Xirrus Wi-Fi Enables Pervasive Wi-Fi Access on Brigham Young University-Idaho Campus for Constant Connectivity

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>
> TRAVIS WILLIAMS,
> NETWORK ENGINEER,
> BYU-IDAHO

Overview

FOUNDED IN 1888 in Rexburg, Idaho, Brigham Young University-Idaho is a private, four-year university affiliated with The Church of Jesus Christ of Latter-day Saints. The mission of the university is to create a wholesome learning environment to prepare students to lead in the home, the community and workplace.

The campus spans 40 major buildings across hundreds of acres of land. Approximately 15,000 students are enrolled at the BYU-Idaho campus each semester. Initially, the university was outfitted with a set of wireless hotspots in select areas on the campus that were meant to provide students and staff internet connectivity. However, students and faculty were often confused about where they could and could not connect. This confusion led campus administrators to search for a pervasive Wi-Fi solution to deploy across the campus. The University evaluated alternative technology vendors and ultimately selected the Xirrus Wi-Fi solution.

"Since the Xirrus [Wi-Fi] implementation, we have seen very few complaints of dropped connections on the network," said Travis Williams, network engineer at BYU-Idaho. "One particular building comes to mind: the Joseph Fielding Smith Building. I receive feedback from the faculty teaching in this building, and they have nothing but positive things to say about the connectivity. They may not be familiar with things like bandwidth loads, channel tuning, etc. - but they know it just works and that's what they want."
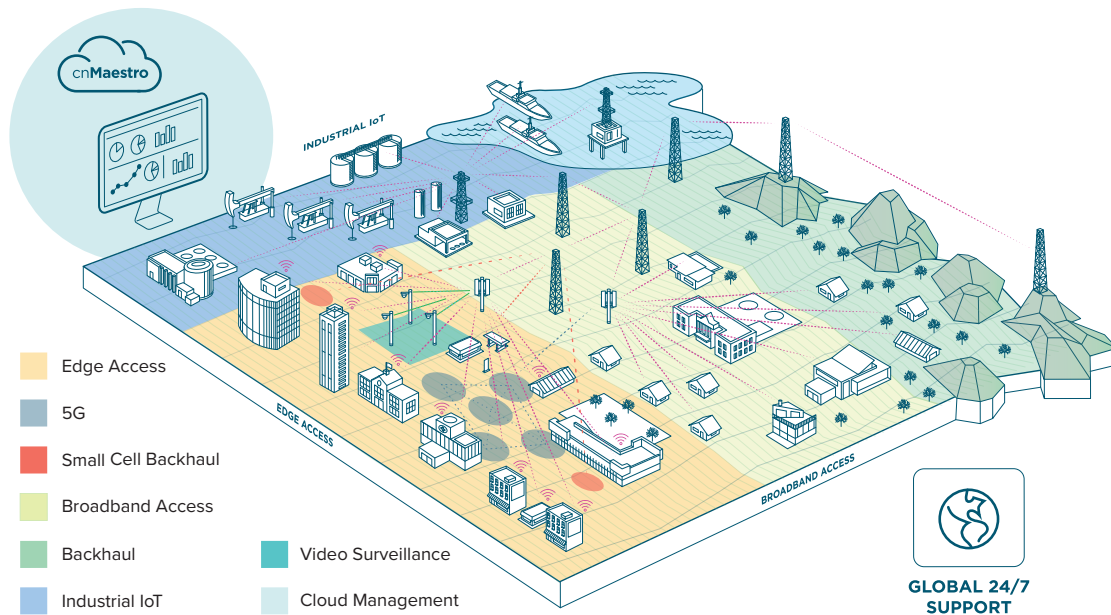
One of the university's largest buildings is the Hyrum Manwaring Student Center. The four-story building, which serves as the school's student union, holds a convenience store, modern food court and even a bowling alley. In addition to recreational activities, the student center contains classrooms, meeting rooms and study rooms. Due to the multi-purpose nature of the facility, comprehensive wireless coverage proves challenging due to the varying traffic loads throughout the building. The Xirrus Wi-Fi solution provided the persistent Wi-Fi needed to keep every student in the facility constantly connected whether they are studying in one of the study rooms, following a lecture with an eBook in a classroom or socializing with friends on social media.

Wireless Across Campus

THE UNIVERSITY HAS MORE THAN 700 XIRRUS ACCESS POINTS (AP) throughout the campus, including 2, 4 and 8 radio models with an upgrade planned to increase this to more than 800 APs. At peak usage time, the network supports approximately 6,500 students simultaneously accessing online resources with significant capacity built in to support many more as needs grow. BYU-Idaho features six residence hall dormitories and a married student housing complex with 16 buildings, each containing 10 to 12 apartments. Students bring many types of Wi-Fi-enabled devices into the dormitories and on-campus apartments, including tablets, smartphones, smart-TVs, Blu-ray players and laptops.

With the Xirrus high-performance Wi-Fi network, all students in on-campus housing can connect to the internet with multiple devices without performance issues due to bandwidth congestion. In the classrooms, the university requires every student to have a laptop. In addition, the Xirrus Wi-Fi enables all students to use classroom clickers for quizzes, voting and class discussions. The ability for all students to connect simultaneously puts a myriad of learning and collaboration tools for more robust in-class discussion at their fingertips. Professors can direct students to various sites to download documents in real time for use or discussion during class. This is significant considering that the class sizes at BYU-Idaho can be as many as 150 students in a single lecture hall.

"When we selected Xirrus [Wi-Fi], one of the main drivers was fewer wired switch ports and fewer cable runs," said Williams. "Every time a technician needs to come out the campus and pull cables, it costs anywhere from $700 to $1,000 per run. And when you multiply that by 700 or more access points, it adds up quickly. With Xirrus [Wi-Fi], we can get more done with the access points we have, and this is a huge savings."

Edge Access

5G

Small Cell Backhaul

Broadband Access

Backhaul

Industrial IoT

Video Surveillance

Cloud Management

GLOBAL 24/7 SUPPORT

Cambium Networks' Gigabit wireless solutions enable municipal, enterprise and service provider operators to tailor connectivity to meet exact requirements and grow as needs evolve.

Advantages of Xirrus Wi-Fi

WITH THE EXPLOSION OF SMARTPHONES AND TABLETS, mobility has become pervasive. People expect to connect wirelessly. Organizations depend on high-bandwidth to send and receive voice, video and data, from any device to any one. Xirrus Wi-Fi APs draw from cellular tower design principles to provide wired-like reliability, increased user density and capacity plus superior security. They perform under the most demanding conditions and have lower infrastructure requirements. When integrated with business and IT objectives, they help you do more than ever before.

Cambium Networks applies the "best practices" of wired networking to wireless infrastructures by distributing the intelligence to the edge and outfitting Wi-Fi APs with dense multi-state radios in the same manner as a wired switch. Xirrus Wi-Fi APs work as part of a strategic IT infrastructure advantage that fuels organizations.