



## CUSTOMER SUCCESS STORY

# AHOLD USA SELECTS CISCO FOR EFFICIENT STORAGE SWITCHING AND DISASTER RECOVERY

### EXECUTIVE SUMMARY

#### CUSTOMER NAME

- Ahold USA

#### INDUSTRY

- Retail

#### BUSINESS CHALLENGE

- Consolidation of six data centers to two
- Existing storage fabric switches expensive to manage and support, difficult to scale
- Cost-effective disaster recovery solution needed for both mission-critical and midrange data

#### NETWORK SOLUTION

- Cisco® MDS 9509 Multilayer Director Switch with Cisco MDS 9000 IP storage services module and IBM SAN Volume Controller Storage Software
- Cisco MDS 9216 Multilayer Fabric Switch
- Cisco MDS 9100 Multilayer Fabric Switch

#### BUSINESS VALUE

- Reduced SAN management complexity while providing more ports
- Reduced disaster recovery costs while replicating more applications
- Faster provisioning for new storage or disaster recovery
- Lower total cost of storage network

Ahold USA is a leading food service provider in the United States, with six operating companies conducting business in more than 1600 retail stores. Ahold USA's retail operations comprise Stop & Shop, Giant-Landover, Giant-Carlisle, Tops, BI-LO, Bruno's, and Peapod. Ahold USA is the American arm of Netherlands-based Ahold, the third-largest food provider worldwide. Ahold began acquiring U.S. companies in 1977, and today Ahold USA employs more than 170,000 people.

### BUSINESS CHALLENGES

Together, retail stores under the Ahold USA umbrella serve approximately 20 million customers each week. Effectively serving such a large number of customers requires efficient supply-chain management, including rapid dissemination of pricing, buying history and trends, promotions, and other sales and marketing information. The applications supporting these activities, while not mission-critical, are vitally important. In the competitive food retail business, any brief failure to react to customer preferences can cripple margins.

Ahold USA had its business applications distributed across six data centers. Some of the data centers were inherited from operating companies purchased over the years, resulting in several different standards and equipment. Ahold Information Services (AIS), the information technology (IT) arm of Ahold USA, is responsible for providing and supporting IT-related products and services to Ahold USA's family of companies. Headquartered in Greenville, South Carolina, AIS employs 1200 people. To reduce support costs, AIS began a project to consolidate its six data centers to two, with the eventual goal of standardizing protocols and equipment across the entire organization.

AIS also maintained two storage area networks (SANs), one in Greenville and another in Boston, Massachusetts. As Ahold USA grew, so did its storage requirements, until AIS was managing 105 terabytes across 1000 servers with more than 85 Fibre Channel fabric switches. Managing and supporting so many switches became a costly burden. Adding a new switch required many hours of network planning, and each new switch only added to the management and support complexity. Further, the system of switches became increasingly inefficient—3 of the 12 ports on each switch were used for interswitch links. As part of the data center consolidation project, Ahold USA decided to undertake a SAN consolidation project as well, collapsing its SAN islands using

director-class switches.

AIS also recognized the need to implement a cost-effective disaster recovery plan for many of its distributed applications. AIS had outsourced disaster recovery of mission-critical financial applications, at a cost of more than \$70,000 a month. However, it was prohibitively expensive to extend that outsourcing to all applications. As a result, many other applications, including some supply-chain applications, were only backed up to tape. This meant any application failure could take days or even weeks to get back online. Midrange applications were not backed up at all. Although

many applications are not deemed mission-critical, they are still essential to running a competitive retail operation. “Retail is different from other industries,” says Chris Collins, senior manager, AIS Infrastructure Planning. “We don’t have huge amounts of mission-critical information. At the same time, since we are so geographically dispersed, we are more dependent on tools like e-mail and marketing applications.” To deploy a managed, outsourced disaster recovery solution for all applications would cost Ahold USA millions of dollars a year. Instead, AIS began looking for a solution that it could manage in house to mirror both mission-critical and midrange applications.

## **NETWORK SOLUTION—CISCO MDS 9000 FAMILY OF MULTILAYER AND FABRIC STORAGE SWITCHES**

AIS began an evaluation of first-tier vendors in the storage networking industry. Cisco was not initially considered, despite being a supplier of networking equipment to Ahold USA. “We were initially hesitant to use Cisco because we saw them as a networking company who didn’t know storage,” says Collins. “But once we saw all the benefits networking technologies brought to the storage environment, we’re now asking storage vendors what they know about networking.”

After its initial reluctance, AIS was impressed with the modularity and scalability of the Cisco MDS 9000 Family of switching products. AIS acknowledged it could collapse the existing mesh of switches into an efficient configuration using a combination of Cisco multilayer director and multilayer fabric switches. AIS also appreciated the depth and breadth of management tools available with the Cisco MDS 9000 Family. “Cisco Fabric Manager software allows us to manage the fabric itself, see hot points, and the end-to-end traffic in the entire fabric,” says Collins. “This level of functionality isn’t available anywhere else in the SAN environment.”

What tipped the balance in Cisco’s favor was the Cisco MDS 9000 Family’s integrated support for Fibre Channel over IP (FCIP). “We knew we needed FCIP from the beginning,” says Collins. “With other vendors we considered, we would have had to build a whole separate fabric for IP traffic and segregate local traffic from traffic over the WAN. With Cisco, there is no extra equipment. We just call out the ports and manage IP traffic from the same tool.”

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Another differentiator was the ability to deploy and internally manage disaster recovery. The Cisco MDS 9000 Caching Services Module integrates two high-performance processing nodes that, when combined with IBM TotalStorage SAN Volume Controller storage software for Cisco MDS 9000, deliver network-hosted virtualization and replication services. AIS chose to run IBM’s Peer to Peer Remote Copy (PPRC) solution on IBM TotalStorage SAN Volume Controller.

The new storage configuration enabled by Cisco is more efficient, scalable, and cost-effective than the previous SANs. AIS consolidated its data centers to just two, in Greenville and Boston. In each data center, two redundant fabrics were created using four Cisco MDS 9509 multilayer director switches. Cisco MDS 9000 IP Storage Services modules with FCIP are used to connect the two data centers. These highly available links serve as the long-distance transport for IBM’s PPRC software, providing an integrated data replication and disaster recovery solution between the two data centers. Cisco MDS 9506 multilayer director switches are deployed at the edges to interconnect storage. Cisco MDS 9216 switches are also at the edges to interconnect midrange AIX servers. All SAN switching, data replication, and disaster recovery are managed from a single tool, Cisco Fabric Manager software. In all, AIS deployed about 1300 switch ports.

## **BUSINESS VALUE—IMMEDIATE RETURN ON INVESTMENT**

“It was a very hard decision to migrate from our existing SAN switch environment to Cisco because of the large scope of the project,” says Collins. “However, with effective planning and the support of Cisco’s services group, the project was more than worth it. We had a positive return on investment from day one. That doesn’t happen very often.” By reducing the number of interswitch links, AIS calculates it will save \$150,000 a year. Additional port provisioning is also much easier. Rather than agonizing over where a switch should go and changing network configurations, AIS can simply add more port modules to its Cisco MDS switches and configure them easily using Cisco Fabric Manager.

Owning and internally managing its own disaster recovery network also added up to significant savings. AIS calculates that it will save \$432,000 a year after the initial capital investment, while replicating much more data than previously. This savings is over and above the significant savings in management and support of the storage network. “The most exciting piece for us is the cost-effective, in-house disaster recovery,” says Collins. “We’ve got five more applications in the queue. All we have to do is add more storage, configure remote copy services, and it’s up and running. This takes 15 minutes. Provisioning a disaster recovery circuit would take weeks.”

## **NEXT STEPS**

With the advanced multiprotocol functionality enabled by the Cisco MDS 9000 Family, AIS is confident about the future of its storage network. “We’ll continue to grow as our storage needs grow, and we plan to do that with our Cisco switches,” Collins says.

In terms of new projects, AIS is considering attaching its mainframes to the Cisco storage network, as the Cisco MDS 9000 Family supports IBM Fiber Connection (FICON). The group is also interested in the virtualization technology integrated into the Cisco MDS 9000, which would allow it to create virtual SANs (VSANs) to separate open systems from mainframes to be attached in the future. “The Cisco MDS 9000 is an elegant solution enabling us to standardize our entire storage infrastructure on a common platform,” says Collins.

## **FOR MORE INFORMATION**

To find out more about Cisco storage networking solutions, go to: <http://www.cisco.com/en/US/products/hw/ps4159/index.html>

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