



CASE STUDY

Solution at-a-glance

Company

Software Spectrum, a Level 3 Communications subsidiary

Industry

Software services

Employees

2,500

Storage application

Storage area network (SAN)

StorageTek® solutions

- D178 disk subsystem
- SANtricity™ Storage Manager software
- Global Services

Related solutions

- Consulting and integration services from Soccour Solutions
- SAN with Brocade Silkstorm fabric switches with 12 Emulex host bus adapters (HBAs) and 8 JNI HBAs
- Sybase, Microsoft SQL Server databases
- UNIX, Sun Solaris and Windows NT systems

Business results

- Increased system uptime
- Faster system performance
- Centralized management
- Backups reduced by 65 percent
- Batch processing reduced by 24 hours each week
- Query time for Sybase database reduced by more than 50 percent

Software Spectrum, a Level 3 Communications subsidiary

Level 3's Software Spectrum increases performance, uptime with StorageTek disk system.

As a global provider of business-to-business software services, Level 3 Communications' Software Spectrum subsidiary depends heavily on its information storage systems. The core of the company's business was housed in a Sybase database within a legacy Sun disk environment. The Sybase system supported the company's vast 24 x 7 Web-based software sales operations and its internal ordering system. Downtime could not be tolerated because inoperable systems can translate into lost revenue.

Business issues

As Software Spectrum's business grew in size, problems grew in its storage environment. The company's data center was experiencing frequent disk failures, some of which required rebuilding disk-based data from tape backup systems. Performance was sluggish for batch runs and other input/output (I/O) intensive operations. What's more, the company faced special management challenges associated with storage devices that were directly attached to multiple UNIX and Windows NT systems, each of which had to be managed independently.

Faced with these complex storage issues, Software Spectrum determined that it needed a major upgrade in its storage environment to provide the highest levels of system reliability, increase system performance and enable centralized management of disk resources.

The solution

Software Spectrum worked closely with Soccour Solutions, a StorageTek® value-added reseller, in the quest to identify a comprehensive solution to its complex storage issues. After a detailed evaluation of competitive products, including systems from IBM, EMC and other vendors, Software Spectrum selected a storage area network (SAN) solution built around a StorageTek disk subsystem. "Software Spectrum looked at all

the leading products, then selected a solution by Soccour Solutions that is built around the StorageTek D178 disk subsystem. It was by far the best bang for the buck. In our first six months this SAN solution has performed flawlessly and has had no downtime," said Ralph Henderson, Software Spectrum's manager of UNIX systems.

Solution components include:

- A D178 disk subsystem (2-gigabit Fibre Channel) with 3 terabytes of immediate disk storage and ample scalability for future growth
- SANtricity Storage Manager software, the result of a strategic alliance of StorageTek and LSI Logic Storage Systems, for centralized storage management, online administration, storage consolidation and data replication
- SAN with Brocade Silkstorm fabric switches with 20 host bus adapters (HBAs), including 12 from Emulex and 8 from JNI

Consulting, integration, installation and training services were delivered by Soccour Solutions and StorageTek's Global Services. With the combined efforts of the two companies, the solution came together quickly.

"When we made the decision to move ahead, Soccour Solutions made it all happen very quickly. After StorageTek staff installed the D178, Soccour configured the SAN and got everything up and running in one day. They really know what they are doing," Henderson stated.

Business benefits

The StorageTek solution has helped Software Spectrum keep its online sales operations up and running on a 24 x 7 basis. The solution's high availability and built-in redundancy features help to prevent a disk or CPU failure from bringing down the company's online sales operations.

With the D178-based solution, the time required for

the company's backup runs, which were taking 9.5 hours, has been reduced by 65 percent. A batch run that previously took 27 hours has been cut to just 10 hours, so it no longer spills over from the weekend into the peak hours of the business week. In all, Software Spectrum has reduced the time required for batch processing by 24 hours per week.

Software Spectrum's new capabilities have dramatically increased system performance and productivity for end users in sales, marketing, finance and other areas of the business. The time required for queries to the Sybase database has been cut by 50 percent or more. This allows staff to respond faster to customers who want information on product availability, features and prices.

Financial benefits

The reliability of the StorageTek solution has helped Software Spectrum prevent the potential loss of millions of dollars in online sales. Downtime in the company's online sales operations can cost the company more than \$500,000 per hour in lost revenue. Previously, Software Spectrum was experiencing 5-10 hours of outages per month. In the first six months after the installation of the StorageTek/Socccour Solutions solution, the company did not experience a single minute of downtime for any server connected to the D178 disk subsystem.

Centralized management of disk resources enabled by SANtricity software and the overall increases in system reliability have led to valuable gains in staff productivity. In its data center alone, Software Spectrum has saved an average of 15-20 hours of staff time per month that was previously lost to system downtime. Now, IT staff can spend more time focusing on process improvements and less time dealing with day-to-day system issues.

Technology benefits

System management has been greatly streamlined through the implementation of a SAN with SANtricity Storage Manager software for centralized management of storage resources. Previously, the disk storage resources were directly attached to individual servers, creating substantial management burdens. Now, system administrators can work with a single pool of disk resources that they allocate to approximately 10 servers, including Sun Solaris and Windows NT systems. From a single management interface, administrators can oversee administration, configuration, data replication and storage consolidation activities.

Looking ahead, the StorageTek-based solution offers excellent scalability, leaving the company well positioned for future growth. The current 3 terabytes of disk storage can be easily scaled to 11.5 terabytes simply by adding more 73-gigabyte drives—without reducing performance or increasing maintenance costs.

About the solution

SANtricity software increases productivity by providing the ability to manage D-Series™ disk systems and data dynamically and non-disruptively from anywhere, at anytime. SANtricity allows a single, consistent view through the Java-based graphical user interface (GUI), which is compatible with major UNIX and PC-based operating systems to achieve full manageability across local, wide and storage area networks (LANs, WANs and SANs).

Designed for demanding enterprise Open Systems online storage environments, the 12-gigabit Fibre Channel D178 disk subsystem supports more than 32 terabytes of information. Open, modular architecture offers exceptional flexibility and provides true investment protection. The D178 is offered through a strategic alliance between StorageTek and LSI Logic Storage Systems.

Global Services is the "glue that binds together" the hardware and software offerings into complete, integrated solutions.

About Software Spectrum

Software Spectrum, a Level 3 Communications company, is a global business-to-business software services provider with sales, operations and customer care locations throughout North America, Europe, Asia Pacific, Japan and Latin America. The company helps enterprises buy and manage their software assets, enabling them to gain increased business value from their software investments. To learn more, visit: www.softwarespectrum.com.

About Socccour Solutions

Socccour Solutions is a Dallas-based business solutions provider specializing in the architecture and delivery of data center infrastructure solutions that enable business. Socccour's main objective is to assist its clients by working together in assessing business requirements and delivering uncomplicated solutions that solve complex problems. To learn more, visit: www.socccour.com, or call 972.960.0400.



ABOUT STORAGETEK®

Storage Technology Corporation (NYSE: STK), a \$2 billion worldwide company with headquarters in Louisville, CO, has been delivering a broad range of storage management solutions designed for IT professionals for over 30 years. StorageTek offers solutions that are easy to manage, integrate well with existing infrastructures and allow universal access to data across servers, media types and storage networks. StorageTek's practical and safe storage solutions for tape automation, disk storage systems and storage integration, coupled with a global services network, provide IT professionals with confidence and know-how to manage their entire storage management ecosystem today and in the future.

StorageTek products are available through a worldwide network. For more information, visit www.storagetek.com, or call 1.800.275.4785 or 01.303.673.2800.

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Ralph Henderson, Manager of UNIX Systems, Software Spectrum