VPN Firewall Brick® 20
Security, VPN, and QoS Gateway

The VPN Firewall Brick® 20 platform offers a readily affordable CPE solution for delivering service level-assured advanced security, IP VPN, and bandwidth management services to small-office and home-office locations. This carrier-class IP services platform stretches investment dollars with low price/performance and total ownership costs and delivers service-enhancing, revenue-building features.

Applications

- Advanced security services
- Site-to-site and remote access VPN services
- Bandwidth management services
- Mobile data services
- Shared Internet connectivity
- Secure intranets and extranets

Features

- Integrates firewall, VPN, QoS, VLAN, and virtual firewall capabilities in one configuration
- 140 Mbps firewall performance; 3 Mbps 3 DES performance; 55 simultaneous VPN tunnels; 4,094 VLANs; 20 virtual firewalls
- Intrinsically secure, transparent Layer-2 bridge
- Central staging and secure remote management via Lucent Security Management Server (LSMS) software; manages thousands of VPN Firewall Brick® units and Lucent IPSec Client users from one console
- Innovative security services: advanced distributed denial of service attack protection; high-speed content security (command blocking, URL filtering, virus scanning); strong authentication; real-time monitoring, logging, and reporting
- High-availability architecture — no single point of failure
- No advisories or reported vulnerabilities

Benefits

- **Low price/performance —** less than the per-Mbps price of major competitors
- **Low cost of ownership —** one configuration supports multiple IP services with no additional or recurring licensing fees; VLAN and virtual firewall support for up to 20 customers at no additional cost; management efficiencies reduce staffing and administrative expenses
- **Flexible deployment options —** premises or network-based services with shared or dedicated hardware environments
- **Economical growth path —** migrate to advanced security and VPN services with no added infrastructure investments
- **No-touch CPE —** no need for costly network reconfigurations, truck-rolls, or onsite support
- **Enhanced user experiences —** efficient bandwidth management with customer-level, user-level, and server-level QoS control
- **Assured business continuity —** native high availability, carrier-class reliability
- **Scalable, carrier-class management —** centrally manage up to 1,000 VPN Firewall Brick® units and 10,000 Lucent IPSec Client users

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VPN Firewall Brick® Platform 20 Technical Specifications

1. **Processor/Memory**
   Rise mP6 120 MHz with 64MB RAM

2. **LAN Interfaces**
   (3) 10/100 Base-TX Ethernet (RJ-45)

3. **Other Ports**
   SVGA video, DB9 serial, external floppy, PS/2 keyboard

4. **Performance**
   Concurrent sessions – 3,000
   New sessions/second – 300
   Rules – 30,000 (shared among all virtual firewalls)
   Max clear text throughput – 125 Mbps (1518 byte TCP packets)
      140 Mbps (1518 byte UDP packets)
   Max PPS throughput – 40,000 pps (64 byte UDP packets)
   Max 3DES throughput with software encryption – 3 Mbps
   (1518 byte TCP packets)

5. **Virtualization**
   Maximum number of virtual firewalls – 20
   Number of VLANs supported – 4,094
   VLAN domains – up to 16 per VLAN trunk
   VPN Firewall Brick® partitions – allows for virtualization of customer IP address range, including support for overlapping IP addresses

6. **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
   NAT (Network Address Translation)
   PAT (Port Address Translation)
   Policy-based NAT and PAT (per rule)
   Supports virtual IP addresses for both address translation and VPN tunnel endpoints
   DHCP-assignable interface/VLAN addresses
   DHCP Relay capabilities
   Dynamic registration of mobile VPN Firewall Brick® address for centralized remote management
   PPPoE

7. **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, ftp, imap, mbone, ping, rsh, traceroute, lotus notes, VoIP, Gopher, IPSec, netbios, pointcast, smtp, sql*net
   Any IP protocol (user definable)
   Any IP protocol + layer 4 ports (user definable)
   Support for non-IP protocols as defined by DSAP/Ethertype

8. **Layer-7 Application Support**
   Application Filter architecture supports Layer-7 protocol inspection for command validation, dynamic channel pinholes and application layer address translation. Application filters include http, ftp, tftp, H.323/H.323 RAS, Oracle SQL*Net, Net BIOS, DHCP Relay, DNS, GTP, SIP

9. **Firewall Attack Detection and Protection**
   Generalized flood protection extensible to new flood attacks as discovered with patent-pending Intelligent Cache Management
   SYN flood protection to specifically protect inbound servers, e.g. Web servers, from inbound 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 such as ping of death, land attack, tear drop attack. Drops bad IP options as well as source route options

10. **Content Security**
    Lucent Proxy Agent integrates load-shared content security services for:
    Application protocol command blocking – HTTP, SMTP, FTP
    Virus scanning
    URL screening
    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®, ActiveX™)
    URL blocking – with 8e6 Technologies' X-Stop™ Xserver
    Virus scanning – with Trend Micro's *InterScan*™ VirusWall Anti-Virus Security Suite

11. **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
    ToS/DiffServ marking and matching

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

13. **VPN**

Maximum number of dedicated VPN tunnels – 55

Manual Key, IKE, PKI (X.509)

3DES (168-bit), DES (56-bit)

SHA-1 and MD5 authentication/integrity

Replay attack protection

Remote access VPN

Site-to-site VPN

IPSec NAT Traversal (UDP encapsulated IPSec)

LZS compression

Spliced and nested tunneling

14. **VPN Authentication**

Local passwords, RADIUS, SecurID, X.509 digital certificates with Entrust CA

PKI Certificate requests (PKCS 12)

Automatic LDAP certificate retrieval

15. **High Availability**

VPN Firewall Brick® platform to VPN Firewall Brick® platform active/passive failover with full synchronization

400 millisecond device failure detection and activation

Session protection for firewall and VPN

Link failure detection

Alarm notification on failover

Encryption and authentication of session synchronization traffic

Self-healing synchronization links

Lucent Proxy Agent load sharing supports high availability for content security services

16. **Diagnostic Tools**

Out of band debugging and analysis via serial port/modem/terminal server

Centralized, secure remote console to any VPN Firewall Brick® unit supporting Ping, Traceroute, packet trace with filters

Remote VPN Firewall Brick® platform bootstrapping

Real-time log viewer analysis tool

17. **3-Tier Management Architecture**

Centralized, carrier-class, active/active management architecture with Lucent Security Management Server (LSMS) software

Secure VPN Firewall Brick® platform to LSMS communications with Diffie-Helman and 3DES encryption, SHA-1 authentication and integrity and digital certificates for VPN Firewall Brick® platform/LSMS authentication

Up to 100 simultaneous administrators securely managing all aspects of up to 1000 VPN Firewall Brick® units

Secure, reliable, redundant real-time alarms, logs, reports

18. **Certifications**

ICSA V3.0A Firewall Certified, ICSA V1.0B IPSec Certified

National Security Agency EAL2 Government Protection Profile Certified, EAL4 in progress

19. **Mean Time Between Failure**

127,000 Hrs.

20. **Dimensions (W x L x H)**

6.2" x 8.6" x 1.3" 16 cm x 22 cm x 3 cm

21. **Cooling**

Passive heatsink

22. **Operating Altitude**

Up to 13,123 ft (4,000 m)

23. **Environmental**

Operating

Temperature: 0 to 40° C

Shock: 2.5g at 15 – 20 ms on any axis

Relative Humidity: 5–95%

Vibration: 5g at 2 – 200Hz on any axis

Non-Operating

Temperature: 0 to 70° C

Shock: 35g at 15 – 20 ms on any axis

Relative Humidity: 5–95%

Vibration: 5g at 2 – 200Hz on any axis

24. **Power**

External AC to DC Power Supply: rated 25W Max

Switching mode, 100–240V AC, 50–60Hz

Consumption: 0.19A typical at 115VAC

25. **Safety Listings**

USA – UL® 1950

Canada – CSA 22.2 No. 950

EU – EN/IEC 60950

Japan – CB Scheme IEC 60950

26. **EMC Certifications**

USA – FCC Part 15, Class B

Canada – IC-ES003

EU – EMC Directive

Japan – VCCI

VPN Firewall Brick® 20 platform – Back Panel

Lucent Proxy Agent

1. **Software Requirements**
   Solaris™ 8

2. **Hardware Requirements**
   Sun® workstation
   333 MHz Pentium® Pro processor (minimum)
   512 MB system memory (minimum), higher recommended
   CD-ROM drive
   1 Ethernet 10/100 card

Ordering Information

1. **VPN Firewall Brick® 20 platform**
   Part Number 300323748

2. **External 3.25" Floppy Drive**
   Part Number 300318953

3. **Lucent Security Management Server**
   See LSMS data sheet for ordering details

4. **Lucent Proxy Agent**
   Included in LSMS software

5. **Lucent IPSec Client**
   See Lucent IPSec Client data sheet for ordering details

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

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