Extreme Networks Policy-Driven Switching Provides Open, Secure Network Access from Any Device

CASE STUDY

University Stats:

- Networking IT Staff: 6
- Students: 17,838
- Faculty/Staff: 2,892
- Locations: Main campus with 75 buildings

Industry:

- Higher Education

Challenges:

- Providing an open, secure BYOD network
- Providing a consistent user experienceSecurity with server virtualization
- Ease-of-management

Products Utilized:

- K-Series modular switch
- S-Series standalone switches
- OneFabric Control Center
  - NetSight network management

Results:

- Secure, policy-driven infrastructure
- Seamless user experience
- Robust management of switches

Introduction

Nestled in the Blue Ridge Mountains of North Carolina, Appalachian State University combines the best attributes of a small liberal arts college with those of a large research university. Known for its value and affordability, Appalachian enrolls about 17,000 students and offers more than 150 undergraduate and graduate majors. Appalachian, located in Boone, N.C., is one of 16 universities in the University of North Carolina system.

In order to support mobility, BYOD and virtualization, Appalachian knew they needed a way to protect their campus network and ensure the safety of students while providing faculty, staff, students and guests with fast and reliable network access. Appalachian selected Extreme Networks to provide an open, yet secure, educational network infrastructure that can be easily accessed from any device – providing a consistent user experience.

Enterprise's Challenge

Like many universities, Appalachian faced security challenges inherent to providing an open network while mitigating security risks. With over 20,000 users each bringing an average of two devices, and trending toward an average of three to four, Appalachian required a way to easily manage the on-boarding and authentication of upwards of 50,000 devices.

While providing open network access, the University needed a way to ensure the security of the network and the availability of key applications such as Moodle (LMS), Banner (ERP), Droople (CMS), Google Apps and Gmail. If network traffic threatened to take the network down, Appalachian needed a way to identify and eliminate it immediately.

As a university that was well ahead of the BYOD-curve, Appalachian always allowed students to bring any device; however, they had encountered problems, such as students bringing in routers and turning them into a DHCP server for the campus. Appalachian's IT department sought the ability to push policy and get a best practices rule set out to the edge as quickly as possible.

Extreme Networks Solution

When it came to upgrading their switching infrastructure, Appalachian chose Extreme Networks to implement policy-driven switching using Extreme Networks' Distributed Forwarding Engine Switching architecture, NetSight Console and Policy Manager Software. The solution allows Appalachian the unique ability to quickly push policy out to the edge. "No one else had the full level of policy that Extreme Networks had; a few vendors could do some policy but they didn't have the management platform to push it out across the network," said Dave Hayler, Director of IT Infrastructure & Systems at Appalachian State University.

The policy feature and functionality of the Extreme Networks switches allows Appalachian to onboard devices without knowing who they are. Devices are quarantined into an area that allows IT to assess the machine, to posture their authentication and put them into the appropriate security zone. "Extreme Networks provides the ability to identify traffic that is taking the network down, write a policy that would attack that traffic and within minutes push a policy to every switch in the network to eliminate it," says Hayler.

The Extreme Networks switches also have the ability to authenticate multiple unique users per port which was important to Appalachian in ensuring that users receive the same experience from wherever they are on campus. Additionally, the robust NetSight network management platform truly manages the switches, saving the IT staff countless hours of troubleshooting and stabilizing the network.

Results

Through policy-driven switches, multiple user authentication and robust network management capabilities, the Extreme Networks upgrade allowed Appalachian State University to provide secure, open network access and a positive end user experience.

1. **Policy-driven infrastructure.** According to Hayler, the biggest benefit of the upgraded switches has been the ability to identify bad traffic, write a policy or rule for it and eliminate it from network before it gets to the core. "We rely heavily on the Extreme Networks policy function – it just works. If we see a problem with malicious traffic, we just write a policy and push it to the edge, and even if it's just an individual or two, we can quarantine them with just a few clicks of a mouse," he says.

2. **Seamless user experience.** For Appalachian, it's all about the user experience and perception, which is why they selected the K-Series switches. The switches give eight authentications per port, allowing users to have the same experience wherever they are on campus. The ability to authenticate multiple unique users per port means that students can collaborate in the faculty environment without being able to get to the things they shouldn't.

3. **Robust switch management.** With NetSight, the IT staff is benefiting from being able to centrally manage and deploy changes without having to physically touch each piece of equipment. The network management platform also helps mitigate some of the complexity of the system, increasing the productivity of the IT team. According to Hayler, "NetSight is the best kept secret in the networking world; no one else does it as well as Extreme Networks. In looking at our peers, we can do more with fewer people because of Extreme Networks and NetSight."

As a customer that has had a long-term relationship with Extreme Networks, Hayler says, "The Extreme Networks products have stood the test of time and have been rock-solid. I have never had any issues with the switches or the deployment and the support has always been top-notch." He also says that the interoperability of Extreme Networks is perfect, enabling their heterogeneous network to run smoothly.

Impressed with the "awesome" Extreme Networks access layer switches, Appalachian is planning to add more K-Series switches for their chassis-based performance, NetSight management capability and lifetime warranty. They are also excited about the prospect of implementing an Extreme Networks stadium deployment at the athletic center and discovering how analytics can provide the value needed to fully fund the deployment.