

School District Upgrades Network for BYOD and Unified Communications

Customer Case Study



School District of New London supports new ways of learning with Catalyst 3850 Switches and Meraki BYOD Smart Solution.

EXECUTIVE SUMMARY

Customer name: School District of New London

Industry: Education

Location: New London, Wisconsin

Number of employees: 2500 students; 350 teachers and staff

Challenge

- Support bring-your-own-device (BYOD) and unified communications
- Reduce time spent on network management
- Refresh outdated network to get ready for new learning and administrative applications

Solution

- Built robust and easy-to-manage network with Cisco Catalyst 3850 Switches
- Implemented Cisco Meraki BYOD Smart Solution at high school
- Deployed Cisco Unified Communications Manager to replace school PBX systems

Results

- Engaged students by allowing them to access learning content from anywhere
- Significantly reduced time to manage switches and wireless access points
- Avoided costs to bring power to wireless access points and IP phones

Challenge

Located in East Central Wisconsin, the School District of New London serves 2500 students in four elementary schools, a middle school, and a high school.

To engage a new generation of learners, the district wanted to introduce a bring-your-own-device (BYOD) program. “We don’t have enough computers for every student, and BYOD is a way to get closer to 1:1 computing,” says Wade Berglund, network administrator for the district. The district also wanted to lower ongoing costs by replacing each school’s private branch exchange (PBX) system with a centralized unified communications system.

But before moving forward with BYOD and unified communications, the district needed to improve its network. Although the old switches still worked, they took too much time to manage. “It’s up to me to support 1200 computers in nine buildings,” Berglund says. “That means the most important requirement for our new switches was ease of management.”

Manageability also topped the list of requirements for a BYOD solution. The high school already had a wireless network. But it lacked the bandwidth to provide a good wireless experience as more students and staff brought personal smartphones and tablets to school. And Berglund did not have the time to manually configure each new wireless access point. The district wanted to simplify management without having to buy and maintain a centralized wireless LAN controller.



“We have a small high school in a small town. But we were able to afford and manage a reliable and secure wireless network because of Cisco Catalyst 3850 Switches and Cisco Meraki BYOD Smart Solution.”

Wade Berglund
Network Administrator
School District of New London

Solution

“I don’t have time to do a lot of research, so I explained our requirements to our Cisco partner, who acts as our trusted advisor,” Berglund says. The partner, Heartland Business Systems, recommended Cisco Catalyst® 3850 Switches, the Cisco® Meraki BYOD Smart Solution, and Cisco Unified Communications.

At the high school, eight Cisco Catalyst 3850 Switches are placed around campus to be close to the wireless access points. The school connects to a Cisco Catalyst 4500 Switch in the district office over fiber, by way of a Cisco Integrated Services Router (ISR). Other schools also connect to the district office through Cisco ISRs.

The Cisco Catalyst 3850 Switches save time for Berglund every week because wireless LAN control is built in. So instead of managing the wired and wireless networks separately, Berglund can manage one policy, one management interface, and one network platform. “And the Cisco Catalyst 3850 also provides power over Ethernet, which saved us the expense of bringing power to our wireless access points,” he says.

Managing the wireless network at the high school is also simpler, because of the Cisco Meraki BYOD Smart Solution. Instead of individually configuring each access point, Berglund enters the configuration just once, on a browser interface. “The Cisco Meraki solution applies the configuration to all access points,” he says. “That’s a huge timesaver.” The high school currently has 35 wireless access points, one for every two rooms. So far, this design is providing an excellent experience for the 500 students and staff currently using wireless devices. As more students and staff start using more devices, Berglund and the Cisco partner will monitor usage to decide where to place additional access points.

The district deployed Cisco Unified Communications Manager in the district office and is connecting schools one at a time, starting with the middle school. The high school and administration building will be next. “The middle school is already saving money every month with Cisco Unified Communications,” Berglund says. One reason is that Cisco Unified Communications Manager can connect to the service provider over a private rate interface (PRI), which costs less. The other is that the school no longer needs to pay a technician for every telephone extension move, add, or change.

Results

Supported More IT Projects with Same Size IT Staff

Now that he can centrally manage switches and wireless access points, Berglund has more time for IT projects to support learning or administrative efficiency, like BYOD and unified communications. Illustrating the time savings, Berglund recently created a new VLAN to connect the district’s police liaison officer to the local police department network. “Creating a new VLAN for our wireless access points took just a few minutes with the Catalyst 3850,” he says. “With our old switches the same process would have taken about two days.”

Introduced a Successful BYOD Program

Teachers are taking advantage of BYOD to engage a new generation of learners. “When students can look up answers to their own questions, they take a more active role in learning,” says Danielle Sievert, associate principal for New London High School. “They don’t have to wait till it’s their turn in the computer lab.”

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New London High School

Administrators use the wireless network to work more efficiently. During teacher evaluations, for example, they can enter notes into the system from their smartphone or laptop instead of taking the time to walk back to their office computer. “Administrators can also access our student information system from anywhere in the building for any safety, emergency, or health situation,” Berglund says. “They no longer need go back to their office to access information.”

Students and staff at the high school have already registered 500 personal smartphones and tablets to use on the network. Wireless performance has been excellent because the Cisco Catalyst 3850 provides 300 Mbps of throughput, triple the capacity of the old switch platform.

Lowered Costs

Both the Cisco Catalyst Switches and the Cisco Meraki BYOD Smart Solution lowered IT costs. First, the district saved the costs and staff time to bring power cables to the access points and IP phones because the Cisco Catalyst 3850 Switch provides inline power over Ethernet. “Not having to worry about electrical wiring made installing the wireless access points so simple I did it myself,” Berglund says. “This saved even more money.”

Second, the district can provide Cisco Unified IP Phones without adding a second Ethernet port in each office or classroom. Instead, the phones connect to the office’s existing port, and the desktop PC connects to a port on the phone.

Third, the Catalyst 3850 Switches and Cisco Meraki BYOD Smart Solution saved the district from having to purchase and manage a centralized WLAN controller for the growing number of access points. The Cisco Meraki management software is in the cloud, so Berglund can manage and troubleshoot wireless access points from a browser. And with the subscription-based service, he knows he always has the latest features.

Berglund concludes, “We have a small high school in a small town. But we were able to afford and manage a reliable and secure wireless network because of Cisco Catalyst 3850 Switches and Cisco Meraki BYOD Smart Solution.”

Next Steps

Now the School District of New London is planning to connect the high school to Cisco Unified Communications Manager and retire its old PBX system. Once that happens the district might start using Cisco Jabber® so that teachers and staff can see which coworkers are available and just click to call or send an instant message. They will be able to use Cisco Jabber on any device, including personal smartphones and tablets.

“The Cisco Meraki BYOD Smart Solution has worked so well at the high school that we’d like to extend it to our the middle school and elementary schools,” Berglund says. “We might not necessarily use it for BYOD in the lower grades, but allowing teachers and staff to connect from anywhere, with any device, would help to improve administrative efficiency and student safety.”

Product List

Switches and Routers

- Cisco Catalyst 3850 Switches
- Cisco Integrated Services Routers 2821 and 2901

Wireless

Cisco Meraki BYOD Smart Solution

Unified Communications and Collaboration

- Cisco Unified Communications Manager
- Cisco Unified IP Phones 7945

More Information

- To learn more about Cisco Catalyst 3850 Switches, visit www.cisco.com/go/3850.
- To learn more about Cisco Meraki BYOD Smart Solution in schools, visit <https://meraki.cisco.com/customers/k-12-education>.
- To learn more about Cisco Unified Communications in schools, visit www.cisco.com/web/strategy/education/communications_k12.html.



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