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Welcome to the Cisco Unified Communications IP Telephony Technical Information Site

This information site describes the Cisco Unified Communications IP telephony system, the Cisco IP solution for integrating data, voice, and video traffic over converged networks. The Cisco Unified Communications IP telephony system sets the world standard for rich-media IP networking.

This site contains system documentation that is presented in the network lifecycle process: Prepare, Plan, Design, Implement, Operate, and Optimize (PPDIOO). PPDIOO is a Cisco methodology that defines the continuous lifecycle of services required by the end customer.

You can quickly access additional resources in the Resource Library and Training Library. When you click a tab, the table of contents (TOC) on the left navigation panel changes to show only the TOC for that tab. The opening page on each tab describes what is covered in that phase. You can also use the link to the Index at the bottom of every TOC. For more on getting the most out of using this system, see [Using This Information System](#).



Note

In addition to using the Feedback Form available on each page, you can e-mail comments to CiscoUnifiedCommunicationsSystemDocFeedback@elink.cisco.com. Your feedback helps us to improve this site.

Audience

This technical information site is designed for people who are implementing Cisco Unified Communications IP telephony systems:

- Cisco partners
- Cisco system engineers (SEs)
- Cisco Technical Assistance Center (TAC) engineers
- Cisco customers, especially decision makers, network designers, and operations personnel

The Critical Path to Successful Deployment

The PPDIIO process is the critical path to launch and complete a successful customer deployment, from the request for information (RFI) proposal to successful training of operations personnel. The Cisco Unified Communications system documentation is designed to be used along with the PPDIIO methodology. Each tab on the web interface contains a complete task flow for each phase of the PPDIIO process. [Table 1-1](#) shows you what type of content you will find on each process tab.

Table 1-1 **Content Map**

Phase	Content Overview
Prepare and Plan	Using evaluative and planning tools, system engineers help partners and customers find the best solutions to their business needs. Further planning continues the needs analysis with the goal of producing a high-level project plan and the initial site survey. Key Content: System description, Release Matrix, planning an upgrade
Design	Using the verified customer requirements, the system engineer creates the detailed design, which includes the equipment list, network diagrams, and traffic flows. Key Content: Sample deployment models, sample call flows, system test results
Implement	Using the site requirements identified in the detailed design, the implementation team performs a detailed site survey is performed to prepare the site for installation. Equipment is ordered, inventoried, and staged. The implementation team uses the detailed design to install and configure equipment. A detailed test plan is developed and implemented to determine whether the network is ready for use. Key Content: Installation guidelines, test configurations, introduction to troubleshooting methodology
Operate	Ongoing operations include managing and monitoring components, performing routine maintenance, managing upgrades, and managing performance and service level agreements (SLA). Key Content: Call load test results, tested call flows, troubleshooting common problems, recovery procedures
Optimize	Optimization covers post installation services that are not under a maintenance contract including, but not limited to, performance audits, hardware and software upgrades, and applications development. Key Content: Upgrade procedures
Resource Library	Key Content: System description, release notes, topologies, ordering guides, configuration files, system test results, links to related documentation
Training Library	The Training Library provides a single interface to all Cisco Unified Communications instructor-led courses and training videos on demand (VODs).

About This Release

This documentation covers Cisco Unified Communications system applications through Release 5.0(2). If you are upgrading an existing Cisco Unified Communications system application, begin by reading the Release Notes for Release 5.0(2) to familiarize yourself with functionality in this new release.

There are two information sites for Cisco Unified Communications Release 5.0(2). This site, for IP telephony systems, and the Cisco Unified Communications site for [Contact Center systems](#). Use your Back button to return to this site.

Cisco Unified Communications System Release Notes

[System Release Notes for IP Telephony: Cisco Unified Communications System, Release 5.0\(2\)](#)

Using This Information System

This information system, the Cisco Information Access Manager (IAM), is designed to give you an easily navigable framework for accessing all documentation for your system, solution, or product. The following sections describe using the IAM:

- [About the IAM Window](#)
- [Types of Topics](#)
- [Comprehensive Index \(in Some IAMs\)](#)
- [Graphics with Hotspots and Popup Text \(Image Maps\)](#)
- [Where Information Is Located](#)
- [About the Secondary Browser Window](#)
- [Tips on Using the IAM](#)



Note

Make sure your browser does not block popup windows for this site. If a popup link fails to open, check your browser settings. Alternatively, press **Ctrl** when you click the link to override your browser's settings.

About the IAM Window

The IAM window is laid out so that you can easily navigate between topics, drill down to get detailed information, and directly access product and platform documentation, without ever losing your place or having to cope with a complex hierarchy of windows.

[Figure 1-1](#) shows an example of an IAM window for a fictitious solution. View descriptions of numbered window elements in [Table 1-2](#).

Figure 1-1 Example of Information Access Manager Window

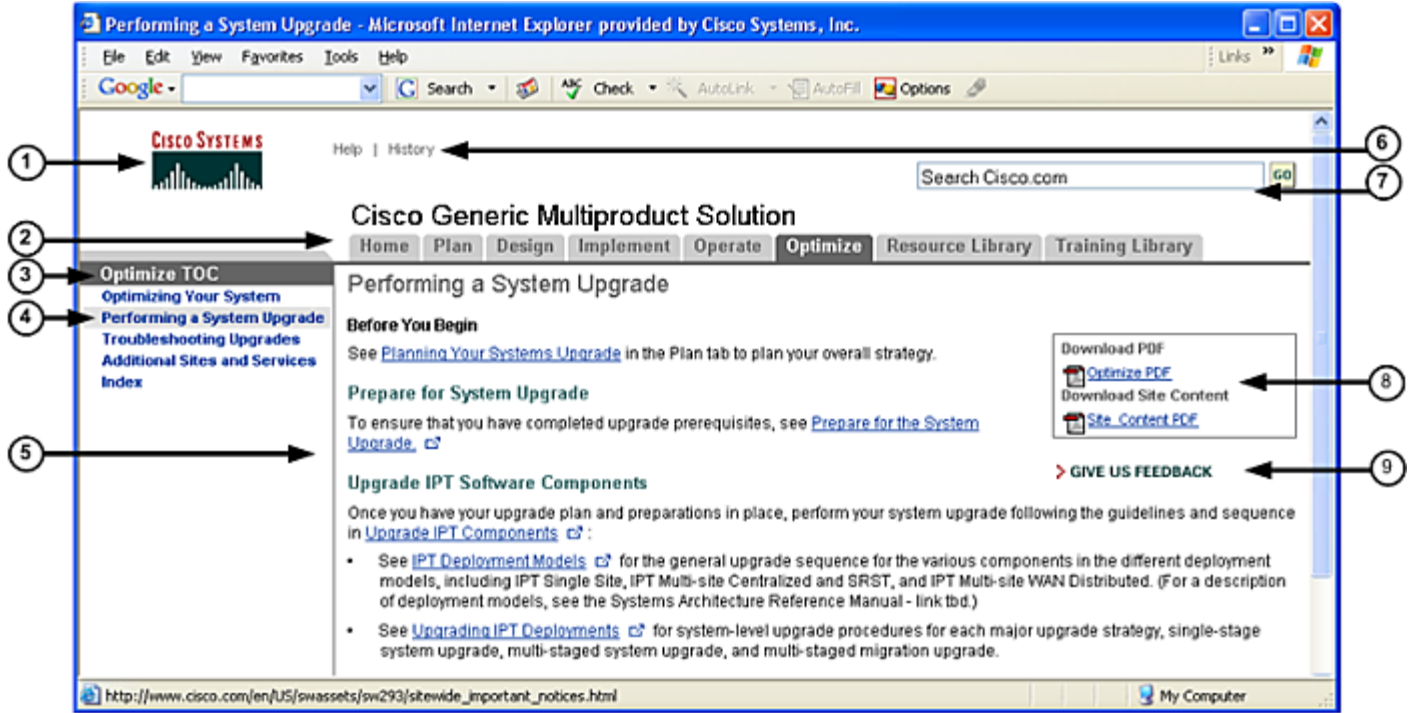



Table 1-2 Key to Window Illustration

1	Cisco logo. Click to go to Cisco Systems home page, replacing the IAM in the browser (the Back button takes you back to the IAM window).	6	Access-from-anywhere links to Help and History. (These links may have different labels, and in some cases may be used for different topics, such as a glossary.)
2	Tabs for global navigation between processes or other major categories. Click a tab to go to the home page for that tab. The table of contents (TOC) changes, showing topics specific to that tab. In the first content pane for a tab, you are shown an overview of what is on the tab and the tasks and concepts covered.	7	Search box: Use to search all of Cisco.com, not specifically this IAM. Search list appears in a new window so that you do not lose your place within the IAM.
3	TOC for navigation within a tab. The TOC changes when you click a different tab, or when you click a link that goes to a topic on a different tab. Some IAMs have an Index link at the bottom of every TOC. Click for an index of the entire IAM. Use this if you are not sure where to find a topic.	8	Download an Adobe Acrobat PDF of the content of the current tab or the content of the entire site.

Table 1-2 Key to Window Illustration (continued)

4	<p>Main heading in a TOC, such as "Performing a System Upgrade." If the heading is blue, it is a link that goes to a topic in the content pane. If it is black, it is unlinked and simply a title for linked subtopics below.</p> <p>A highlighted heading in the TOC indicates the current topic displayed in the content pane.</p>	9	<p>GIVE US FEEDBACK: Click to go the Feedback form at the bottom of the page to provide page-specific feedback. You may also give us general feedback by e-mailing CiscoUnifiedCommunicationsSystemDocFeedback@elink.cisco.com.</p>
5	<p>Content pane, where the information resides.</p> <p>Note two kinds of links in the content pane:</p> <ul style="list-style-type: none"> • A link to another topic in the content pane looks like an ordinary link. Clicking the link switches the contents of the pane. • A link to a secondary topic is appended with a popup icon . Clicking the link opens a new browser window, offset from the current window. If the other window is already open, the topic replaces the current contents. 		

Types of Topics

When you see a reference to a topic, you can tell what type of topic it is by its name:

- “Doing” topics, such as "Installing the Cisco Unified CallManager," are *task topics*, and provide instructions for doing something.
- “Overview” or “About” topics are *concept topics* to help you understand and plan your deployment and carry out tasks knowledgeably.

Some tabs may group topics under headings such as “Planning Concepts” and “Planning Tasks.”

Comprehensive Index (in Some IAMs)

If you see an Index link at the bottom of a TOC, you can click it to view a hyperlinked index to all the topics in the IAM. Use this index if you are not sure where to find a topic that you are interested in.

If a topic appears only once in the site, the index displays the entry as a clickable link. If a topic appears more than once, the entry is followed by clickable numbers linked to successive occurrences, similar to a series of page numbers in a printed index. For example,

Visio diagrams, [1](#), [2](#)




Click 1 to go to the first occurrence, click 2 to go to the second. You can use the browser Back button to return to your place in the index.

Graphics with Hotspots and Popup Text (Image Maps)



Some graphics in the IAM may be image maps. An image map may have hotspots that you can run your pointer over to view a popup description or that you can click to open a linked topic in a secondary window.

Where Information Is Located

Cisco systems and solutions encompass a range of products and technologies, and their documentation encompasses information that may reside in several locations:

- Overviews and high-level process and procedure information specific to your solution or system are included directly in the IAM.
- Product and technology overviews, detailed requirements, task details, and other more generic topics are located outside the IAM. These topics have the appearance of standard Cisco documentation with which you may already be familiar. Links to these topics appear with a popup icon  appended, for example, [Installing the Cisco Unified CallManager](#) . This means that clicking the link opens the topic in a new, secondary browser window offset from the current window, rather than replacing the current topic in the content pane. You can click the link to view the information when you need it, and then return to your place in the main IAM flow.
- Links with this symbol () are available only to people with a Cisco login, such as Cisco partners or registered Cisco.com users with a [Cisco service contract](#). After clicking the link, log in when prompted. A secondary browser window opens. Keep the secondary window open in order to open other links without having to log in again.

About the Secondary Browser Window

When a topic like [Installing the Cisco Unified CallManager](#)  opens in a new, secondary browser window, that window stays open until you close it. (Click the Close button or choose **File > Close**.) If the window is open when you click another  link, the new topic replaces the current one. You can use the browser Back button if you want to retrace your steps in the secondary window.

Tips on Using the IAM

- Use tabs to navigate between major process areas.
- Use the TOC at the left of the IAM window to navigate to major topics on a tab.
- In a secondary popup window:
 - When you are done with the window, click the Close button to close it. (It does not close automatically.)
 - You can go back to a previous topic by right-clicking and choosing **Back**.
 - You can view normal browser toolbars, the address bar, and any other browser items that you do not see by using commands on the View menu.
- (In some IAMs) Use the Index (click the link at the bottom of any TOC) if you are not sure where to find a topic that you are interested in.

Using the Resource Library

The Resource Library tab is a single location for you to get related and additional information about Cisco Unified Communications. The Resource Library contains the following:

- System description PDF
- System release notes
- Network topology resources
- Links to component troubleshooting guides
- Links to component documentation
- Configuration files
- System test results

Using the Training Library

The Training Library tab is the location for all Cisco Unified Communications training materials for partners, customers, and employees. The Training Library contains the following:

- Videos on demand (VODs)
- Links to partner certification training programs
- Links to instructor-led courses

Obtaining Documentation and Technical Assistance

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

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 library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

The Product Documentation DVD is created monthly and is released in the middle of the month. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

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

Ordering Documentation

You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

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

If you do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Documentation Feedback

You can provide feedback about Cisco technical documentation on the Cisco Technical Support & Documentation site area by entering your comments in the feedback form available in every online document.

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 do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

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

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

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

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

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

- For nonemergencies—psirt@cisco.com

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

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



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key 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 to find other means of encrypting the data before sending any sensitive material.

Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive Cisco Product Alerts and Cisco Field Notices by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. (To register as a Cisco.com user, go to this URL: <http://tools.cisco.com/RPF/register/register.do>) Registered users can access the tool at this URL: <http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

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 Tool** to locate your product serial number before submitting a request for service online or by phone. You can access this tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This 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.



Tip

Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing F5.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. On the Cisco.com home page, click the **Advanced Search** link under the Search box and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

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 channel product 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 magazine for Cisco networking professionals. 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 subscribe to *Packet* magazine at this URL:
<http://www.cisco.com/packet>
- *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 where networking professionals 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>
- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:
<http://www.cisco.com/univercd/cc/td/doc/abtnicd/136957.htm>
- 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>