



## Preface

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This preface describes the objectives and organization of this document and explains how to find additional information on related products and services. This preface contains the following sections:

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- [Organization, page viii](#)
- [Related Documentation, page viii](#)
- [Obtaining Documentation, page ix](#)
- [Obtaining Technical Assistance, page xi](#)

## Objectives

This document describes how to install and configure the PA-VXA-1TE1 Low-Capacity Digital Voice port adapters (PA-VXA-1TE1-24+[=] and PA-VXA-1TE1-30+[=]), the PA-VXB-2TE1 Moderate-Capacity Digital Voice port adapter (PA-VXB-2TE1[=]), the PA-VXC-2TE1 High-Capacity Digital Voice port adapter (PA-VXC-2TE1[=]), the PA-VXB-2TE1+ Enhanced Moderate-Capacity Digital Voice port adapter (PA-VXB-2TE1+[=]) and the PA-VXC-2TE1+ Enhanced High-Capacity Digital Voice port adapter (PA-VXC-2TE1+[=]), hereafter referred to as the PA-VXA, PA-VXB, and PA-VXC. These port adapters are used in the following platforms:

- Cisco 7200 series routers, consisting of the two-slot Cisco 7202, the four-slot Cisco 7204 and Cisco 7204VXR, and the six-slot Cisco 7206 and Cisco 7206VXR
- Cisco 7301 router



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**Note** The Cisco 7301 router is currently supported by the PA-VXB-2TE1+(=) and the PA-VXC-2TE1(=) port adapters only.

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- Cisco 7401ASR router



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**Note** The Cisco 7401ASR router is currently supported by the PA-VXB-2TE1+(=) and the PA-VXC-2TE1+(=) port adapters only.

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- Versatile Interface Processor (VIP) in Cisco 7500 series routers, consisting of the five-slot Cisco 7505, the seven-slot Cisco 7507, and the thirteen-slot Cisco 7513

# Organization

This document contains the following chapters:

Section	Title	Description
Chapter 1	<a href="#">Overview</a>	Describes the PA-VXA, PA-VXB, and PA-VXC, and their LED displays, cables, and receptacles.
Chapter 2	<a href="#">Preparing for Installation</a>	Describes safety considerations, tools required, and procedures you should perform before the actual installation.
Chapter 3	<a href="#">Removing and Installing Port Adapters</a>	Describes the procedures for installing and removing the PA-VXA, PA-VXB, and PA-VXC in the supported platforms.
Chapter 4	<a href="#">Configuring the PA-VXA, PA-VXB, and PA-VXC</a>	Provides instructions for configuring the PA-VXA, PA-VXB, and PA-VXC on the supported platforms.

## Related Documentation

Your router or switch and the Cisco IOS software running on it contain extensive features and functionality, which are documented in the following resources:

- Cisco IOS software:

For configuration information and support, refer to the modular configuration and modular command reference publications in the Cisco IOS software configuration documentation set that corresponds to the software release installed on your Cisco hardware.



**Note** You can access Cisco IOS software configuration and hardware installation and maintenance documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

- Cisco 7200 series routers:
  - For port adapter hardware and memory configuration guidelines, refer to the *Cisco 7200 Series Port Adapter Hardware Configuration Guidelines*.
  - For hardware installation and maintenance information, refer to the installation and configuration guide that shipped with your Cisco 7200 series router.
  - For information on network processing engines or network services engines, refer to the *Network Processing Engine and Network Services Engine Installation and Configuration* publication.
- Cisco 7200 VXR routers:
 

For hardware installation and maintenance information, refer to the *Cisco 7200 VXR Installation and Configuration Guide* that shipped with your Cisco 7200 VXR router.

- Cisco 7301 routers:  
For hardware installation and maintenance information, refer to the *Cisco 7301 Installation and Configuration Guide* or the *Cisco 7301 Router Quick Start Guide*.
- Cisco 7401ASR routers:  
For hardware installation and maintenance information, refer to the *Cisco 7401ASR Installation and Configuration Guide* or the *Cisco 7401ASR Quick Start Guide*.
- Cisco 7500 series routers:  
For hardware installation and maintenance information, refer to the following publications:
  - *Cisco 7500 Installation and Configuration* or the quick start guide that shipped with your router
  - *Second-Generation Versatile Interface Processor (VIP2) Installation and Configuration*
  - *Fourth-Generation Versatile Interface Processor (VIP4) Installation and Configuration*
  - *Versatile Interface Processor (VIP6-80) Installation and Configuration*
- For international agency compliance, safety, and statutory information for WAN interfaces:
  - *Site Preparation and Safety Guide*
  - *Regulatory Compliance and Safety Information for the Cisco 7200 Series Routers*
  - *Cisco 7300 Series Internet Routers Regulatory Compliance and Safety Information*
  - *Cisco 7401ASR Regulatory Compliance and Safety Information*
  - *Regulatory Compliance and Safety Information for the Cisco 7500 Series Routers*
- To view Cisco documentation or obtain general information about the documentation, refer to the following sources:
  - “Obtaining Documentation” section on page ix.
  - “Obtaining Technical Assistance” section on page xi.
  - Customer service at 800 553-6387 or 408 526-7208. Customer service hours are 5:00 a.m. to 6:00 p.m. Pacific time, Monday through Friday (excluding Cisco-observed holidays).
  - *Cisco Information Packet* that shipped with your router or switch.

## Obtaining Documentation

Cisco provides several ways to obtain documentation, 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 web sites can be accessed from this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](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 may have 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.

Registered Cisco.com users can order the Documentation CD-ROM (product number DOC-CONDOCCD=) through the online Subscription Store:

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

## Ordering Documentation

You can find instructions for ordering documentation at this URL:

[http://www.cisco.com/univercd/cc/td/doc/es\\_inpk/pdi.htm](http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm)

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/en/US/partner/ordering/index.shtml>

- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) 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. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can e-mail your comments to [bug-doc@cisco.com](mailto: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: Customer Document Ordering  
170 West Tasman Drive  
San Jose, CA 95134-9883

We appreciate your comments.

# Obtaining Technical Assistance

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

## Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com 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
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://www.cisco.com>

## Technical Assistance Center

The Cisco 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 website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- 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.

## Cisco TAC Website

You can use the Cisco TAC website 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 website, 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 website. Some services on the Cisco TAC website require 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://tools.cisco.com/RPF/register/register.do>

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

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

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

## 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.

## Obtaining Additional Publications and Information

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

- 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://www.cisco.com/en/US/products/products\\_catalog\\_links\\_launch.html](http://www.cisco.com/en/US/products/products_catalog_links_launch.html)

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. 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 monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:

[http://www.cisco.com/en/US/about/ac123/ac114/about\\_cisco\\_packet\\_magazine.html](http://www.cisco.com/en/US/about/ac123/ac114/about_cisco_packet_magazine.html)

- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:

[http://business.cisco.com/prod/tree.taf%3fasset\\_id=44699&public\\_view=true&kbns=1.html](http://business.cisco.com/prod/tree.taf%3fasset_id=44699&public_view=true&kbns=1.html)

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

[http://www.cisco.com/en/US/about/ac123/ac147/about\\_cisco\\_the\\_internet\\_protocol\\_journal.html](http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html)

- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:

[http://www.cisco.com/en/US/learning/le31/learning\\_recommended\\_training\\_list.html](http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html)

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