

Charter School Deploys Cost-Effective Foundation for Learning

Horizon Charter School delivers learning and new operational efficiencies beyond the traditional walls of a K-12 school.



Executive Summary

Customer Name:

- Horizon Charter School
- Lincoln, California, United States
- 3000 students

Business Challenge

- Reduce communication costs
- Replace aging infrastructure and improve application performance
- Implement security measures

Network Solution

- Replaced phone system with IP telephony
- Installed new wireless network
- Replaced all legacy IP network switches

Business Results

- Eliminated cost of separate telephone network and service
- Significantly improved access to applications, data, and network resources for supervising teachers, administrators, and students
- Gained network security and emergency notification capabilities

Business Challenge

Horizon Charter School students learn beyond the walls of a traditional school building. Created to support home-schooled students, Horizon is a fully WASC accredited tuition-free public school that is chartered under California's Western Placer Unified School District. This enables Horizon to obtain state educational funding that supports standardized curricula, supervising teachers, and testing services for approximately 3000 home-schooled, independent study, and Montessori site based K-12 students.

Each student has access to a comprehensive, broad array of learning choices and educational pathways. Supplementary classes are taught in a traditional classroom style at one of three learning sites, which provide facilities that are difficult to replicate at home, such as science labs. Horizon also supports a large library that enables students to check out materials. Although Horizon does not own all of these buildings, the school provides them with network and telephone equipment and connectivity. In addition, the school provides laptop computers for supervising teachers who are required by the state of California to regularly visit each home-schooled or independent study student to monitor progress and provide tutoring and instruction as needed.

Until recently, the school maintained an old network and servers that had reached the end of their lives. Administrative employees were using peer-to-peer LANs that delivered poor application performance and incorporated no security measures. School locations were connected by T1 WAN links, and telephone service was delivered through multiple telephone lines and services. Most of the infrastructure needed replacement, and Larry Monson's first task when he took over the role of information technology director at Horizon was to establish best practices networking standards.

"We needed to lower our communications costs, improve application performance, and implement security measures, as well as deploy a broad emergency notification solution that had been mandated by the Horizon Charter School management," says Monson. "We also have plans for the future, which include improving security, increasing the amount of online curricula choices available to parents, and delivering video courses." There was no option but to replace the existing voice and data infrastructure.

Product List
<p>Routing and Switching</p> <ul style="list-style-type: none"> ▪ Cisco 2800 Series Integrated Services Routers ▪ Cisco Catalyst 3560 Series Switches ▪ Cisco Catalyst 4900 Series Switches
<p>Network Management</p> <ul style="list-style-type: none"> ▪ CiscoWorks LAN Management System
<p>Security and VPN</p> <ul style="list-style-type: none"> ▪ Cisco ASA 5500 Series Adaptive Security Appliances ▪ Cisco Secure Access Control Server for Windows
<p>Voice and IP Communications</p> <ul style="list-style-type: none"> ▪ CCisco Unified IP Phone 7961 ▪ Cisco Unified Communications Manager ▪ Cisco Unity Connection ▪ Berbee Informacast
<p>Wireless</p> <ul style="list-style-type: none"> ▪ Cisco Aironet 1300 ▪ Cisco 4400 Series Wireless LAN Controller

Network Solution

Horizon School chose Unified Communications, Secure Wireless network, and switching and routing solutions from Cisco®. The school was also able to take advantage of Cisco Capital leasing programs to help deploy its new infrastructure affordably. Monson and his four staff members began taking out the existing infrastructure in February 2007, and within several months had completely transitioned to the new network. The new systems operate flawlessly.

Horizon maintained its point-to-point T1 WAN connections between five locations, installing new Cisco switches and routers in each. The IT team also deployed new firewalls and monitoring capabilities in the main data center, as well as a Unified Communication Manager for providing IP telephony service to all locations. Administrators now use Cisco 7900 series Unified IP Phones instead of traditional analog handsets and telephone service.

“The Cisco Unified Communications solution was more cost-effective than our previous telephone system,” says Monson. “We no longer have to bear the cost of a Private Branch Exchange, its maintenance, or a separate phone system, and we gain far more control. It is much easier to connect our locations, and we have a foundation for delivering innovative applications.”

Every building also supports wireless connectivity. Because Horizon does not own all of the buildings, it needed a way for students to use wireless laptops without having to install numerous network connections throughout the facilities. The Cisco Secure Wireless network now enables any student to log onto the secure network, be authenticated, and gain access to the Internet, course materials, and other online resources. Monson’s staff uses CiscoWorks LAN Management Solution to efficiently manage the entire new infrastructure.

The Horizon Charter School management had required Monson to find a solution that would enable communication among all of the school’s sites in the event of an emergency. The school purchased Berbee Informacast, which enables staff to use Cisco Unified IP Phones as an all-call system to inform all sites of an emergency. The Berbee Informacast solution functions like a broadcast system, and it provides many other security capabilities that Horizon will deploy over time. During the network upgrade, Monson’s team replaced all of the school’s servers, implemented Microsoft Exchange, replaced the legacy e-mail system, and deployed a new storage system with seven terabytes of storage, which allows staff to back up all local systems.

The school also replaced all of the desktop computers with new PC laptops, and provided administrators and supervising teachers with access to the network over a Cisco Virtual Private Network connection. Today, supervising teachers and administrators can easily access information from home or while on the road, instead of having to travel 30 to 45 miles one way to a school facility for downloading information. Horizon also implemented a Barracuda Web filter, which filters Web content for students while they are in the school’s buildings.

“I have had perfect response from Cisco,” says Monson. “Anything I have asked, they are there and willing to go the extra mile for me.”

“We are a non-profit organization, but as we grow, we can afford to continue to deploy new curriculum choices, network-based resources, and collaborative tools without having to upgrade the network. Our new infrastructure allows us to easily double the number of students we serve and provide their parents with even more educational choices.”

—Larry Monson, Information Technology Director, Horizon Charter School

Business Results

Today, the supervising teachers can complete the majority of their work from homes, instead of having to drive 15 to 45 miles to a Horizon site and update their data. With the standardized laptop program, remote access, and a portal, they save hours every week.

“We have the ability today to help ensure better application performance and uptime for our users,” says Monson. “With the ability to proactively monitor the network, we can identify potential issues before they affect our users, and implement preventive maintenance measures.” Horizon also eliminated the costs associated with a separate telephone network and service. Because the school was already paying for the WAN links to its locations, it can now run voice calls over the same network. Horizon achieves better return on its WAN investment and gains control over telephone moves and changes.

The new network also enables Horizon to deploy a wide range of applications that simplify administration. For example, the school is implementing a new identification card maker that provides barcodes for each student badge. Students will be able to simply swipe their badges when they enter a site and the data is entered into a database application that tracks attendance. Staff will no longer have to log every student in and out for better accounting and security.

Monson sees new opportunities for network-delivered courses as well. In addition to podcasts, Horizon can now make multimedia and streaming video courseware available to parents. The school is currently working with the Imperial County Office of Education to identify streaming video curriculum options.

“We want to provide parents with choice,” says Monson. “They decide how they want to teach their children and what they teach them, while we provide the guidelines and a wide range of choices that they can use to meet the state’s educational requirements.”

Next Steps

Horizon is planning to extend its Berbee Informacast solution to enhance school security. The solution can take input from sensors at school doors, notifying a staff member if a back door has been opened. The solution will allow Horizon to help ensure that all premises are being actively monitored and that only authorized individuals can come in.



The network will also facilitate growth. As new applications can be delivered over the new infrastructure, Monson believes that parents will be able to start collaborating, sharing ideas, and building a stronger home-schooling community.

“We are a non-profit organization, but as we grow, we can afford to continue to deploy new curriculum choices, network-based resources, and collaborative tools without having to upgrade the network,” he says. “Our new infrastructure allows us to easily double the number of students we serve and provide their parents with even more educational choices.”

For more information

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www.cisco.com/go/education

To learn more about the Horizon Charter School, visit

www.hcs.k12.ca.us

This customer story is based on information provided by the Horizon Charter School, and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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