



THE UNIVERSITY OF UTAH

Trapeze Smart Mobile™ Delivers Campus-wide Mobility for 45,000 Students, Faculty, and Staff at University of Utah

With approximately 30,000 students and 15,000 faculty and staff, the University of Utah is virtually a city unto itself. The campus spans more than 1,500 acres along the eastern edge of Salt Lake City, comprising some 200 buildings set against the breathtaking Wasatch Mountain Range. As the state's flagship institution of higher education, "the U" is a major center of research in the sciences, medicine, and numerous other fields.

TRAPEZE DELIVERS CAMPUS-WIDE, SEAMLESS ROAMING

In past years, the University had created pockets of wireless network access scattered across the campus, using "fat" access points (APs). But when the University decided to create a centrally managed network to provide ubiquitous, campus-wide wireless access, the fat AP approach was no longer feasible. Fat APs act as autonomous devices, making it exceedingly difficult to manage an extensive network that requires hundreds or thousands of APs acting in a coordinated fashion.

Instead, the University decided to deploy wireless technology specifically designed for centralized control and management. "Our primary goal was to provide secure, campus-wide mobility for students, faculty, and staff," said network engineer Robert Wineriter. "Our biggest need was seamless roaming to allow people to cross campus without losing their session." The University evaluated several vendors—including Cisco and Aruba Networks—and selected Trapeze.

UNMATCHED CUSTOMER SERVICE AND SUPPORT

In addition to fundamental requirements of seamless roaming and strong security, the University wanted a vendor that fully adhered to industry standards and provided excellent customer service. Trapeze best met the requirements on all counts. "Trapeze's customer service has been better than any other vendor we have ever dealt with," said Wineriter. "Trapeze focuses on wireless, giving us everything we need to create a seamless wireless network for the campus, without adding unnecessary components that we already have, such as firewalls."

ROLLING OUT ONE OF THE WORLD'S LARGEST WLANS

As one of the world's largest university wireless deployments, Utah's campus-wide network is being rolled out in phases. The Trapeze wireless network is currently deployed in 47 buildings on campus. Some 600 Mobility Point® access points are in place—out of an expected total of 2,200 for indoor coverage—and are coordinated by 14 Mobility Exchange® controllers. The entire network, comprising all Mobility Point access points and Mobility Exchange controllers, is managed using RingMaster®, Trapeze's industry-leading network management software suite.

The University will add outdoor coverage as well, deploying additional Trapeze Mobility Point access points that are specifically designed for outdoor, mesh-like networks. But unlike a separate mesh network, the Trapeze Smart Mobile outdoor network will be seamlessly integrated with the University's indoor wireless network, running the same Mobility System Software® and offering the identical enterprise-class set of features.

DESCRIPTION

Major institution of higher education based in Salt Lake City, with 30,000 students and 15,000 employees. The campus comprises more than 200 buildings sprawled over more than 1,500 acres.

OBJECTIVE

- Deliver wireless support for 45,000 students, faculty, and visitors
- Ensure high level of WLAN security
- Enable future expansion and additional wireless applications through highly scalable WLAN infrastructure
- Provide ease of configuration and management

SOLUTION

- Evaluated over a half dozen vendor solutions before selecting Trapeze
- Deployed Trapeze WLAN, currently with more than 600 Mobility Point access points in place (out of planned 2,200)

RESULTS

- WLAN roll-out currently provides seamless roaming across approximately 25 percent of campus
- Robust security with 802.1X
- Ongoing roll-out will extend coverage to support entire campus
- Coverage to be expanded to outdoor areas in addition to indoors, providing seamlessly integrated indoor/outdoor WLAN with enterprise-class security and mobile application support
- Centralized WLAN management through RingMaster simplifies configuration, deployment, maintenance, and monitoring with minimal IT resources

SIMPLIFIED WLAN MANAGEMENT WITH RINGMASTER®

Planning, deployment, and ongoing management of a wireless network of such scale are major undertakings. The University's use of RingMaster has greatly simplified these tasks. Using RingMaster's automated planning capabilities, the University was able to import CAD floor plans of campus buildings, leverage CAD layer data to identify radio frequency (RF) obstacles, assign attenuation factors to those obstacles, and automatically compute optimal, multi-floor coverage plans, including the number and placement of access points on each floor. The use of RingMaster enabled the University to configure all wireless network devices and parameters in a centralized and streamlined fashion. Ongoing management is also handled through RingMaster, which allows the University to centrally monitor, manage, and maintain the entire campus-wide network with a staff of just three wireless network engineers.

“Trapeze’s customer service has been better than any other vendor we have ever dealt with.”

— Robert Wineriter,
Network Engineer
University of Utah

WIRELESS MOBILITY FOR EVERYONE

Today, the University's wireless network provides extensive mobility for students, faculty, and staff to access University network resources, browse the Internet, and send and receive email. The infrastructure is now in place to support a broad range of mobility applications, including voice over Wi-Fi, which the University expects will experience growing demand.

In addition, wireless is being used to support some innovative applications. For example, the University's Utah Museum of Fine Arts—one of the state's leading art collections—uses the wireless network, in conjunction with wireless barcode scanners, to track inventory of exhibits. The museum is also planning to stream media applications over the wireless network directly to exhibit locations, providing sound and video information for museum visitors.

A NETWORK FOR THE FUTURE

In the future, the University will adopt 802.11n technology to support high-bandwidth applications such as streaming of large video and multimedia files. Once the 802.11n standard is finalized, the University will begin a phased approach to incorporate 802.11n access points into their wireless network on a building by building basis. “With Trapeze, we now have a seamless wireless foundation that we can enhance and extend as our requirements grow and change,” said Wineriter.



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