

CALIFORNIA FRANCHISE TAX BOARD

STORAGE AREA NETWORK

California Gets Big Returns Storing Tax Data with Brocade Solutions

EXECUTIVE SUMMARY

Technology Challenge

Create a scalable, easily managed storage infrastructure to consolidate growing volumes of taxpayer data

Solution

- Brocade® 48000 Directors
- Brocade 4100 Switches
- Brocade Fabric Manager
- Brocade SAN Health™ Diagnostics Capture

Benefits

- Reliable, high-speed, centralized storage environment
- Scalability to store data migrated from direct-attached storage
- Enhanced management to optimize SAN reliability and performance

The business of the California Franchise Tax Board relies heavily on data. Since 1929, the Sacramento, California-based state agency has administered California's personal and corporate income and franchise tax programs. The organization, which employs 5,000 staff full time and up to 6,500 during tax season, also administers the state's Homeowner and Renter Assistance initiative and other non-tax audit and delinquent debt collection programs.

Every year, state residents and corporations forward their tax returns to the Board's Sacramento campus for processing, providing the state with revenues to fund its operating budget. The department saves much of this information in large Oracle databases and it scans paper tax returns for digital storage. In compliance with state regulations, the department must save this data for several years, depending upon the nature of the information.

THE NEED FOR A COMPREHENSIVE STORAGE SOLUTION

To meet this need, the California Franchise Tax Board initially relied on Direct-Attached Storage (DAS) to save taxpayer data. This approach, however, created islands of stored information that each required independent solutions and administration, complicating data management. To improve its productivity, the Board began to consolidate its storage in 2005 by building a Storage Area Network (SAN) linking two data centers at its campus via fiber cabling.

The SAN featured redundant fabrics powered by 16-port Brocade 4100 Switches to help ensure fault tolerance and high-speed, 4 Gbit/sec performance. The enterprise then began migrating data across its network to the Brocade platforms.

Although the SAN streamlined services, a new statewide procurement process soon went into effect and EMC Corporation won the contract for the Board's storage solutions. In 2006, the agency updated its SAN with EMC CLARiiON CX and Symmetrix DMX storage platforms. In turn, the California Franchise Tax Board needed a larger storage infrastructure to house terabytes of data that it had to migrate to the SAN.

"To support our new EMC solutions and preserve taxpayer information, we needed a storage infrastructure that would easily scale to our growing data processing needs," says Ramon Carpenter, Software Systems Specialist, California Franchise Tax Board. "We also had to make sure that we could manage it simply yet comprehensively to avoid unnecessary IT costs."

A SAN WORTHY OF CALIFORNIA'S TAXPAYERS

The California Franchise Tax Board addressed both of these issues using robust Brocade SAN solutions. It deployed four Brocade 48000 Directors, two on each fabric. 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, providing the Board with the port density to support thousands of new devices with ease.

The Board then repurposed its Brocade 4100 Switches as edge devices linked to the directors, providing the organization with more than 500 SAN ports. To back up the data, it uses an IBM Tivoli Storage Manager system connected to one of its fabrics.

SIMPLIFIED MANAGEMENT

The California Franchise Tax Board also implemented Brocade Fabric Manager to administer its dual fabrics and multiple switches. The software provides the functionality to centrally configure and provision Brocade enterprise SANs using a graphical user interface. It also enables the agency to monitor and report on the health of its fabrics and perform maintenance tasks quickly, ensuring that the SAN performs reliably.

To gain deeper insight into its storage infrastructure, the agency also uses Brocade SAN Health Diagnostics Capture, a free management utility that captures raw diagnostic data and generates configurable reports. The solution offers holistic views of the entire infrastructure, but with any level of granularity that administrators require.

MEETING THE FUTURE TODAY

The California Franchise Tax Board now has a robust, scalable storage infrastructure in which to migrate and preserve the state's tax information. Whereas the agency had 20 terabytes of data on the SAN when it deployed the Brocade 48000 Directors, the SAN now stores nearly 100 terabytes.

"No pun intended, but with our Brocade 48000 Directors at the core and the Brocade 4100 Switches at the edge, we haven't begun to tax the system," says Carpenter. "By the very nature of our mission, the agency's storage needs will continue to grow, but we have more than enough scalability in our Brocade solutions to continue expanding well into the future."

WHY BROCADE

- Dependable performance for the most demanding data centers
- Simplified expansion to support growing SAN environments
- Comprehensive yet easy-to-use management tools

In addition, the Brocade management solutions enable the Board to add, manage, and optimize new storage platforms as the infrastructure grows. "These Brocade management tools, coupled with our directors and switches, have streamlined administration considerably, reducing our cost of ownership," concludes Carpenter. "Brocade has delivered the resources to consolidate our data, ensuring California taxpayers of fast, effective storage for their tax information. Moreover, the Brocade solutions offer the functionality and versatility that will permit us to easily adapt to California's emerging needs."

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