



Brigham Young University—Hawaii

Thanks to Avenda Systems 802.1X Wireless Deployment Causes No Waves



About Brigham Young University—Hawaii

Brigham Young University—Hawaii is an accredited four-year undergraduate institution with 2,500 students and 500 faculty and staff from more than 70 countries. BYU—Hawaii is a unique multi-cultural campus where spiritual as well as academic learning is encouraged among one of the most international student bodies in the U.S. No one will argue – students have the chance to live and learn in one of the most beautiful places on earth.

Introduction

You might think that things in Hawaii are casual and carefree. That may be the case if you are on vacation, but that's not the case for the network security team at Brigham Young University—Hawaii.

Far from laidback, the IT team at BYU—Hawaii constantly assesses the latest technology to help them protect the campus network, which provides network access for 3,000 users. With the goal of continuously improving network security, the IT team sought to add greater authentication and authorization to campus resources through the deployment of 802.1X access control. The challenge was finding the right solution to best facilitate ease of deployment and best limit any disruption of service to its users.

The Challenge: One Case Where Waves Not To Be Shared

While people of the Aloha State are generally friendly and open to sharing, BYU—Hawaii's wireless network could easily be accessed by anyone on or near the campus which was not appealing to Jim Nilson, BYU—Hawaii Associate VP of Technology (CTO). So, he challenged his IT team to find a solution to solve this problem – a solution that worked with their existing infrastructure and was cost effective.

Mark Aughenbaugh, Infrastructure Director at BYU—Hawaii, was tasked with locking down the university's wide-open wireless network. "Besides the open access problem, a big issue for us was being able to capture more information about the users accessing our wireless network," he said. "We had no way of knowing who was on our network, or how the network was being utilized."

In addition to the obvious hazards of having anyone and any machine connect to the network, it was also important for the university to identify network users who might be doing something inappropriate. As Aughenbaugh explained, all BYU—Hawaii students are required to sign an honor code of conduct.



If someone violates a conduct policy, such as downloading inappropriate material, the IT team needed a way to identify the student as required by the Honor Code Office. With no way to identify users, and reporting a violator was next to impossible, he said.

“We wanted to start by securing the wireless network, but our long-term goal is to phase in the authenticate users on our wired network as well,” Aughenbaugh said.

Replacing A Troublesome Solution

BYU–Hawaii had tried to use Cisco’s Clean Access solution in attempts to secure its wireless network, but there were usability and reliability issues, said Aughenbaugh. Since BYU–Hawaii’s network is made up of a mixture of 240 access points from Cisco and Xirrus, a key requirement for the new solution was to work in a multi-vendor environment.

“With the Cisco solution, anyone could still connect to the network as a guest,” he said. “In addition to reliability issues, the Cisco solution required significant effort for configuration, management and profile creation.”

Aughenbaugh knew if they were going to successfully move to an 802.1X deployment, they needed a new solution. 802.1X is an IEEE Standard for port-based Network Access Control (NAC), providing an authentication mechanism for users and devices attempting to connect to a LAN or wireless network.

The Move to Hassle-free Authentication

After learning about new access control solutions at an annual EDUCAUSE conference on the mainland, BYU–Hawaii conducted a competitive bakeoff between Cisco’s latest version of Clean Access, Impulse Point’s Safe-Connect, and Avenda’s eTIPS identity-based policy platform.

“Considering our previous experience with Cisco’s product, our evaluation really came down to Avenda and Impulse,” Aughenbaugh said. “Avenda proved to be a very feature rich product with competitive add-on value and pricing, and they were the easiest company with which to work. Avenda’s support team was very responsive and knowledgeable, which is a big deal for us since we have only three IT people to support our entire network and nearly 3,000 users.”

According to Aughenbaugh, Avenda was the only solution that BYU–Hawaii tested to natively support 802.1X wireless, wired, and VPN for authentication and authorization, which was a key reason that the team selected eTIPS over the other solutions.

“In addition, Avenda was a lot more flexible to use, and supports more platforms than the other solutions,” he said. “Regarding policy enforcement, Avenda is the farthest down the road in this capability, as well. To help configure endpoint devices for our specific 802.1X wireless network we chose to use Avenda’s Quick1X product. With Quick1X, we were able to easily get our clients 802.1X ready without a major burden.”

Added BYU–Hawaii’s John Call, Systems and Network analyst, “We’re very happy with Avenda’s fluid and dynamic user interface – for example, the ease of configuration when adding new services is unmatched. When using the eTIPS predefined service templates, it took longer to explain how a policy will work than actually configuring the policy. Avenda has simplified policy creation and deployment down to easy-to-digest elements that get things up and running very quickly. The built-in reporting and trouble-shooting tools are very robust and provide the visibility that we were missing.”

Replacing a Troublesome Solution



“BYU–Hawaii tried to use Cisco’s Clean Access solution in attempts to secure its wireless network, but there were usability and reliability issues”

Doing it the Customer's Way

The Avenda eTIPS solution consists of a hardened network appliance, a powerful policy engine, and all of the built-in applications needed to secure today's network access requirements – guest access management, differentiated access, compliance reporting, and more. It is the only solution that centrally manages policies across all access methods and networking vendors' equipment, supports all endpoint devices (managed and unmanaged), and allows users to create fine-grained policies that combine attributes from any existing identity stores (AD, LDAP, Token Server, etc.).

According to Call, Avenda's attention to policy-based configuration and its extensive integration with a myriad of data sources, such as Active Directory, allowed the IT team to deploy security in a fashion that best suits its environment, instead of being forced to change the way it does business.

"Except for Avenda, other vendors come in here and tell us that in order to make their products work we have to change how we operate," he said. "The other vendors expected us to manually recreate much of our users' information into their appliances, and wouldn't allow us to leverage group and user attributes already configured in our Active Directory. This would have been a duplication of effort and a big waste of time. We needed a quick and easy deployment, not a headache. Avenda was able to relieve the pain.

Improved Visibility and Troubleshooting



Avenda has been much better received by users because there are few calls to the helpdesk.

Avenda's Quick1X tool provided an added advantage for the IT team at BYU-Hawaii, which was able to streamline the process for making users' laptops 802.1X ready. A portal was used that enabled each user to run the Quick1X wizard with a predefined configuration template to streamline the process and remove the help desk from having to configure each and every laptop.

The Results Come Rolling In

Following the hassle-free rollout, Aughenbaugh said he quickly began controlling and differentiating access to the network and determining what users were doing once on the network.

"The Avenda solution has allowed us to easily resolve our previous issues. Because it works so well, we can start looking at deploying network security for our other network access methods," he said. "Our main goals have been achieved, and now we have network visibility that we didn't have before, which provides user information and details about the usage and performance of our wireless network."

He said in comparison to the previous solution, Avenda has been much better received by users because there are few calls to the helpdesk. For example, users don't have to re-authenticate when roaming from one part of campus area to another, which saves time and reduces stress on the students and faculty.

"Avenda has been very good to work with, and very responsive," Aughenbaugh said. "I don't hear from people about issues – and in IT no news is good news. That's an added bonus of going with the Avenda solution."

Call added, "I've been most impressed with the quality of Avenda's professional services and technical support. Avenda's support team has demonstrated a sincere concern for the success of our project, and exceeded my expectations in their responsiveness and skills."

Looking Beyond The Horizon

Leveraging Avenda's capabilities, Aughenbaugh said he envisions BYU-Hawaii turning on wired 802.1X authentication across the campus. Another goal would be to enable Avenda's comprehensive NAC health check enforcement capabilities, as an example, to allow access to the network for only those devices with up-to-date virus, spyware, and firewall protection.

But today, while the IT team can't relax or take a vacation from its responsibilities regarding network security, it is enjoying an easier time with greater visibility and improved security on its wireless network.



Aloha...

To Learn More

For further information regarding Avenda eTIPS and Quick1X solution, visit:

<http://www.avendasys.com/products/>



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