

JUNIPER NETWORKS WIRELESS SOLUTION HELPS TEACH TOMORROW'S LEADERS BY PROVIDING SEAMLESS INTEGRATION WITH WIRED NETWORK

Summary

Industry: Education

Objective:

- Provide students, faculty and admin staff with wireless access to educational resources
- Design a wireless LAN that can be upgraded easily and modified in the future
- Deliver state-of-the-art wireless security

Solutions:

- NHTV systems integrator, Vosko
- Networking, deployed the Wireless LAN Portfolio
- RingMaster Software WLAN management suite
- Security is based on IEEE 802.1X authentication and redundant RADIUS servers

Results:

- RingMaster Software automates and simplifies wireless LAN deployments
- Virtual LANs give each segment of the university's population secure access to their specific system resources, applications and peripherals
- Identity-based networking assigns users' access policies, authentication and encryption requirements, roaming policies and quality of service parameters

For more than 40 years, NHTV Breda University in the Netherlands has been training students for management positions in such fields as hospitality, logistics, media and entertainment, tourism, and urban and rural planning.

The university, which offers courses in both Dutch and English, is located on a five building campus in historic Breda, where more than 6,000 students from around the world come to learn the more practical aspects of their chosen fields through hands-on experience.

To facilitate this process, the education department at NHTV wanted to offer students and its 500-member faculty a more flexible way to work and learn.

Objective

The goal was to provide students and employees with access to a variety of information resources, such as educational software and the Internet, regardless of where they are on campus and what kind of laptop or what version of Windows they use.

The university was interested in designing and deploying a wireless network that could be easily upgraded and modified in the future, and it needed to have the ability to deliver state-of-the-art security with robust authentication.

Solution

NHTV worked with Dutch integrator Vosko Networking, which recommended Juniper Networks® Wireless LAN Portfolio to meet the university's needs. The Wireless LAN Portfolio consists of Juniper Networks WLC Series Wireless LAN Controllers, WLA Series Wireless LAN Access Points, and an operating system.

Juniper stood out among wired and wireless network equipment providers with its ability to provide robust, secure wireless that could scale dramatically, yet still be easy to design and manage.

For wireless LAN planning, management, monitoring and performance optimization, NHTV used the Juniper Networks RingMaster Software suite. RingMaster Software automatically factors in wireless LAN capacity based on bandwidth requirements and RF coverage based on AutoCAD files of the building's floor plan.

On the security front, the NHTV campus network utilizes IEEE 802.1X mutual authentication, which ensures that users are who they say they are when trying to connect to the wireless and that the wireless LAN is a legitimate network. NHTV uses RADIUS servers to support 802.1X, as well as to support user authorization and accounting.



“The collaboration between our IT staff, our system integrator Vosko and Juniper Networks’ pre and post support teams has been instrumental in a seamless and problem-free implementation and integration of our wireless network.”

—Ferry de Jong, ICT Department Head,
NHTV Breda University

Result

“It’s unique for the Netherlands that over 6,000 students and employees have full, secure wireless Internet and application access through their laptops at all NHTV campus locations,” says Ferry de Jong, head of the Information and Communications Technology Department at NHTV.

Juniper Networks RingMaster Software facilitates easy network management, so the entire wireless LAN can be configured, monitored and controlled from a single location. NHTV’s more than 200 WLA Series Wireless LAN Access Points don’t require any configuration upfront; all intelligence is handled centrally by the WLC Series Wireless LAN Controllers. As a result, management of the network is completely centralized at the NHTV IT department.

This centralized management not only makes the wireless LAN simpler to manage, it makes the wireless LAN more secure, because a stolen or lost access point will not work without the intelligence provided by its WLC Series Wireless LAN Controllers. The WLC Series Controllers also contain backup configurations for specific fail-over scenarios.

NHTV particularly appreciates the design of the WLA Series access points, which can be installed on ceilings. Because WLA Series access points are designed to look like smoke detectors, physical security is greatly improved for this portion of the wireless infrastructure.

One of the unique characteristics of the university’s network is that virtual LANs (VLANs) are totally transparent and available throughout the complete infrastructure. Students, educators and other users are divided into functional groups and after the authentication and authorization process, users are automatically redirected to their own VLAN, where they can connect to their specific system resources, applications and peripherals.

With identity-based networking, users’ access policies, including VLAN assignments, authentication and encryption requirements, roaming policies and quality of service parameters follow them wherever they roam, regardless of whether they have a wired or wireless connection. Wherever students or educators are located on the NHTV campus, Juniper recognizes them as authenticated users and delivers continuous service to them.

“The collaboration between our IT staff, our system integrator Vosko and Juniper Networks’ pre- and post support teams has been instrumental in a seamless and problem-free implementation and integration of our wireless network,” says de Jong.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

Corporate and Sales Headquarters

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100
www.juniper.net

APAC Headquarters

Juniper Networks (Hong Kong)
26/F, Cityplaza One
1111 King’s Road
Taikoo Shing, Hong Kong
Phone: 852.2332.3636
Fax: 852.2574.7803

EMEA Headquarters

Juniper Networks Ireland
Airside Business Park
Swords, County Dublin, Ireland
Phone: 35.31.8903.600
EMEA Sales: 00800.4586.4737
Fax: 35.31.8903.601

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