

Alcatel-Lucent VPN Firewall Brick 1200 Security Appliance

FIREWALL, VPN, VOIP AND QOS SECURITY GATEWAYS

The Alcatel-Lucent VPN Firewall Brick™ 1200 security appliance takes data security to new levels by providing up to 5.9 Gb/s firewall throughput, along with integrated high-speed virtual private network (VPN), voice over IP (VoIP) security, virtual LAN (VLAN) and virtual firewall capabilities. Integrating quality of service (QoS) bandwidth management features, a built-in intrusion detection system (IDS) and denial-of-service (DoS) protection and high network performance, the VPN Firewall Brick 1200 security appliance provides solid security for large enterprise data centers and network edge environments. This carrier-grade IP services platform provides excellent value with low price/performance and total ownership costs, enabling service providers, government entities and large enterprises to deploy secure IP and VPN services that enhance their business while maximizing returns on the capital investment.



Features



- *Integrated security platform* – Provides high-speed firewall, VPN, QoS, VLAN and virtual firewall capabilities in one configuration
- *Industry-leading throughput* – Delivers up to 5.9 Gb/s firewall performance, 1.8 Gb/s 3DES and AES VPN performance with built-in encryption accelerator cards (EACs), depending on the VPN Firewall Brick 1200 security appliance version selected
- *Innovative security services* – Includes advanced distributed denial of service (DDoS) attack protection, latest IPsec Key Exchange (IKE) v2 standards, strong authentication and real-time monitoring, logging and reporting
- *High capacity* – Supports up to 20,000 simultaneous VPN tunnels, 4094 VLANs, 1100 virtual firewalls, and over 4.65 million simultaneous sessions (HS version)
- *Central staging and secure remote management* – Provides integrated control over thousands of VPN Firewall Brick 1200 appliances and IPsec client users (including the Alcatel-Lucent IPsec Client), from one console, using the Alcatel-Lucent Security Management Server (SMS) software
- *High-availability architecture* – Eliminates any single point of failure and increases the speed with which users can access services
- *Proven secure* – Hardened operating system of the VPN Firewall Brick 1200 coupled with a secure management infrastructure provides a virtually impenetrable security platform

Benefits

- **Higher performance** – Delivers an enhanced user experience with up to 5.9 Gb/s clear text and 1.8 Gb/s 3DES and AES IPSec VPN throughput, combined with best-in-class bandwidth management that implements customer-level, user-level and server-level QoS control
- **Low price/performance** – Outstanding security and throughput for less than the per-Mb/s price of major competitors
- **Low cost of ownership** – One configuration supports multiple IP services with no additional or recurring licensing fees
- **Flexible deployment** – Options include premises or network-based services with shared or dedicated hardware environments

- **Economical growth path** – Seamless migration to advanced, VoIP, QoS and VPN security services with no added infrastructure investments
- **Plug-and-play interoperability** – Eliminates the need for costly network reconfigurations or on-site support
- **Assured cost-effective business continuity** – Take advantage of low-priced encryption performance and native high availability while maintaining carrier-class reliability for today's data-heavy business applications
- **Centralized, scalable, carrier-class management** – Centrally manage up to 20,000 VPN Firewall Brick security appliances and 500,000 Alcatel-Lucent IPSec Client users (or third-party IPSec clients) with Alcatel-Lucent SMS Release 9.2 or later

Applications

- Advanced security services
- VPN services for site-to-site and remote access
- Bandwidth management capabilities
- VoIP security
- Secure data center Web and application hosting
- Storage network security
- Mobile data security
- Packet data gateway and packet data interworking functions for fixed-mobile convergence, Wi-Fi® VPN and VoIP/data security
- Managed security services
- Unlicensed mobile access (UMA) and IP multimedia subsystem (IMS) security

Technical specifications

Processor/memory

- 3 GHz processor with 2 GB of RAM for VPN Firewall Brick 1200 HS AC and DC models
- 2.2 GHz processor with 2 GB of RAM for VPN Firewall Brick 1200 AC Model

LAN/VPN interfaces

VPN Firewall Brick 1200 HS AC and DC models

- 14 10/100/1000 copper ports
- 6 GigE mini-GBIC SFP ports
- VPN EAC

VPN Firewall Brick 1200 basic model

- 8 10/100/1000 copper ports
- 2 GigE mini-GBIC SFP ports
- VPN EAC

Other ports

- SVGA video, DB9 RS-232 serial console, 4 X USB

Performance

VPN Firewall Brick 1200 HS AC or HS DC

- Concurrent sessions – 4,657,000
- New sessions/second – 45,000
- Rules – 30,000 (shared among all virtual firewalls)
- Maximum clear text throughput – 5.9 Gb/s (1460-byte UDP packets)
- Maximum clear text throughput – 2,190,000 pps (78-byte UDP packets)
- Maximum 3DES and AES 256 throughput with hardware encryption acceleration – 1.8 Gb/s (1460-byte UDP packets)
- Maximum 3DES and AES 256 throughput with hardware encryption acceleration – 580,000 pps (78-byte UDP packets)

VPN Firewall Brick 1200 basic

- Concurrent sessions – 2,616,000
- New sessions/second – 30,000
- Rules – 30,000 (shared among all virtual firewalls)

- Maximum clear text throughput – 4.5 Gb/s (1460-byte UDP packets)
- Maximum clear text throughput – 2,016,000 pps (78-byte UDP packets)
- Maximum 3DES and AES 256 throughput with hardware encryption – 1.5 Gb/s (1460-byte UDP packets)
- Maximum 3DES and AES 256 throughput with hardware encryption – 406,000 pps (78-byte UDP packets)

Virtualization

- Maximum number of virtual firewalls – 1100 (VPN Firewall Brick 1200 HS AC or DC)
- Maximum number of virtual firewalls – 500 (VPN Firewall Brick 1200 basic)
- Number of VLANs supported – 4094
- VLAN domains – up to 16 per VLAN trunk
- VPN Firewall Brick 1200 partitions – allows for virtualization of customer IP address range, including support for overlapping IP addresses

Modes of operation

- Bridging and/or routing on all interfaces
- All features supported with bridging
- IP routing with static routes
- 802.1Q VLAN tagging supported inbound and outbound on any combination of ports
- Layer-2 VLAN bridging
- Network address translation (NAT)
- Port address translation (PAT)
- Policy-based NAT and PAT (per rule)
- Supports virtual IP addresses for both address translation and VPN tunnel endpoints
- Point-to-point Protocol over Ethernet (PPPoE) and Dynamic Host Configuration Protocol (DHCP)-assignable interface/VLAN addresses
- Redundant DHCP relay capabilities
- Dynamic registration of mobile VPN Firewall Brick 1200 security appliance address for centralized remote management

- Nested zone rule sets for common firewall policies for all VPN Firewall Brick security appliances in the zone
- Link aggregation
- Mobile VPN Firewall Brick using integrated DHCP client

Services supported

- BOOTP, HTTP, IRC, Netstat, POP3, SNMP, TFTP, PPTP, DNS, HTTPS, Kerberos, NNTP, RIP, SSH, who, RADIUS, EIGRP, Ident, LDAP, NTP, RIP2, Syslog, Shell, X11, Exec, GMP, login, OSPF, rlogin, Telnet, Talk, H.323, SIP, FTP, IMAP, Mbone, Ping, RSH, Traceroute, IBM® Lotus® Notes®, Alcatel-Lucent OmniPCX™ New Office Environment (NOE), Gopher, IPsec, NetBIOS, Pointcast, MTP, Oracle® SQL*Net
- Any IPv4 protocol (user-definable)
- Any IPv4 protocol + layer-4 ports (user-definable)
- Support for non-IP protocols as defined by service access point (SAP)/Ethertype

Layer-7 application support

- Application filter architecture supports layer-7 protocol inspection (deep packet inspection) for command and protocol validation, protocol anomaly detection, dynamic channel pinholes and application-layer address translation. Application filters include HTTP, FTP, RPC, TFTP, H.323/H.323 RAS, SMTP, Oracle SQL*Net, NetBIOS, ESP, DHCP Relay, DNS, GTP, SIP, RTSP and Alcatel-Lucent OmniPCX NOE.

Firewall attack detection and protection

- Generalized zero-day anomaly-based flood protection with patent-pending intelligent cache management protection
- SYN flood protection to specifically protect inbound servers (for example, Web servers) from inbound traffic
- Transmission Control Protocol (TCP) SYN floods
- Strict TCP validation to ensure TCP session state enforcement, validation of sequence and acknowledgement numbers
- Rejection of bad TCP flag combinations
- Initial sequence number (ISN) rewriting for weak TCP stack implementations

- Fragment flood protection with robust fragment reassembly ensures no partial or overlapping fragments are transmitted
- Generalized IP packet validation including detection of malformed packets
- DoS mitigation for over 190 DoS attacks, including ping of death, land attack, tear drop attack, etc.
- Drops bad IP options as well as source route options
- Connection rate limits to minimize effects of new attacks

QoS/bandwidth management

- Classified by physical port, virtual firewall, firewall rule, session bandwidth guarantees – Into and out of virtual firewall, allocated in bits/second
- Bandwidth limits – Into and out of virtual firewall, allocated in bits/second, packets/session, sessions/second
- Type of service (ToS)/differentiated services (DiffServ) marking and matching
- Integrated with application-layer filters

Content security

- HTTP filter keyword support integrated with HTTP
- Application filter
- Basic content filtering with configurable whitelist/blacklist and content keyword matching
- URL redirection for blacklist sites
- Rules-based routing feature for HTTP, SMTP and FTP features (Alcatel-Lucent SMS R 9.2 or later)
 - Interoperates with all third-party antivirus, antispam, and content filtering systems
 - Redirects only protocol-specific packets to third-party systems performing antivirus, antispam, and content filtering services
- Application-layer protocol command recognition and filtering
- Application-layer command line length enforcement
- Unknown protocol command handling
- Extensive session-oriented logging for application-layer commands and replies
- Hostile mobile code blocking (Java™ technology, ActiveX® controls)

Firewall user authentication

- Browser-based authentication allows authentication of any user protocol
- Built-in internal database – 10,000 user limit
- Local passwords, RADIUS, SecurID
- User-assignable RADIUS attributes
- Certificate authentication

VPN

- Maximum number of dedicated VPN tunnels – 7500
- Manual key, IKEv1, IKEv2, DoD PKI, X.509
- 3DES (168-bit), DES (56-bit)
- AES (128-, 192-, 256-bit)
- SHA-1 and MD5 authentication/integrity
- Replay attack protection
- Remote access VPN
- Site-to-site VPN
- IPsec NAT traversal/User Datagram Protocol (UDP) encapsulated IPsec
- IKEv2 IPsec NAT traversal and dead peer detection
- LZS compression
- Spliced and nested tunneling
- Fully meshed or hub-and-spoke site-to-site VPN

VPN authentication

- Local passwords, RADIUS, SecurID, X.509 digital certificates
- Public key infrastructure (PKI) certificate requests (PKCS 12)
- Automatic Lightweight Directory Access Protocol (LDAP) certificate retrieval
- DoD PKI

High availability

- VPN Firewall Brick 1200 security appliance to VPN firewall
- VPN Firewall Brick 1200 security appliance active/passive failover with full synchronization
- 400-ms device failure detection and activation
- Session protection for firewall, VoIP and VPN
- Link failure detection
- Alarm notification on failover
- Encryption and authentication of session synchronization traffic
- Self-healing synchronization links

- Pre-emption and IP tracking for improved health state checking
- Seamless system upgrade with no downtime for redundant deployments

Diagnostic tools

- Out-of-band debugging and analysis via serial port/modem/terminal server
- Centralized, secure remote console to any VPN Firewall Brick 1200
- Supports ping, traceroute, and packet trace with filters
- Remote VPN Firewall Brick 1200 security appliance bootstrapping
- Real-time log viewer analysis tool
- Java-based navigator for remote access to management system

Three-tier management architecture

- Centralized, carrier-class, active/active management architecture with Alcatel-Lucent SMS software
- Secure VPN Firewall Brick to Alcatel-Lucent SMS communications with Diffie-Hellman and 3DES encryption, SHA-1 authentication and integrity and digital certificates for VPN Firewall Brick 1200 security appliance/Alcatel-Lucent SMS authentication
- Up to 100 simultaneous administrators securely managing all aspects of up to 20,000 VPN Firewall Brick 1200 units in a hierarchical management cluster
- Secure, reliable, redundant, real-time alarms, logs, reports

Certifications

- ICSA Labs v4.1 firewall certified
- ICSA Labs IPsec 1.3 certified
- EAL-4 certified (Certification based on VPN Firewall Brick 1200 Release 2 platform. Current VPN Firewall Brick 1200 Release 3 platform pending certification.)
- Federal Information Processing Standards (FIPS) 140-2 certified (Certification based on VPN Firewall Brick 1200 Release 2 platform. Current VPN Firewall Brick 1200 Release 3 platform pending certification.)
- Network Equipment Building system (NEBS) Level 3 (compliant with Telcordia GR-1089-CORE and GR-63-CORE) in process for Brick 1200 Release 3

Mean time between failure (MTBF)

- VPN Firewall Brick 1200 Basic: 56,050 hours
- VPN Firewall Brick 1200 HS AC: 50,241 hours
- VPN Firewall Brick 1200 HS DC: 50,241 hours
- Telcordia SR-332 at Standard Reference Conditions

Dimensions (2 U)

- Width: 444.6 mm (17.5 in.)
- Length: 481 mm (18.94 in.)
- Height: 85.5 mm (3.36 in.)
- Rack-mountable per EIA-310 specification
- Weight without power supplies: 10.43 kg (23 lb)
- DC power supply weight: 1.088 kg (2.4 lb)
- AC power supply weight: 1.088 kg (2.4 lb)

Cooling

- Three field-replaceable fans provide active cooling for the unit. Field-replaceable filter media

Operating altitude

- Up to 4000 m (13,123 ft)

Environmental conditions

Operating

- Normal operating temperature: 0°C to 45°C (32°F to 113°F)
- Shock: 5 g at 30 ms half-sine on any axis
- Relative humidity: 5% to 90% at 28°C (82.4°F) (non-condensing)
- Vibration: 1 g at 5 Hz to 100 Hz on any axis

Non-operating

- Temperature: -40°C to 70°C (-40°F to 158°F)
- Shock: 30 g at 15 ms to 20 ms on any axis
- Relative humidity: 5% to 90% at 40°C (104°F) (non-condensing)

Power

VPN Firewall Brick 1200 Basic and 1200 HS AC models:

- Hot-swappable AC to DC power supply: Rated 450 W max for each hot-swap module
- Range: 100 V to 240 V
- Typical consumption: 174 W

VPN Firewall Brick 1200 HS DC model:

- Hot-swappable DC to DC power supply: Rated 450 W max for each hot-swap module
- Range: -40 V to -60 V
- Typical consumption: 174 W

Alcatel-Lucent Security Management Server

Software requirements

- Sun Solaris™ 2.9 or 2.10 operating system on SPARC® processors
- Red Hat® Linux® operating system version RHEL4 and RHEL5 support on x86 processors
- Windows® XP Professional, Windows Server® 2003, or Windows Vista® Business operating systems

Hardware requirements

Solaris SPARC:

- 500 MHz UltraSPARC® or better
- 512 MB of memory or more

Linux RHEL4/5:

- 2 GHz dual-core or better
- 1 GB of memory or more

Windows XP/2003:

- 500 MHz Intel® Pentium® III processor or better
- 512 MB of memory or more

Windows Vista:

- 800 MHz Intel Pentium III processor or better
- 1 GB of memory or more

Common

- Swap space at least as large as system memory
- 4 GB free disk space in file system partition where software is to be installed
- 50 MB free disk space in root partition
- One 10/100 Ethernet interface
- CD-ROM drive
- USB port and serial port
- Video card capable of supporting minimum resolution of 1024 pixels x 768 pixels (65,535 colors)

Certifications

| | NORTH AND SOUTH AMERICA | EUROPE | ASIA, PACIFIC |
|------------------------------|--|-----------------------------|--|
| Product Safety Approvals | CSA Certified to UL 60950-1, 1 st Edition | CE | CB Scheme to EN/IEC 60950-1 |
| | CAN/CSA 22.2 No. 60950-1-03 | CB Scheme to EN/IEC 60950-1 | AS/NZS 3260 1993 with amendments 1, 2, 3 and 4 |
| | – | – | ACA TS 001 1997 |
| EMC Approval | FCC Part 15, Class A | CE | VCCI, Class A |
| | ICES-003, Class A | EN55022/VCC | AS/NZS – CISPR Pub 22, Class A |
| | – | EN300-386, Class B | – |
| Network Attachment Approvals | Not Applicable | Not Applicable | Not Applicable |

Ordering Information

| PART NUMBER | DESCRIPTION |
|--|--|
| 109625772 | VPN Firewall Brick 1200 AC Model |
| 109625780 | VPN Firewall Brick 1200 HS AC Model |
| 109625806 | VPN Firewall Brick 1200 HS DC Model |
| 300912549 | 1000Base-T Copper SFP Transceiver |
| 300912979 | 1000Base-SX MMF SFP Transceiver |
| 300533866 | 1000Base-LX SMF SFP Transceiver |
| 109741991 | Alarm cable (8 meters/26 feet) for VPN Firewall Brick 700/1200 Models |
| 301038535 | Power supply (AC) for VPN Firewall Brick 700/1200 AC Models |
| 301038543 | Spare power supply (DC) for VPN Firewall Brick 700/1200 DC Models |
| 301038550 | Spare fan assembly for VPN Firewall Brick 700/1200 Models |
| 301038568 | Spare fan filter media for VPN Firewall Brick 700/1200 Models |
| Contact your Alcatel-Lucent Representative or authorized reseller for details. | <p>Alcatel-Lucent Security Management Server The current release of VPN Firewall Brick 1200 Basic and HS models (Release: 1200 Release 3) can be managed and supported only by specific patch releases of the Alcatel-Lucent SMS application. The following software patches for these major Alcatel-Lucent SMS releases must be installed for the Model 1200 Release 3 VPN Firewall Brick:</p> <ul style="list-style-type: none"> • For Alcatel-Lucent SMS Release 9.2, patch release 9.2.318 or later • For Alcatel-Lucent SMS Release 9.3, patch release 9.3.252 or later • For Alcatel-Lucent SMS Release 9.4, patch release 9.4.215 or later <p>Alcatel-Lucent IPSec Client Available in several configurations to meet customer networking requirements</p> |

To learn more, contact your dedicated Alcatel-Lucent representative, authorized reseller, or sales agent. You can also visit our Web site at www.alcatel-lucent.com.

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