HP Firewall Series

Key features

- High performance with up to 40 Gbps throughput
- Advanced virtual firewall
- Rich VPN functions, IPSec/GRE/L2TP
- Comprehensive security protection
- Carrier-grade reliability

Product overview

Built on the latest state-of-the-art multicore CPU platform and with advanced hardware acceleration, the HP Firewall Series enables advanced scalable network protection from the network core to the network edge with firewall throughput at up to 40 Gbps. The series also features rich VPN abilities, including GRE, L2TP, and IPSec tunneling technologies, which makes it ideal for building VPN gateways. The appliances combine built-in protection against denial-of-service (DoS) attacks, hacking attacks, zonal and virtual stateful packet inspection firewalls, application bandwidth management, audio/video IP multicast routing, and email attachment filtering. The series includes all the advanced security capabilities found in the unified software platform of HP switches and routers that deliver easy integration, simple management, and network deployment infrastructure, lowering a network's total cost of ownership.

Features and benefits

Firewall
- High performance

  up to 40 Gbps throughput secures traffic without compromising network performance; a maximum of 4 million concurrent connections and 180,000 new connections per second enables high-volume networks to remain secure under peak traffic

- Application Specific Packet Filter (ASPF)

  dynamically determines whether to forward or drop a packet by checking its application layer protocol information (such as FTP, HTTP, SMTP, RTSP, and other application layer protocols based on TCP/UDP) and monitoring the connection-based application layer protocol status

• Zone-based access policies

groups virtual LANs (VLANs) logically into zones that share common security policies; allows both unicast and multicast policy settings by zones instead of by individual VLANs

• Virtualization

multicore architecture enables both multiple zones and multiple separate firewall instances to be created on the same device; support for 256/512 security zones, 256 virtual firewalls, and 4,094 VLANs offers robust protection to all corners of the network; centralized deployment of a single device offering multiple virtual firewalls lowers total cost of ownership through streamlined training, simplified deployment and management, and reduced power consumption

• Application-level gateway (ALG)

discovers the IP address and service port information embedded in the application data using deep packet inspection in the firewall; firewall then dynamically opens appropriate connections for specific applications

• NAT

fully support NAT applications, including many-to-one, many-to-many, static NAT, dual translation, easy IP, and DNS mapping; supports NAT traversal with multiple protocols, and delivers NAT ALG functions such as DNS, FTP, H.323, and NBT

Virtual private network (VPN)

• IPSec

provides secure tunneling over an untrusted network such as the Internet or a wireless network; offers data confidentiality, authenticity, and integrity between two network endpoints

• Layer 2 Tunneling Protocol (L2TP)

an industry standard-based traffic encapsulation mechanism supported by many common operating systems; will tunnel the Point-to-Point Protocol (PPP) traffic over the IP and non-IP networks; may use the IP/UDP transport mechanism in IP networks

• Generic Routing Encapsulation (GRE)

transports Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site

• Manual or automatic Internet Key Exchange (IKE)

provides both manual or automatic key exchange required for the algorithms used in encryption or authentication; auto-IKE allows automated management of the public key exchange, providing the highest levels of encryption

Management

- Complete session logging

  provides detailed information for problem identification and resolution

- Manager and operator privilege levels

  provides read-only (operator) and read/write (manager) access on CLI and Web browser management interfaces

- Secure Web GUI

  provides a secure, easy-to-use graphical interface for configuring the module via HTTPS

- Command-line interface (CLI)

  provides a secure, easy-to-use CLI for configuring the module via SSH or a switch console; provides direct real-time session visibility

- SNMPv1, v2c, and v3

  facilitate centralized discovery, monitoring, and secure management of networking devices

- Remote monitoring (RMON)

  uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group

- FTP, TFTP, and SFTP support

  offers different mechanisms for configuration updates; FTP allows bidirectional transfers over a TCP/IP network; trivial FTP (TFTP) is a simpler method using User Datagram Protocol (UDP); Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security

Layer 3 routing

- Static IP routing

  provides manually configured routing; includes ECMP capability

- Routing Information Protocol (RIP)

  provides RIPv1 and RIPv2 routing

- OSPF

  includes host-based ECMP to provide link redundancy/scalable bandwidth and NSSA

- Border Gateway Protocol 4 (BGP-4)

  delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks

- Dual IP stack

  maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design

- Policy routing

  allows custom filters for increased performance and security; supports ACLs, IP prefix, AS paths, community lists, and aggregate policies

- Layer 3 IPv6 routing

  provides routing of IPv6 at media speed; supports static routes, RIPng, OSPFv3, BGP+, policy route, and PIM-SM/DM

Security

• Defense against attacks

provides defense against various attacks, such as DoS/DDoS, ARP spoofing, large ICMP packet, address/port scanning, Tracert, IP packets with the Record Route option, and static and dynamic blacklists; also supports binding of MAC address and IP addresses, as well as intelligent defense of worm viruses

• Application layer content filtering

supports mail filtering based on SMTP mail address, titles, attachments, and content; supports Web page filtering, including HTTP URL and content filtering

• Multiple security authentication services

support RADIUS and HWTACACS authentications, certificate-based (x.509 format) PKI/CA authentication, user identity management (different users own different rights to execute commands), and levels of user views (users of different levels have different management rights)

• Centralized management and auditing

provide logging, traffic statistics and analysis, events monitoring and statistics, and mail notification of alarms

Warranty and support

• 1-year warranty

advance hardware replacement with 30-calendar-day delivery (available in most countries)

• Electronic and telephone support

limited electronic and business-hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to hp.com/networking/warrantysummary

• Software releases

to find software for your product, refer to hp.com/networking/support; for details on the software releases available with your product purchase, refer to hp.com/networking/warrantysummary

HP Firewall Series

Specifications

	HP F5000 Firewall Standalone Chassis (JG216A)	HP F5000-S VPN Firewall Appliance (JG370A)	HP 5000-C VPN Firewall Appliance (JG650A)
Included accessories	1 HP A-F5000 Fan Assembly (JG217A)	1 HP F5000-S/C VPN Firewall Fan Module (JG878A)	1 HP F5000-S/C VPN Firewall Fan Module (JG878A)
I/O ports and slots	4 I/O module slots	12 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 12 fixed Gigabit Ethernet SFP ports 4 SFP+ 10GbE ports (IEEE 802.3ae Type 10GBASE-ER, IEEE 802.3ae Type 10GBASE-LR, IEEE 802.3ae Type 10GBASE-SR) 1 open module slot	12 RJ-45 auto-negotiating 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T) 12 fixed Gigabit Ethernet SFP ports 4 SFP+ 10GbE ports (IEEE 802.3ae Type 10GBASE-ER, IEEE 802.3ae Type 10GBASE-LR, IEEE 802.3ae Type 10GBASE-SR) 1 open module slot
Additional ports and slots	1 MPU (for management modules) slot	1 RJ-45 serial console port 1 Compact Flash port	1 RJ-45 serial console port 1 Compact Flash port
Physical characteristics Dimensions Weight Full configuration weight	 17.17(w) x 18.43(d) x 12.13(h) in (43.61 x 46.81 x 30.81cm) 55.12 lb (25 kg) 97 lb (44 kg)	 17.32(w) x 17.44(d) x 3.47(h) in (43.99 x 44.3 x 8.81 cm)(2U height) 34.61 lb (15.7 kg)	 17.32(w) x 17.44(d) x 3.47(h) in (43.99 x 44.3 x 8.81 cm)(2U height) 34.61 lb (15.7 kg)
Memory and processor	4 GB DDR2 SDRAM, 256 MB compact flash	32 GB DDR2 SDRAM, 256 MB compact flash	16 GB DDR2 SDRAM, 256 MB compact flash
Performance Firewall throughput VPN throughput Dedicated IPsec VPN tunnels Connections per second Concurrent sessions Number of policies Number of VLANs	 40 Gbps 2 Gbps 3DES/AES 5,000 180,000 4 million 50,000 4,000	 20 Gbps 4 Gbps 3DES/AES 8,000 200,000 4 million 50,000 4,000	 12 Gbps 3 Gbps 3DES/AES 6,000 150,000 4 million 50,000 4,000
Environment Operating temperature Operating relative humidity	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing

	HP F5000 Firewall Standalone Chassis (JG216A)	HP F5000-S VPN Firewall Appliance (JG370A)	HP 5000-C VPN Firewall Appliance (JG650A)
Electrical characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
AC voltage	100 - 120 / 200 - 240 VAC	100 - 240 VAC	100 - 240 VAC
DC voltage	-48 to -60 VDC	-48 to -60 VDC	-48 to -60 VDC
Current	10/25 A	10 A	10 A
Maximum power rating	650 W	300 W	300 W
Emissions	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3
Immunity			
ESD	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2
Radiated	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/ IEC 61000-4-3	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/I EC 61000-4-3	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/ IEC 61000-4-3
EFT/Burst	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4
Surge	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5
Conducted	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6
Power frequency magnetic field	EN 55024/EN 61000-4-8/ IEC 61000-4-8	EN 55024/EN 61000-4-8/ IEC 61000-4-8	EN 55024/EN 61000-4-8/ IEC 61000-4-8
Voltage dips and interruptions	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP
Notes	Performance • 256 virtual firewalls, max • 1,024 security zones, max	Performance • 256 virtual firewalls, max • 1,024 security zones, max	Performance • 256 virtual firewalls, max • 1,024 security zones, max
Services	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP Firewall Series

Specifications (continued)

	HP F1000-E VPN Firewall Appliance (JD272A)	HP F1000-EI VPN Firewall Appliance (JG214A)	HP F1000-S-EI VPN Firewall Appliance (JG213A)
I/O ports and slots	4 dual-personality ports; auto-sensing 10/100/1000BASE-T or SFP 2 HIM slots	12 dual-personality ports; auto-sensing 10/100/1000BASE-T or SFP 2 I/O module slots	12 dual-personality ports; auto-sensing 10/100/1000BASE-T or SFP 2 I/O module slots
Additional ports and slots	1 RJ-45 serial console port 1 RJ-45 Aux port 1 Compact Flash port	1 RJ-45 serial console port	1 RJ-45 serial console port
Physical characteristics Dimensions Weight	 17.4(w) x 18.43(d) x 1.74(h) in (44.2 x 46.8 x 4.42 cm) 14.55 lb (6.6 kg)	 17.4(w) x 15.75(d) x 1.73(h) in (44.2 x 40.01 x 4.39 cm) 12.13 lb (5.5 kg)	 17.4(w) x 15.75(d) x 1.73(h) in (44.2 x 40.01 x 4.39 cm) 12.13 lb (5.5 kg)
Memory and processor	4 GB DDR2 SDRAM, 256 MB compact flash	4 GB DDR2 SDRAM, 1 GB flash	4 GB DDR2 SDRAM, 1 GB flash
Performance Firewall throughput VPN throughput Dedicated IPsec VPN tunnels Connections per second Concurrent sessions Number of policies Number of VLANs	 8 Gbps 2 Gbps 3DES/AES 5,000 60,000 2 million 50,000 4,000	 4 Gbps 1 Gbps 3DES/AES 2,000 25,000 1 million 20,480 4,000	 2 Gbps 600 Mbps 3DES/AES 2,000 25,000 1 million 20,480 4,000
Environment Operating temperature Operating relative humidity	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing	 32°F to 113°F (0°C to 45°C) 10% to 95%, noncondensing
Electrical characteristics Frequency AC voltage DC voltage Current Maximum power rating	 50/60 Hz 100 - 240 VAC 1 A 150 W	 50/60 Hz 100 - 120 / 200 - 240 VAC -48 to -60 VDC 1 A 150 W	 50/60 Hz 100 - 120 / 200 - 240 VAC -48 to -60 VDC 1 A 150 W
Emissions	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3	CISPR 22; EN 55022; ICES-003; AS/NZS CISPR 22; FCC Part 15; EN 61000-3-2; EN 61000-3-3; VCCI V-3

	HP F1000-E VPN Firewall Appliance (JD272A)	HP F1000-EI VPN Firewall Appliance (JG214A)	HP F1000-S-EI VPN Firewall Appliance (JG213A)
Immunity			
ESD	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2	EN300 386/EN 55024/EN61000-4-2/ EN301489-1/EN301489-17/ IEC 61000-4-2
Radiated	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/ IEC 61000-4-3	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/ IEC 61000-4-3	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-3/ IEC 61000-4-3
EFT/Burst	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-4/ IEC 61000-4-4
Surge	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-5/ IEC 61000-4-5
Conducted	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-6/ IEC 61000-4-6
Power frequency magnetic field	EN 55024/EN 61000-4-8/IEC 61000-4-8	EN 55024/EN 61000-4-8/IEC 61000-4-8	EN 55024/EN 61000-4-8/IEC 61000-4-8
Voltage dips and interruptions	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11
Management	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager; Telnet; HTTPS; FTP
Notes	Performance • 256 virtual firewalls, max • 1,024 security zones, max	Performance • 128 virtual firewalls, max • 512 security zones, max	Performance • 64 virtual firewalls, max • 256 security zones, max
Services	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

HP Firewall Series

Specifications (continued)

Features	
Firewall operation mode	Routing mode Transparent mode Hybrid mode
AAA service	Local authentication Standard RADIUS HWTACACS+ RADIUS domain authentication
ASPF	General TCP/UDP application FTP/SMTP/HTTP/RTSP/H323 Protocol State Detection SIP/MGCP/QQ/MSN Protocol State Detection Java/ActiveX blocking and detection Port mapping Support for fragmented packets
NAT	NAPT PAT NAT server Port mapping Bidirectional NAT Static NAT
Network security	Ability to add blacklist by hand or automatically IP and MAC binding ARP reverse query ARP cheat check Management ports closed by default
DDOS	DNS query flood SYN flood Auto starts TCP Proxy when detects SYN flood ICMP flood UDP flood IP spoofing SQL injection filter
L2TP VPN	LNS, LAC L2TP Multi-instance
GRE	GRE tunneling protocol
IPSec	AH/ESP ESP Transport/tunnel NAT traversal Strategy template
IKE	DH Pre-share key authentication method Support for aggressive mode and main exchange mode IKE DPD, PKI/CA

Network feature	IEEE 802.1q VLAN 4K subinterface Static and dynamic ARP Multicast, PIM IGMPv1/v2/v3
Routing	RIP OSPF BGP Static route Policy route
High availability	Active/active mode Active/passive mode Session synchronization for firewall
System management	Web management supports Internet Explorer/Firefox Command-line interface (Console/Telnet/SSH) Classification Manager Unified management through IMC SNMPv2c/v3
Administration	Software upgrades Configuration backup and restore
Logging/Monitoring	Syslog Mini-RMON NTP NAT/ASPF/firewall log stream (binary log)
IPv6 routing and multicast	RIPng OSPFv3 BGP4+ Static route Policy route PIM-SM/PIM-DM
IPv6 security	NAT-PT Manual tunnel IPv6 over IPv4 GRE tunnel 6to4 tunnel (RFC 3056) ISATAP tunnel IPv6 packet filter RADIUS NAT64

Standards and Protocols
(applies to all products in series)

IPv6	RFC 1981 IPv6 Path MTU Discovery	RFC 3484 Default Address Selection for IPv6	RFC 3587 IPv6 Global Unicast Address Format
	RFC 2460 IPv6 Specification	RFC 3513 IPv6 Addressing Architecture	RFC 4007 IPv6 Scoped Address Architecture
			RFC 4862 IPv6 Stateless Address Auto-configuration
Security	IEEE 802.1X:Port-Based Network Access Control (2001)	RFC 2138 RADIUS Authentication	RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
	RFC 1321 The MD5 Message-Digest Algorithm	RFC 2618 RADIUS Authentication Client MIB	RFC 2868 RADIUS Attributes for Tunnel Protocol Support
	RFC 1334 PPP Authentication Protocols (PAP)	RFC 2620 RADIUS Accounting Client MIB	RFC 2869 RADIUS Extensions
	RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)	RFC 2716 PPP EAP TLS Authentication Protocol	draft-grant-tacacs-02 (TACACS)
	RFC 2104 Keyed-Hashing for Message Authentication	RFC 2865 RADIUS Authentication	
		RFC 2866 RADIUS Accounting	
VPN	RFC 1701 Generic Routing Encapsulation (GRE)	RFC 2403 The Use of HMAC-MD5-96 within ESP and AH	RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
	RFC 1702 Generic Routing Encapsulation over IPv4 networks.	RFC 2404 The Use of HMAC-SHA-1-96 within ESP and AH	RFC 2661 Layer Two Tunneling Protocol "L2TP"
	RFC 1828 IP Authentication using Keyed MD5	RFC 2405 The ESP DES-CBC Cipher Algorithm With Explicit IV	RFC 2784 Generic Routing Encapsulation (GRE)
	RFC 1829 The ESP DES-CBC Transform	RFC 2406 IP Encapsulating Security Payload (ESP)	RFC 2868 RADIUS Attributes for Tunnel Protocol Support
	RFC 1853 IP in IP Tunneling	RFC 2410 The NULL Encryption Algorithm and Its Use With IPSec	RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
	RFC 2085 HMAC-MD5 IP Authentication with Replay Prevention	RFC 2411 IP Security Document Roadmap	RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPSec
	RFC 2401 Security Architecture for the Internet Protocol	RFC 2451 The ESP CBC-Mode Cipher Algorithms	RFC 4214 Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)
	RFC 2402 IP Authentication Header	RFC 2473 Generic Packet Tunneling in IPv6 Specification	
IKEv1	RFC 2407 The Internet IP Security Domain of Interpretation for ISAKMP	RFC 2409 The Internet Key Exchange (IKE)	RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)
	RFC 2408 Internet Security Association and Key Management Protocol (ISAKMP).	RFC 2412 The OAKLEY Key Determination Protocol	RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers
PKI	RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols	RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	draft-nourse-scep-06:
	RFC 2511 Internet X.509 Certificate Request Message Format	RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile	PKCS#1
			PKCS#10
			PKCS#12
			PKCS#7

HP Firewall Series accessories

Software	HP Firewall Manager (JD295A)
Memory	HP X600 1G Compact Flash Card (JC684A) HP X600 512M Compact Flash Card (JC685A) HP X600 256M Compact Flash Card (JC686A)
HP F5000 Firewall Standalone Chassis (JG216A)	HP F5000 8-port Gig-T / 4-port GbE Combo Module (JD263A) HP F5000 2-port 10GbE XFP Module (JD264A) HP F5000 8-port GbE SFP / 4-port GbE Combo Module (JG212A) HP F5000 Firewall Main Processing Unit (JG215A) HP 7500 650W DC Power Supply (JD209A) HP 7500 650W AC Power Supply (JD217A) HP F5000 Fan Assembly (JG217A)
HP F5000-S VPN Firewall Appliance (JG370A)	HP F5000-S/C 12-port 10/100/1000BASE-T/12-port GbE SFP/6-port 10-GbE SFP+ Module (JG651A) HP 5800 300W AC Power Supply (JC087A) HP 5800 300W DC Power Supply (JC090A) HP F5000-S/C VPN Firewall Fan Module (JG878A)
HP 5000-C VPN Firewall Appliance (JG650A)	HP F5000-S/C 12-port 10/100/1000BASE-T/12-port GbE SFP/6-port 10-GbE SFP+ Module (JG651A) HP 5800 300W AC Power Supply (JC087A) HP 5800 300W DC Power Supply (JC090A) HP F5000-S/C VPN Firewall Fan Module (JG878A)
HP F1000-E VPN Firewall Appliance (JD272A)	HP 6600 4-port Gig-T HIM Module (JC163A) HP 6600 8-port Gig-T HIM Module (JC164A) HP 6600 1-port 10-GbE XFP HIM Module (JC168A) HP 6600 4-port GbE SFP HIM Module (JC171A)
HP F1000-EI VPN Firewall Appliance (JG214A)	HP F1000-S/A 2-port 10GbE SFP+ Module (JG317A) HP 5800/5500 150W AC Power Supply (JD362A) HP 5800/5500 150W DC Power Supply (JD366A)
HP F1000-S-EI VPN Firewall Appliance (JG213A)	HP F1000-S/A 2-port 10GbE SFP+ Module (JG317A) HP 5800/5500 150W AC Power Supply (JD362A) HP 5800/5500 150W DC Power Supply (JD366A)

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