

## Leading Financial Holding Company Centralizes IT, Increases Application Performance with Cisco Application Switching Solution

First National Bank of Nebraska Selects Cisco ACE module to create a one stop shop for centralized management.

EXECUTIVE SUMMARY
<p><b>Customer Name:</b> First National Bank  <b>Industry:</b> Financial  <b>Location:</b> Omaha, Nebraska  <b>Number of Employees:</b> 7500</p>
<p><b>BUSINESS CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• Needed a solution to integrate multiple functions while increasing throughput and getting around policy-based routing</li> <li>• Required application performance enhancements; virtualization for easier management</li> <li>• Needed a solution that would leverage and complement the existing Cisco 6500 switches</li> </ul>
<p><b>NETWORK SOLUTION</b></p> <ul style="list-style-type: none"> <li>• Upgraded network to streamline infrastructure, consolidate resources, and improve application performance.</li> </ul>
<p><b>BUSINESS RESULTS</b></p> <ul style="list-style-type: none"> <li>• Extreme reliability, high availability and performance</li> <li>• Ability to allocate and consolidate resources through virtualization</li> <li>• Accommodate future growth</li> </ul>

### Business Challenge

First National Bank is a subsidiary of First National of Nebraska, Inc., a multistate holding company located in the heart of downtown Omaha. First National of Nebraska and its affiliates serve over 6.6 million customers in all 50 states, with more than 90 banking locations in Nebraska, Colorado, Illinois, Iowa, Kansas, South Dakota, and Texas. The financial institute has over US\$18 billion in managed assets, ranking it as one of the 50 largest banks in the United States. First National has also been serving Omaha and surrounding communities for 150 years, and is one of the oldest, privately held banks in the United States.

First National of Nebraska manages the network connectivity for all of its affiliate banks via an enterprise MultiProtocol Label Switching (MPLS) network with a core distribution layer. The network environment is centered on Cisco® equipment, including Cisco Catalyst® 6000 Series Multilayer

Switches, Cisco Catalyst 3750, Cisco Catalyst 3500 and Cisco Catalyst 6500 switches. This technology allows the IT staff to move domains at will.

**“First National virtualizes everything including servers, routing porting tables, and the network. Now that we have the ability to virtualize or create secure virtual devices within the same ACE module and still obtain incredible throughput, there was nothing else to consider; the Cisco ACE made perfect sense.”**

—Patrick Stephens, Network Engineer, First National of Nebraska

In addition, First National has deployed four Cisco MDS 9509 Multilayer Directors for a high-performance storage-area network (SAN) that manages 116 terabytes of storage. When First National decided to upgrade its SAN, IT staff members reviewed available products on the market, and made the decision to move to the Cisco solution. “We have had good experiences working with Cisco, and were drawn to some of the new features offered on the MDS solutions such as VSANs [virtual storage area networks],” says Jeff Dent, lead engineer at First National. As business continues to expand at First National, Dent plans to add additional Cisco MDS Directors to increase storage capacity.

With well over 7500 users, First National runs literally hundreds of applications that are both customized and standard. According to Patrick Stephens, network engineer for First National, with such a large network to manage and multiple fiber and layer-2 connections, the IT department faced challenges, including a lack of centralized management and an inability to view routing tables to efficiently route information.

“We had a difficult time readily viewing routing tables, and it had become a challenge to keep track of what was where,” says Stephens. “We would make a change to VLAN, and it would completely muddle the gateways, and we were not able to perform policy-based routing such as WCCP [Web Cache Communications Protocol]. It was clear that we needed a way to resolve the no policy-based routing issue and have more central control.”

### **Network Solution**

Stephens and the IT team at First National began looking at a cost-effective application control engine (ACE) from Cisco to help centralize their routing and maximize the availability and performance while leveraging their existing Cisco 6500s. First National decided on the Cisco ACE module for the Cisco Catalyst 6500 Series and Cisco Catalyst 6500 Series Supervisor Engine 720. So far they have deployed two ACE modules in a redundant setup.

Todd Kleinsasser, network engineer at First National, says the Cisco ACE module for the Cisco Catalyst 6500 Series is also helping First National offload Secure Sockets Layer (SSL) processing that had previously been a function of another vendor product.

“The capability of performing multiple tasks on the Cisco ACE makes it so much more appealing to us than having Websites run through a traditional Web load balancer,” says Kleinsasser. “Using the ACE to offload SSL will streamline the process for us and make it so much easier to troubleshoot.”

### **Business Results**

Stephens says that he and his team were so impressed with the Cisco ACE module’s ability to consolidate network functionality that they decided to move all of their load-balancing, routing, and content switching functions to the Cisco ACE, reducing the required quantity of servers, load balancers and SSL devices.

“The Cisco ACE has proven to be something that is much more than just the routing and management functions,” says Stephens. “We had been running a content switching module (CSM) for a Cisco load-balancing solution, but have decided to replace that with the ACE as well. The Cisco ACE module is a great device and as far as keeping data simplified in the chassis, there’s nothing else that works better than the ACE.”

Stephens cites virtualization as another key feature of the Cisco ACE, which allows for centralized and Web-portal management. “First National virtualizes everything including servers, routing porting tables, and the network,” says Stephens. “Now that we have the ability to virtualize or

create secure virtual devices within the same ACE module and still obtain incredible throughput, there was nothing else to consider; the Cisco ACE made perfect sense.

Robust application acceleration, as well as streamlined and centralized management are other benefits that Stephens says have come out of the Cisco ACE. “From our perspective, Cisco ACE keeps our tasks much simpler because we now go to only one device or a pair of devices. Ordinarily we would have to access multiple systems to perform the same functions,” says Stephens. “For our troubleshooting purposes alone, we are seeing a sharp increase in productivity for the IT staff.”

### Next Steps

According to Stephens, the initial rollout of the Cisco ACE has been very successful, and the IT department has plans to expand the Cisco ACE into future data centers within the organization.

“The next phase of our plan is to roll out four more of the Cisco ACE modules in our server farms,” says Stephens. “The idea is to have the ability to perform internal Website load-balancing, internal QA, SSL testing—basically all the same tasks we are performing out on the external, only we will have the ability to do it centrally.

As First National moves forward with virtualization, Stephens says they will leverage the Cisco ACE module to perform roles-based access control where IT staff will be granted certain rights based on certain policy configurations, specifically where this aids First National in virtualizing SSL, load balancing, and administrating server farms.

“We are very excited to leverage the Cisco ACE roles-based administration functionality for our IT subgroups,” says Stephens. “One of the things that I think we will enjoy immensely about the ACE is having the freedom to empower other members on the team. Granting different permissions within certain virtual devices, at a more granular level for what can be done within that given virtual device, is going to be a big plus for us. Cisco ACE has given us more confidence to allow designated team members to take ownership for their own sites and services.”

#### PRODUCT LIST

##### Cisco Application Networking Services:

- Cisco® ACE module for the Cisco Catalyst® 6500 Series
- Cisco Catalyst 6500 Series Supervisor Engine 720

#### For More Information

Find out more about Cisco ACE module for the Cisco Catalyst 6500 Series, please visit <http://www.cisco.com/go/ace>.



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