

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



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. Brigham 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 solution.

“Since the Xirrus 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 along with a lecture with an eBook in a classroom or socializing with friends on social media.

Requirements

- Pervasive Wi-Fi that could be easily accessed across the campus
- Support in the residence halls to support 3-4 devices per student
- Sufficient bandwidth to support classrooms of as many as 150 students to connect and download files simultaneously

Solutions

- Nearly 700 Xirrus APs/Arrays with plans to expand to nearly 800
- 100 percent Wi-Fi coverage of indoor facilities on campus, including residence halls
- Connectivity for 6,500 simultaneous devices with capacity to support many more as needs grow

Benefits

- Fewer switch ports and cable runs translated into tens of thousands of dollars averted
- The network enables dynamic teaching tools in the classroom, including audience clickers, streaming video and electronic document downloads.
- Wireless connectivity throughout all indoor recreational areas of the campus

Wireless Across Campus

The University has more than 700 Xirrus Arrays throughout the campus, including 2, 4 and 8 radio models with an upgrade planned to increase this to more than 800 Arrays. 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 10-12 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 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 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, 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, we can get more done with the access points we have, and this is a huge savings.”

The Xirrus Advantage

With the explosion of smartphones and tablets, mobility has become ubiquitous. People expect to connect wirelessly wherever they are. Organizations depend on high bandwidth to send and receive voice, video and data, from any device to anyone. And no one delivers better than Xirrus. Our highly scalable solutions help customers to right-size their wireless network. When combined with predictable application performance and easily upgradeable solutions that simplify technology transitions, Xirrus delivers a future proofed network that is easy to deploy and manage. With a distributed architecture and integrated controllers, Xirrus solutions 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.

At Xirrus, we apply the “best practices” of wired networking to wireless infrastructures by distributing the intelligence to the edge where the users connect to the network. That’s how Xirrus delivers the best performing, most scalable wireless solutions in the industry. It’s a strategic IT infrastructure advantage that fuels organizations. Because Xirrus does wireless networks right.



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Travis Williams, Network Engineer
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