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Converged Control

Management technology makes it possible to oversee wired and wireless networks from a single interface.

By Karen D. Schwartz



With a complicated array of networks that spans more than 300 buildings and 36 square miles, the information technology staff at the Los Alamos National Lab in Los Alamos, N.M., is in favor of anything that makes network management easier.

The IT department runs five unclassified wired networks with a wide range of technologies, though it is working to simplify the environment with virtualization. The staff has also begun building out a large wireless networking infrastructure based on **Aruba Networks** technology. The department already has deployed several hundred access points, but IT Chief Engineer Dale Land says the network will be much larger when it's finished.

Managing such a sprawling wired and wireless environment can be a challenge, to say the least. In addition to homegrown tools, the IT staff uses about a half-dozen commercial tools to manage the wired networks, including solutions from **CA Technologies** and **HP**, and it uses Aruba's centralized controller to manage the wireless network.

The IT team has long dreamed of managing both networks with a single tool, and remarkably, they are well on their way to making that dream a reality. For now, they are managing Network Access Control for both the wired and wireless networks using Juniper Networks' IC6500 Unified Access Control Appliance, a centralized NAC policy management server.

"If you are using a wireless device and you have to authenticate to get on our [wired or wireless] network, it goes through Juniper," Land explains.

"The idea of being able to manage all wired and wireless network functions together is definitely a goal because it would make things more efficient for operations and monitoring," Land says. "We're always looking for more consolidated management tools that will simplify the way we manage and allow us to have situational awareness of our network."

Tool Time

The new class of converged network management tools — including Enterasys' **Network Management Suite**, Aruba's Mobile Virtual Enterprise (MOVE), Cisco Systems' Prime Network Control System and HP's FlexNetwork — allows organizations to manage wired and wireless networks from the same console and can help improve network management, security and compliance.

"We're seeing convergence in virtualization, storage and other areas of technology, and it also makes sense in network management," says Frank Berry, CEO and senior analyst of IT Brand Pulse in Rancho Santa Margarita, Calif. "For network management, the benefits are obvious: It improves manageability and security while giving IT staff the tools they need to see what's happening to their traffic, from one end of the network to the other."

Wireless Health Check

The Defense Department's Military Health System is also moving to a converged network management infrastructure as part of MHS's WLAN 2.0

70%

Estimated maximum savings from operating an integrated access architecture compared with a legacy architecture.

SOURCE: "The Aruba Mobile Virtual Enterprise: The Next-Generation Network Access Architecture for the Post-Laptop Era," Aruba Networks

plan, which is due to roll out later this year. The ambitious networking project will add a host of capabilities, such as enterprise-level management and monitoring, wireless intrusion protection, wireless network management and simplified policy control. In the future, it will also be able to support real-time locating systems and Voice over IP. (February 2011)

These new features will require sophisticated converged management of wired and wireless networks, says Col. Jaime L. Rosado Jr., director of the Military Health System Cyberinfrastructure Services.

"These advancements will provide for a better end-user experience and enable the use of new wireless technologies that enhance both the management and operational capabilities of the WLAN," Rosado explains.

Tips for Making Converged Network Management Work

1. Configure the converged network management tool to meet users' needs as well the requirements of the existing infrastructure.
2. Establish quality of service metrics from the beginning; measure such things as network quality and performance; delay, jitter, echo and packet loss; burst and gap metrics.
3. Maintain enough capacity to handle the converged network now and for the next one to two years. The system should be scalable so that it can grow with the infrastructure.
4. Determine what level of security risk is acceptable to both the network and its users, and balance that with other parameters, such as speed.
5. Acquire in-house expertise to manage the converged network, and don't skimp on training