

Financial-data supplier reaps big dividends with HP Adaptive Enterprise offerings

FactSet Research Systems



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– Systems Engineering Director Jeffrey Young, FactSet Research Systems

Business need:

FactSet Research System's data-driven information systems are the foundation of its product and service offerings. The company combines more than 200 databases into a single, proprietary information system; and then supplies software tools to download, combine, and manipulate the data for investment analysis. The sheer volume of this data – along with 30 percent growth annually and the addition of 40 or so new databases over the past year – escalated the company's storage demands. The company required always-on storage capacity, high-bandwidth performance, and the ability to scale its storage environment easily.

Solution overview:

Until recently, FactSet depended on an HP storage solution consisting of computer interconnect-based (CI) storage with HSJ80 controllers and SCSI disks. However, as data grew, it became more difficult to reorganize and scale the storage environment. "We used to spend every weekend manually rearranging the disk arrays to maximize storage space," says FactSet's Systems Engineering Director Jeffrey Young.



To address relentless capacity and performance requirements, FactSet evaluated an HP StorageWorks 5000 Enterprise Virtual Array (EVA5000) system and a comparable Hitachi modular array. Over eight weeks, the FactSet IT staff ran a number of tests on both systems to verify their reliability, redundancy, performance, scalability, latency, throughput, and response times.

Risk-free collaboration yields the best solution

"The HP StorageWorks 5000 Enterprise Virtual Array system outperformed the Hitachi modular array in all of the critical areas in the HP OpenVMS environment, including the price-performance category," Young reports. "We also noticed a substantial performance increase compared to our previous SCSI-and CI-based storage environment."

As a result of these tests, FactSet purchased four EVA5000 systems with 11 TB of storage capacity. Two of these high-speed storage arrays operate at the company's primary data center in Greenwich. For business continuity, two more EVA systems reside at a replicated site in Manchester, N.H. The modular design of the EVA systems also helps conserve space at both sites. "The HP StorageWorks Enterprise Virtual Array uses half the number of racks compared to our older storage arrays, which allows more room in the data center for other equipment," Young says.

The EVA systems operate in two storage-area networks (SANs), which include HP AlphaServer systems plus a Sun Solaris 6800-series server. FactSet's Web-enabled applications require substantial server bandwidth, and the combination of high-powered AlphaServer systems and StorageWorks arrays boosts performance considerably. "The high throughput and data-transfer rates of the HP





StorageWorks 5000 Enterprise Virtual Array system allow us to harness more power from our AlphaServer systems," explains Young.

HP Services installed the SANs and brought a deep understanding of how to facilitate an HP Adaptive Enterprise architecture to support business growth and agility. "HP Services supplies competent, top-notch technicians who are familiar with our information systems, infrastructure, and business processes," says Young. "They have become a valuable extension of our staff and – because they are backed by the entire HP engineering and support organization – we always have the resources we need to solve critical issues."

Storage performance and utilization afford a strategic edge

HP's Adaptive Enterprise strategy helps build an IT infrastructure that can quickly and effectively adapt to change to gain a competitive advantage. HP's Adaptive Enterprise offerings improve performance and utilization, helping FactSet realize a measurable return on its storage investments. The EVA5000 – an important component of the HP Adaptive Enterprise vision – delivers high-bandwidth performance typically demanded by intensive application environments.

FactSet's OpenVMS Team Manager Prasanna Venkatesh notes: "The HP StorageWorks solution reduced latency of our read/write operations as much as twenty-fold. Our 700 internal users and several thousand external users gained faster access to our data and applications. This performance boost helped us derive a quick return on our IT investment."

The staff further confirmed EVA5000 superiority when they produced market research and company data reports using the new HP SANs. "Our clients demand timely and accurate information," Young explains. "After we introduced the HP StorageWorks EVA SAN into our

production environment, we received calls from clients who were convinced their jobs weren't processed properly. They were accustomed to jobs that took two or three hours to complete. With the new SAN, we finished their production jobs in 15 minutes."

This type of fast, accurate response gives FactSet a strategic advantage. "No other company offers the same level of services to the financial community," Young declares. "Our customers rely on us to conduct CPU-intensive analyses of equity and financial performance data. It is definitely a strategic advantage now that we have the HP StorageWorks 5000 Enterprise Virtual Array and can respond to their requests much faster."

HP technology appreciates and provides value

Young is looking forward to leveraging the HP Archive Backup System and Media Device Management System for OpenVMS in conjunction with the instantaneous snapshot and cloning technology of the EVA, which will improve FactSet's host-based backup strategy. Meanwhile, to enhance fault tolerance and availability, the staff uses the HP StorageWorks Secure Path application. With its automated failover capability, the multipathing software provides continuous data access from the EVA to host servers. "HP StorageWorks Secure Path allows the host bus adapters of our Sun server to communicate with the Enterprise Virtual Array for optimal system performance," says Venkatesh.

As the company's future requirements necessitate additional capacity and the number of FactSet users grows, the IT staff can easily expand their HP storage arrays. "We'll have the luxury of simply adding disks to our HP StorageWorks Enterprise Virtual Array," Young says. "Because the EVA will help us keep up with the company's growth, I expect to lower our total cost of ownership (TCO) and save time and labor in expanding our SAN. For example, we simplified administrative

chores when we migrated a Sun Solaris server to the SAN. It was a wonderful change from the manual intervention required by our previous storage environment. All we had to do was add more drives to the EVA systems and configure them for access by Solaris. Taking advantage of our shared EVA infrastructure saved about \$200,000 in one exercise."

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Sharing storage resources among its HP OpenVMS and Sun Solaris operating environments also reduces costs. "The ability of the HP StorageWorks Enterprise Virtual Array to support a heterogeneous platform of servers and operating systems protects our investment," emphasizes Venkatesh.

Cost reduction and investment protection are important requirements for FactSet in both prosperous and lean economic times. While some firms have had setbacks recently, FactSet is succeeding by using technologies that boost the performance and reliability of its client services. "Providing high-quality service made possible by leading-edge HP technology is helping us navigate these tough times," Young concludes.

About FactSet Research Systems

Portfolio managers, investment bankers, plan sponsors, and other financial professionals count on FactSet Research Systems (www.factset.com) for comprehensive research solutions on a 24x7 basis. Headquartered in Greenwich, Conn., and operating from 17 locations worldwide, FactSet supplies online research to the institutional investment community worldwide. The diversity of the firm's portfolio analysis and private database services differentiates it from other data-distribution companies.



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Challenges

- Decrease time spent on system management
- Increase availability of storage systems
- Deploy a solution with high-bandwidth performance
- Scale storage environment easily

Solution

Hardware

- 4 HP StorageWorks 5000 Enterprise Virtual Array systems configured in two SANs
- 6 HP AlphaServer systems (three clustered model GS320s, two GS140s, and one DS20E)
- HP OpenView Storage Management Appliance with software
- Sun Solaris 6800-series server

Software

- HP StorageWorks Secure Path
- HP Archive Backup System (ABS)
- HP Media Device Management System (MDMS) for OpenVMS
- HP OpenVMS operating system
- Sun Solaris operating system

HP Services

- SAN design, planning and implementation
- Gold Support for storage

Results

- FactSet's new, enhanced HP StorageWorks environment provides a strategic advantage, enabling the firm to deliver fast, efficient reporting and high-quality client services.
- The HP Adaptive Enterprise strategy for storage makes it easier for FactSet to manage storage growth in support of the business.
- The HP StorageWorks 5000 Enterprise Virtual Array system yields a substantial increase in performance: a five- to twenty-fold improvement in response rates and faster access to storage resources.
- HP storage technology simplifies management tasks and provides cost efficiencies, including a savings of \$200,000 by bringing a Solaris server into the HP StorageWorks SAN.
- A replicated-site approach with two geographically dispersed EVA SANs provides high availability, system resilience, and disaster tolerance for FactSet's storage environment.
- The scalable, modular HP EVA supplies twice as much capacity as FactSet's previous storage environment, yet takes up less space in the data center.

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