Preface

Audience

This document is a reference guide to assist end-users, customers, developers, and support staff in understandig and troubleshooting various Cisco CallManager-related Application Programming Interfaces (APIs) and interfaces.

Structure of This Guide

This guide contains the following sections:

- General Troubleshooting Procedures, page 1—Provides suggestions for addressing common problems, help on opening a developer support case, and a discussion of coordinated support.

- TAPI Troubleshooting, page 9—Provides an overview of the Telephony Applications Programming Interface (TAPI), a discussion of application architecture, a post-installation checklist, related troubleshooting tools, and tips on obtaining error reports.

- JTAPI Troubleshooting, page 21—Provides an overview of the Java Telephony Applications Programming Interface (JTAPI), a discussion of application architecture, a post-installation checklist, related troubleshooting tools, and tips on obtaining error reports.

- XML Services Troubleshooting, page 27—Provides an overview of Extensible Markup Language (XML) services, a discussion of application architecture, a discussion of available troubleshooting tools, and tips on obtaining error reports.

- AXL Troubleshooting, page 35—Provides an overview of the AVVID XML Layer (AXL), a discussion of application architecture, a post-installation checklist, related troubleshooting tools, and tips on obtaining error reports.

- SCCP (Skinny) Phone/Endpoint Troubleshooting, page 45—Provides an overview of Skinny, a brief example application, a discussion of available troubleshooting tools, and tips on obtaining error reports.

- Cisco CallManager Express and Survivable Remote Site Telephony Troubleshooting, page 53—Provides an overview of application architecture, a post-installation checklist, and sample debug traces.

- Glossary—Presents an alphabetical listing of common terms used throughout this document.

Related Documents

Document	Title or URL
Microsoft Windows Telephony Features with TAPI 2.1	http://www.microsoft.com/ntserver/techresources/commnet/tele/tapi21.asp
Java Telephony API	http://java.sun.com/products/jtapi/
Cisco IP Phone Services	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/sys_ad/3_3_3/ccmsys/a07phsvc.htm
Cisco IP Phone Services Configuration	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/sys_ad/3_3_3/ccmcfg/b05phsrv.htm
Cisco CallManager Troubleshooting Guides	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg
Developing Cisco IP Phone Services	Publication by Darrick Deel, Mark Nelson, and Anne Smith. Published by Cisco Press, ISBN 1=58705-060-9
Cisco IP Phone Services Application Development Notes	http://www.cisco.com/univercd/cc/td/doc/product/voice/vpdd/cdd/3_3/3_3_4/ipphs/index.htm
Cisco IP Phone Services XML Schema	http://www.cisco.com/univercd/cc/td/doc/product/voice/vpdd/cdd/3_3/3_3_4/ipphs/ip334apb.htm

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

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

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

You can access the Cisco website at this URL:

http://www.cisco.com

International Cisco websites can be accessed from this URL:

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

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpck/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

  http://www.cisco.com/en/US/partner/ordering/index.shtml

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit e-mail comments about technical documentation to bug-doc@cisco.com.

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

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

We appreciate your comments.

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, the Cisco Technical Assistance Center (TAC) provides 24-hour-a-day, award-winning technical support services, online and over the phone. Cisco.com features the Cisco TAC website as an online starting point for technical assistance. If you do not hold a valid Cisco service contract, please contact your reseller.

Coordinated Support

The following is a list of questions and related answers associated with Coordinated Support:

Q. What is Coordinated Support?

A. Coordinated Support is a comprehensive service offered to Cisco AVVID Partner Program participants, designed to provide seamless technical support to joint customers with valid maintenance agreements for their Cisco AVVID solutions.

Q. How is Coordinated Support organized?

A. There are two levels of Coordinated Support: Type I and Type II.

Type I is provided for verified interoperable products in solution categories whose failure impact on network operations is minimal. These are the products whose failure might result in a Priority 3 or a Priority 4 technical support call. Partners whose products fall into this category are still expected to be able to provide Cisco with a high level of support in the event that Cisco needs assistance on a Priority 1 or Priority 2 or a Cisco Critical Accounts Program (CAP) case.

Type II is provided for verified interoperable products in solution categories that potentially have a critical impact on network operations if a problem arises. Partners will be required to adhere to a higher support standard in order to ensure that both Cisco and the partner can adequately respond and meet the expectations of our mutual customers.

Q. Why are there two levels of Coordinated Support?

A. Type I support has been created for those partners who do not rely heavily on the Cisco development application protocol interfaces (APIs) and protocols and whose product failure will have minimal impact to network operations. Type II support was created for partners whose products have critical impact on the network, should these products malfunction.

Q. Does Coordinated Support require the hot or warm hand-off of a customer call?

A. Hot or warm hand-off of customer support calls is not required under Coordinated Support; however, for critical issues or in cases where the location of the problem remains unclear after troubleshooting, the Cisco support engineer or the partner's support engineer may choose to work together to resolve the support issue.

Q. Where can I find more information about the Cisco AVVID Coordinated Support processes and procedures?

A. The Cisco AVVID Partner Program Coordinated Support Manual contains detailed processes and procedures and is located at
http://www.cisco.com/warp/public/cc/so/cuso/epso/avpnpg/appcs_ds.htm

Cisco TAC Website

The Cisco TAC website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco TAC website is available 24 hours a day, 365 days a year. The Cisco TAC website is located at this URL:

http://www.cisco.com/tac

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

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

Opening a TAC Case

Using the online TAC Case Open Tool is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer. The online TAC Case Open Tool is located at this URL:

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

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case 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 listing of Cisco TAC contacts, go to this URL:

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

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is "down" or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Go to this URL to visit the company store:

  http://www.cisco.com/go/marketplace/

- The Cisco *Product Catalog* describes the networking products offered by Cisco Systems, as well as ordering and customer support services. Access the Cisco Product Catalog at this URL:

  http://cisco.com/univercd/cc/td/doc/pcat/

- *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 online at this URL:

  http://www.ciscopress.com

- *Packet* magazine is the Cisco quarterly publication that provides the latest networking trends, technology breakthroughs, and Cisco products and solutions to help industry professionals get the most from their networking investment. Included are networking deployment and troubleshooting tips, configuration examples, customer case studies, tutorials and training, certification information, and links to numerous in-depth online resources. You can access Packet magazine at this URL:

  http://www.cisco.com/packet

- *iQ Magazine* is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

  http://www.cisco.com/go/iqmagazine

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

  http://www.cisco.com/ipj

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

  http://www.cisco.com/en/US/learning/index.html