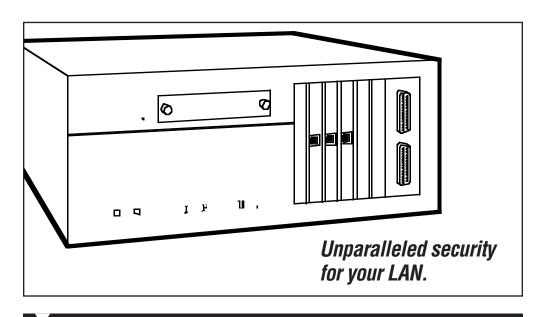# L CK X

NETW K SE VICES

CISCO PIX FIREWALL SERIES

Key Features

▶ **Adaptive security algorithm (ASA) provides a secure network perimeter.**

▶ **Cut-through proxy authenticates and authorizes users transparently.**

▶ **Supports up to 250,000 simultaneous, secure network sessions.**

▶ **System automatically warns you of attempts to breach network security.**

▶ **Base models come with two single-port 10/100 Ethernet NICs.**

▶ **Java™ based graphical user interface (GUI) simplifies unit configuration and management.**

▶ **Simple, efficient, and secure engineering— installation requires minimal downtime and no host upgrades.**

▶ **Available with a variety of software upgrades, memory expansion cards, and network interfaces.**

Unparalleled security for your LAN.

The Cisco PIX Firewall Series joins strong security with high performance to create an efficient and affordable network security package that's easy to set up, easy to run, and virtually impenetrable.

Security and Speed

Typically, CPU-intensive proxy servers secure networks by performing extensive processing on each data packet before permitting that packet to continue onto the network. However, this data-intensive process is notably slow and often results in a poor performance-to-price ratio.

In contrast, the Cisco PIX Firewall incorporates an embedded, non UNIX®, real-time security algorithm that supports up to 250,000 simultaneous network sessions—a significantly higher volume than standard UNIX based systems.

The PIX Firewall is built around an adaptive security algorithm (ASA), which protects the internal host network by creating secure perimeters between or among the networks managed by the Firewall.

The PIX Firewall bases user identity and access (as well as the acceptance of TCP or UDP applications) on cut-through proxy.

Cut-through proxy works like this: A combination of source and destination addresses, randomized TCP sequence numbers, port numbers, and other TCP flags are gathered into a table and stored in the PIX.

Then, as data moves through the firewall, a security policy uses the table to verify that inbound and outbound data comes from trusted locations and not from potentially harmful sources.

Using predetermined values to protect a network—instead of actual data flow like the proxy servers—allows the Cisco PIX Firewall to operate much more quickly and efficiently. Also, the high volume and random nature of the information stored in the table makes the PIX very difficult to crack.

This adaptive security/cut-through mechanism serves as the gate-keeper for the networks secured by the PIX, validating passage transparently for internal users dialing out or for authorized external users dialing into the host network.

The PIX Firewall reinforces this primary security system with other protective features.

- True network address translation.
- Mail Guard, which eliminates the need for an external mail server on the network.

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- Fragmentation Guard and Flood Guard, which protect networks against popular denial of service attacks.
- Java blocking to keep virus-bearing applets from entering your network.
- TACACS+ and Radius authentication.
- DNS Guard, which protects outbound name and address lookups.

Options and Features

The Cisco PIX Firewall is available in two models—the PIX Firewall 515 and the PIX Firewall 520. Different network interface cards (NICs) are available for each.

Both models come with two integrated 10-/100-Mbps Ethernet interfaces. Additionally, the unrestricted PIX-515 can support another four Ethernet interface cards for a total of six. The PIX-520 Firewall, a more advanced model, can also house FDDI or Token Ring cards, or as many as four additional Ethernet cards. You can also mix these cards for multiple network platform support.

NOTE: You cannot place extra interface cards in the PIX-515 Restricted. It only has two integral 10-/100-Mbps Ethernet interfaces. Also, the PIX-520 is the only model that can accept FDDI or Token Ring cards; the PIX-515 is Ethernet-only.

A wealth of general features enhances overall PIX Firewall operation.

The PIX Firewall merges overlapping networks in the same IP address space, so you don't have to add new ISP connections to use the device. With Cisco's PrivateLink 2 software package, you can also configure the PIX Firewall to support virtual private networks (VPNs) larger than 45 MB. This feature is especially helpful for networks with different levels of security.

The Cisco PIX Firewall transparently supports many different applications. They include Sun remote procedure call, Real Audio, Streamworks, CuSeeMee, Internet Phone and Internet Video Phone, VDOLive, NetShow, VXtreme Web Theater 2, and NetMeeting.

The Cisco PIX Firewall also works with Oracle's popular SQL® client and server communications application.

Management

The Cisco PIX Firewall is controlled through the Firewall Manager, a Java™ based user interface (GUI) that enables you to configure the PIX Firewall from local sites through Windows NT® or remote sites through a Web browser.

From this interface, you can retrieve, edit, or configure security information and parameters—including statistical reports, traffic loads, attempted security breaches, and users' FTP and URL activity.

The PIX Firewall Manager supports management of up to 10 PIX Firewalls. Communication between the Firewall Manager and the network PIX Firewalls is protected by MD5, a shared secret/secure hash algorithm.

The PIX Firewall system has extra management features to simplify unit configuration and network operation. These features include:

- Universal Resource Locator (URL) accounting, a function that tracks or restricts which Web sites your own network users are dialing.
- The system can alert you to attempted security breaches—either at single events or at preset threshold levels—via pager or email alarms.
- One-time passwords can be supplied through RADIUS, CiscoSecure, or TACACS+ servers.

The Failover/Hot Standby Option

The PIX Firewall Series also allows continuous protection in the event of a hardware failure. To get failsafe protection, you can add a Failover Software Bundle to the PIX.

The Failover Software Bundle package includes a chassis and software that operates exclusively in failover mode until your primary PIX Firewall is operational again.

NOTE: The restricted version of the PIX-515 Firewall does not support the Failover Bundle.

Cisco PIX 515 and 520 Firewalls — Feature Comparison

Features	PIX Firewall 515 Restricted	PIX Firewall 515 Unrestricted	PIX Firewall 520 128	PIX Firewall 520 1K	PIX Firewall 520 Unrestricted
Maximum Sessions	64,000	128,000	128	1024	250,000
RAM	32 MB	64 MB	128 MB	128 MB	128 MB
Flash Memory	8 MB	16 MB	2 MB	2 MB	2 MB
Console Port	RJ-45	RJ-45	DB9	DB9	DB9
Failover Port	DB25	DB25	DB25	DB25	DB25
Installed Ethernet Ports	2	2	2	2	2
Maximum Ethernet Ports	2	6	6	6	6
Maximum Token Ring Ports	0	0	4	4	4
Failover Option	No	Yes	Yes	Yes	Yes

Specifications

Boot/Update Device —
PIX-515: TFTP only;
PIX-520: 3.5" floppy disk

Protocol — With NICs: IEEE 802.3
10BASE-T and 100BASE-T, or
4-/16-Mbps Token Ring

Ports — Failover: DB25;
Console: PIX-515: RJ-45;
PIX-520: DB9;
Network: interface card
dependent

Random Access Memory —
PIX-515-R: 32 MB;
PIX-515-UR: 64 MB;
PIX-520: 128 MB

Speed — 169 Mbps of FTP and
HTTP traffic throughput,
6579 connections per second

Operating Temperature —
-32 to +45°C

Storage Temperature —
-25 to +70°C

Operational Humidity —
Up to 95%, relative

Operational Altitude — 9843 ft.
(3000 m), 77°F (25°C)

Heat Dissipation — Worst case
with full power usage:
PIX-515: 160.37 BTU/hr;
PIX-520: 863.27 BTU/hr

Power — 100–240 VAC, 50–60 Hz,
autosensing;
Current: PIX-515: 1.5-0.75 amps
PIX-520: 4-2 amps

Size — PIX-515: 4.3 x 42.7 x 30 cm;
PIX-520: 13.2 x 42.7 x 44.5 cm

Weight — PIX-515: 5 kg;
PIX-520: 9.5 kg

▼ *Ordering Information*

ITEM	CODE

First, order the firewall…

Cisco PIX 515 Firewall
Restricted (up to 50,000 Sessions) ...PIX-515-R-BUN
Unrestricted
(up to 100,000 Sessions)...............PIX-515-UR-BUN
Cisco PIX 520 Firewall
128 Sessions PIX-520-128-CH
1024 Sessions PIX-520-1K-CH
Unrestricted
(Over 250,000 Sessions)...................PIX-520-UR-CH

To add failover capabilities…

Failover Bundle for
PIX-515-UR-BUN PIX-515-FO-BUN
Failover Bundle for PIX-520 ....PIX-520-FO-BUN

*To upgrade the number of sessions in your PIX-520,
order…*

PIX Software Upgrades
128 to 1024 (1K) Sessions...............PIX-CONN-128-1K
1024 (1K) to Unrestricted
Sessions.....................................PIX-CONN-1K-UR=

To provide additional network connections, order…

PIX Firewall Network Interface Modules
1-Port 10-/100-Mbps Ethernet.........................PIX-1FE
4-Port 10-/100-Mbps Ethernet.........................PIX-4FE
4/16 Token Ring Card (PIX-520 only)............PIX-1TR=