clients lose network connectivity.	<p>During unique situations, such as when all VPSs are being upgraded simultaneously, logged on Linux client systems may lose network connectivity.</p> <p>To work around this problem, you must restart the network (you must have root privileges to do this):</p> <ol style="list-style-type: none"> 1. Open a terminal window on the Linux system. 2. To stop the network, enter one of these commands: <ul style="list-style-type: none"> - <code>/etc/rc.d/init.d/network stop</code> - <code>/etc/rc.d/network stop</code> <p>The path you use depends on the location of the network script.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdx70956 (continued)		<ol style="list-style-type: none"> 3. To stop the eth0 interface, enter: <code>/sbin/ifconfig eth0 down.</code> 4. Use the DHCP client to issue a release command. Depending on the DHCP client running on your system, enter one of these commands: <ul style="list-style-type: none"> - <code>/sbin/pump -k</code> - <code>/sbin/dhccpd -k</code> - <code>/sbin/dhclient -k</code> 5. To start the network, enter one of these commands: <ul style="list-style-type: none"> - <code>/etc/rc.d/init.d/network start</code> - <code>/etc/rc.d/network start</code> 6. To start the eth0 interface, enter: <code>/sbin/ifconfig eth0 up.</code> 7. To start the DHCP client, enter one of these commands: <ul style="list-style-type: none"> - <code>/sbin/pump</code> - <code>/sbin/dhccpd</code> - <code>/sbin/dhclient</code> <p>You can now logon to the network.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCin09948 (3)	When installation fails, a URT option on the Programs menu and a shortcut are created.	<p>This problem occurs when you enter an invalid user ID during installation of the Administrative Server. An error message appears and the installation fails.</p> <p>Even though the installation failed, the URT option is added to the Programs menu. If you enable the Create desktop shortcut option during installation, a shortcut for URT is also created on the desktop.</p> <p>If you click the shortcut on the desktop or select URT from the Programs menu, an error message appears and URT does not launch.</p> <p>To work around this problem, reboot the system, then perform the installation again.</p>
CSCin09951 (3)	Administrative Interface reinstallation loops continuously.	<p>When you reinstall the Administrative Interface, the following message appears:</p> <p>A previous version of URT was detected. You must uninstall the</p> <p>You then do the following:</p> <ol style="list-style-type: none"> 1. Click Yes to uninstall. <p>After a confirmation dialog box is displayed, the following message is displayed:</p> <p>The log file D:\urtttest\ UrtAdminServerUninst.isu is not valid or the data has been corrupted. Uninstallation will not continue.</p> <ol style="list-style-type: none"> 2. Click OK. <p>The first message displays again, and you must repeat Step 1 and Step 2.</p> <p>The reinstallation process continues, but the Administrative Server is never reinstalled.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCin09951 (continued)	Administrative Interface reinstallation loops continuously.	<p>To work around this problem, start the Registry Editor, then delete this registry entry:</p> <p>HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems\URT Administrative Server</p> <p>After you remove this entry, URT stops detecting the previous version of URT, and the reinstallation continues.</p>
CSCin10062 (3)	Traditional logon is allowed even when the Web Only Logon option is selected.	<p>If you deselect the Web Only Logon option, then later select it, you can logon using the traditional logon method. This occurs even though the Web Only Logon option is selected.</p> <p>There is no workaround.</p>
CSCdy57451 (3)	DNS (named) service resolves hostnames inconsistently on VPS.	<p>On pre-Windows 2000 systems using NetBIOS, underscores (_) were permitted in hostnames. On Windows 2000 systems, the URT VPS uses DNS to resolve hostnames. DNS converts the underscores to hyphens (-); as a result, hostnames are not resolved correctly.</p> <p>To work around this problem, be sure to use hyphens—not underscores—in the DNS Attributes window when entering the hostname.</p>
CSCdy57716 (4)	If Sun JRE not used, Microsoft JVM dialog box prompts repeatedly.	<p>The Microsoft Java Virtual Machine (JVM) “Install on Demand (Other)” dialog box prompts the client repeatedly to download and install the JVM if Sun JRE 1.4.0_01 is not selected.</p> <p>By default, Microsoft Internet Explorer (MSIE) 6.0 installs its own version of Java Virtual Machine (JVM). However, if you want to use Netscape with URT, you must use the Sun JRE (provided on the VPS). You can use the Sun JRE as the default runtime environment for both Netscape and MSIE.</p>

Table 1 *Known Problems in URT Release 2.5 and Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Explanation
CSCdy57716 (continued)		<p>To work around the problem of the repeating dialog box, do one of the following:</p> <ol style="list-style-type: none"> 1. In the Install on Demand (Other) dialog box, select the “Never download any of these components” check box, then click Cancel. 2. Download the Sun JRE and establish that as the default for both MSIE and Netscape.
CSCdy66500 (3)	URT user interface does not show all users of an OU.	<p>The URT user interface shows only 1000 users in an organizational unit. However, the LDAP server shows the correct number of users.</p> <p>There is no workaround.</p>

Table 2 *Resolved Problems in URT Release 2.5*

Bug ID (Severity)	Summary	Additional Information
CSCdw65436 (4)	Event times are not sorted chronologically in the Administrative Interface,	The Time of Event has been changed from string format to date format.
CSCdw67827 (4)	Multiple instances of the URT Administrative Interface could be opened at one time.	You can now run only a single instance of the URT Administrative interface. A warning message is displayed when you try to run more than one instance.
CSCdw68416 (4)	The Administrative Interface accepted invalid MAC addresses.	If you entered the MAC address in a format other than 00-00-00-00-00-00, an error message displayed. This problem has been resolved.
CSCdw79430 (4)	The install script dialog box that appeared when you selected a specific Windows domain controller (DC) within the same domain was misleading.	The message has been updated to indicate that the URT script might be replicated to other domain controllers.

Table 2 *Resolved Problems in URT Release 2.5 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdw81489 (3)	UrtVmppsServerAttributes.xml was written to a subfolder that could be inadvertently deleted.	TheUrtVmppsServerAttributes.xml file has been moved to the etc directory.
CSCin03687 (2)	The VPS went down when using the web browser to install from the VPS Recovery CD.	The package information has been changed for the Recovery CD.

Table 3 *Resolved Problems in URT Release 2.5.1*

Bug ID (Severity)	Summary	Additional Information
CSCdv31361 (3)	URT installed the English (not international) JRE.	<p>In the Customize tab, a new check box, Use International JRE Version as default download, has been added to the Web tab of the Options window. Use this option to download the international JRE for use by URT web clients. (If the box is deselected, the US English version is used.)</p> <p>Note This JRE is downloaded only if the client system does not already have a JRE or native Java installed.</p>
CSCdx24830 (3)	vlancmd on Linux was hanging occasionally.	This problem has been resolved.

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy00232 (2)	Windows 95 client IP address was not changed dynamically during login and logout.	<p>To resolve this problem, you must download an updated version of the Microsoft Windows Sockets 2 (Winsock 2.0) run-time components for Windows 95 from the Microsoft web site:</p> <p>http://support.microsoft.com/default.aspx?scid=KB;EN-US;Q177719</p> <p>Note This web site is Copyright © 2002, Microsoft Corporation.</p> <p>At this location, you can obtain msvcrt.dll and a working version of winicpfg (4.10.0.x or later) for URT.</p>
CSCdy10491 (3)	History Logging by date wrote one event to an earlier file.	This problem has been resolved.
CSCdy10901 (2)	XML data files were not synchronized on the VPS.	<p>The XML data files were not properly synchronizing on the URT VPS. Some files had the correct version number but incorrect data. Other XML files had incorrect version numbers. Therefore, the data was not synchronizing properly with the URT Administrative Server.</p> <p>This problem has been resolved.</p>
CSCdy11117 (3)	Windows 95 and Windows 98 systems only supported 22 VPSs from the command line.	<p>Entering more than 22 VPSs resulted in an error message.</p> <p>This problem has been resolved.</p>

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy11129 (3)	LDAP bounced a logged on user every 60 minutes.	<p>When users log into the network using the URT web client, they are authenticated by Active Directory as the LDAP server.</p> <p>Using LDAP, URT verified the user associations and domain name settings after 60 minutes. The domain name failed and returned a NULL, indicating to URT that there was no user assigned to the VLAN. The user then returned to the logon VLAN. The user's confirmation packet determined the correct domain name and association for that user; the user then returned to the user VLAN. As a result, the user was bounced and returned to the user VLAN every 60 minutes.</p> <p>This problem has been resolved.</p>
CSCdy12415 (2)	Web option to close window after logon returned user to the logon VLAN.	<p>When a user set the web option to close the browser window after logging on, the user could log on as expected, and the browser window closed. However, after approximately 15 minutes, the VPS returned the user to the logon VLAN.</p> <p>This problem has been resolved.</p>

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy12691 (2)	Apache Web Server vulnerability.	<p>URT uses the Apache web server to upgrade the URT VPS and to service the URT Web Client module on the VPS.</p> <p>This patch release resolves the security vulnerability described in:</p> <p>http://httpd.apache.org/info/security_bulletin_20020617.txt</p> <p>Note This web site is Copyright © The Apache Software Foundation.</p> <p>and</p> <p>http://www.cert.org/advisories/CA-2002-17.html</p> <p>Note This web site is Copyright CERT® Coordination Center. CERT® is a registered trademark and service mark of Carnegie Mellon University.</p>
CSCdy15341 (3)	After a GroupUpdate, user no longer displayed in the UrtGroupMemberships.	This problem has been resolved.
CSCdy16111 (4)	Null pointer exception when shutting down LDAP server, then double-clicking that server.	<p>When shutting down the LDAP server, then double-clicking that server from the URT Administrative interface, a null pointer exception was displayed in the DOS window, suspending the user interface.</p> <p>This problem has been resolved.</p>
CSCdy25989 (3)	Reconfirm of switch did not set VMPS Server settings.	The URT VPS now sets the VMPS Server settings before issuing the SNMP reconfirm.
CSCdy27258 (3)	TibrvException error displayed during client logon and logoff.	This problem has been resolved.

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy33847 (3)	Could not add task item to ClientScheduler queue because the queue limit had been reached.	Users were not being switched from the logon VLAN to the user VLAN. This problem has been resolved.
CSCdy38114 (3)	Client sent out 300 ping packets to verify that the link was up.	The ping interval has been significantly shortened.
CSCdy40380 (3)	Windows XP Professional host could not join Windows domain with VPS/DNS.	To use the web logon feature, the VPS must be configured as a DNS server for the logon VLAN. During a traditional logon, a DNS query to resolve the Windows domain controller name from Windows XP Professional systems was not resolved to the correct IP address by the VPS being used as a DNS server. This problem has been resolved.
CSCdy45202 (3)	VPS/DNS was resolving Windows domain controller names.	A VPS used as a DNS server should not have resolved all incoming requests to its own IP address. During a traditional logon, the client system sends a DNS query to resolve the Windows domain controller name. The VPS/DNS behavior has been changed so that it does not resolve the domain controller name to its own IP address. Hostnames are now resolved to IP addresses based on a list of hostnames added using the URT Administrative interface. You can use the DNS Option tab to add a list of names to the IP addresses. The VPS will resolve those names to the specified IP addresses.
CSCdy45387 (4)	On Windows XP systems, Netscape 6.2 installed JRE 1.3.x when JRE was 1.4.0 needed.	On Windows XP systems, URT requires the Sun Java JRE 1.4.0_01 plug-in. While installing Netscape 6.2 for the first time: <ul style="list-style-type: none"> • A <i>full</i> installation installs JRE 1.3.1_02. • A <i>recommended</i> installation does not install the JRE.

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy45387 (continued)		<p>When you introduce this client system to URT, URT detects that either the incorrect JRE or no JRE has been installed. A Java Plug-in dialog box informs you that, for the page to display properly, you must download and install the 1.4.0_01 plug-in (which resides on the VPS).</p> <p>You can download the US English (the default) or All Languages (International) version of the plug-in.</p> <p>In the dialog box, click the link that takes you to the download; then follow the installation instructions.</p>
CSCdy46710 (4)	JRE 1.4.0_01 sometimes does not plug into Netscape 6.2.3.	<p>When you install JRE 1.4.0_01 and select Netscape 6 to use the Java plug-in as the default Java Runtime, the installation sometimes fails and the URT web client is repeatedly prompted to download and install JRE 1.4.0.</p> <p>Note This behavior was most often observed on Windows XP systems.</p> <p>This failure is not detrimental to the operation of the URT web client; however, to work around this behavior:</p> <ol style="list-style-type: none"> 1. Select Start>Settings>Control Panel>Java Plug-In 1.4.0_01. 2. Click the Browser tab. 3. Select Netscape 6 again.

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy47395 (2)	Space embedded in the system variable was not recognized.	<p>On some clients, the %TEMP% system variable is defined as:</p> <pre>C:\DOCUME~1\ADMINI~1\LOCAL SETTINGS\Temp</pre> <p>The space between LOCAL and SETTINGS caused the remainder of the command to be truncated.</p> <p>The URT.BAT script has been changed so that all occurrences of the %TEMP% variable are enclosed in quotation marks, as in the following example:</p> <pre>"%TEMP%\OnOffHandler" -domain domain_name -trace -logoffDelay 7 -exec "y:\posturt.bat"</pre>
CSCdy49007 (4)	URT client file system needed domain access rights.	<p>If the file system on the client system is locked, the domain controller, which requires right access to the files, cannot update the client files upon logon. In these situations:</p> <ul style="list-style-type: none"> • The client remains in the logon VLAN. • Each client must be manually updated by an admin user with the appropriate rights (a prohibitively time-consuming solution in environments with a large number of PCs). • A "Permission Denied" error message is generated. <p>To work around this problem, you must grant Domain Controller rights to the client.</p>
CSCdy49949 (2)	Client service pings the switch gateway continuously.	<p>The URT client sometimes continues to ping the gateway repeatedly, even after the logon process has completed.</p> <p>No user intervention is required.</p>

Table 3 *Resolved Problems in URT Release 2.5.1 (continued)*

Bug ID (Severity)	Summary	Additional Information
CSCdy50233 (5)	Need more information about resynchronizing mobile clients.	<p>URT allows a client to disconnect from one port and move to another port without logging off. If a user disconnects their system by unplugging a cable, logoff takes approximately 10 minutes (the time it takes for two synchronizing messages to be generated).</p> <p>When connecting to a new port, it takes the VPS approximately 4 to 5 minutes to reinitialize the client on the new port.</p> <p>There is no workaround.</p>
CSCdy50463 (3)	Menu item for Update URT Server Group Entries was unintuitive.	<p>To use the Update URT Server Group Entries feature in URT Release 2.0.x, you would select the Windows domain name under the NT and NDS Domains folder, then select Customize> Update Server Group Entries.</p> <p>In Release 2.5, this feature was grayed out and unavailable from the menu if you did not first select the Groups icon from within the NT and NDS Domains folder. (You can find the Groups icon by expanding the NT and NDS Domains folder, then looking under the Windows domain name, then looking under the Users icon.)</p> <p>This function has been changed back to an available selection when only the domain name or group is selected.</p>

Table 3 Resolved Problems in URT Release 2.5.1 (continued)

Bug ID (Severity)	Summary	Additional Information
CSCdy50490 (3)	No online help associated with DNS Attributes in URT Options.	<p>In the URT Administrative interface, when you select Customize>Options>DNS>DNS Settings>Add, no help topic is associated with the Help button.</p> <p>The following information should be associated with the Help button:</p> <p>“When the VPS is used as a DNS server, the clients in the logon VLAN must know the Windows domain controller hostnames and corresponding IP addresses. You can use this feature to enter the hostname and IP address mappings.”</p>
CSCdy50527 (3)	No online help associated with Disable Event Bus feature.	<p>At the bottom of the Customize>Options > Administrative window is a check box to enable or disable the “Disable URT Event Bus feature.” If you click Help, no help topic is available.</p> <p>The following information should be associated with the Help button:</p> <p>“Use this option to enable or disable the TIBCO event bus.”</p>
CSCdy61171 (2)	Auto-install failed on some Windows clients.	This problem has been resolved.

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to bug-doc@cisco.com.

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

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

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
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- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

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

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

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

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the documents listed in the “[URT Documentation](#)” section.

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