



Okanagan Skaha School District #67 Reinvents Educational Services with **Converged Cisco Network**

British Columbia school district's multiservices, IP-based network powers creative educational programs and community outreach services while reducing costs

Background

Ron Shongrunden, assistant secretary-treasurer of the Okanagan Skaha School District #67 in Penticton, British Columbia, nurtured a clear, if ambitious, vision for his district's network overhaul. The district has a physical infrastructure that includes 19 schools serving students from kindergarten to grade 12, a resource center, and an administration center. This infrastructure supports more than 8000 students and staff. Besides bringing Internet access into the classrooms, Shongrunden and his team imagined the network serving as a robust, interactive multiservices platform, sharing networked-based educational programs and resources—call center services, Web hosting, video archive access, and more—throughout the school district and into the wider community. They also saw potential for simplifying and integrating diverse district technology systems and consolidating administration services and resources to improve reliability and reduce operational costs.

Shongrunden and his team understood that they would need a converged voice, data, and video information technology architecture based on Internet Protocol (IP) standards to make their vision a concrete reality. An end-to-end IP-based multiservices network would provide

unlimited application flexibility, scalability, and the capability to consolidate processes and systems to contain costs.

Challenge

The district faced continuing budget cuts due to declining enrollment and inflation. But while budgets were shrinking, demand for information access, administration, and technical support services continued to grow.

“We had to discover ways to become one of the most efficient and effective districts in the province,” Shongrunden says. “And we looked for partners in our community to help us.” A committee of teachers, principals, parents, community and business leaders, and local government and city officials developed a five-year network plan with clear objectives:

- Improve educational effectiveness for all students and prepare them for “real-world” employment opportunities
- Empower students and teachers to enhance the learning experience by supplying them with technology tools and community-wide communication channels
- Control costs by using the network to conduct business more efficiently and cost-effectively



- Improve community access to information, from district-wide policies and schedules to individual classroom lessons and homework assignments
- Offer revenue-generating services to the surrounding community

Meeting these goals meant replacing and consolidating the district's multiple desktop and server operating systems with standard PCs, servers, and networking and telecommunications equipment based on a unified IP architecture. Shongrunden describes the task as "ripping out the foundation while we were still living in the house."

Solution

After evaluating several infrastructure providers, the district decided that Cisco Systems® and integration partner Boardwalk Communications offered an end-to-end network solution to deploy a resilient, scalable, extensible multiservices network. Cisco® and Boardwalk also had the small to medium-sized business expertise to design a "right-sized" solution, as well as provide the ongoing technical support expertise the school district needed.

Okanagan Skaha School District #67 developed a unique partnership with the city of Penticton. The city agreed to build the private fiber optic backbone that interconnects city offices and district buildings with community facilities. The school district worked with Cisco and Boardwalk to converge formerly separate data and voice systems onto a community-wide, standards-based IP network that the school district manages and maintains. Cisco CallManager servers provide standard telephony functions, including forwarding, conferencing, and voice-mail. The school district will reduce its phone lines from 150 to 25 and will save approximately CDN\$60,000 per year through reduced telecom facility costs, shared economies of scale, and support expenses.

The district deployed an IP network powered by Cisco Catalyst® 4500 and 6500 Series Layer 3 switches and Cisco 1760 Modular Access Routers to implement applications such as library, electronic document management, payroll, purchasing, and student information systems. Secure virtual private networks (VPNs) extend network access to laptop-equipped home learners and on-campus disabled students equipped with wireless notebooks.

The district was also able to integrate heating and air conditioning systems onto the network. As Chief Technician Danny Francisco explains, "Once you get systems to an IP level, you can integrate them onto the backbone network." Controlling thermostats and fans remotely will save an estimated \$12,000 per year in energy costs.

The school district funded its network overhaul from existing budgets. Shongrunden explains, "Converging applications onto a standards-based network allowed us to consolidate budgets. Monies from different areas contributed to the whole. For example, formerly separate voice and data network budgets could be combined, since they now shared the same infrastructure."

Results

Consolidating network equipment and software dramatically reduced the district's operational and support expenses. Reductions in server deployment alone accounts for a savings of \$120,000 per year. A consolidated client-server architecture eliminates the overhead costs associated with maintaining and upgrading software for thousands of computers, while the district saves more than \$100,000 per year in licensing costs through bulk application software purchases. Shongrunden reports that his school district has the best support ratio in the province, four technicians support more than 2000 computers.



With its converged IP network, Okanagan Skaha School District #67 operates more efficiently and cost effectively by automating administration tasks to reduce expenses. For example, Purchasing can compile multiple school supply requests and submit bulk orders online to vendors offering the best prices and delivery dates. The district saves \$40,000 per year with its bulk ordering process. Consolidated electronic payroll deposits save the district approximately \$5000 per year; the library system saves the district \$20,000 per year, while providing more features to students and staff.

The district can also provide entirely new telephony services, such as IP phones with voice messaging capabilities for teachers in every classroom. Using Cisco computer telephony integration technology, schools can notify parents of upcoming events or conduct parent-teacher conferences. A district-wide substitute call-out system allows teachers and clerical staff to report when they are unavailable; the system automatically contacts substitute teachers and staff for work. The call-out system saves the district \$20,000 per year in administration costs.

Equally important, the district found that its IP network has provided a real impetus for educational innovation and inspiration. Teachers create Websites to communicate with students and parents and enhance the classroom experience. Video broadcast capabilities enable schools to televise activities and classes throughout the district. The district's Website offers everything from event calendars to professional training, such as the Cisco Networking Academy Program. Anyone in the community with a Web browser can access Website resources through secure connections.

Next Steps

Shongrunden and his team have no shortage of plans for their multiservices IP network. The latest idea is a networked video surveillance system that permits security personnel to view real-time video from anywhere using a PDA or laptop computer. They also plan to deploy a wireless network throughout the district with Cisco wireless bridges. Wireless phones will replace walkie-talkies and cell phones to expand communication options while taking advantage of lower rates.

The school district already provides Internet access, Web hosting, and network support to people in the cities of Summerland and Penticton. Customers include community libraries, senior centers, and 11 other organizations. Now they are working with the city of Penticton to expand video capabilities on the fiber optic network into residences to broadcast school activities and events. The school district also has plans for other revenue-generating opportunities, such as offering computing capacity to provincial and federal organizations such as the local university and national radio observatory.

“With a rock-solid, well-designed IP-based foundation, there's no telling what we can do,” says Francisco.

This customer story is based on information provided by Okanagan Skaha School District #67 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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