


Cisco PIX[®] 501 Firewall



The Cisco PIX 501 Firewall delivers enterprise-class security for small offices and teleworkers in a reliable, plug-and-play security appliance. Ideal for securing high-speed “always on” broadband environments, the Cisco PIX 501 Firewall, which is part of the market-leading Cisco PIX Firewall Series, provides robust security capabilities, small office networking features and powerful remote management capabilities in a compact, all-in-one solution.

Enterprise-Class Security for Small Office Environments

The Cisco PIX 501 Firewall is a purpose-built security appliance that provides rich security services including stateful inspection firewalling, virtual private networking (VPN) and intrusion protection in a single device. Using the Cisco state-of-the-art Adaptive Security Algorithm (ASA) and PIX operating system, the PIX 501 ensures that all the users behind it are safe and secure from threats lurking on the Internet. Its powerful stateful inspection firewall technology keeps track of the state of authorized users’ network requests and prevents unauthorized network access. By leveraging the flexible access control capabilities of the PIX 501, administrators can also enforce customized policies on network traffic traversing through the firewall.

The Cisco PIX 501 Firewall can also secure all network communications from remote offices to corporate networks across the Internet using its standards-based Internet Key Exchange (IKE)/IP security (IPsec) VPN capabilities. By encrypting data with 56-bit Data Encryption Standard (DES) or optional advanced 168-bit Triple DES (3DES)

encryption, prying eyes cannot see your sensitive corporate data as it safely travels across the Internet.

The integrated intrusion protection capabilities of the PIX 501 can protect your network from many popular forms of attacks. Looking for over 55 different attack “signatures,” PIX keeps a vigilant watch for attacks and optionally blocks them or notifies you of them in real time.



By packing all the same security features found in the Cisco high-end gigabit PIX Firewalls, the PIX 501 provides the rich protection that all broadband users look for in an easy-to-use and easy-to-deploy solution.



Simple, High-Speed Small Office Networking

The Cisco PIX 501 Firewall provides a convenient way for multiple computers to share a single broadband connection via its integrated, high-performance four-port 10/100-Mbps switch. Furthermore, Cisco PIX Firewalls provide Network Address Translation (NAT) and Port Address Translation (PAT) features to hide the actual network addresses of devices on your network. Users can also enjoy plug-and-play networking by taking advantage of the built-in Dynamic Host Configuration Protocol (DHCP) server within PIX, which automatically assigns their computers network addresses when they are powered on. The Cisco PIX 501 Firewall provides the features necessary to seamlessly integrate into most broadband networking environments.

Robust Remote Management Capabilities

The PIX 501 is a reliable, easy-to-maintain platform that provides a wide variety of methods for configuring, monitoring and troubleshooting it. PIX management solutions range from an integrated, Web-based management tool to centralized, policy-based

management tools to support for remote monitoring protocols such as Simple Network Management Protocol (SNMP) and syslog.

PIX Device Manager (PDM) provides an intuitive, Web-based interface for administrators to easily configure and monitor a PIX 501, without requiring any software (other than a standard Web browser) to be installed on the administrator's computer.

Administrators can also remotely configure, monitor and troubleshoot the PIX 501 using its command-line interface (CLI) through a variety of methods including Telnet, Secure Shell (SSH) and out-of-band access via the console port.

A large number of PIX 501 Firewalls can also be easily remotely managed using Cisco Secure Policy Manager (CSPM) 3.0, available within the Cisco VPN/Security Management Solution (VMS). CSPM 3.0 is a scalable, next-generation centralized management solution for PIX Firewalls that includes features such as a task-based interface, interactive network topology map, policy wizards, policy import capabilities, and much more.

Table 1 Key Product Features and Benefits

Key Features	Benefits
Enterprise-Class Security	
True security appliance	<ul style="list-style-type: none"> • Uses a proprietary, hardened operating system that eliminates security risks associated with general purpose operating systems • Cisco quality and no moving parts provide a highly reliable security platform
Stateful inspection firewall	<ul style="list-style-type: none"> • Provides perimeter network security to prevent unauthorized network access • Uses state-of-the-art Adaptive Security Algorithm (ASA) for robust stateful inspection firewall services • Provides flexible access-control capabilities for over 105 predefined applications, services and protocols, with the ability to define custom applications and services • Includes numerous application-aware "fix-ups" that secure advanced networking protocols such as H.323, SIP, Skinny, RTSP and more • Includes content filtering for Java applets and ActiveX controls
VPN	<ul style="list-style-type: none"> • Supports IKE and IPsec VPN standards • Ensures data privacy/integrity and strong authentication to remote networks over the Internet • Supports 56-bit DES and 168-bit 3DES data encryption to ensure data privacy



Key Features	Benefits
Intrusion protection	<ul style="list-style-type: none">• Provides protection from over 55 different types of popular network-based attacks ranging from malformed packet attacks to denial-of-service (DoS) attacks• Integrates with Cisco Network Intrusion Detection System (IDS) sensors for the ability to dynamically block/shun hostile network nodes via the firewall
AAA support	<ul style="list-style-type: none">• Integrates with popular authentication, authorization and accounting services via TACACS+ and RADIUS support
X.509 certificate and CRL support	<ul style="list-style-type: none">• Supports SCEP-based enrollment with leading X.509 solutions from Baltimore, Entrust, Microsoft and VeriSign
Integration with leading third-party solutions	<ul style="list-style-type: none">• Supports the broad range of Cisco AVVID (Architecture for Voice, Video and Integrated Data) partner solutions that provide URL filtering, content filtering, virus protection, scalable remote management, and more
Integrated security lock slot	<ul style="list-style-type: none">• Provides ability to physically secure the PIX 501 using a standard notebook security cable lock (lock not included)
Robust Small Office Networking	
Integrated 4-port 10/100 switch	<ul style="list-style-type: none">• Provides convenient, high-speed networking environment for small office environments in a single compact platform• Auto-MDIX support eliminates the need to use crossover cables with devices connected to the switch
DHCP client and server	<ul style="list-style-type: none">• Obtains IP address for outside interface of firewall automatically from service provider• Provides IP addresses to devices on inside network of the firewall
NAT/PAT support	<ul style="list-style-type: none">• Provides dynamic/static Network Address Translation (NAT) and Port Address Translation (PAT) capabilities• Allows multiple users to share a single broadband connection using a single public IP address
PPPoE (available Q1 2002)	<ul style="list-style-type: none">• Ensures compatibility with networks that require PPP over Ethernet (PPPoE) support
Rich Management Capabilities	
PIX Device Manager (PDM)	<ul style="list-style-type: none">• Intuitive Web-based GUI enables simple, secure remote management of PIX Firewalls• Provides wide range of informative, real-time, and historical reports which give critical insight into usage trends, performance baselines, and security events
Supported by Cisco Secure Policy Manager (CSPM)	<ul style="list-style-type: none">• Provides scalable, consistent management of entire Cisco PIX Firewall product line throughout an enterprise using CSPM's robust policy management infrastructure
Cisco PIX CLI	<ul style="list-style-type: none">• Allows customers to use existing PIX CLI knowledge for easy installation and management without additional training• Accessible through variety of methods including console port, Telnet and SSH
SNMP and syslog support	<ul style="list-style-type: none">• Provide remote monitoring and logging capabilities, with integration into Cisco and third-party management applications



Software Licenses

10-User License

The Cisco PIX 501 Firewall 10-user license supports up to 10 concurrent source IP addresses from your internal network to traverse through the PIX 501. The integrated DHCP server supports up to 32 DHCP leases.

50-User License

The Cisco PIX 501 Firewall 50-user license supports up to 50 concurrent source IP addresses from your internal network to traverse through the PIX 501. The integrated DHCP server supports up to 128 DHCP leases. As your needs grow, a 10-to-50 user upgrade license is also available, which allows you to extend your investment in PIX 501 equipment.

3DES and DES Licenses

The PIX 501 has two optional encryption licenses (168-bit 3DES and 56-bit DES) available either at the time of ordering the appliance, or as an upgrade that can be purchased later. Note that US export restrictions may apply to these licenses.

Performance Summary

Cleartext throughput: 10 Mbps

Concurrent connections: 3500

56-bit DES IPsec VPN throughput: 6 Mbps

168-bit 3DES IPsec VPN throughput: 3 Mbps

Simultaneous VPN peers: 5*

* Maximum number of simultaneous VPN/IKE Security Associations (SAs) supported

Technical Specifications

Processor: 133-MHz AMD SC520 Processor

Random access memory: 16 MB of SDRAM

Flash memory: 8 MB

System bus: Single 32-bit, 33-MHz PCI

Environmental Operating Ranges

Operating

Temperature: 32 to 104° F (0 to 40° C)

Relative humidity: 10 to 90%, noncondensing

Altitude: 0 to 6500 feet (2000 m)

Shock: 250 G, < 2 ms

Vibration: 0.41 Grms² (3-500 Hz) random input

Nonoperating

Temperature: -4 to 149° F (-20 to 65° C)

Relative humidity: 10 to 90%, noncondensing

Altitude: 0 to 15000 feet (4570 m)

Shock: 65 G, 8 ms

Vibration: 1.12 Grms² (3-500 Hz) random input

Power

Input

Range Line Voltage: 100V to 240V AC

Nominal Line Voltage: 100V to 240V AC

Current: 0.051 Amps (at 115V)

Frequency: 50-60 Hz, single phase

Power: 5.9 W

Output

Nominal Line Voltage: 3.3V DC

Current: 1.5 Amps

Steady State: 5 W

Maximum Peak: 5 W

Maximum Heat Dissipation: 17.0 BTU/hr, full power usage (5 W)

Physical Specifications

Dimensions and Weight Specifications

Dimensions (H x W x D): 1.0 x 6.25 x 5.5 in. (2.54 x 15.875 x 13.97 cm)

Weight: 0.75 pounds (0.34 kg)

Interfaces

Console Port: RS-232 (RJ-45) 9600 baud

Outside: Integrated 10BaseT port, half-duplex, RJ45

Inside: Integrated auto-sensing, auto-MDIX 4-port 10/100 switch, RJ45

Regulatory and Standards Compliance

Products bear CE Marking indicating compliance with the 89/366/EEC and 73/23/EEC directives, which includes the following safety and Electro Magnetic Compatibility (EMC) standards.

Safety

UL1950, CAN/CSA-C22.2 No. 60950-00, IEC60950, EN60950

Electro Magnetic Compatibility (EMC)

EN55022 Class B, CISPR22 Class B, AS/NZS 3548 Class B, VCCI Class B, EN55024, EN50082-1, EN61000-3-2, EN61000-3-3



Product Ordering Information

Product Number	Description
PIX-501-BUN-K8	PIX 501 10-user/DES Bundle (chassis, latest PIX software, 10-user and DES licenses, integrated 4-port 10/100 switch and 10BaseT port)
PIX-501-BUN-K9	PIX 501 10-user/3DES bundle (chassis, latest PIX software, 10-user and 3DES licenses, integrated 4- port 10/100 switch and 10BaseT port)
PIX-501-50-BUN-K8	PIX 501 50-user/DES bundle (chassis, latest PIX software, 50-user and DES licenses, integrated 4- port 10/100 switch and 10BaseT port)
PIX-501-50-BUN-K9	PIX 501 50-user/3DES bundle (chassis, latest PIX software, 50-user and 3DES licenses, integrated 4- port 10/100 switch and 10BaseT port)
PIX-501	PIX 501 chassis, software, 10-user license, integrated 4-port 10/100 switch and 10BaseT port
PIX-501-SW-10	10-user license for PIX 501
PIX-501-SW-50	50-user license for PIX 501
PIX-501-SW-10-50=	10-to-50 user upgrade license for PIX 501
PIX-501-PWR-AC=	Spare AC power supply for PIX 501
PIX-501-VPN-3DES	168-bit 3DES software license
PIX-501-VPN-3DES=	168-bit 3DES software license
PIX-VPN-DES	56-bit DES software license
PIX-VPN-DES=	56-bit DES software license

Support Services

Support services are available from Cisco Partners as well as from Cisco. Cisco SMARTnet service augments customer support resources. It provides 24x7x 365 access to technical resources, both on line and via telephone, the ability to download updated system software, and hardware advance replacement.

Support Ordering Information

Part Number	Description
CON-SNT-PIX501-10	SMARTnet 8x5xNBD service for PIX 501 10-user bundle
CON-SNTE-PIX501-10	SMARTnet 8x5x4 service for PIX 501 10-user bundle
CON-SNTP-PIX501-10	SMARTnet 24x7x4 service for PIX 501 10-user bundle
CON-S2P-PIX501-10	SMARTnet 24x7x2 service for PIX 501 10-user bundle
CON-SNT-PIX501-50	SMARTnet 8x5xNBD service for PIX 501 50-user bundle
CON-SNTE-PIX501-50	SMARTnet 8x5x4 service for PIX 501 50-user bundle
CON-SNTP-PIX501-50	SMARTnet 24x7x4 service for PIX 501 50-user bundle
CON-S2P-PIX501-50	SMARTnet 24x7x2 service for PIX 501 50-user bundle
CON-SNT-PIX501	SMARTnet 8x5xNBD service for PIX 501 configurable chassis
CON-SNTE-PIX501	SMARTnet 8x5x4 service for PIX 501 configurable chassis
CON-SNTP-PIX501	SMARTnet 24x7x4 service for PIX 501 configurable chassis
CON-S2P-PIX501	SMARTnet 24x7x2 service for PIX 501 configurable chassis

Additional Information

For more information about Cisco PIX Firewalls, go to <http://www.cisco.com/go/pix>

For more information about PIX Device Manager (PDM), go to http://www.cisco.com/warp/public/cc/pd/fw/sqfw500/prodlit/pixdm_ds.pdf

For more information about Cisco Secure Policy Manager (CSPM), go to <http://www.cisco.com/go/policymanager>

For more information about Cisco VPN/Security Management Solution (VMS), go to <http://www.cisco.com/warp/public/cc/pd/wr2k/vpmnso/>



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