

CASE STUDY: FLOW INTERNATIONAL

Secure, Reliable, Cost-effective Wireless Networking for Global Firm with Cooperative Control Wireless LAN from Aerohive



A LEADER IN ULTRAHIGH-PRESSURE WATERJET TECHNOLOGY, Flow International selected Aerohive's Cooperative Control wireless LAN solution to provide consistent, secure, centrally managed Wi-Fi connectivity enterprise-wide.

Flow International Corporation is the world's leading developer and manufacturer of ultrahigh-pressure (UHP) waterjet technology for cutting and cleaning with nearly 60 percent market share. The company pioneered the use of a UHP waterjet as an industrial cutting tool and also invented, patented, and perfected the world's first abrasive waterjet system to cut hard materials up to 12 inches thick.

Flow provides state-of-the-art UHP technology to numerous industries including automotive, aerospace, job shop, surface preparation, food, and dozens more. Since 1974, Flow has delivered more than 9,500 waterjet and abrasive waterjet systems to customers in more than 45 countries. Headquartered

in Kent, Washington, Flow has approximately 900 employees with revenues approaching \$300 million annually.

The Challenge

Flow International grew rapidly over the years, much of it through mergers and acquisitions. New divisions were left largely to their own devices in terms of how their IT infrastructure was set up. "Their systems were built for pre-acquisition, not for a \$300 million enterprise," says Martin Walker, Flow's director of Global IT Architecture, Engineering, and Operations. "Nearly every site had a completely different network. It wasn't very robust or scalable."

This ad hoc environment extended to wireless LANs. Some of the company's 20 sites had no wireless infrastructure at all. Other sites had small office/home office-class equipment they had simply plugged in with minimal security or, in some cases, no security at all.

In 2007, Flow began planning a major overhaul of its entire global

IT infrastructure, which would include the wireless LAN. "Our goal was to create new opportunities for people to be mobile and work wherever they needed to work for maximum productivity," says Walker. "That required a robust wireless infrastructure. We would replace the mish-mash of SOHO-class equipment with a single, standard, industrial-strength, centrally managed and monitored wireless infrastructure."

A Compelling Alternative

At the time Walker began looking for an enterprise wireless solution, Flow had already selected Cisco as the vendor of choice for its core network and data centers. Walker had been conducting a wireless selection process that included Cisco and a number of other vendors. "They were all similar in cost and we didn't see any compelling reason to choose something other than Cisco, which would have given us a single-vendor network solution.

Then Aerohive contacted Flow International. "They seemed to address one of the key issues that companies like us have with controller-based access points," says Walker. "We have some larger sites, but also quite a few smaller ones. Deploying an expensive controller for just one or two access points in a small satellite office could become cost prohibitive." Aerohive's cooperative control access points (HiveAPs) require no network controllers or overlay networks. Without the need for a controller, HiveAPs continue to function, even if a WAN link fails. Aerohive's dynamic mesh failover enables network traffic to be routed around failures in the wired network by dynamically and automatically establishing a wireless mesh connection between neighboring HiveAPs using the second radio in the HiveAP.

In addition to resilience, Aerohive met Walker's demanding security requirements, including 802.11i (WPA2), wireless IDS, 802.1X authentication, rogue detection, integrated stateful firewall, and guest access control. And Aerohive provided

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Martin Walker
Director of Global IT Architecture
Flow International



centralized management and monitoring through the single, easy-to-use HiveManager console. Other pluses included support for Quality of Service and fast roaming.

Walker set up a lab environment with half a dozen HiveAPs provided by Aerohive. "I liked what I saw," says Walker. "Aerohive was doing way more for way less. And I felt like this could be a good partnership. It quickly became a 'slam dunk' decision. The combination of capability and value proposition led us to purchase HiveAPs for all of our sites worldwide."

Deployment

Flow began deploying HiveAPs in early 2008. First up was the Kent, Washington headquarters, which required 20 HiveAPs. Then followed Flow's facilities in Jeffersonville, Indiana; Bretten, Germany; Hsinchu, Taiwan; and, recently, Nagoya, Japan. "All of the APs have worked flawlessly," says Walker. "We haven't had any problems with any of them."

In Hsinchu, China, Walker found the legacy access points relying only on Wired Equivalent Privacy (WEP) keys for security. "While we'll be migrating those users to the more secure WPA2-Enterprise Aerohive WLAN, in the meantime we have pulled their old APs and simulated the same SSID on Aerohive," says Walker. As far as the users could tell, nothing had changed."

Walker is currently deploying HiveAPs at the 15 smaller offices scattered throughout Europe, Asia, and South America. "We pre-configure the access points here, ship them to the remote office, and have someone plug them in. We take it from there," says Walker. In all, more than 50 HiveAPs will be deployed.

The Aerohive access points integrate with Active Directory, ensuring a high level of security using EAP/TLS authentication and AES encryption. Walker is also using EAP-PEAP/MS-CHAP-v2 for casual users that are not certificate-based. "Aerohive was able to support that as well," says Walker. A group policy automatically creates wireless profiles for permanent users. Whenever a new laptop joins the domain, wireless access is available in minutes. "Even better, users can roam to any of our sites that have Aerohive APs, open their laptops, and it's as if they never left home," says Walker. "It just works."

Looking Ahead

In addition to upgrading the network, Flow is also migrating from its legacy JD Edwards ERP system to Microsoft Dynamics AX 2009. Inventory management is currently a manual process. Flow plans to utilize the bar coding capabilities of Dynamics AX and the Aerohive wireless LAN to give personnel on the factory floor real-time mobile access to access and update inventory data.

Another technology Flow International has plans to deploy is Voice over IP. Wireless devices are used today mostly to access systems such as Microsoft Sharepoint, an enterprise collaboration tool, and the JD Edwards ERP software. However, Walker feels the Aerohive WLAN positions Flow ideally to support VoIP over wireless as well as the fixed network infrastructure.



Contact Aerohive today to learn how your organization can benefit from a cooperative control wireless LAN architecture. Informative whitepapers, product datasheets, and other materials are also available at www.aerohive.com.

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