Retailer Maximizes Space, Increases Resiliency with "Store-in-a-Box"

Columbia Sportswear stores use compact Integrated Services Routers, which combine routing, switching, computing, and voice access.

EXECUTIVE SUMMARY

Columbia Sportswear Company
Retail
Portland, Oregon
3100 Employees

Challenge

· Minimize space, power, and cooling requirements for store IT infrastructure
· Help make sure network outages do not interrupt sales
· Simplify management

Solution

· Built store-in-a-box based on Cisco Integrated Services Router (ISR), containing Cisco UCS E-Series Server and 48-port switch
· Provided voice, voicemail, and instant messaging to stores from central Cisco Unified Communications Manager

Results

· Reduced store IT infrastructure from eight to four rack units, saving US$20,000 annually on power
· Provided backup connection for point-of-sale (POS) application and voice
· Eliminated cost of sending technicians to stores to install or update servers

Challenge

Columbia Sportswear Company sells apparel, footwear, accessories, and equipment to outdoor enthusiasts in more than 100 countries. The company has retail stores and branch offices across North America and is expanding globally.

"Retail floor space is most valuable for merchandise and customer service, not IT equipment," says John Spiegel, information systems and communications manager for Columbia Sportswear. But until recently, each store needed to make space for four IT devices: router, switch, server, and voice system. The server provides print and file services and a point-of-sale (POS) application that powers the cash registers. Each night the application connects to a database at headquarters to retrieve the latest pricing and inventory information.

Columbia wanted to shrink the IT footprint in its stores. One requirement was central management. This capability would save IT technicians from traveling to each store to add new applications or change speed-dial numbers, for instance.

Another requirement was helping to make sure that stores could accept payment cards and receive phone calls even if they lost their connection to the Multiprotocol Label Switching (MPLS) network.

Solution

Now 23 Columbia Sportswear retail stores have a complete "store-in-a-box": a Cisco® 3945 Series Integrated Services Router (ISR) that contains a Cisco UCS E-Series Server and 48-port switch. "The POS application is now a virtual machine on the blade server," says Suzan Pickett, manager of systems engineering for Columbia Sportswear. "Inserting a Cisco UCS E-Series Server in the router chassis doesn't require extra rack space. And when we refresh store servers every two to three years, it's as simple as sliding one blade out and inserting another."

> "Our store-in-a-box reduced rack space for routing, switching, computing, and voice services from eight to four rack units, a 50 percent reduction. Power savings amount to $20,000 annually."

John Spiegel
Information Systems and
Communications Manager
Columbia Sportswear

> "Inserting a Cisco UCS E-Series server in the router chassis doesn't require extra rack space. And when we refresh store servers every two to three years, it's as simple as sliding one blade out and inserting another."

Suzan Pickett
Manager of Systems Engineering
Columbia Sportswear

At night, the Cisco ISR connects over the MPLS network to the corporate data center in Portland, Oregon, to retrieve the latest product and pricing information for cash registers. It also connects to the Internet so that customers can use in-store kiosks to browse merchandise and order products that are not in the store. If the MPLS network connection is lost, stores can conduct business as usual by linking to headquarters over a VPN connection.

More than two-dozen stores no longer need an on-premises voice system because they receive voice and voicemail services over the network from a centralized Cisco Unified Communications Manager. If the connection to headquarters goes down, the in-store router automatically connects over the public switched telephone network, using a Cisco feature called Survivable Remote Site Telephony. The router resumes the WAN connection as soon as it is restored.

Fifty-five Columbia Sportswear branch offices have a similar setup. They use a Cisco ISR 2911 with a Cisco UCS E-Series Server that hosts business applications. These branch offices also use Cisco Virtual Wide Area Application Services (vWAAS) to optimize bandwidth between the offices and headquarters. As a result, the user experience is as good as it would be if applications were hosted in the next room. File transfers that previously took one minute now complete in 30 seconds.

Results

Smaller IT Footprint and Lower Costs

"Our store-in-a-box reduced rack space for routing, switching, computing, and voice services from eight to four rack units, a 50 percent reduction," Spiegel says. "Power savings amount to $20,000 annually."[1]

The 27 locations using Cisco Unified Communications save more. They consolidated from four telephone lines to two lines, used to back up the MPLS connection. Assuming a monthly cost of $30 per line, savings add up to $19,400 annually.

"By providing complete store infrastructure in half the space, the Cisco ISR frees up more real estate to sell product and provide customer service," says Michael Leeper, director of global technical infrastructure for Columbia Sportswear. "We also have the flexibility to quickly add new IT services such as sales analytics, digital signage, or customer behavior analysis without the time and costs of adding physical servers. IT no longer slows down the speed of business."

Better Business Continuity

Redundant components and communications lines help customers keep on shopping. For example, stores can continue accepting payment cards even if one power supply fails because the Cisco ISR has redundant power supplies.

Customers can also purchase items during planned or unplanned server outages. That's because the POS application is virtualized. "We have the flexibility to temporarily move the virtual machine from the Cisco UCS blade server to a public cloud during store remodels, for example," Pickett says.

And customers can reach stores by phone even if the WAN link is down. The router senses the lost connection and automatically connects to the public switched telephony network. This feature helps to prevent lost sales opportunities if a customer cannot reach a store and assumes it is not open, for example.

---

[1] Each location is saving 2 amps of power annually. Calculation assumes a cost of 12 cents per kilowatt-hour.

> "By providing complete store infrastructure in half the space, the Cisco ISR frees up more real estate to sell product and provide customer service. We also have the flexibility to quickly add new IT services such as sales analytics, digital signage, or customer behavior analysis without the time and costs of adding physical servers. IT no longer slows down the speed of business."

Michael Leeper
Director of Global Technical Infrastructure
Columbia Sportswear

Simplified Management

"We chose the Cisco ISR partly because it's easy to set up and manage," says Spiegel. For example, technicians no longer have to rack, stack, and power four separate systems, or to install the operating system and applications on a physical server. Before, deploying or replacing store infrastructure took days. Now the IT team just ships the router to the store, and any employee can connect it in minutes.

Server management is simpler, too. "We just manage one virtual machine, a standard image for all stores," says Pickett. "We spend less time on management, and there are fewer possibilities for human error."

And instead of coordinating four separate Cisco SMARTnet® contracts for switches, routers, and a voice system, Columbia manages just one contract for a router that combines all of those functions. The company pays 30 percent less for SMARTnet support for the locations using the store-in-a-box.

No More Sending Server Administrators to Stores

Finally, the store-in-a-box is helping the IT team more quickly fulfill requests for new business applications. For example, one department recently asked the IT team to briefly gather new kinds of POS information for analysis. "Before, we would have had to ship another server to each store and to send someone to configure and install it. We couldn't have done it in time," says Spiegel. "But with the Cisco UCS E-Series server, we just created a new virtual machine, transferred it over the network, and deleted it when the project was done. We're more nimble now."

Next Steps

The IT team is working on modifying the store-in-a-box for other types of stores, such as "pop-up" stores selling apparel at sporting events. Columbia Sportswear also plans to deploy the Cisco ISR in global stores. "Cisco's global presence for support makes it practical to use the same platform as we expand to China, simplifying our IT program," says Pickett.

PRODUCT LIST

Switches and Routers
Cisco Integrated Services Router 3945 (stores) and 2911 (branches)
Cisco UCS E-Series Server
Cisco Virtual Wide Area Application Services (vWAAS)

Unified Communications and Collaboration
Cisco Unified Communications Manager at headquarters
Cisco Unified IP Phones 8961 and 6961

Application Networking Services
Cisco Wide Area Application Services

For More Information

To learn more about Cisco Integrated Services Routers, visit: www.cisco.com/go/isr.

To learn more about Cisco UCS E-Series Servers, visit: www.cisco.com/go/ucse.