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Product Brief

Nortel Switched Firewall 5100 Series

A layered defense combining the industry's best security firewall with the industry's best network switching and acceleration

➤ Nortel Switched Firewall with Firewall-1 from Check Point has both network-level and application-level protection.

For example, it guards against:

- > Denial of Service attacks
- > Oversized packets
- > SYN floods
- > Fragmentation attacks
- > Nimda
- > Code Red
- > Cross Site Scripting and other network- or application-based attacks

➤ FireWall-1 has the broadest application support in the industry. Its support for over 150 pre-defined applications helps to ensure that any Web services deployment can traverse the Switched Firewall without performance limitations.

Application examples include:

- > Microsoft CIFS
- > SMTP, FTP, HTTP, DNS and telnet traffic
- > SOAP/XML
- > Instant Messaging and Peer-to-Peer applications
- > Windows Media, RealVideo and Session Initiation Protocol (SIP)
- > H.323-based services, including Voice over IP (VoIP) and NetMeeting
- > Oracle SQL and ERP

Nortel Switched Firewall 5100 Series

Network threats and attacks are on the rise. Organizations are using the network to gain competitive advantage. Convergence of network resources drives cost savings and productivity while improving customer engagement.

But, an unprotected or poorly protected network is not a competitive advantage. The network should be protected by the best security firewall available. This is why Nortel has partnered with Check Point Software Technologies to create the Nortel Switched Firewall (formerly known as Alteon* Switched Firewall).



The Nortel Switched Firewall is a key component in Nortel's layered defense strategy, and is certified under the Check Point Open Platform for Security (OPSEC) criteria and enhances the Firewall-1 deployment by providing a platform that is network-based, highly reliable and able to grow to support increased demand and new services.

Customers that have deployed Nortel Switched Firewall receive these benefits:

- ▶ SIP support with no performance impact
- ▶ Full support from two industry leaders — Nortel and Check Point
- ▶ License reuse by simply transferring old Check Point licenses to the new Nortel platform
- ▶ No need to retrain security professionals already competent on Check Point firewall technology

Switched Firewall—defined

Any firewall has two basic functions:

- ▶ *Policy Inspection* — Inspect all traffic and compare it to defined security rules
- ▶ *Policy Enforcement and Data Forwarding* — Forward or block traffic based on the rules and signatures

In addition, today's firewalls must be application aware. This means that policy inspection occurs within the application data to help ensure that no attacks, viruses or worms are transported across the firewall.

The Nortel Switched Firewall performs these basic functions on a platform that acts like any other switch in the network hierarchy. The benefits of this include:

- ▶ Wire-speed packet forwarding for assured performance
- ▶ Simplified network topology for easier management and troubleshooting
- ▶ Rapid service restoration using common protocols
- ▶ Protection from application-level attacks via Check Point Smart Defense functionality

The Nortel Switched Firewall 5106, 5109, 5114 and 5124 are stand-alone deployments for small or medium-sized sites.

Nortel Switched Firewall System 6414 or 6614 is used to provide an even higher level of performance, reliability and service. Please see the Nortel Switched Firewall 6000 Series product brief for more details.

Solution applications and benefits

Virtualized service connections

Many organizations operate with a service-bureau model to serve various operating groups. The Nortel Switched Firewall 5114 and 5124 support Virtual System Extension (VSX) from Check Point. This feature enables security primes to create distinct firewall instances for up to 250 different individuals, user groups or organizations. This capability is often deployed in government, education, hospitality or healthcare organizations where multiple classes of users need distinctly different security services.

Voice and multimedia services

Companies are deploying voice over IP (VoIP) and Session Initiation Protocol (SIP) services to enhance productivity. The added flexibility and mobility from these services means that VoIP and SIP traffic will need to traverse the firewall. This can present many problems. Traditional firewalls may not support the complexity of signaling used by these services. Many existing firewall implementations add too much delay or jitter into the media path and adversely affect the voice or multimedia quality. High packet throughput to minimize delay, VoIP and SIP application awareness and virtually jitter-free performance are fundamental to the Switched Firewall design and function.

Nortel Switched Firewall 5100 Series



Low cost of operation

Network traffic is growing. Organizational dependence on communication and interaction means that security solutions which are cost-effective and can grow to meet future demand must be deployed. The Nortel Switched Firewall 5100 Series can grow to meet future demand. An initial system with one Switched Firewall supports up to 10,000 connection requests per second and 500,000 total concurrent sessions. As the network traffic increases, a Switched Firewall Accelerator can be added. Up to six Switched Firewall Directors can be supported by a Switched Firewall Accelerator to provide up to 100,000 connection requests per second and 1,000,000 total concurrent sessions. Adding additional firewall capacity to a Switched Firewall System is easy. A Single System Image controls all configuration data, including physical interfaces, VLANs, IP interfaces, routing protocols and administrative settings. This data is securely and automatically shared within the Switched Firewall cluster. In addition, the cluster is managed through a single IP address, making it easy to perform configuration changes, backup configuration data and update software for all units in the cluster. Existing Check Point customers may re-use their existing license to easily move their firewall onto any Nortel Switched Firewall System.

➤ Combining the industry's best security firewall
with the industry's best network
switching and acceleration



Product specifications

Part numbers and description

- EB1639107 - Switched Firewall 5106: 2 x 10/100/1000Base-TX ports, 2 x 10/100 Mbps ports
- EB1639046 - Switched Firewall 5109: 2 x 10/100/1000Base-TX ports, 4 x 10/100 Mbps ports
- EB1639065 - Switched Firewall 5114: 2 x 1000BASE-SX ports, 2 x 10/100/1000 Mbps ports
- EB1639068 - Switched Firewall/VPN 5124: 2 x 1000BASE-SX ports, 2 x 10/100/1000 Mbps ports and VPN-acceleration card

Interfaces

- 10BASE-T/100BASE-TX Port 10/100 full or half-duplex (auto-negotiation) with RJ-45 UTP port
- 1000BASE-SX Port full-duplex Gigabit Ethernet with SC fiber connector
- RS-232C Console DB-9 serial connection, female DCE interface for out-of-band management

Dimensions

- Height 1.75 inches (4.44 cm)
- Width 16.69 inches (42.39 cm)
- Depth 16.53 inches (42.01 cm)
- Weight 19 lbs (8.6 kg)
(Standard 19" EIA 1U rack mountable)

Network protocol and standards compatibility

- 10BASE-T/100BASE-TX/1000BASE-TX (IEEE 802.3-2000)
- 1000BASE-SX/LX (IEEE 802.3z)
- Logical link control (IEEE 802.2)
- Flow control (IEEE 802.3x)
- Link negotiation (IEEE 802.3z)
- Port Trunking (IEEE 802.3d)
- VLANs (IEEE 802.1Q): Frame tagging on all ports when LANs enabled — up to 250 VLANs
- IP (RFC 791)
- ICMP (RFC 792)
- ARP (RFC 826)
- OSPF with md5 authentication (RFC 2328)
- VRRP (RFC 2338)
- CIDR (RFC 1519)
- TFTP (RFC 783), FTP (RFC 959)
- Telnet (RFC 854)
- SSH v1/v2
- SSL/TLS (RFC 2246)
- DVMRP (RFC 1075)
- IGMP (RFC 2236)
- Bootp/DHCP Relay (RFC 2131)
- SNMPv2c (RFCs 1901, 1905, 1906, 1907, 2578, 2579, 2580)
- SNMPv3 (RFCs 2570, 2571, 2572, 2573, 2574, 2575)

Power specifications

- Auto-ranging power supply: 00-240 VAC @ 3.5 Amps, 50-60 Hz
- Maximum power consumption: 250 Watts
- MTBF: >50,000 hours

Environmental specifications

- Operating temperature: 10 to 35° C (+45° to +100° F)
- Operating humidity: 8% to 80% (non-condensing)

Certifications

EMC: (Electromagnetic requirements)

- USA: FCC Part 15, Subpart B Class A
- Australia: AS/NZS CISPR 22:2002
- Canada: ICES-003
- Japan: VCCI Class A
- Europe: EN 300 386 v1.3.1 (2001-09)
- Taiwan: BSMI Registration Certificate
- Rest of World: CISPR 22 Class A

Emissions:

- US- FCC Class B
- Canada- DOC Class B
- Europe- CE Mark to EN55022/EN50082-1/ICE 801-2/ICE 801-3/ICE 801-4

Industry:

- EAL-4 (in progress)
- OPSEC
- ICSA

Safety

- IEC 60950 (International)
- National Deviation per CB Member Countries to IEC 60950
- UL 1950 (USA)
- CSA 22.2, No. 950 (Canada)
- EN 60950 (Europe)

Nortel Switched Firewall product matrix

	Standalone Firewalls for SME and branch			Accelerated Firewall Systems for larger enterprise and data centers	
Model/feature	5106	5109	5114	6414	6614
Throughput (Gbps)	0.350	1.2	1.6	5.0	7.0
Connections per sec ¹	3,600	10,000	10,000	20,000 / Director	20,000 / Director
Accelerated concurrent sessions	0	0	0	500,000	500,000
Total concurrent sessions	250,000	300,000	500,000	1,000,000	1,000,000
Layer 3 protocols	OSPF	OSPF	OSPF	OSPF, RIP 1 & 2	OSPF, RIP 1 & 2
Virtual Firewalls	No	No	Yes - 250	No	No
VLANs/IEEE 802.1q	Yes - up to 250	Yes - up to 250	Yes - up to 250	Yes - up to 242	Yes - up to 242
Health checks and load balancing	No	No	No	Yes	Yes
Multi-link trunking	No	No	No	Yes	Yes
Plug-and-play	No	No	No	Yes	Yes
Single system image upgrade	Yes	Yes	Yes	Yes	Yes
Expansion options	No	Via upgrade	Via upgrade	Yes	Yes
High availability	Yes	Yes	Yes	Yes	Yes
Ethernet TX ports: 10/100	2	4	0	24	0
Ethernet TX ports: 10/100/1000	2	2	2	0	8 ²
Ethernet Fiber ports	0	0	2 x 1000SX	4 x GBIC	8 x GBIC ²

Notes:

1. Multiple Directors (up to 6) can be load balanced to achieve up to 100,000 connections per second in a cluster.
2. Any 12 ports can be enabled at one time on the Switched Firewall Accelerator 6600.



► The network should be protected by the best security firewall available. This is why Nortel has partnered with Check Point Software Technologies to create the Nortel Switched Firewall.

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For more information, contact your Nortel representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

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