



HPE 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 HPE 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 HPE 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

See hpe.com/networking/warrantysummary for warranty and support information included with your product purchase.

- Software releases

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

HPE Firewall Series



SPECIFICATIONS	HPE F5000 Firewall Standalone Chassis (JG216A)	HPE F5000-S VPN Firewall Appliance (JG370A)	HPE 5000-C VPN Firewall Appliance (JG650A)
Included accessories	1 HPE A-F5000 Fan Assembly (JG217A)	1 HPE F5000-S/C VPN Firewall Fan Module (JG878A)	1 HPE 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	17.17(w) x 18.43(d) x 12.13(h) in (43.61 x 46.81 x 30.81 cm)	17.32(w) x 17.44(d) x 3.47(h) in (43.99 x 44.3 x 8.81 cm) (2U height)	17.32(w) x 17.44(d) x 3.47(h) in (43.99 x 44.3 x 8.81 cm) (2U height)
Weight	55.12 lb (25 kg)	34.61 lb (15.7 kg)	34.61 lb (15.7 kg)
Full configuration weight	97 lb (44 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	40 Gbps	20 Gbps	12 Gbps
VPN throughput	2 Gbps 3DES/AES	4 Gbps 3DES/AES	3 Gbps 3DES/AES
Dedicated IPsec VPN tunnels	5,000	8,000	6,000
Connections per second	180,000	200,000	150,000
Concurrent sessions	4 million	4 million	4 million
Number of policies	50,000	50,000	50,000
Number of VLANs	4,000	4,000	4,000
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 95%, noncondensing	10% to 95%, noncondensing	10% to 95%, noncondensing

SPECIFICATIONS	HPE F5000 Firewall Standalone Chassis (JG216A)	HPE F5000-S VPN Firewall Appliance (JG370A)	HPE 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/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 <ul style="list-style-type: none"> • 256 virtual firewalls, max • 1,024 security zones, max 	Performance <ul style="list-style-type: none"> • 256 virtual firewalls, max • 1,024 security zones, max 	Performance <ul style="list-style-type: none"> • 256 virtual firewalls, max • 1,024 security zones, max
Services	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.

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SPECIFICATIONS	HPE F1000-E VPN Firewall Appliance (JD272A)	HPE F1000-EI VPN Firewall Appliance (JG214A)	HPE 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	17.4(w) x 18.43(d) x 1.74(h) in (44.2 x 46.8 x 4.42 cm)	17.4(w) x 15.75(d) x 1.73(h) in (44.2 x 40.01 x 4.39 cm)	17.4(w) x 15.75(d) x 1.73(h) in (44.2 x 40.01 x 4.39 cm)
Weight	14.55 lb (6.6 kg)	12.13 lb (5.5 kg)	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	8 Gbps	4 Gbps	2 Gbps
VPN throughput	2 Gbps 3DES/AES	1 Gbps 3DES/AES	600 Mbps 3DES/AES
Dedicated IPsec VPN tunnels	5,000	2,000	2,000
Connections per second	60,000	25,000	25,000
Concurrent sessions	2 million	1 million	1 million
Number of policies	50,000	20,480	20,480
Number of VLANs	4,000	4,000	4,000
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 95%, noncondensing	10% to 95%, noncondensing	10% to 95%, noncondensing
Electrical characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
AC voltage	100 - 240 VAC	100 - 120 / 200 - 240 VAC	100 - 120 / 200 - 240 VAC
DC voltage		-48 to -60 VDC	-48 to -60 VDC
Current	1 A	1 A	1 A
Maximum power rating	150 W	150 W	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

SPECIFICATIONS	HPE F1000-E VPN Firewall Appliance (JD272A)	HPE F1000-EI VPN Firewall Appliance (JG214A)	HPE 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 Voltage dips and interruptions	EN 55024/EN 61000-4-8/IEC 61000-4-8 EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN 55024/EN 61000-4-8/IEC 61000-4-8 EN300 386/EN 55024/EN301489-1/ EN301489-17/EN 61000-4-11/ IEC 61000-4-11	EN 55024/EN 61000-4-8/IEC 61000-4-8 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 <ul style="list-style-type: none"> • 256 virtual firewalls, max • 1,024 security zones, max 	Performance <ul style="list-style-type: none"> • 128 virtual firewalls, max • 512 security zones, max 	Performance <ul style="list-style-type: none"> • 64 virtual firewalls, max • 256 security zones, max
Services	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at hpe.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 Hewlett Packard Enterprise sales office.

HPE Firewall Series

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

FEATURES

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

HPE Firewall Series accessories

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

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