



Preface

Introduction

The Cisco IP Interoperability and Collaboration System (hereafter referred to as *Cisco IPICS*) and the Push-to-Talk Management Center (hereafter referred to as *PMC*) application enable integrated communications among disparate Land Mobile Radio (LMR) systems.

By using an IP standards-based solution, Cisco IPICS solves interoperability issues by extending LMR reachability to the IP network through the connection of radio networks to IP networks and devices. Cisco IPICS also provides the following benefits:

- Investment protection in legacy radio networks and applications
- Graceful migration to robust IP applications and devices
- Incident management framework for operations and command and control

This document provides you with the information that you need to install, configure, manage, and operate the PMC application.

This section describes the intended audience and organization of this *Cisco IPICS PMC Installation and User Guide* and includes the following topics:

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Audience

The *Cisco IPICS PMC Installation and User Guide* targets the end-user who needs to know how to install, operate, and maintain the PMC application.

Organization

This guide is organized in the following manner:

Chapter 1, “Introducing Cisco IPICS and the PMC Application”	This chapter introduces Cisco IPICS and the PMC application. It includes a product overview as well as guidelines for systems requirements and expected interaction behavior.
Chapter 2, “Installing and Upgrading the PMC Application”	This chapter describes the actions that you must take to download and install the PMC application. It also provides instructions about upgrading, patching, and reverting the PMC application to an earlier version.
Chapter 3, “Understanding PMC Interactions and Supported Features”	This chapter contains information about the scenarios where you might use the PMC, information about the server and PMC interactions, PMC supported features, and specific terminology that the Cisco IPICS solution uses.

Chapter 4, “Using the PMC Application”	This chapter provides information about using the PMC application.
Chapter 5, “Configuring the PMC Application”	This chapter provides information about configuring the PMC end-user interface.
Chapter 6, “Recovering the PMC Application”	This chapter provides information about the actions that you can take to recover the PMC application under specific circumstances.
Chapter 7, “Using the PMC Application Logs”	This chapter describes how to use the PMC application logs. It includes information about turning on/off the log facility and setting up individual logs.
Chapter 8, “Troubleshooting Tips for the PMC Application”	This chapter provides information about basic troubleshooting tips and error messages that you may encounter when you use the PMC application.

Related Documentation

For more information about Cisco IPICS and the PMC application, refer to the following documentation:

- *Cisco IPICS PMC Quick Start Reference Card, Release 2.0(1)*—This document provides tips and quick references for the most frequently used procedures that a user can perform on the Cisco IPICS PMC.
- *Cisco IPICS PMC Debug Reference Quick Start Card, Release 2.0(1)*—This document provides a quick reference for troubleshooting and debugging the Cisco IPICS PMC.
- *Cisco IPICS Server Administration Guide, Release 2.0(1)*—This document contains information about the key configuration, operation, and management tasks for the Cisco IPICS server.
- *Cisco IPICS Server Quick Start Guide, Release 2.0(1)*—This document is a condensed version of the *Cisco IPICS Server Administration Guide* to help the administrator to quickly get started with Cisco IPICS.

- *Cisco IPICS Server Quick Start Reference Card, Release 2.0(1)*—This document provides tips, quick references, and usage guidelines for the Cisco IPICS server.
- *Cisco IPICS Server Installation and Upgrade Guide, Release 2.0(1)*—This document describes how to install, configure, and upgrade the Cisco IPICS server software and Cisco IPICS operating system.
- *Cisco IPICS Server Quick Start Installation Reference Card, Release 2.0(1)*—This document provides tips and quick references for installing and upgrading the Cisco IPICS server.
- *Cisco IPICS Troubleshooting Guide, Release 2.0(1)*—This document contains reference material about how to maintain and troubleshoot the Cisco IPICS system.
- *Cisco IPICS PMC Command Line Interface, Release 2.0(1)*—This document describes the commands that you can use from the command line interface (CLI) to obtain information or to change settings for the Cisco IPICS PMC.
- *Release Notes for Cisco IPICS Release 2.0(1)*—This document contains a description of the new and changed features, important notes, caveats, and documentation updates for this release of Cisco IPICS.
- *Cisco IPICS 2.0(1) Resources Card (Documentation Locator)*—This document provides a summary of the documentation that is available for this release of Cisco IPICS.
- *Solution Reference Network Design (SRND) for Cisco IPICS Release 2.0(1)*— This document provides information about design considerations and guidelines for deploying the Cisco IPICS solution.
- *Cisco IPICS Compatibility Matrix*—This document contains information about compatible hardware and software that is supported for use with Cisco IPICS.

To access the documentation suite for Cisco IPICS, refer to the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/cis/c_ipics/index.htm

Cisco Unified CallManager Documentation

For information about Cisco Unified CallManager, refer to the documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm

Cisco Unified CallManager Express Documentation

For information about Cisco Unified CallManager Express, refer to the documentation at this URL:

<http://www.cisco.com/univercd/cc/td/doc/product/voice/its/index.htm>

Cisco 7800 Series Media Convergence Servers Documentation

For information about Cisco 7800 Series Media Convergence Servers, refer to the MCS data sheets at this URL:

http://www.cisco.com/en/US/products/hw/voiceapp/ps378/products_data_sheets_list.html

Cisco Unified IP Phone Documentation

For information about Cisco Unified IP Phones, refer to the documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/index.htm

Cisco Land Mobile Radio over IP

For information about Cisco Land Mobile Radio (LMR) over IP, refer to the documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123newft/123t/123t_7/lmrip/index.htm

Cisco Security Agent

For information about Cisco Security Agent, refer to the documentation at this URL:

<http://www.cisco.com/univercd/cc/td/doc/product/vpn/ciscosec/>

Cisco IOS Documentation

The Cisco IOS software documentation set describes the tasks and commands necessary to configure certain system components and other Cisco products, such as access servers, routers, and switches. Each configuration guide can be used in conjunction with its corresponding command reference.

For information about Cisco IOS software configuration, refer to the documentation at this URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/>

Document Notes and Conventions

This document uses the following conventions for instructions and information:



Note

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.



Caution

This caution symbol means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Table 1 **Conventions**

Convention	Description
boldface font	Commands and keywords appear in boldface .
<i>italic font</i>	Command input for which you supply the values appear in <i>italics</i> .
[]	Optional keywords and default responses to system prompts appear within square brackets.

Table 1 **Conventions (continued)**

Convention	Description
{ x x x }	A choice of keywords (represented by x) appears in braces separated by vertical bars. You must select one.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
^ or Ctrl	Represent the key labeled <i>Control</i> . For example, when you read <i>^D</i> or <i>Ctrl-D</i> , you should hold down the Control key while you press the D key.
screen font	Examples of information displayed on the screen.
boldface screen font	Information that you must enter is in boldface screen font .
<i>italic screen font</i>	Arguments for which you supply values are in <i>italic screen font</i> .

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 and released regularly. 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 Support 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 these announcements 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. Registered users can access the tool at this URL:

<http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

To register as a Cisco.com user, go to this URL:

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

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Support 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 Support Website

The Cisco Support website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

<http://www.cisco.com/en/US/support/index.html>

Access to all tools on the Cisco Support website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

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



Note

Before you submit a request for service online or by phone, use the **Cisco Product Identification Tool** to locate your product serial number. You can access this tool from the Cisco Support website by clicking the **Get 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. After using the Search box on the Cisco.com home page, click the **Advanced Search** link next to the Search box on the resulting page 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 Online Subscription Center is the website where you can sign up for a variety of Cisco e-mail newsletters and other communications. Create a profile and then select the subscriptions that you would like to receive. To visit the Cisco Online Subscription Center, go to this URL:

<http://www.cisco.com/offer/subscribe>

- 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>

- *Internet Protocol Journal* is a quarterly journal published by Cisco 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, 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/abtnucd/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>