Thai Ministry of Education Invests in 21st Century Network

Cisco helps Thailand deploy innovative, IP-based collaborative learning to over 8 million K-12 students.

EXECUTIVE SUMMARY

Customer Name: Office of the Basic Education Commission (OBEC), Thailand

Industry: Primary education, K-12

Location: HQ in Thailand and 225 district offices

Computer Users: 12,000 staff, 400,000 teachers, 8 million students

BUSINESS CHALLENGE

- Create educational opportunities for students in rural schools with limited resources
- Empower students and teachers in all schools to create collaborative learning experiences
- Help ensure the new IP network has bandwidth and security to support next-generation multimedia applications

NETWORK SOLUTION

- Cisco Integrated Service Router Generation 2 (ISR G2) family supports traffic routing, security, and video conferencing on a single chassis
- CiscoWorks LAN Management Solution (LMS) tools remotely monitor K-12 school networks

EXPECTED BUSINESS RESULTS

- Highly scalable WAN platform helps ensure ministry can meet requirements today and in future
- Multifeatured router in each school significantly lowers telecommunication and operation costs
- Highly efficient, easy-to-use centralized network management lowers total cost of ownership (TCO)

Business Challenge

The Thailand Office of the Basic Education Commission (OBEC) is responsible for creating and implementing national education policies in the Southeast Asian kingdom for 32,000 K-12 schools.

With an eye to the future, OBEC is dedicated to developing its education system into one of the best in Southeast Asia, one that fosters and promotes learning opportunities for all Thai children. It believes that delivering educational programs and resources over the Internet is the best way to successfully and cost-effectively prepare Thai children and young adults to become productive citizens able compete in an increasingly technological global economy.

The vision of a nationwide online education network would not be easy to implement, however. The existing system was a mix of three independent networks (MOE Net for K-12 schools, VEC Net for vocational schools, and UniNet for universities) that ran over diverse telecommunication technologies with limited bandwidth (2 Mbits/second Frame Relay 1 and 2 Mbits/second ADSL, and 514 Kbits/second IP VPN and satellite systems). K-12 schools suffered from limited Internet bandwidth as well.

The ministry realized that it needed to consolidate its disparate networks into a single, secure, high-performance IP WAN infrastructure from which it could deliver information and communications technology (ICT) educational programs and resources, including voice over IP (VoIP), Internet access, secure internal websites, videoconferencing, and more, throughout the entire country.

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> **— Dr. Chinnapat Bhumirat, Secretary-General of OBEC**

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Dr. Chinnapat Bhumirat, Secretary-General of OBEC says, “Our goal is to provide opportunities for all students, both in urban and remote areas, to be able to access knowledge and the latest learning systems. We also hope that, as a result, schools become knowledge centers for their communities as well.”

Although other vendors seemed to offer only generic “packaged” offerings, Cisco® delivered a true “smart classroom” education solution, backed by continuous technology and application development.

Anek Ratpiyapaporn, Director, OBEC, found Cisco's strategic approach a good fit with their own strategic vision. He appreciates Cisco’s leadership position in the industry, its wide network of knowledgeable partners, and its reputation for excellent post-sales service and support. “Cisco solutions are the standard of industry; we are confident in the Cisco brand and trust in Cisco’s quality,” he says.

Network Solution

OBEC’s ICT Team and Wanchai Chandham, head of the ICT, consolidated MOE Net, VEC Net, and UniNet into a single Thai education network that supports all levels of learning for the entire country. Chandham says, “Our goals were to deliver much higher bandwidth and reliability and to reach remote schools that previously had no connections to our main system.” In 2010 and 2011, OBEC representatives visited the Executive Briefing Center at the Cisco San Jose headquarters to experience firsthand the many innovative technologies supporting education initiatives, exchange ideas with Cisco experts, and discuss current and future needs.

> “We have limited IT resources, so the ability to have staff train on a single management system for operation and maintenance is an important benefit. The close system integration and interoperability also make it easier for us to expand in the future.”
> **— Anek Ratpiyapapor, Director, Thailand OBEC**

The project expands the recently installed the fiber optic network to 7700 K-12 schools, installing Cisco ISR G2 892 gateway routers in smaller schools and Cisco ISR G2 1941 gateway routers in larger schools. Once the network is in full production, prime contractor SVOA and Cisco partner, AIT (Advance Information Technology Public Company, Ltd.) will provide ongoing network management and monitoring services.

Cisco ISR G2 routers were a key component to the solution because of their all-in-one capability. Compared to the multiple-box solutions sold by competitors, Cisco ISR G2 routers provide traffic routing; firewall and VPN and URL filtering security; and videoconferencing support on a single chassis, which greatly reduces the cost of installation and support in the thousands of school locations. In addition, the 10/100 Mbit/second bandwidth offers the flexibility to support multimedia e-learning applications in the future. The ISR G2s can also be used to support wireless networks, which will further enhance the schools’ learning environment.

Another key feature is CiscoWorks LAN Management Solution (LMS), a suite of powerful management tools that allows the network operations staff to remotely configure, administer, monitor, and troubleshoot K-12 school networks, eliminating the need for onsite IT staff. Real-time network and device monitoring provides up-to-the-minute status and addresses potential problems before they affect operations and services.

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Expected Business Results

The Thailand OBEC network, powered by a Cisco IP WAN infrastructure, provides a solid secure foundation that provides a real impetus for educational innovation and inspiration to shape the country's future.

The integrated WAN simplifies and integrates formerly isolated education networks; significantly boosts bandwidth and security to support next-generation voice, video, and multimedia applications; and enables the ministry to consolidate administration services to improve reliability and reduce operational costs.

As Ratpiyapaporn notes "Integration is a key factor for us; most of the ministry uses Cisco equipment. We have limited IT resources, so the ability to have staff train on a single management system for operation and maintenance is an important benefit. The close system integration and interoperability also make it easier for us to expand in the future."

By bringing Internet access and distance learning programs into K-12 classrooms, even students in remote locations have the chance to learn from a wide range of subject experts within a larger "virtual" classroom. In addition, teachers, especially those in rural areas, will have an equal opportunity to acquire the high-quality professional development that they need to help their students achieve the same life goals as their urban counterparts.

PRODUCT LIST

Routing and Switching Hardware

- Small schools: Cisco ISR G2 892 gateway routers
- Larger schools and campuses: Cisco ISR G2 1941 gateway routers and Cisco Catalyst® 3560 switches
- ISR G2 routers support traffic routing; firewall, VPN and URL filtering security; and videoconferencing

Network Management Software

- CiscoWorks LAN Management Solution (LMS)

For More Information

- To find out more about Cisco ISR G2 with integrated unified wireless go to: http://www.cisco.com/go/isrg2.
- To find out more about Cisco Prime™ management, go to: http://www.cisco.com/go/prime.

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Printed in USA C36-711245-00 10/12

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