

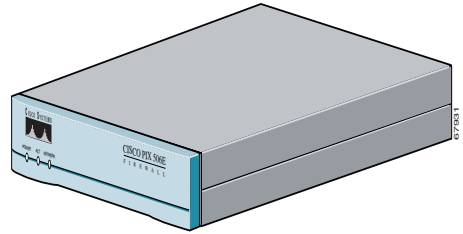
## Cisco PIX 506E Firewall

- 1 Check Items Included
- 2 Installing the PIX 506E
- 3 Configuring the PIX 506E
- 4 Optional Maintenance and Upgrade Procedures



# About the Cisco PIX 506E Firewall

The PIX 506E delivers enterprise-class security for remote office, branch office (ROBO) environments in a robust, reliable security appliance. Ideal for securing Internet connections for remote office, branch office environments, the PIX 506E, part of the world-leading Cisco PIX Firewall Series, provides a wide range of rich security capabilities and remote management capabilities in a cost-effective, high-performance solution:



- Stateful inspection security based on state-of-the-art Adaptive Security Algorithm (ASA)
- Supports over 100 predefined applications, services, and protocols for flexible access control
- Virtual Private Networking (VPN) for secure remote network access using IKE/IPSec standards
- In-line intrusion protection from over 55 different network-based attacks
- URL filtering of outbound web traffic via industry-leading, third-party URL filtering products

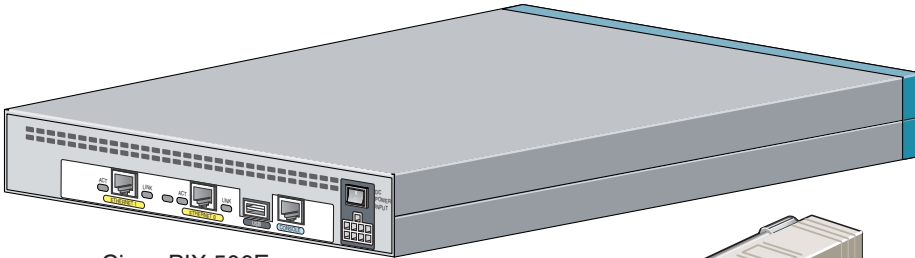
## Hardware Features

- External power supply
- 300-MHz processor
- 32-MB RAM, 8-MB Flash memory
- 1 autosensing 10/100-Mbps Fast Ethernet port for an outside connection to the Internet (port 0)
- 1 autosensing 10/100-Mbps Fast Ethernet port for a connection to your internal network (port 1)
- Serial console port for administrative access
- Front panel LEDs for appliance and link status
- 100-Mbps cleartext firewall throughput
- 30-Mbps VPN throughput AES128/SHA1
- 10-Mbps VPN throughput 3DES/SHA1

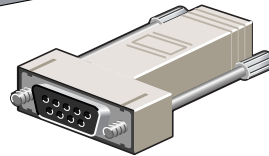
## Software Features

- Supports PIX Firewall software Version 5.3 and higher, a secure, purpose-built embedded operating system
- Includes plug-and-play default configuration for simplified installation
- Includes Cisco PIX Device Manager (PDM) for intuitive, web-based administration of PIX Firewalls
- Internal DHCP server supports up to 256 DHCP address leases
- Supports up to 25 remote access or site-to-site VPN peers
- Supports DES and 3DES/AES, with optional licenses (additional information in [“Upgrade to DES or 3DES/AES”](#))

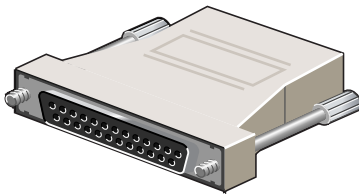
# 1 Check Items Included



Cisco PIX 506E



PC terminal adapter  
(74-0495-01)



Console cable adapter  
(29-0810-01)



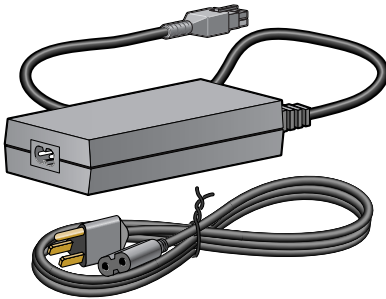
Blue  
console cable  
(72-1259-01)



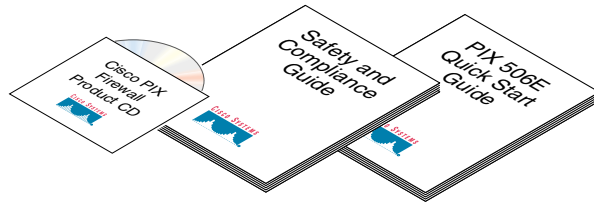
Yellow  
Ethernet cable  
(72-1482-01)



Yellow  
Ethernet cable  
(72-1482-01)

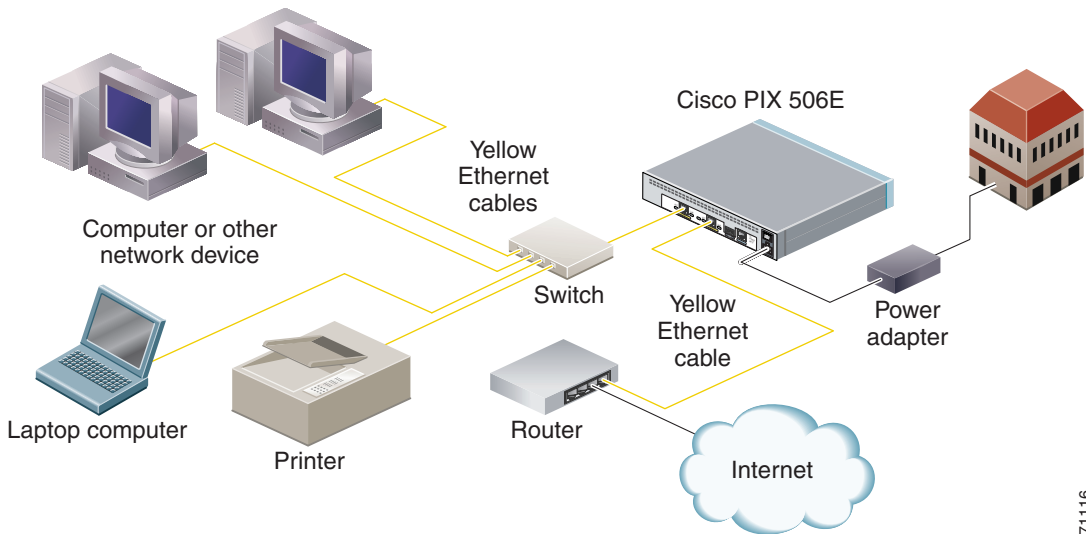


Power supply and cable  
(US shown)  
506E power supply (341-0007-01)



Documentation

## 2 Installing the PIX 506E



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Follow these steps to connect the cables:

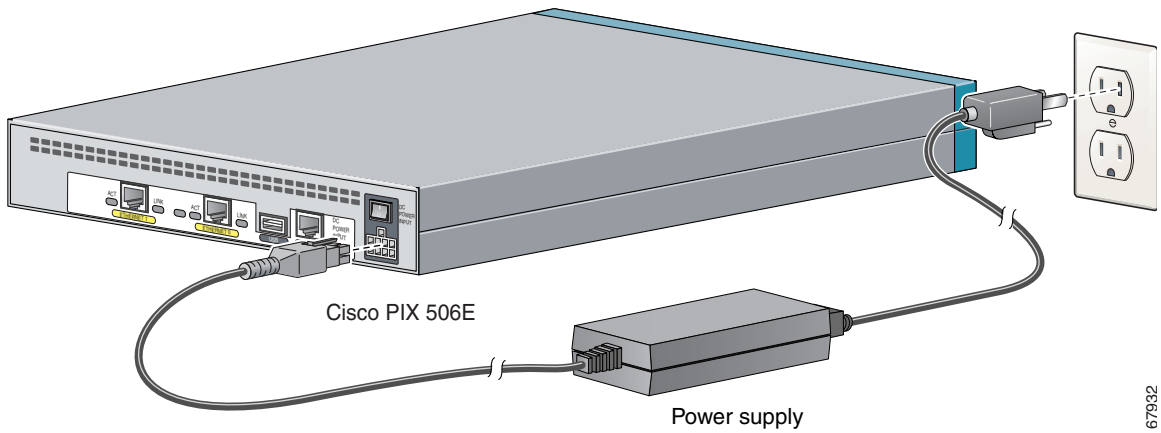
- 
- Step 1** Place the chassis on a flat, stable surface. The chassis is not rack mountable.
  - Step 2** Use the yellow Ethernet cable (72-1482-01) provided to connect the outside Ethernet interface, Ethernet 0, to a DSL modem, cable modem, or router.
  - Step 3** Use the other Ethernet cable (72-1482-01) provided to connect the inside Ethernet interface, Ethernet 1, to a switch or hub.
- 



### Note

Make sure that one of the PCs has TCP/IP installed and is configured to obtain an IP address automatically through DHCP. Installing TCP/IP and configuring DHCP allows the PC to communicate with the PIX 506 and the Internet as well as run the PDM Startup Wizard.

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Follow these steps to power on the PIX Firewall:

- 
- Step 1** Connect the power supply with the power cable.
  - Step 2** Connect the small, square connector of the power supply cable to the power connector on the rear panel.
  - Step 3** Connect the AC power connector of the power supply input cable to an electrical outlet.
  - Step 4** Set the power switch to the on (I) position.
  - Step 5** Check the power LED, if it is green, then the device is powered on. For more information, refer to the “Check the LEDs” section on page 12.
-

### 3 Configuring the PIX 506E

The PIX 506E comes with a factory default configuration that meets the needs of most broadband networking environments. The factory default configuration on the PIX 506E protects your inside network from any unsolicited traffic. It is configured to use DHCP on the outside interface to acquire an IP address. A default DHCP server address pool is included for hosts on the inside interface.

By default, the PIX Firewall denies all inbound traffic through the outside interface. Based on your network security policy, you should consider configuring the PIX Firewall to deny all ICMP traffic to the outside interface, or any other interface you deem necessary, by entering the **icmp** command. The **icmp** command controls responses to ICMP traffic that is directed at one of the PIX Firewall interfaces. If no ICMP control list is configured, then the PIX Firewall will respond to all ICMP requests received on any interface (including the outside interface).

For more information about the **icmp** command, refer to the [Cisco PIX Firewall Command Reference](#).

Instances in which it might be necessary to change or make additional changes to the default configuration include the following:

- To create administrative and Telnet passwords



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**Note**

We highly recommend that you change the administrative and Telnet passwords from their default settings (no password) to secure the administration of the PIX Firewall.

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- To configure Point-to-Point Protocol over Ethernet (PPPoE) or a static IP address for an outside interface
- To configure VPN and Auto Update features

The PIX 506E contains an integrated configuration utility called Cisco PIX Device Manager (PDM). PDM is a web browser-based configuration tool designed to help you set up, configure, and monitor the PIX Firewall. PDM is preinstalled on the PIX 506E. To access PDM, make sure JavaScript and Java are enabled in your web browser. Refer to the [Cisco PIX Device Manager Installation Guide](#) for more information on operating system and web browser environments supported by PDM.



PDM Version 2.0 and higher releases include a Startup Wizard for initial configuration. Follow these steps to use the Startup Wizard:

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**Step 1** If you have not already done so, use an Ethernet cable to connect your PC to the inside port (Ethernet 1) on the rear panel of the PIX Firewall.

**Step 2** Configure your PC to use DHCP (to receive an IP address automatically from the PIX Firewall) or assign a static IP address to your PC by selecting an address outside of the 192.168.1.0 network.



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**Note** The inside interface of the PIX Firewall is assigned 192.168.1.1, so choose a different IP address.

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**Step 3** Check the ACT LED on the rear panel of the PIX Firewall (see Table 2 on page 12) to verify that your PC has basic connectivity to the inside port (Ethernet 1). When connectivity occurs, the ACT LED next to the port lights up solid green.

**Step 4** To access the Startup Wizard, use a PC connected to the inside port and enter the URL <https://192.168.1.1/startup.html> into your browser.



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**Note** Remember to add the “s” to “https” or the connection fails. HTTPS (HTTP over SSL) provides a secure connection between your browser and the PIX Firewall that you are using PDM to configure or monitor.

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**Step 5** Leave both the userword and password boxes empty. Press **Enter**.

**Step 6** Accept the certificates and follow the instructions in the Startup Wizard. For online Help, click the Help button at the bottom of the Startup Wizard window.

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## 4 Optional Maintenance and Upgrade Procedures

### Upgrade to DES or 3DES/AES



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**Note** The following instructions apply to PIX Firewall Version 6.2 and higher releases. If you are not running PIX Firewall Version 6.2 or higher, refer to the Quick Start Guide for the version of software installed on your Cisco PIX Firewall.

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To upgrade features you did not specify at the time of purchase, you need to use an activation key. The activation key lets you add software features to the PIX Firewall, such as DES(Free) or 3DES/AES, or upgrade the user license at an additional cost.



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**Note** PDM will not work unless you have at minimum the DES license installed.

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If you are a registered user of Cisco Connection Online and would like to obtain a DES or a 3DES/AES license key, or upgrade your user license for the PIX Firewall, go to the following website:

<http://www.cisco.com/cgi-bin/Software/FormManager/formgenerator.pl>

If you are not a registered user of Cisco Connection Online, go to the following website:

<http://www.cisco.com/cgi-bin/Software/FormManager/formgenerator.pl>



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**Note** If you are unable to access this form because you do not have a CCO login, send an e-mail to [licensing@cisco.com](mailto:licensing@cisco.com). In the e-mail include the PIX Firewall serial number, as it appears in the **show version** command output, and request a DES or a 3DES/AES license key.

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You must also purchase or have a service contract to download PIX Firewall software.



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**Note** You can verify if you have DES, 3DES/AES, or user license by entering the **show activation-key** command.

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To obtain an activation key, you need a Product Authorization Key, which you can purchase from your Cisco account representative. After obtaining the Product Authorization Key, register it on the Web to obtain an activation key by performing the following steps:

- 
- Step 1** Connect a web browser to one of the following websites (the URLs are case-sensitive):
- Go to the following website if you are a registered user of Cisco Connection Online: <http://www.cisco.com/cgi-bin/Software/FormManager/formgenerator.pl>
  - Go to the following website if you are not a registered user of Cisco Connection Online: <http://www.cisco.com/cgi-bin/Software/FormManager/formgenerator.pl>
- Step 2** Obtain the serial number for your PIX Firewall by entering the **show version** command.
- Step 3** Enter the following information, when prompted:
- Your Product Authorization Key
  - The serial number for your PIX Firewall
  - Your e-mail address

The activation key is generated automatically and sent to the e-mail address that you provide. Follow these steps to use the activation key:

- 
- Step 1** Ensure that the image in Flash memory and the running image are the same.
- Step 2** From the command-line interface (CLI) enter the **configure terminal** command to start configuration mode.
- Step 3** Enter the **activation-key activation-key-four-tuple** command. Replace *activation-key-four-tuple* with the activation key you obtained with your new license.
- Step 4** Use the **exit** command to exit configuration mode. This command is the same as the **quit** command.
- Step 5** Enter the **write memory** command to save the configuration.
- Step 6** To use the new activation key, reboot the PIX Firewall.
- 

For more information on activation key examples or upgrading software, refer to the [Cisco PIX Firewall and VPN Configuration Guide](#).

After the key update is complete, the system reloads to update the running image.

## Restore the Default Configuration

You can restore your configuration back to the factory default values in one of the following ways:

- You can start the Startup Wizard at: <https://192.168.1.1/startup.html>
- Enter the following CLI commands:

	Command	Description
<b>Step 1</b>	<code>configure factory-default [&lt;inside ip address&gt; [address mask]]</code> <sup>1</sup>	Erases the running configuration and replaces it with the factory default configuration.
<b>Step 2</b>	<code>write memory</code>	Writes the factory default configuration to Flash memory.

1. If the optional inside IP address and address mask are specified, the factory-default configuration will reflect the specified IP address.



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Entering the **configure factory-default** command erases the current running configuration.

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Refer to the following website for detailed command information and configuration examples:

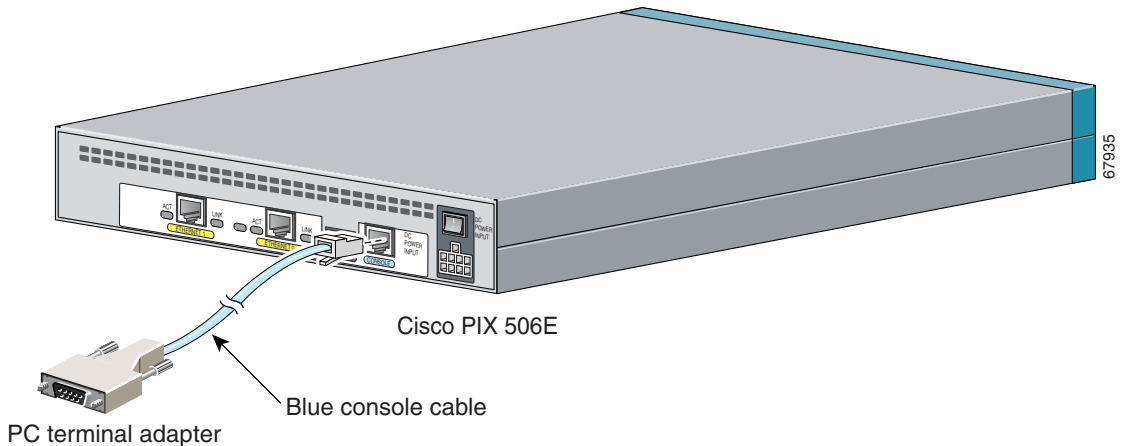
<http://www.cisco.com/en/US/docs/security/pix/pix63/command/reference/cmdref.html>

The Cisco TAC website is available to all customers who need technical assistance. To access the TAC website, go to:

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

## Alternative Ways to Access the PIX 506E

You can access the command-line interface (CLI) for administration using the console port on the PIX Firewall. To do so, you must run a serial terminal emulator on a PC or workstation.



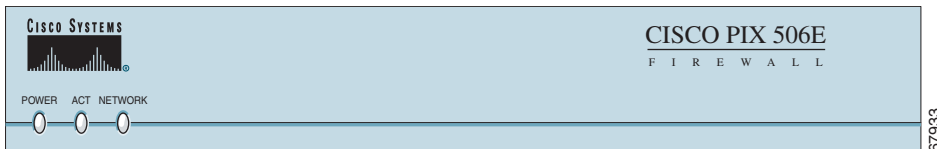
To connect a console for local administrative access:

- 
- Step 1** Plug one end of the console cable adapter into a standard 9-pin PC serial port.
  - Step 2** Plug one end of the blue console cable (72-1259-01) into the PC terminal adapter.
  - Step 3** Plug the other end of the blue console cable into the Console port.
  - Step 4** Configure the PC terminal emulation software or terminal for 9600 baud, 8 data bits, no parity, and 1 stop bit.
- 

For information on how to access the PIX Firewall configuration mode, refer to the “[Accessing Configuration Mode](#)” section in Chapter 1, “Getting Started” in the *Cisco PIX Firewall and VPN Configuration Guide*.

You can also access the CLI using SSH/Telnet to the PIX Firewall. By default, SSH/Telnet access is not permitted. Use PDM or the console to configure SSH/Telnet access to the PIX Firewall. To Telnet to the PIX Firewall from the outside perimeter of the PIX Firewall, configure an outside IP address and IPSec for a secure Telnet session. Refer to the *Cisco PIX Firewall and VPN Configuration Guide* for more information about how to use the CLI.

# Check the LEDs

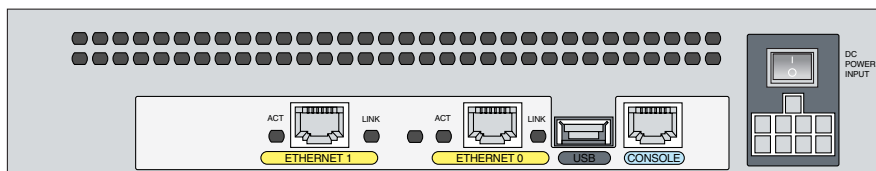


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If all LEDs are operating as expected (see Table 1 and Table 2), this concludes the hardware installation.

**Table 1** PIX 506E Front Panel LEDs

LED	State	Description
POWER	Green	The device is powered on.
	Off	The device is powered off.
ACT	Flashing green	The software image has been loaded.
	Off	The device is powered off.
NETWORK	Flashing green	One or more network interfaces are passing traffic.
	Off	No network interfaces are passing traffic.



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**Table 2** PIX 506E Rear Panel LEDs

LED	State	Description
ACT	On	Network activity is present on the port.
	Off	No network activity is present on the port.
LINK	On	Data is passing on the port.
	Off	No data is passing on the port.

## 5 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/en/US/support/index.html>

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](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 regularly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual or quarterly subscription.

Registered Cisco.com users can order a single Documentation CD-ROM (product number DOC-CONDOCCD=) through the Cisco Ordering tool:

[http://www.cisco.com/en/US/partner/ordering/ordering\\_place\\_order\\_ordering\\_tool\\_launch.html](http://www.cisco.com/en/US/partner/ordering/ordering_place_order_ordering_tool_launch.html)

All users can order annual or quarterly subscriptions 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>

- 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 comments electronically on Cisco.com. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can send your comments in e-mail to [bug-doc@cisco.com](mailto: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.

## 6 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, 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.

### Cisco TAC Website

The Cisco TAC website (<http://www.cisco.com/tac>) 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.

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

The online TAC Case Open Tool (<http://www.cisco.com/tac/caseopen>) is the fastest way to open P3 and P4 cases. (Your network is minimally impaired or 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 these recommendations, your case will be assigned to a Cisco TAC engineer.

For P1 or P2 cases (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/en/US/support/tsd\\_cisco\\_worldwide\\_contacts.html](http://www.cisco.com/en/US/support/tsd_cisco_worldwide_contacts.html)

## 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.

## 7 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 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/go/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/en/US/about/ac123/ac147/about\\_cisco\\_the\\_internet\\_protocol\\_journal.htm](http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.htm)
- 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>









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