

Faith Lutheran Middle School & High School

Reliable, affordable Wi-Fi network makes 1:1 laptop program a success



Business Profile

The largest Lutheran school in the United States, located in Las Vegas, Nevada, with an enrollment of 1,450 students from the sixth through the twelfth grade.

Challenges

- Delivering technology that supports creative teaching and learning
- Removing teacher frustrations and resistance to technology
- Working with a network that continually fails

Deployment Summary

- Wireless coverage for four main buildings and eight portables
- Two MC3000 controllers, configured for redundancy
- 61 access points deployed in classrooms and common areas
- Approximately one access point for 30 simultaneous users
- Channel layering to eliminate interference between portable classrooms

Benefits

- Lower costs with twice as many users per access point
- Sustainable 1:1 laptop program due to affordable, reliable Wi-Fi
- Easy-to-scale network eliminates channel planning for future initiatives
- Everyone is happy; no more frantic help calls

Wi-Fi is a lever for learning

Faith Lutheran Middle School & High School in Las Vegas issues a wireless-capable computer to every student. For sixth graders, it's an iPad. For older students, it's an Apple MacBook Air. The school believes in giving students the best tools to learn and grow, and that includes technology. "Technology is a lever for classroom instruction that is student-centered, collaborative, project-based, and focused on

"People are using technology in a very mobile world, and our students are no exception. Changing how and where students can be taught is affordable and doable because of the Meru wireless technology."

– Tom Chalfant, CIO



FAITH LUTHERAN
MIDDLE SCHOOL & HIGH SCHOOL

higher-order thinking,” says Steve Buuck, PhD, Faith Lutheran executive director.

To be an effective lever to creative and collaborative learning, Faith Lutheran’s 1:1 laptop program needed a reliable network. A network that is slow or inaccessible makes the latest, greatest computer useless. It wastes learning time, throws the curriculum off track, and diminishes the investment in the laptops.

Modernizing a frustratingly unreliable network

Even before the 1:1 laptop program, the existing wireless network wasn’t cutting it. “I was constantly fielding calls about ‘I can’t get to the Internet.’ We couldn’t get through a day without having to reboot the access points multiple times, and we couldn’t get more than ten computers on line at the same time,” recalls Tom Chalfant, CIO.

Mandated to modernize the Faith Lutheran network, Chalfant had two overriding objectives:

- Provide the most reliable and highest performing network possible. “The network needs to be as reliable and responsive as the electricity that turns on the laptop,” says Chalfant.
- Do it as affordably as possible. Costs that can be saved on the network can be applied to other learning initiatives.

Needed: A new network for non-traditional learning

A wired network for the entire school was out of the question. Retrofitting the four main campus buildings and cabling the eight portables was cost prohibitive. But cost wasn’t the only issue. A wired network didn’t fit the school’s vision of a flexible, open learning environment. “The traditional classroom, where everybody sits in rows, doesn’t happen at Faith Lutheran that often,” says Chalfant. “We do have classrooms, but our approach to learning is more like the ‘amoeba defense’ in basketball—we’re constantly changing.”

Chalfant says his requirements for a new network were simple.

- It needs to work.
- It needs to be scalable in our environment.
- It needs to be manageable with our resources.

The Meru difference—an “amazingly simple solution”

Five vendors responded to the Faith Lutheran request for proposals, including Cisco, HP, and Meru Networks. Four of the vendors were instantly out of the running. “One vendor proposed covering a hundred students with one access point, and that was crazy. Another said we can do channel dancing between channels 1, 6, and 11, and that was an unacceptable answer. Others wanted to charge for site surveys. But Meru came to us with an amazingly simple solution. There was no reason why anyone would not want to pick what they offered,” says Chalfant.

- No channel planning because there is one channel
- All access points set at 100 percent TX Power
- As many access points as needed: just pop them in any time

Chalfant admits to being skeptical at first, but a demonstration removed all doubt. “We fired up 27 laptops, and they all connected right away. That was impressive.”



Deployment in two days

Faith Lutheran started with 25 access points (APs) and two MC3000 controllers linked for failover to keep the network available at all times. The controller was up and running in less than 30 minutes. The longest part of the deployment was putting up the access points, recalls Chalfant. However, Faith Lutheran got the coverage the school needed with fewer access points than other solutions, saving on both hardware costs and deployment time. “Because of the way that Meru handles collision avoidance, I’m able to have more devices per AP than a

standard AP can handle. I easily get twice as many users on, compared to a standard AP,” says Chalfant.

Faith Lutheran has since expanded to 61 access points, without channel planning or outside assistance.

Best of all, says Chalfant, the Meru network worked as soon as it was turned on. “When we installed it, it worked the first time, right out of the box.”

Density of users becomes no issue

Faith Lutheran’s eight portable buildings have the highest density of users on campus, with as many as 110 users in each. The walls are thin, and the students are very close to each other. Since installing a single Meru AP in each portable, there have been no dropped connections or slow response times.

Technology for learning takes off

“Our 1:1 laptop program wouldn’t be sustainable without the Meru network,” says Chalfant. “Having a reliable wireless network allows students and teachers to collaborate anywhere on campus. At any given time during the school year, you’ll see clusters of kids in the hallways, out on the grass, or in the classroom, engaged in work on their laptops,” says Chalfant. Because the technology works now, teachers no longer resist it. “Instead of crawling with technology, we’re able to start running with it, and Meru is able to handle our running,” says Chalfant.

“Our 1:1 laptop program wouldn’t be sustainable without the Meru network. Having a reliable wireless network allows students and teachers to collaborate anywhere on campus.”

– Tom Chalfant, CIO

Instant return on investment

The frantic help calls about no Internet access have stopped. The network is practically hands-off to operate and manage. “My return on investment in the Meru network was almost immediate because I didn’t have to do daily reboots,” says Chalfant. Now he uses his time more productively on planning and executing the school’s vision for technology in 21st century education.

A potential for added revenue

With a reliable wireless network, Faith Lutheran expects to attract more meetings and conferences to its campus and bring in added revenue. The Nevada Mining Association has used Faith Lutheran classrooms. Recently a computer vendor used the library to demonstrate their technology to an audience of potential customers. “I grabbed an access point to supplement coverage and set it up so everyone could be connected,” says Chalfant.



In addition, Faith Lutheran plans to expand wireless coverage to its chapel/theater, which can host events for 750 people. “With the Meru network and the ability to layer channels, it will be no problem to have a full auditorium of people, all on their laptops at the same time,” says Chalfant.

Voice over IP coming

Faith Lutheran plans to replace its traditional landline phones with Voice over IP (VoIP) and has the infrastructure to support it. The Meru solution can layer an additional channel for VoIP traffic so that phones don’t have to disconnect and reconnect as staff move around the campus. “VoIP is coming, and the beauty of it is that we’re prepared. I’ve tested the network with a SIP [session initiation protocol] server and laptops as the phones, so I know it will work just great,” says Chalfant.

A network for the long term

The Meru wireless network has delivered on Chalfant’s requirements. In fact, it has exceeded his expectations, so the network is ready for what the future brings.

“All too often, technology over-promises and under-delivers,” says Chalfant. “With Meru, it was just the opposite. The Meru network did more than I expected, and it still has capabilities I haven’t used yet—but will.”

“If you dream it, you can build it with Meru,” concludes Chalfant. And that’s vital in education.

About Meru Networks.

Meru Networks (NASDAQ: MERU) supplies virtualized wireless LAN solutions that provide enterprises with the performance, reliability, predictability and operational simplicity of a wired network with the advantages of mobility. Meru Networks eliminates the deficiencies of multichannel, client-controlled architectures with its innovative, single-channel, virtualized network architecture that easily handles device density and diversity. Meru wireless LAN solutions are deployed in Fortune 500 businesses, education, hospitality, healthcare, and retail supply chain. Meru is headquartered in Sunnyvale, Calif., with operations in North America, Europe, the Middle East, and Asia Pacific.

For more information about Meru Networks, visit www.merunetworks.com or email your questions to: info@merunetworks.com

Meru Networks | Copyright ©2012 Meru Networks, Inc. All rights reserved worldwide. Meru Networks is a registered trademark of Meru Networks, Inc in the U.S. and worldwide. All other trademarks, trade names or service marks mentioned in this document are the property of their respective owners. 06.12 CS1001.US



Corporate Headquarters
894 Ross Drive, Sunnyvale, CA 94089
T +1 (408) 215-5300
F +1 (408) 215-5301
E info@merunetworks.com