



Thomas Weisel PartnersSM
MERCHANT BANKING
Champions of Growth

Overview

Country or Region: United States

Industry: Financial Services—Investment Banking

Customer Profile

Thomas Weisel Partners is headquartered in San Francisco with additional offices in New York, Boston, and Palo Alto. The firm provides investment banking, institutional brokerage, private client services, private equity investing, and asset management.

Business Situation

Decentralized direct-attached and monolithic storage systems made data costly to manage and difficult to share among the firm's staff and offices.

Solution

A data storage solution based on 3PAR Utility Storage featuring 3PAR Multipath I/O for Microsoft® Windows® is providing Thomas Weisel Partners with a more manageable, cost-effective, and highly available storage environment.

Benefits

- Increased capacity utilization from 30 percent to 100 percent
- Improved load balancing
- Simplified storage management
- Reduced administrative costs
- Improved disaster recovery capability

Investment Bank Cuts Costs, Simplifies Data Storage with Utility Storage and Multipath Input/Output Solution

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Kevin Fiore, Director of Server Engineering, Thomas Weisel Partners

Thomas Weisel Partners provides investment banking, institutional brokerage, private client services, private equity investing, and asset management exclusively focused on the growth sectors of the economy. When the firm was ready to make a strategic move toward more cost-effective data storage, Thomas Weisel Partners evaluated solutions to upgrade its decentralized direct-attached storage systems and eliminate an existing monolithic storage device. The new centralized storage solution pairs Microsoft® Multipath Input/Output (I/O) technology with 3PAR Utility Storage. With Microsoft Multipath I/O technology, Thomas Weisel Partners benefits from highly available storage for its servers and better load balancing between server applications and storage. With 3PAR, Thomas Weisel Partners has simplified data storage, while increasing storage utilization and reducing administrative costs.



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Thomas Weisel Partners

Situation

Thomas Weisel Partners is an investment bank that is headquartered in San Francisco and has offices in New York, Boston, and Palo Alto, California. The firm's bankers provide clients with deep domain expertise, superior transaction execution capability, and senior level attention. Its 37 research analysts cover approximately 500 stocks in growth sectors that include consumer, healthcare, industrial business services, Internet, media, technology, and telecommunications.

To understand and analyze the dynamics driving those sectors requires effective data warehousing. However, the different data storage systems used at Thomas Weisel Partners made it difficult for staff to access and share information efficiently. Data could not easily be shared among host servers on the company's existing decentralized direct-attached storage (DAS) systems and monolithic device to which nine Unix servers were attached. This data storage configuration also created a sub-optimal storage utilization rate of about 30 percent.

Because Thomas Weisel Partners is responsible for mission-critical financial data, it requires data redundancy capabilities for disaster recovery and business continuity. These capabilities were possible for the servers attached to the firm's monolithic storage device, but the previous direct-attached storage system lacked the ability to provide highly redundant, highly protected data storage. Updating the monolithic storage device to meet post-9/11 standards for redundant data was not practical because it would have required significant additional equipment, bandwidth, and expensive replication software.

With the volume of data that Thomas Weisel Partners manages on the increase, decision makers at the firm decided it was time to reevaluate its storage strategy if they wanted

to meet company objectives for more efficient information sharing, better storage utilization, and a more secure, easier-to-manage storage solution.

Solution

To create a more manageable and highly available storage environment, managers and IT staff at Thomas Weisel Partners investigated the advantages of moving away from direct-attached and monolithic storage and consolidating data storage to a single, centralized yet flexible storage environment.

Cost effectiveness, ease of implementation, and long-term support placed the 3PAR/Microsoft® Multipath Input/Output (I/O) solution ahead of the competition. After researching available data storage technologies, Thomas Weisel Partners decided to migrate its UNIX environment on monolithic storage to Linux-based servers using 3PAR® Utility Storage and the Linux QLogic driver to provide active/passive pathing. 3PAR was also chosen to support the Microsoft Windows® operating system file and print servers and Microsoft Exchange Server 2003. Microsoft Multipath I/O technology was selected for the mail servers and some of the file and print servers to help ensure data availability. Microsoft Multipath I/O, which is built on the Microsoft Windows Server™ 2003 operating system, enables the system to use active/active I/O paths to the 3PAR InServ® Storage Server, ensuring high availability and fault tolerance as well as load balancing of I/O traffic. This gives Thomas Weisel Partners improved system and application performance.

Another reason for choosing the Windows Server 2003 operating system, which is the foundation of Microsoft Windows Server System™ integrated server software, was its integration with other Microsoft software in use at Thomas Weisel Partners, including the Microsoft Windows XP desktop operating

system, Office programs, and the Visual Studio® .NET 2003 development system. Thomas Weisel Partners is also taking advantage of other features built into Windows Server 2003, including the Active Directory® service, remote desktop access, Terminal Server for application sharing, and Internet Information Services version 6.0.

With the 3PAR Multipath I/O for Microsoft Windows solution, Thomas Weisel Partners has eliminated its monolithic storage and is currently consolidating data from its direct-attached storage systems to the 3PAR InServ® Storage Servers. Seven of the firm's direct-attached storage systems have already been converted to two 3PAR InServ Storage Servers—one server located in the San Francisco office and one in the New York office (each 3PAR system is configured with 10 terabytes of raw data capacity)—and plans are underway to convert additional systems in the coming months.

Benefits

With its centralized storage solution, Thomas Weisel Partners gained improved storage utilization and a simplified, more effective way to manage data storage and provide effective disaster recovery. Now that IT staff can focus less on storage provisioning and administration tasks, they have more time to focus on higher-level business activities. In addition, by centralizing storage and using 3PAR Multipath I/O for Microsoft Windows, the company saved the more than \$10,000 it would have cost to implement proprietary multipathing with its monolithic storage array.

Staying Connected

Staying ahead of the competition in the world of financial services requires fast and reliable access to data—connections between servers and storage must remain active so mission-critical data stays available. The 3PAR/Microsoft Multipath I/O solution helps keep data available for staff at Thomas

Weisel Partners by safeguarding the firm's critical information from a single point of failure. With Multipath I/O, if a server path breaks, the software provides local failover to a remaining link. Application operations continue uninterrupted. Best of all, failover is transparent to the administrator—the load is automatically redistributed when the link goes down and again when normal services are resumed.

“In an IT environment such as ours, which consists of multi-vendor devices, this kind of high-availability, high-performance solution works well for us because there isn't a single point of failure in the data path,” says Kevin Fiore, Director of Server Engineering at Thomas Weisel.

Increased Capacity Utilization

For IT administrators at Thomas Weisel Partners, the 3PAR Multipath I/O for Microsoft Windows solution makes it easy and efficient to allocate storage as needed. “To add additional storage, we simply increase the size of the volume on the 3PAR device and run a simple Microsoft disk command to immediately expand the volume—we no longer have to shut down or reboot servers, and storage can be allocated as needed rather than over-provisioned,” explains Fiore.

In addition, by using 3PAR Thin Provisioning with dedicate-on-write technology, Thomas Weisel Partners has further improved its capacity utilization rate. For applications taking advantage of 3PAR Thin Provisioning, utilization of allocated capacity now approaches 100 percent. The prior monolithic and direct attached storage environment, with dedicate-on-allocation technology, permitted utilization of allocated capacity to reach only 30 percent.

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Improved Load Balancing

With multipathing software in place, Thomas Weisel Partners can automatically redistribute the read/write load among multiple paths between servers and storage, which helps eliminate bottlenecks and balance workloads more efficiently.

The performance capabilities of its 3PAR Multipath I/O for Microsoft Windows solution allow IT staff to easily deploy, load balance, and switch paths to provide high application availability to users. “If we lose a link, we want to make sure we still have uptime on servers,” says Fiore. “Our 3PAR/Microsoft [Multipath I/O] solution makes sure that servers are up and available. [Multipath I/O] is not expensive, it’s very efficient, and it gives us optimal use of equipment and throughput.”

Simplified Storage Management

Consolidating its storage infrastructure has simplified storage management for Thomas Weisel Partners in several areas. Fiore explains, “Setup and deployment of the modular 3PAR storage array was very simple, especially when compared with what would have been required to implement an entirely new storage area network (SAN) infrastructure and then maintain that on a daily basis. We don’t have a full-time SAN engineer who can focus entirely on maintaining the overall storage networking devices and connections. So the 3PAR solution was definitely much easier to install and will be easier to maintain.”

In addition, safeguarding and backup of data are easier now that it is only necessary to safeguard the central storage pool rather than dozens of individual servers with associated devices. And, allocating disk space, which was once done department by department and had to be based on forecasted volume sizes, is now as easy as

simply increasing volume sizes on the self-configuring 3PAR system.

Reduced Administrative Costs

Operating from centralized storage saves time previously spent archiving files to clear up space and moving departmental data between servers. Fiore explains, “With our previous DAS setup, an administrator might spend as many as 20 hours each month moving data around to save space—now it takes only about one hour each month.” With only four administrative staff, 20 hours of one individual’s time was a considerable investment for the company. Now, staff members have more time to allocate to other, higher level departmental activities.”

Improved Disaster Recovery Capability and Business Continuity

Being a financial institution responsible for mission-critical data, Thomas Weisel Partners needed significant physical separation of redundant data for disaster recovery. With its new solution featuring 3PAR Remote Copy, additional backup equipment, software, and additional services are not needed to duplicate critical data, making it a cost-effective alternative to the costly disaster recovery plan that could have been implemented on the monolithic storage device.

In the event that there is a need to recover information stored on the servers, centralized storage also results in significant time savings over the prior tape backup system, which stored tapes physically off-site. With snapshot capabilities of 3PAR Virtual Copy, it’s simply a matter of recovering data from disk —what once required up to days to accomplish now can be done in minutes.

Next Steps

Plans are currently underway at Thomas Weisel Partners to add a dozen more

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For more information about 3PARdata products and services, call (510) 413-5999 or visit the Web site at: www.3pardata.com

For more information about Thomas Weisel Partners products and services, call (415) 364-2500 or visit the Web site at: www.tweisel.com

Windows-based servers in the next six months. Beginning with servers running Microsoft SQL Server™ 2000, the firm will use 3PAR Recovery Manager and 3PAR Remote Copy to take snapshots of the databases and replicate them from the remote offices to the central office.

Microsoft Windows Server System

Microsoft Windows Server System integrated server infrastructure software is designed to support end-to-end solutions built on the Windows Server operating system. Windows Server System creates an infrastructure based on integrated innovation, Microsoft's holistic approach to building products and solutions that are intrinsically designed to work together and interact seamlessly with other data and applications across your IT environment. This helps you reduce the costs of ongoing operations, deliver a more secure and reliable IT infrastructure, and drive valuable new capabilities for the future growth of your business.

For more information about Windows Server System, go to: www.microsoft.com/windowsserversystem

Software and Services

- Microsoft Windows Server System
 - Microsoft Windows Server 2003 Standard Edition Service Pack 1
 - Microsoft Office Professional Edition 2003
 - Microsoft Visual Studio .NET 2003
 - Microsoft Exchange Server 2003
 - Microsoft Windows XP Professional

Hardware

- 3PAR InServ S400 Storage Server
- HP Proliant DL 360
- HP Proliant DL 380

Partners

- 3PAR

Third-Party Software

- 3PAR InForm® Operating System
 - 3PAR Multipath I/O for Microsoft Windows
 - 3PAR Remote Copy
 - 3PAR Virtual Copy
 - 3PAR Recovery Manager
 - 3PAR Thin Provisioning

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Document published August 2005