

CASE STUDY

# UTAH STATE PARTNERS WITH ARUBA TO DELIVER A SECURE GIGABIT WI-FI EXPRESSWAY

To support mobile device growth and deliver an exceptional mobile experience, Utah State University adopted an Aruba Networks WLAN for seamless, secure, reliable Wi-Fi.



To transform the equivalent of a 2-lane road into a 12-lane expressway, Eric Hawley needed a Wi-Fi technology partner that could deliver a secure, scalable, centrally-managed WLAN to serve facilities spread over 7,000 acres.

“We needed an adaptive Wi-Fi infrastructure that could accommodate the daily, hourly and even momentary changes in our environment,” explains Hawley, CIO for 28,000-student Utah State University, a land-grant research institution based on a 400-acre campus in Logan, Utah, with regional campuses, extension offices and other facilities spread across terrain ranging from mountainous to desert.

“In addition,” Hawley continues, “we required the ability to handle exploding growth, as it’s become common to see a 40 percent increase in wireless devices from one month to the next – particularly during major gifting seasons.”

Most importantly, USU sought to deliver the same performance, reliability and security benefits of a wired network in a wireless system. “We wanted our wireless platform to be as reliable as a wired system – no excuses,” Hawley says.

**BENEFITS**

- Aruba 802.11ac Wi-Fi helps provide connectivity across a 400 acre main campus and the 7,000 acre system.
- Scalable Aruba WLAN, with ClientMatch™, enables seamless Wi-Fi experiences throughout indoor and outdoor facilities.
- Provides wire-quality Wi-Fi in high-density educational spaces, challenging research climates and demanding residential environments.
- Aruba ClearPass Access Management System™ helps provide secure wireless mobility and manage eduroam.
- AirWave™ Network Management delivers reliable, high performance wireless to over 28,000 students, faculty, administrators, staff and guests.



**“Our scalable Aruba WLAN, with Gigabit Wi-Fi capabilities, ClearPass and AirWave, ensures seamless connectivity for students, educators, researchers, staff and guests.”**

**Eric Hawley**  
CIO, Utah State University

## ARUBA SOLUTIONS & EXPERTISE ARE AHEAD OF THE REST

To start the \$1.5 million initiative, USU conducted a comprehensive, multi-vendor evaluation, which included the capability to supply Gigabit Wi-Fi infrastructure. Among other contenders, the university considered its existing Wi-Fi provider, Meru Networks, as well as Cisco Meraki and Aruba Networks®.

“We were very impressed with Aruba’s adaptive capabilities in the ever-changing scenarios inherent with high-density environments,” says Hawley. “The intelligence engineered into Aruba solutions was evident and provided the features and functionality we needed.”

“Also, Aruba was an excellent advisor,” he adds. “Having great technology advisors is critical for us.”

Another plus for adopting Aruba was its strategic partnership with local integrator, Red Sky Solutions. “Red Sky has done an absolutely fabulous job,” Hawley says. “They matched our needs and goals with the best technology.”

## SECURE, RELIABLE AND SCALABLE ARUBA WLAN INCLUDES 802.11AC

For Wi-Fi throughout USU’s indoor spaces and student-centric outdoor areas, the university chose to install 2,600 Aruba indoor and outdoor access points (APs) along with Aruba mobility controllers.

Adopted solutions include Aruba’s 802.11ac -enabled APs which can deliver Gigabit speeds, to support the exploding number of devices on the network.

Together, these solutions represent fundamental elements of Aruba’s secure, reliable and scalable enterprise mobility architecture. They enable USU to meet the needs of its increasingly #GenMobile student, faculty, staff, administrative and guest user populations. #GenMobile are the new breed of technology users defined by their strong preference for mobility.

### Powerful Solutions That Fit Educational Budgets

While powerful, Aruba solutions also fit educational budgets. “For example, in our most difficult brick, cinderblock, cement and rebar older tower dormitories, we chose to install Aruba’s dual-radio wall mount AP-103H APs,” notes Hawley.



These compact APs deliver quality Wi-Fi experiences for end users while being cost-effective and easy to deploy. And, in challenging research environments, Aruba equipment also meets the demands. “We’re using Aruba outdoor APs in our water research lab,” says Kevin Grover, IT Network Manager for USU. “The units can stand up to the difficult high humidity climate conditions.”

## SUPERIOR USER EXPERIENCES WITH ARUBA CLIENTMATCH™ AND APPRF

With USU’s new WLAN, users enjoy seamless movement between enabled facilities via patented ClientMatch. This technology prevents “sticky clients” by intelligently and seamlessly pairing wireless devices with the best available AP based on signal strength, traffic load and connection type.

### Intelligence and Automated Optimization Fine-tunes Wi-Fi Performance

Additionally, Aruba’s next generation mobility firewall with AppRF continuously evaluates mobile app usage and performance. Then, it automatically makes real-time network configuration adjustments to provide optimal bandwidth, priority and paths based on user-centric policies. This assures critical apps have priority and maximizes available Wi-Fi resources.

“We leverage AppRF to make sure streaming media usage doesn’t interfere with other important applications,” says Grover.

### ARUBA AIRGROUP HELPS TAME LARGE-SCALE APPLE BONJOUR DEPLOYMENT

Another capability USU relies on is Aruba AirGroup. With AirGroup, it’s incredibly easy to wirelessly share media that use Apple Bonjour services, like AirPlay, from mobile devices. Simultaneously, AirGroup ensures high quality-of-service (QoS).

For a large organization like USU, AirGroup is particularly helpful for managing and simplifying AppleTV deployments. “Previously, we were unable to allow mobile device connections through AirPlay as the list of available Apple TVs would include every unit in the system,” explains Hawley. “That would be over 1,000.”

“With Aruba’s AirGroup,” he continues, “we’re able to implement geographic awareness. This enabled us to permit mobile connectivity because users only see a list of AppleTVs within their proximity.”

### SECURE, RELIABLE WI-FI WITH ARUBA CLEARPASS & AIRWAVE

To securely and efficiently manage such a large WLAN, USU also invested in two Aruba vendor-agnostic management tools. These include both ClearPass and Airwave.

#### ClearPass Supplies the Robustness of Wired in a Wireless Network

With ClearPass, USU gains the robust security features of a wired network in a wireless environment. In a nutshell, ClearPass combines context-based policy management with next-generation AAA (Authentication, Authorization, and Accounting) services for secure #GenMobile connectivity.

Such capabilities assist with comprehensively managing network access policies, onboarding and managing devices securely and admitting guest users — all from a single platform.

#### Easing Management of Eduroam

At USU, ClearPass is facilitating the institution’s eduroam deployment, which provides secure worldwide federated network access service for the international research and education community. “With ClearPass implemented at our campus, it’s helping us manage our eduroam deployments and certificates,” Hawley says.

“Aruba’s adaptive, built-in intelligence addresses current needs and future demands”

For students, this translates into more widely available access to the popular international roaming service. “I’m happy eduroam is up and running in my dormitory, now,” says an international student resident.

#### AirWave Ensures Healthy Wi-Fi Network

For ensuring the overall health of its WLAN and minimizing IT administration costs, USU leverages AirWave for critical and granular visibility into its entire Wi-Fi network. This includes real-time and historical information on types of devices logging on, the specific access points devices are connected to and the total number of devices on the network to enable proactive capacity planning for the network’s evolution.

#### Total Visibility and Control for Improved Operations

With AirWave, USU enjoys a map-like interface, which provides a visual representation of each AP, and its location, at every facility. This visualization includes the number of users connected to a specific AP and whether they’re using a corporate-owned or BYOD device. Such capabilities assist with diagnosing issues as well as planning for where APs are needed – or whether other steps should be taken – to maximize performance.

In addition, AirWave’s VisualRF™ feature not only provides current and historical device information, but also reports on applications and their performance. With such visibility, problems that previously took hours to resolve can be done in minutes. This provides substantial savings through operational efficiency, reduced downtime and consolidated management toolsets.

#### Pinpointing Interference Speeds Resolutions

AirWave also provides an unprecedented view into sources of signal interference. Like any large institution, USU has a range of devices on its campuses that can cause interference, such as Bluetooth gear or microwave ovens. With AirWave, IT staff can visually see the sources of interference, enabling mobile devices to be moved automatically to a cleaner channel.

"We love AirWave for the visibility it gives us," says Grover, "It also helps us save time with troubleshooting."

### FROM CLASS ROOMS TO DORM ROOMS, ARUBA COVERS IT ALL

Today, USU students and educators have Wi-Fi they can depend on. "Across our organization students can now rely on wireless for classroom activities, research, accessing our learning management system, using our scheduling application and much more," says Grover.

"We even have a new student portal under development," he continues. "With an average of over 18,000 devices on the network, none of this would be possible without our solid Aruba wireless infrastructure."

Dormitory residents are equally pleased. "We've received nothing but compliments for upgrading the wireless and for installing a system that works reliably," says Larry Pope, IT Systems Administrator for Housing and Dining Technology Services at USU.

Students agree. "There is a huge improvement in our Wi-Fi," says one resident. "With faster access I'm able to do homework in my room. And, I'm able to stay connected to our Wi-Fi network wherever I go."

Overall, Hawley expects USU's Aruba WLAN to meet the organization's needs for years to come. "Aruba has such broad offerings, we can choose the equipment that's optimal for any particular circumstance, he says.

"With Aruba, we can count on compatibility regardless of devices or chipsets," adds Hawley. "Whether it's content, video or Voice over IP, Aruba assists us with making the wireless experience indistinguishable from wired."



### ABOUT ARUBA NETWORKS, INC.

Aruba Networks (NASDAQ:ARUN) is a leading provider of next-generation network access solutions for the mobile enterprise. The company designs and delivers Mobility-Defined Networks that empower IT departments and #GenMobile, a new generation of tech-savvy users who rely on their mobile devices for every aspect of work and personal communication.

To create a mobility experience that #GenMobile and IT can rely upon, Aruba Mobility-Defined Networks™ automate infrastructure-wide performance optimization and trigger security actions that used to require manual IT intervention. The results are dramatically improved productivity and lower operational costs.

Based in Sunnyvale, California, Aruba has operations throughout the Americas, Europe, Middle East, Africa and Asia Pacific regions.

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