



>THIS IS THE WAY

WE KEEP INFORMATION SECURE

IN A WIRELESS WORLD

>THIS IS **NORTEL**™

Solution Brief

Secure WLAN

Wireless LANs (WLANs) are virtually everywhere these days — addressing the communication needs of an increasingly mobile and agile society.

WLANs improve mobility and enhance productivity by enabling users to access information through a choice of wireless technologies across many locations, including homes, enterprises, governments, airports, campgrounds, restaurants and cafeterias. For IT departments, WLANs translate into cost savings through reduced cable needs and number of devices required to deploy the network.

With these benefits also come challenges. In the corporate world, security groups need controls to manage the wireless network and prevent any action that could possibly affect or disclose competitive or customer information. Because there is no physical cabling to

secure, more effort is spent on protecting the wireless data. It is possible to balance mobility and security.

For IT organizations, the challenge is to provide users with anytime-anywhere wireless access, strong coverage, seamless roaming and superior service delivery — without compromising security. This requires a security solution that prevents everything from user attacks to eavesdropping.

Solutions: Service delivery and security

Delivering traditional wireless LANs involves placing access points in various locations to provide sufficient coverage for users. Large or open areas tend to pose the greatest challenges due to the number of access points required, and the cabling needed to connect access points to the network. In these cases, wireless mesh technologies provide a



solution for open spaces found in warehouses, campgrounds, airports and other large-coverage areas.

Achieving effective wireless transport fulfills half of the WLAN requirement; security the other. A secure wireless connection reduces the risk of attacks including data eavesdropping, data theft and attacks from wireless computers in the immediate area. Secure solutions for WLANs protect both the network and information on the wireless interface, through authentication and encryption technology.

Network protection is achieved by implementing device authentication and compliance checking to validate the device is allowed to connect to the network. Validating users' identities is also important. Confidence in the user's identity allows for granular policy implementation, enabling users access only to those resources permitted by policy.

Eavesdropping protection commonly involves encrypting traffic from endpoint to access point, using encryption algorithms such as Wi-Fi Protected Access (WPA) or the Advanced Encryption Standard (AES) technologies.

Nortel: Securing the wireless world

Fully understanding the challenges users and IT departments face when implementing secure wireless access, Nortel offers a series of products to address the need for superior and secure wireless transport.

Nortel's Wireless LAN 2300 series enables enterprises and governments to deliver a secure, high-availability wireless LAN while effectively managing costs and reducing infrastructure complexity. The WLAN 2300 series consists of 'thin' access points that are managed by the WLAN wireless security switch.

For large-coverage areas or in environments where cables cannot be used to connect access points to the wireless security switch, the Nortel Wireless 7200 wireless mesh access points and wireless security switch provide the solution. Wireless mesh technology uses radio to communicate with the endpoint and back to the wireless security switch.

Management made easy

Nortel solutions ease the planning process for wireless transport implementation. The Wireless LAN 2300 series incorporates a powerful planning tool that helps determine the optimum placement and quantity of access points required to achieve the desired level of coverage.

After transport is established, the 'thin' access point design ensures that system and policy configuration is done at the wireless security switch, and information sent automatically to the access points. If policy changes on the wireless security switch, the access points receive the new policy automatically, eliminating the need for further administration.

Keeping information secure – the Nortel way

When it comes to keeping information secure across WLANs, the ideal solution will accomplish two goals: protect information as it passes over the wireless interface; and limit access to the network through the access point. Nortel's powerful and comprehensive Secure Wireless Solution addresses both requirements.

Figure 1. Wireless security switch and access points

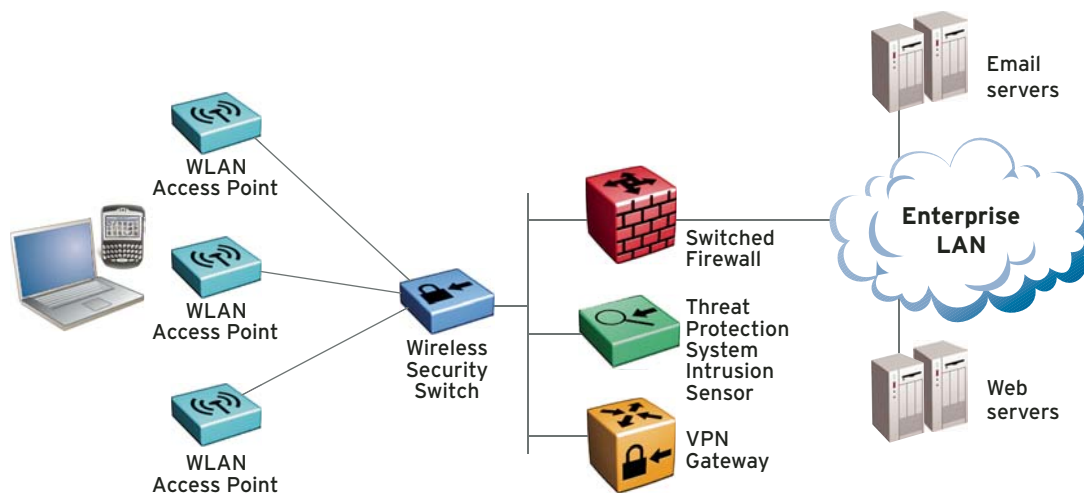
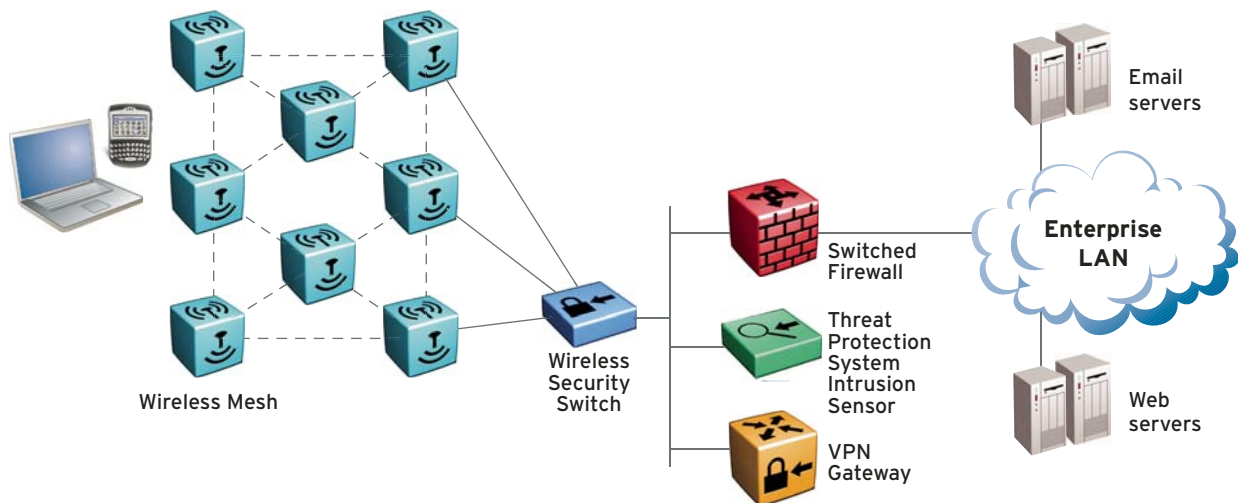


Figure 2. Wireless mesh security solution



Controlling network access

With Nortel's Secure Wireless Solution, access to the network is granted only to devices capable of authenticating to the network. Until a device authenticates to the access point, the endpoint cannot obtain network access. The WLAN 2300 works with current 802.1x supplicants, and if no supplicant is available, provides a Web authentication system to establish the user's identity.

Securing information in transit

Information transferred over the wireless link between the access point and the endpoint is encrypted using one of several methods, such as Wi-Fi Protected Access (WPA) and the Advanced Encryption Standard. When coupled with the advanced security features of IEEE standard 802.11i, the Nortel Secure Wireless Solution prevents unauthorized devices from connecting to the access point, secures data from endpoint to access point and locates rogue access points.

Rogue access points are devices that are not authorized to connect to the enterprise network. For example, a user brings an unauthorized access point into a conference room and attempts to plug it into the network. The WLAN 2300

series detects the unauthorized access point and disables its path into the network, mitigating any possible security risk to protected information.

The WLAN 2300 series also fits well into existing wireless LAN deployments by using VPN passthrough capabilities where wireless traffic is protected by a VPN. By implementing VPN passthrough in wireless LANs, enterprises can maintain existing WLAN services while migrating to the WLAN 2300 series.

The WLAN 2300 series includes comprehensive intrusion detection and Denial of Service (DoS) attack prevention. These capabilities include rogue access point detection and mitigation, RF jamming detection, access control lists and attack detection.

The strength of wireless technologies is about doing business without the boundaries imposed by the wireless world. Nortel's WLAN 2300 allows a mobile campus workforce by supporting roaming within the wireless network. The user can move from location to location within the campus and maintain their data and voice over wireless LAN calls as well.

Protecting wide-open spaces

Building on the capabilities of the WLAN 2300 series, the Nortel Wireless 7200 series delivers wireless LAN access to large physical environments and where cable installation is not possible for each access point.

In this high-availability mesh infrastructure, the endpoint communicates with any of the mesh access points using similar protection methods as the WLAN 2300 series. Traffic from the access points moves through the wireless mesh fabric using IPSec tunnels back to the wireless security switch. The combined protection elements are designed to ensure the communication path is fully protected from eavesdropping.

Conclusion

Nortel's Wireless LAN solution combines no-compromise security and high performance to address the needs of an increasingly mobile workforce. Cost-effective and easy to use and manage, Nortel's Secure Wireless Solution gives enterprises the power to boost employee productivity while aligning with business objectives. For more information on Secure Wireless and other Security Solutions from Nortel, please visit:

<http://www.nortel.com/enterprisesecurity>.

Why Nortel?

Nortel's Secure Wireless LAN Solution:

- > Secures information while enabling wireless access for campus and remote users
- > Maintains secure connectivity as user roams
- > Enables any device to connect from any location within a building or campus
- > Simplifies security management through common policy implementations
- > Ensures connected systems meet organizations' security policies
- > Protects against wireless threats such as DoS
- > Expedites the design process with a powerful planning tool
- > Grows, scales and adapts to meet evolving needs



Nortel is a recognized leader in delivering communications capabilities that enhance the human experience, ignite and power global commerce, and secure and protect the world's most critical information. Serving both service provider and enterprise customers, Nortel delivers innovative technology solutions encompassing end-to-end broadband, Voice over IP, multimedia services and applications, and wireless broadband designed to help people solve the world's greatest challenges. Nortel does business in more than 150 countries. For more information, visit Nortel on the Web at www.nortel.com.

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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