Midmarket Church Connects Campuses with a Flexible Wireless Network

EastLake Community Church utilizes Cisco's midmarket BYOD solution for cost-savings and reliability.

EXECUTIVE SUMMARY

Customer Name: EastLake Community Church
Industry: Religion
Location: Eight locations around Seattle, Washington
Number of Employees: 46

BUSINESS CHALLENGE

- Upgrade existing consumer-grade wireless to a reliable, high-capacity bring-your-own-device (BYOD) network also connecting remote church locations
- Reduce operating costs to save church funds
- Streamline and simplify network management to enable more volunteers to become involved in IT management

NETWORK SOLUTION

- Establish a reliable, business class wireless network using Cisco midmarket network solutions and Cisco management solutions to reduce complexity

BUSINESS RESULTS

- **Reduced network complexity** with a single management device for wired and wireless to encourage involvement from volunteers despite varying levels of IT knowledge
- **Increased network capacity,** enabling support for thousands of guests during events
- **Potential savings** of $2,000 per month by eliminating wireless hotspots at setup/teardown campuses

Business Challenge

While searching for a "church for the rest of us," several friends came together in 2005 to create the non-denominational EastLake Community Church. With an emphasis on the word "community", EastLake views itself as a positive, accepting home focused on people and love rather than institutions. The church's multi-location services reflect this community belief. Instead of asking church members to travel miles to visit a massive, central facility, EastLake brings its 17 services to the community at eight locations across the Seattle area.

One of the keys to bringing the multiple locations together is the church's use of technology. Video services bring the same teachings to all locations so each location can experience the same service. IT volunteers provide remote assistance from a central location. Electronic check-in even helps to track and secure child classes in all locations.

Through use of solid virtual connections, EastLake can create the feel of a singular church across physically disconnected campuses.

While the multiple locations are better for reaching church members and forming communities, many of the locations are "pop-up" campuses set up every Sunday morning in schools or public buildings. The lack of permanent facilities makes it difficult for EastLake to establish a reliable network that connects the campuses.

The two permanent locations had used a collection of independent, consumer-grade Buffalo wireless devices, while the six setup/teardown church locations used mobile wireless hotspots. All campuses, including the two permanent locations, are either in multi-use buildings or are in areas with many neighboring WiFi networks. Because EastLake is one church that meets in many locations, the need for central operations and support is important. A highly reliable WLAN is key to operational success. While this collection of access points fulfilled the needs of a smaller church, neighboring WiFi caused reliability issues and there were costly overages on the mobile data plans.

EastLake needed to grow to a resilient, reliable, and long-lasting network solution that could deliver pervasive wireless coverage and management with features such as centralized control to simplify operations and visibility into the network to optimize performance. Bring-your-own-device (BYOD) support was also a necessity to support staff members who primarily work at home on personal devices as well as audiences for live social media access during special events.

"Our church had grown to the point where we needed a more enterprise-grade infrastructure," says David Zazzo, IT director at EastLake Community Church. "We found the straightforward, cost-effective solution that we needed with Cisco networking and mobility solutions."

> "The Cisco 2600 access points connected to Cisco Virtual Wireless Controller gave us reliable coverage like never before, supporting 2,800 people and their smartphones without any problems."
> **— David Zazzo, IT Director, EastLake Community Church**

Network Solution

To replace the consumer network, EastLake chose Cisco Unified Access for a streamlined networking platform featuring one policy, one management, and one network. At the two permanent sites, seven Cisco Catalyst 2960 Series Switches form the basis of the wired network. While the switches offer a wide range of software features for simplified management, one of the most critical features of these switches are the 24 Power over Ethernet (PoE) ports that can be used to power wireless equipment directly over the Ethernet connection.

Connected to these PoE ports on the 2960 Series Switches, EastLake built its wireless network using a total of 20 Cisco Aironet 2600 Access Points across all campuses. The ability to leverage second generation 802.11n capabilities and a competitive cost that meets the church's budget, the Aironet 2600 Access Points provide excellent upstream performance with numerous advanced features. Cisco ClientLink 2.0 optimizes performance in networks that may contain several types of clients, such as laptops, tablets, and smartphones. Meanwhile, the Cisco CleanAir Technology automatically detects and resolves radio frequency interference to prevent unexpected downtime.

With a need to reduce management complexity as much as possible, EastLake provides centralized control and visibility over the network using the Cisco Virtual Wireless Controller and Cisco Prime Infrastructure. The Virtual Wireless Controller runs on an existing virtualization solution for a low cost of entry. The centralized management device oversees the wireless network, easily configuring, managing, and troubleshooting up to 200 access points and 3000 clients. In addition to automated access point configuration, the controller also enables the access points to communicate securely for a streamlined wireless network.

"Our church operations are performed mainly by volunteers, so simplifying the network wherever possible is key for us," says Zazzo. "Reducing complexity lowers costs by allowing people with a wider range of knowledge to volunteer for our IT staff."

The Cisco Prime Infrastructure provides complete lifecycle management for both the wired and wireless networks. Templates and workflows built on Cisco best practices simplify deployment and network changes for easy management and automated compliance without requiring specialized training. By providing deep visibility into end-user connectivity and application performance, IT staff can identify and troubleshoot network issues before end users are affected.

Business Results

Switching to Cisco midmarket networking and mobility solutions has removed wireless as a pain point for EastLake. The wireless network effortlessly supports BYOD with three tiers of security for production equipment, staff, and guests. Working with Cisco management solutions, EastLake gains incredible ease of management that empowers non-technical volunteers to assist in IT operations. For instance, the easy plug-and-play configuration makes setup so easy that any volunteer can simply connect access points for network connectivity. This feature will be particularly important for the set-up/tear-down campuses, which may not always have access to IT staff.

Centralized controls enable more knowledgeable IT staff to configure or troubleshoot the network from a remote location. Templates and best-practices help volunteers make consistent configuration changes and push them out. Cisco Prime Infrastructure gives EastLake incredible visibility into the network. Mapping features show where people are using the networks, and combines with information such as packet flow rates and bandwidth consumption rates.

"The data from Cisco Prime helps us determine where access points can be added or removed for optimum service," says Zazzo. "By looking at historical trend information, we can better plan our purchases and save money by preventing unneeded expenditures."

Further streamlining management is the auto-adaptive Cisco CleanAir technology that helps optimize the network against interference. One of the permanent locations in Bothell, Washington shares the building with multiple organizations that each support their own wireless networks. The self-healing and self-optimizing CleanAir technology helps the Cisco access points deliver the best possible performance by reconfiguring themselves to prevent interference. Since this technology resolves issues automatically, it reduces the load on the IT volunteer team.

With the enhanced performance of the Cisco network, EastLake gains incredible boosts in capacity, enabling it to easily handle not only regular services, but also special events. At the Drinks 4 Drinks charity event in August, 2012, the church sought to improve participation and awareness by encouraging live social media updates from attendees. EastLake was concerned about the resilience of the network, as a previous event using the consumer-grade equipment crashed with only 20 participants. "The Cisco access points, connected to the Cisco Virtual Wireless Controller gave us reliable coverage like never before, supporting 2,800 attendees and their smartphones without any problems," says Zazzo.

Next Steps

With a stable network at the two permanent campuses, the next step for EastLake Community Church will involve expanding the network to the set-up/tear-down campuses using Aironet 2600 Access Points and Cisco 800 Series Integrated Services Routers. By eliminating the need to pay for mobile hotspots and the inevitable overages that come with them, Zazzo estimates that the church will save $2,000 per month while gaining superior performance and capacity.

PRODUCT LIST

Wireless
- Cisco Aironet 2600 Access Points
- Cisco Virtual Wireless Controller

Routing and Switching
- Cisco Catalyst 2960 Series Switches

Network Management
- Cisco Prime Infrastructure 1.2

For More Information

To find out more about the Cisco Wireless, go to:
http://www.cisco.com/en/US/products/hw/wireless/index.html.

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