



## Alaskan Bank Virtualizes Branches to Boost Productivity

Cisco ISR G2 with Cisco UCS E-Series Servers Provides Flexible Branch-in-a-Box Solution to Fit Varied Business Needs

### Northrim Bank

Industry: Financial services

Location: Headquartered in Anchorage, Alaska; more than 12 branch offices, 4 data centers

Network Users: 250 employees, 15 percent remote and mobile users

### Business Challenge

- Business continuity and strong security are important competitive differentiators.
- Slow bandwidth delivery hampers employee productivity and affects customer service.
- Different WAN configurations and server setups among branch offices create IT support challenges.

### Business Challenges

Northrim is a commercial bank, headquartered in Anchorage, Alaska, and committed to providing customer-first service. The bank specializes in serving businesses, professionals, and individual Alaskans who are looking for personal service and value. It employs 250 people, half of whom work in the main office in Anchorage; the rest work in branches as far north as Fairbanks. Fifteen percent of workers, mostly financial specialists or bank executives, travel by car or plane between branch locations, which can span hundreds of miles.

Three years ago, Erick Stoeckle, network system manager and IT architect for Northrim Bank, faced the challenge of upgrading the bank's 10- to 15-year-old data center and WAN infrastructure to meet the growing needs of bank customers.

Due to WAN limitations, many branch offices could not sustain a high number of data-intensive user virtual desktop infrastructure (VDI) sessions. Slow serial connections between banking applications accessed over WAN VDI sessions and local printer and terminal devices also created customer delays at the teller line.

"Our move to virtualization was driven by business continuity and performance issues: slow connectivity, WAN outages, and application latency," says Stoeckle.

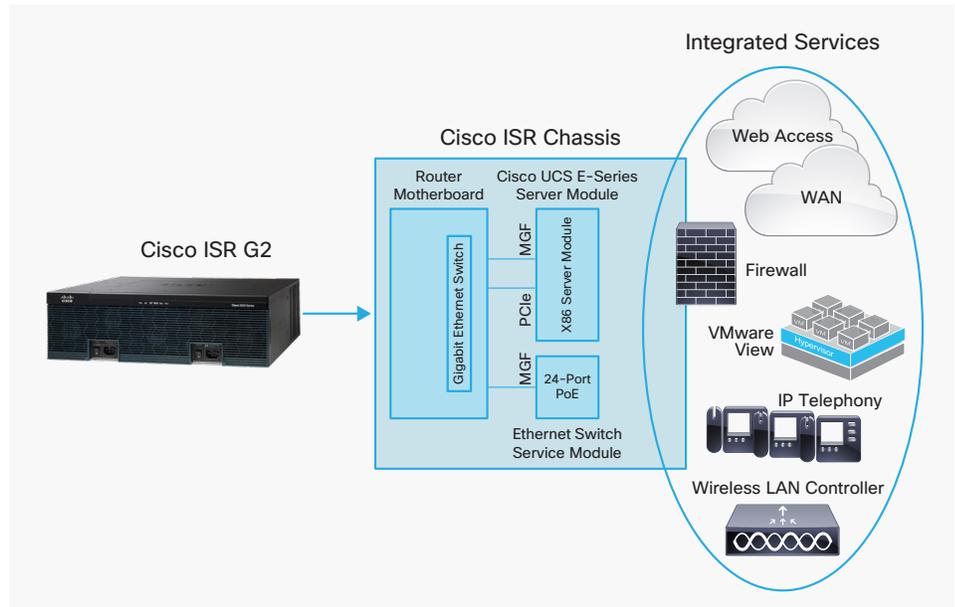
### Network Solution

In the initial phase, Stoeckle turned to Kovarus, a leading systems integrator specializing in increasing IT efficiency. Stoeckle wanted a solution that aligned with the bank's unique business needs, while staying within existing budget constraints. Together with Kovarus and Cisco solutions, Stoeckle and his staff revamped Northrim's entire network, virtualizing server hardware and co-locating the data service center to strengthen business continuity. The network was upgraded to an Ethernet Multiprotocol Label Switching (MPLS) architecture with Cisco Nexus® 5010 Switches in the distribution layer. MPLS technology helps enable scalable VPNs with rapid link and node fault correction for high availability, and offers simpler configuration and management for differentiated end-to-end IP services.

Stoeckle and his staff also used Cisco dynamic multipoint VPN (DMVPN) technology to build a full-mesh VPN network that encrypts all branch

### Network Solution

- Cisco® 2900 and 3900 Series Integrated Services Routers Generation 2 (ISR G2)
- Cisco UCS® E-Series Servers on ISR G2
- Integrated, locally hosted VMware Horizon View and ESXi Hypervisor Branch Office Desktop VDI software and Datrium DVX storage optimization software



communications. By securing web transmissions, they could employ the Internet as a cost-effective secondary communications path to back up their primary private WAN links.

“The data center virtualization project was very successful, so we decided to look at desktop virtualization,” Stoeckle says.

He and his staff did performance stress testing, loading the Cisco and VMware VDI platform with multiple demanding end-user applications. The results convinced them that the platform was mature and stable enough to use in their bank operations.

“Through trial and error, we determined we can comfortably run 120 virtual desktops and a handful of required VDI servers on a dual-socket host server,” Stoeckle says.

Next, he and his staff, with assistance from Cisco and Kovarus, conducted a hands-on demonstration with bank executives to illustrate how the technology could produce real-world performance and business benefits. “The demonstration was a big step in getting project approval,” he says.

The Cisco digital-ready branch solution that Northrim chose consists of the award-winning Cisco ISR G2 routers with Cisco

UCS E-Series Servers, VMware Horizon View desktop virtualization software, and Datrium DVX storage optimization software.

Bank employees typically run a mix of desktop, server, and web applications on their desktops, and some VDI applications must be located out at the branch to counter latency-sensitive equipment such as specialized serial printers.

“The beauty of the Cisco-VMware VDI solution is that it gives us the flexibility to run centralized or distributed applications at each branch, so we can apply whatever works best for a particular situation,” Stoeckle says.

Stoeckle explains that the ISR G2 and Cisco UCS E-Series Server modules provide plenty of power and capacity to run server and desktop virtualization, data and web security applications, and more. For example, the IT staff uses virtual storage area network (SAN) software that replicates branch databases to one of the data centers to further maintain business continuity. Additional Cisco UCS E-Series Servers can be added to the ISR G2 router to support services such as video surveillance, IP telephony, wireless integration, and many others.

### Business Results

- High availability and reliability significantly improve business continuity.
- 50 percent drop in branch office system infrastructure operating costs were achieved by eliminating segregated server management, maintenance, licensing, and energy consumption.
- Users experience consistent, reliable connectivity, and application performance in any location.
- Integrated solutions are easier to manage and remotely provision, helping to accelerate branch expansion efforts.

*“Not only does our VDI solution on the Cisco UCS E-Series improve the employee-customer experience today, but because of the capacity of the UCS E platform, we expect to sustain an additional two to three times the current load moving forward.”*

**Erick Stoeckle**  
Network System Manager and  
IT Architect, Northrim Bank

Stoeckle has recently added Cisco Unified Communications Manager for IP telephony and Cisco Unity® Express messaging to branch applications hosted in the ISR. This has resulted in what he calls a “complete ‘branch in a box,’ with the router-server running network and voice services, and server and desktop virtualization.”

### Business Results

“Cisco did an amazing job with us on the network data center project, so our expectations were high, but we found it was just as stellar with our virtual server project,” Stoeckle said. He and his bank are excited by their VDI solution on the Cisco UCS E-Series Server and its many business benefits. These include:

- **Significant cost savings:** Stoeckle estimates that Northrim will recoup 75 percent in physical space by eliminating the uninterruptible power supply (UPS), keyboard-video-mouse (KVM) switch, and patch cabling. He also expects to save 50 percent on server maintenance and software license expenses from the VDI solution, because physical servers and support equipment have been virtually eliminated.

In addition, thanks to Datrium DVX storage optimization software, Northrim doubled its virtual desktop density, resulting in a lower cost per virtual desktop.

- **Powerful, compact design that saves space:** The small Cisco form factor was a key selling point because Northrim’s sleek redesigned branch offices no longer have the storage space to store bulky networking and telecom equipment. Other vendor solutions required separate racks and UPS, and were not integrated.

Stoeckle says, “Instead of taking up an entire room, our Cisco solution lets us fit everything for the branch office into a small, lockable wall-mount rack that fits in a break room, or anywhere, really.”

- **Integrated solution that enhances employee productivity and the customer experience:** The Cisco Digital-Ready Branch solution provides the benefits of VDI across a WAN without introducing unnecessary delay or requiring higher bandwidth. It places latency-sensitive workstations closer to users and file and print resources at the branches.

With the single-solution Cisco approach, all Northrim employees experience the same level of network performance, access, and reliability. Stoeckle says that VDI is particularly important for mobile workers, because they can now count on the same setup, regardless of their location.

Employees report that computer response times have increased significantly and application errors have disappeared.

“Not only does our VDI solution on the Cisco UCS E Series improve the employee-customer experience today, but because of the capacity of the UCS E platform, we expect to sustain an additional two to three times the current load moving forward,” says Stoeckle.

- **Integrated solution and centralized management, saving IT support and travel time:** The Cisco ISR G2 routers also use the same monitoring alerts, Cisco IOS® Software, and power supply, and they are covered under the same Cisco SMARTnet™ service as their existing data center equipment.

“We have a very lean IT staff, so we find SMARTnet technical support, software upgrades, intelligent diagnostics, and hardware replacement extremely valuable, and Cisco customer service is second to none,” says Stoeckle.

He works with many other network companies, and notes that they have a lot to learn from the way Cisco treats its customers.

### For More Information

- To learn more about Cisco UCS E-Series Servers, go to <http://www.cisco.com/go/ucse>.
- To learn more about Cisco UCS servers for the data center, go to <http://www.cisco.com/go/ucs>.
- To learn more about Cisco ISR G2 routers, go to <http://www.cisco.com/go/isrg2/index.html>.
- To learn more about the Cisco Office-in-a-Box solution with VMware go to [http://www.cisco.com/en/US/prod/collateral/ps10265/ps12629/white\\_paper\\_c11-715347.html](http://www.cisco.com/en/US/prod/collateral/ps10265/ps12629/white_paper_c11-715347.html).
- To learn more about Cisco SMARTnet service, go to <http://www.cisco.com/go/smartnet>.

Northrim has left the old days of managing disparate systems behind.

“We can peer into individual Cisco hardware modules as well as software applications and monitor network performance within and between branches from one VMware View Virtual Center console,” Stoeckle says.

Centralized management also saves staff time and reduces travel, because the IT staff can troubleshoot and fix issues from anywhere, even from home. Faster and more stable bandwidth delivery has also reduced trouble ticket resolution time.

From his vantage point, Stoeckle sees Cisco as integral to Northrim’s business in the long term, providing stable, reliable solutions that are backed by strong corporate support and a leading position in the industry.

“We believe that Cisco has aligned itself in the digital age for the digital future,” he says.

### Product List

- Cisco ISR G2 with Cisco UCS E-Series Servers
- VMware ESXi 5.0, VMWare Horizon View, and Datrium DVX storage optimization software embedded in Cisco UCS E-Series Servers
- Cisco WebEx®, Cisco voice-over-IP (VoIP) softphone client, Cisco Jabber®, Cisco Unified Communications Manager, Cisco Unity Express, Microsoft Skype, and Slack
- Cisco SMARTnet support service



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