

# RACKSPACE MANAGED HOSTING

## STORAGE AREA NETWORK

## Bolstering a SAN for a New Generation of Growth

### EXECUTIVE SUMMARY

#### Technology Challenge

Boost Storage Area Network (SAN) capacity to support a rapidly growing managed backup and storage services division while streamlining administration of storage and backup SANs

#### Solution

- Brocade® 48000 Directors
- Brocade 4900 Switches
- Brocade 4100 Switches
- Brocade Fabric Manager
- Brocade Services

#### Benefits

- Improved scalability to quickly add storage and backup devices with increased ports to provision and support a rapidly growing customer base
- Centralized management to reduce the time and cost needed to perform provisioning, monitoring, and administration tasks
- 50 percent lower power consumption

Founded on the principle that technology is only as good as its implementation, Rackspace Managed Hosting has thrived by tailoring its Web hosting solutions to the unique needs of its customers. Since opening its first data center in San Antonio, Texas, in 1998, the company has transformed itself into one of the Internet's biggest successes, becoming one of its industry's fastest-growing enterprises.

Through the years, Rackspace has launched four new data centers in the U.S. and four in the United Kingdom. In addition, the company has added a variety of new service offerings to fulfill the unique business requirements of its diverse clientele, including a new Managed Backup and Storage Division introduced in 2001.

#### SAN UPDATES TO SUPPORT GROWTH

The new division—which added managed backup and data storage services to Rackspace's diverse offerings—became an instant success, enhancing the company's

over 50 percent year-to-year growth. However, as the division grew, Rackspace recognized the opportunity to enhance its SAN to better serve its customers. By increasing the number of available ports of its SAN switches, Rackspace reasoned that it could more easily and cost-effectively add storage and backup devices, as well as leverage higher-speed connections to link customers to their hosted data.

In addition, Rackspace wanted to consolidate and simplify the management of its backup and storage services, reducing administration time and costs while increasing reliability. The company realized that newer energy-efficient storage solutions would lower its power consumption and costs for existing and additional equipment.

Rackspace achieved all of these objectives by revamping its SAN with a scalable, reliable solution based on Brocade 48000 Directors, Brocade 4900 Switches, and Brocade 4100 Switches. The Managed Backup and Storage Division also

implemented Brocade Fabric Manager, a single-point SAN management platform designed for managing multiple Brocade switches and fabrics in real time. Although Rackspace IT staff ably deployed the new equipment, they relied on Brocade Services to ensure that the new platforms were configured for optimal performance.

“The decision to use Brocade was easy,” says Chad Smykay, the Rackspace storage engineer who performed the installation. “Their systems perform so reliably that once you set them, you almost forget they’re there. Fabric Manager simplifies management and saves us time and costs.”

“Before,” Smykay adds, “we spent a lot of time performing routine maintenance on each individual SAN switch. Now, we can do monitoring, troubleshooting, and apply global changes and firmware upgrades from a central Fabric Manager console. Perhaps most importantly, the Brocade solution will enable us to easily provision more switches within fabrics more quickly and efficiently.”

### INDUSTRY-LEADING DIRECTORS

At the center of the SAN, the Brocade 48000 Directors scale non-disruptively from 32 to as many as 384 concurrently active 4 Gbit/sec full-duplex ports in a single domain, enabling Rackspace to support thousands of new devices and customers. Because the directors are not highly over-subscribed, they can provide more total bandwidth than competitive offerings. The Brocade 4900 and 4100 Switches provide reliable 4 Gbit/sec performance and scale easily through the Ports on Demand capability used throughout the Brocade switch family.

Moreover, the directors enable Rackspace

to connect customers to storage and backup services faster and more reliably. Features such as enhanced Brocade Inter-Switch Link (ISL) Trunking (which combines up to eight 4 Gbit/sec ports between switches into a single, logical high-speed trunk running at up to 32 Gbit/sec) improve system throughput and availability. Exchange-based Dynamic Path Selection (DPS) optimizes fabric-wide performance and load balancing by automatically routing data to the most efficient available path in the fabric. This minimizes service degradation and helps ensure fast delivery of data.

In addition, Brocade 4 Gbit/sec SAN directors are rated to be—and have been tested as—the most power-efficient SAN directors in the market, resulting in significant electricity savings and improved cooling efficiency. Smykay estimates that the division’s directors operate with 50 percent less power than the SAN platforms they replaced. “The power consumption of Brocade directors and switches has always been excellent, and it’s always improving,” Smykay notes. “When you have thousands of storage and backup clients, even a dollar a day savings per device can quickly add up.”

### REDUCED ADMINISTRATION LOWERS COSTS

Rackspace is also reducing administrative costs thanks to Fabric Manager. The solution lets Rackspace perform end-to-end SAN management tasks across multiple devices in a single operation, and it optimizes fabric utilization and capacity planning through simplified analysis and

### WHY BROCADE

- Robust feature set with 4 Gbit/sec performance and “pay-as-you-grow” scalability with Ports on Demand capabilities
- Single, intuitive solution for managing multiple SAN switches, directors, and fabrics
- Energy-efficient solutions that reduce power consumption and associated costs

performance monitoring. Smykay explains, “Fabric Manager helps us prevent problems before they affect our systems, which translates to higher reliability and improved availability for our customers.”

“The Brocade solution has given the Rackspace Managed Backup and Storage Division the infrastructure to support a new generation of growth, while providing the management tools necessary to manage our evolving customer base effectively,” concludes Smykay. “As the world’s fastest-growing managed hosting providers, our success depends on harnessing technologies that help us sustain our customer service levels. Brocade solutions do that efficiently and are providing us with an outstanding return on our investment.”

For more information, visit [www.brocade.com](http://www.brocade.com).

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