



Retail Star Manages Rapid Data Growth to Keep Pace with Business Success

EXECUTIVE SUMMARY

Starbucks Coffee Company

- Specialty coffee retailer
- Seattle, Washington USA
- Over 11,225 stores world wide

BUSINESS CHALLENGE

- Design a scalable storage system to manage rapid data growth
- Create a robust disaster recovery system
- Accommodate new projects such as business process automation and business intelligence applications

NETWORK SOLUTION

- Upgraded to a Cisco-based SAN using Cisco MDS 9509 Multilayer Directors
- Second data center functions as a disaster recovery site

BUSINESS RESULTS

- Rapid business growth is supported through a highly scalable, flexible SAN
- Data is better protected, helping to ensure business continuity
- New business needs can be more easily supported through flexible, scalable storage solution

Starbucks Coffee Company supports phenomenal growth with a Cisco Storage Area Network.

BUSINESS CHALLENGE

Founded in 1971 and headquartered in Seattle, Washington, Starbucks Coffee Company is the premier purveyor of the finest coffee in the world. It has been recognized repeatedly by Fortune Magazine as one of the “Ten Most Admired Companies in America” and also as one of the “100 Best Companies to Work For.” With a fiercely loyal customer base, Starbucks is known globally for its legendary specialty coffee and service, the unique *Starbucks Experience* and commitment to communities that it is a part of.

With the goal of establishing itself as the most recognized and respected brand in the world, Starbucks is continually expanding its retail operations and growing its specialty sales and other operations. An average of five new stores are opened around the world every day, which means rapid data growth in tracking new stores, inventories, employees, and customers.

Accommodating fast-paced business growth while keeping operational costs under control is the challenge faced by the Starbucks IT staff. The company is also continually searching for ways to automate business processes to improve productivity, efficiency, and customer satisfaction. To remain a leader in the retail world, Starbucks uses sophisticated business intelligence applications to analyze a variety of data on various trends, and the acceptance of new product offerings. All pertinent sales, inventory, and

other data is captured and sent to Starbucks’ data center in Seattle. This means massive amounts of data flow into headquarters daily. The Starbucks data storage team manages over 200 Terabytes of data and anticipates 25-30 percent data growth annually. “Our store managers have a lot of independence in running their retail operations, but they depend on headquarters for centralized support for all data capture, analysis, and storage,” says Randy Raisor, manager, Starbucks Enterprise Storage Solution. “A key challenge for my team is creating a data storage environment that is flexible and scalable enough to support that data growth, as well as new applications and projects as they emerge. Capacity management is a very big challenge.”

NETWORK SOLUTION

Starbucks has evolved its data storage solution over the years, taking advantage of new technologies as they became available. In 2004, the storage team decided to upgrade their storage area network (SAN) to take advantage of capabilities that Cisco® offered over their previous switch vendor. Their goals were to implement a more robust disaster recovery plan, create a more scalable architecture, and provide a platform that could accommodate future growth and new projects.

Under Raisor’s leadership, the storage team designed a new architecture with redundant SAN fabrics, based on Cisco MDS 9509 Multilayer Directors, with two Cisco directors in each SAN. The main SAN connects a heterogeneous server environment with storage

systems located in the headquarters data center in Seattle. Over a two-month period, Raisor and his team migrated their data from the old SAN to the new Cisco-based SAN, with no disruption of service to business applications. “We planned the data migration carefully so that we could accomplish it smoothly,” says Raisor. “Our mission-critical applications were never affected.”

The team also set up a second SAN, located at a remote secondary data center. “We set up the secondary data center as our disaster recovery site, and we wanted to replicate our data to that site,” says Denise Rene, senior technical architect, Starbucks Enterprise Storage Solution. “The Cisco switches gave us Fibre Channel over IP capability, so that we could easily use SAN extension over distance to that remote site, using gigabit Ethernet.”

The storage team also selected Cisco switches because of their unique capability to create Virtual SANs, which allows Starbucks to logically separate their operating systems. The Windows and UNIX systems are isolated from each other while still residing on the same physical SAN, providing a system management benefit for the storage team. In addition, the team found Cisco SAN fabric management very similar to the management with which they were familiar in their Cisco Catalyst® 6509 and 6513 networking switches. “The command language and management interface is very easy to use,” says Rene. “That makes it less complex for our small staff to manage such a large data storage environment.”

“We also like the modular blade architecture in Cisco Directors, because it gives us flexibility in selecting exactly what we need, with the ability to add, mix, or match modules as needed,” says Zac Lin, senior technical architect, Starbucks Enterprise Storage Solution. “If we want to, we can take advantage of new technologies like four gigabit per second port speed, just by adding new Cisco modules to our current Cisco directors.”

Starbucks completed the move of all of its major enterprise applications onto the new SAN, including data warehouses, human resources and financial databases, merchandise planning, and e-mail. Now a third production data center is being planned for the near future to accommodate continuing data growth. It will have the same SAN design, using two Cisco MDS 9509 Directors for redundancy.

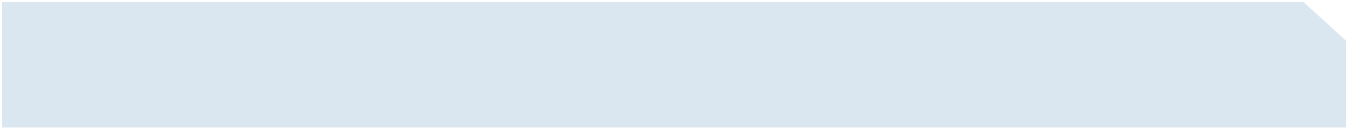
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—Randy Raisor, manager, Starbucks Enterprise Storage Solution

BUSINESS RESULTS

With the new SAN solution in place, Starbucks recognized a number of important benefits to its operations. “We now have the flexibility to scale our storage environment to accommodate the needs of the business,” says Raisor. “And we can easily manage that environment, adding new technologies and capabilities as we need them.” The new SAN also enables a very robust disaster recovery strategy, so that replicated data is available as needed should any major problem affect the main data center. This helps ensure business continuity in the event of any disaster, an ability that is critical in today’s 24-hour global business environment.

In addition, the new SAN will be able to quickly and easily provision storage for any new projects, including new business intelligence applications, business process automation applications, and new store design and development applications. “We just completed a new project that integrates store design with the actual build-out of the store, making it a more transparent process,” says Raisor. “Projects like that take an enormous amount of storage, and the information needs to be shared over a wider and wider audience. Our Cisco-based SAN can handle these new projects and demands for storage provisioning with no trouble.”



NEXT STEPS

What is on the horizon for the Starbucks storage team? “Managing growth on a global scale will continue to present us with challenges,” says Raisor. “We anticipate multiple production data centers in the future. Where will they be located, how will we manage them, and how will we move data between them? These are some things that we are already thinking about and how we will address them will be next.”

FOR MORE INFORMATION

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Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

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