STORAGE AREA NETWORK

Leading Medical Center Tightens SAN Security

EXECUTIVE SUMMARY

Technology Challenge

Consolidate data center resources, improve security, and increase Storage Area Network (SAN) capacity and scalability

Solution

- Brocade® Professional Services
- Brocade SAN Security Audit
- Brocade Secure Fabric OS®
- Brocade 48000 Directors

Benefits

- Increased SAN security and eliminated vulnerabilities for improved protection of sensitive files and confidential patient information
- Helped to ensure strict compliance with state and federal security and privacy regulations
- Increased SAN capacity and scalability to improve application and system performance
- Consolidated data center infrastructure, simplifying management and reducing maintenance and operational costs

Like most healthcare organizations throughout the United States, UCSF Medical Center, a part of the University of California, San Francisco, constantly strives to stay ahead of the security curve. With highly sensitive and confidential patient records in its storage environment, the medical center must ensure that its SAN security systems and policies are continually updated to protect data used at UCSF facilities, including the UCSF Medical Center at Parnassus, UCSF Medical Center at Mount Zion, and UCSF Children's Hospital as well as clinics throughout Northern California. It also must comply with federal mandates, such as the Health Insurance Portability and Accountability Act of 1996 (HIPAA), that require regular assessment, reporting, and updating of SAN security systems.

However, with patient data and new healthcare applications on the rise, proactively maintaining tight SAN security for its 7,000 employees and thousands of patients became increasingly complex and challenging. As the medical center deployed more SAN servers and storage devices in multiple locations, IT staff recognized the need to optimize the management of the SAN and hundreds of SAN-based applications and devices connected to these dispersed systems. They also wanted to bolster security to account for growing numbers of new state and federal regulations.

NETWORK CONSOLIDATION SPARKS SECURITY AUDIT

To accomplish these goals, UCSF Medical Center began with a SAN consolidation project that included the addition of two 4 Gbit/sec Brocade 48000 Directors to modernize and consolidate its existing Brocade switches. The directors, which serve as the foundation for a new dual-fabric SAN, accelerate networked services and improve availability for a wide range of applications. They also provide the increased port density necessary for the planned deployment of new Microsoft Windows Exchange, SQL, and UNIX-based servers.

"We were impressed by the performance and reliability of our existing Brocade switches, so choosing the higher-capacity directors was a natural decision," says Darin Reinwald, Systems Engineer and Project Manager, UCSF Medical Center IT Department.

BROCADE

To bolster SAN security, the medical center selected Brocade Secure Fabric OS, which works with Brocade Advanced Zoning to provide comprehensive SAN protection. The software centralizes control over the elements in the SAN infrastructure, enabling UCSF to enhance its security policies, identify vulnerabilities, and take proactive action to prevent potential security breaches.

"Secure Fabric OS gives us more consistent security for our entire SAN," states Tony Leong, Systems Engineer, UCSF Medical Center IT Department Server Engineering Group. "Because it is tightly integrated with our new consolidated SAN, the solution can more intelligently monitor and safeguard the SAN. In addition, it provides the accounting capabilities we need to track users and events for compliance purposes."

Still, IT staff wanted to go even further, and they sought a comprehensive security audit that would give them vault-like protection. Because conducting the audit required special expertise, the IT department brought in Brocade Professional Services. "Choosing Brocade Professional Services for the audit and installation of Secure Fabric OS was a great move for us," says Reinwald. "Our security is too important to take even the slightest risk, and Brocade Professional Services was clearly the best resource to configure our Brocade management system and study our security infrastructure."

A COMPREHENSIVE AUDIT

In October 2006, Brocade Professional Services performed a complete audit of security systems and procedures based on established security principles and guidelines from organizations such as SNIA and the NSA. The process involved a review of the physical SAN environment and assessment of SAN and LAN security policies, security operations, login and audit procedures, management interfaces, encryption, Fibre Channel security, and conformance with HIPAA and Sarbanes-Oxley regulations.

Following the evaluation, Brocade presented a list of recommendations, including a key directive to institute a consistent data destruction policy to prevent unauthorized retrieval of data. Additional proposals included implementing an annual security audit to update systems and policies in accordance with government regulations—and assigning individual user accounts to each SAN administrator.

By instituting Brocade's proposals, the UCSF Medical Center will reduce multiple previously undetected security risks and enhance overall protection of its SAN data. "Having someone who is thorough and has been in the trenches come in and do the audit was invaluable," Leong explains. "Brocade's high level of insight and expertise helped us identify all the areas where there was room for improvement. The recommendations they gave us helped us shore up the SAN and ensure the best possible security."

WHY BROCADE

- Reliable, high performance of existing Brocade switches
- High degree of confidence in Brocade Professional Services
- Trust in knowledge, expertise, and professionalism of Brocade Professional Services engineers

Cliff Willis, Windows Platform Manager, UCSF Medical Center IT Department Server Engineering Group, notes that the security audit provided a comprehensive blueprint for IT staff to follow in the years ahead: "The highly detailed report that Brocade Professional Services delivered was priceless. It gave us the confidence that we are maintaining a consistent security environment throughout our network that conforms to every government body and follows best practices and the latest procedures. As we set up new systems, we know we will have plugged all the security holes."

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