

CASE STUDY



LAMAR UNIVERSITY

OVERVIEW:

Founded in 1923, Lamar University is a doctoral research institution located in Beaumont, Texas. One of the fastest growing universities in the state, Lamar is a member of the Texas State University System with over 14,000 students and staff and a campus spanning more than 270 acres.

REQUIREMENTS:

- Unified indoor/outdoor 802.11ac infrastructure centrally managed
- Ability to adapt to a variety of different building and environments
- Higher density user connectivity per AP
- Elegant and easy to provision BYOD framework

SOLUTION:

- 500+ Ruckus ZoneFlex 802.11ac indoor and outdoor Smart Wi-Fi access points
- Redundant ZoneDirector 5000 Smart WLAN controllers
- Ruckus SmartCell Insight reporting/analytics platform
- CloudPath BYOD auto onboarding

BENEFITS:

- High performance Wi-Fi even in dense classrooms and auditoriums
- Lower total cost of ownership compared to other 802.11ac alternatives
- Improved coverage with fewer APs and more stable Wi-Fi connections
- Unified indoor/outdoor campus-wide high performance Wi-Fi infrastructure
- Detailed WLAN analytics and high availability centralized Wi-Fi administration

LAMAR GOES BIG WITH RUCKUS SMART WI-FI IN CAMPUS-WIDE 802.11AC UPGRADE

A member of the Texas State University system and one of the fastest growing universities in Texas, Lamar University (Lamar) needed faster and better Wi-Fi everywhere to deal with the growth of smart mobile devices and students, faculty, and staff demanding wireless access. Based in Beaumont, Texas, Lamar is situated on a massive 270-acre campus about 90 miles east of Houston. Until recently, Wi-Fi at Lamar was provided simply on a best efforts basis. Conventional access points were littered throughout select buildings. But as more and more curriculum went digital and students and faculty moved online, something needed to change.

Client densities and capacity demands for Wi-Fi were exploding. So was Lamar's legacy Wi-Fi network. Lamar needed a new cost effective 802.11ac Wi-Fi infrastructure that would provide pervasive coverage and gigabit-class performance to more than 14,000 students and faculty across some 64 buildings on campus.

Not only were personal Wi-Fi powered devices now ubiquitous, but Lamar was quick to realize that a robust, reliable, and fast wireless network was critical to recruiting students, becoming one of the top deciding factors in the decision making process and essential in the competitive higher education market.

"Given today's higher education environment, having a carrier-class Wi-Fi infrastructure is an indispensable tool for delivering a 21st century education and critical for recruiting a new generation of tech savvy students that now expect a world-class online experience," said Pricilla Parsons, Vice President of Information Technology at Lamar University. "The innovations Ruckus has made to transform Wi-Fi from a technology of convenience into a reliable utility is helping us achieve our vision to deliver a world-class wireless experience everywhere on campus."

In IT surveys Lamar conducted, students and staff identified better Wi-Fi coverage, speed and reliability as an essential need.

"It became very clear that our faculty and students wanted to infuse new and better technology into the educational learning experience, and rock-solid Wi-Fi was at the top of their wish list," said Parsons. "Our users needed faster and more stable access to coursework, e-books, video and other digital curriculum tools that enrich the educational process. Our existing wireless network simply couldn't support the new levels of technology being put in place," she said.

Interactive classroom and student response systems, such as Top Hat, used to increase student engagement during lectures using smart mobile devices, as well as Blackboard, Lamar's Learning Management System (LMS), were a few of the many applications driving the need for a more robust Wi-Fi infrastructure. But as campus educators began using the LMS to augment classroom learning with high bandwidth intensive applications and streaming video, Lamar's legacy network couldn't cope.

Another big Wi-Fi challenge was improving connectivity within and between the 64 buildings on campus—these included a variety of modern and historic structures, from auditoriums and theaters to classrooms and labs. Many of the buildings were constructed with RF-unfriendly materials such as concrete and lathe and plaster. And for some buildings, it was not feasible or cost-effective to run fiber drops to backhaul Wi-Fi traffic. Lamar wanted to be able to use long range point-to-point/multipoint 5Ghz Wi-Fi to extend broadband connectivity between several of Lamar's more strategic buildings. This would save them thousands of dollars each month.



"We deploy the right technology for the right purpose at the right price. For a reliable and scalable Wi-Fi infrastructure that could deliver pervasive performance, that meant Ruckus Wireless."

PRISCILLA PARSONS

Lamar University, VP of Information Technology

Finally, Lamar wanted IP video security cameras in all campus parking lots, but the cost of running network connections was well above the available budget. They hoped to use wireless connections to streamline and reduce the cost of deploying new outdoor IP video security cameras.

After evaluating competitive suppliers, Lamar settled and standardized on the Ruckus ZoneFlex Smart Wi-Fi system. Lamar is deploying hundreds of Ruckus 802.11ac indoor and outdoor access points across the entire campus as well as ZoneFlex Wi-Fi bridges to extend broadband connectivity to buildings where running fiber is cost prohibitive.

Ruckus Smart Wi-Fi APs are being managed by redundant ZoneDirector 5000 WLAN controllers centralized within Lamar's data center. What's more, Lamar didn't need to replace its existing power over ethernet switches with PoE+ since Ruckus 802.11 .11ac APs provide full functionality within the 802.3af PoE standard.

To gain a greater understanding of the use of, and trends related to, the new Smart Wi-Fi network, Lamar installed Smart Cell Insight (SCI). SCI is powerful analytics and reporting platform that transforms traditional statistics and reporting into a vital business tool, collecting, analyzing, parsing, presenting, and storing unprecedented amounts of user, traffic, and session information for 5 to 7 years.

GRADING THE WI-FI

"The performance per [Ruckus] AP was far beyond anyone else we looked at," said Patrick Stewart, Director of IT Infrastructure at Lamar. "With Ruckus, we achieved much greater coverage and performance with two thirds the amount of equipment and fewer cable drops than we would have needed with competitive alternatives."

"In testing the Ruckus outdoor APs, we were amazed to see over 450 concurrent client connection on a single AP without performance degradation," said Stewart. With other APs, we were only able to connect between 50 to 70 clients before we dropped connectivity."

With Ruckus, Lamar now has a scalable, reliable, and high-speed, carrier-class Wi-Fi infrastructure that will serve any new requirements well into the future.