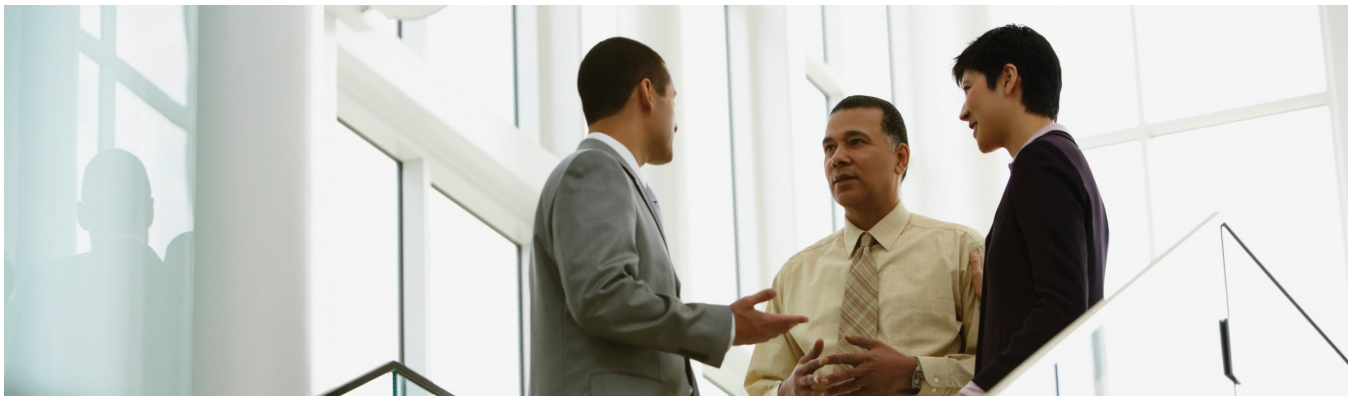
Success Stories

Fujifilm Implements an Integrated File Server Environment with NetApp and Microsoft



KEY HIGHLIGHTS

Industry
High tech

The challenge
- Integrate file servers located in local offices into a single file system
- Centralize storage management
- Boost disaster recovery capabilities

The solution
NetApp® FAS systems and Microsoft® Distributed File System (DFS) provide an integrated file system. NetApp's NearStore® and SnapVault® technologies enable high-speed disk-to-disk backup.

Benefits
- Integrated file access across the enterprise
- Reduced time required to recover files
- Improved data protection and business continuity

CUSTOMER PROFILE

Fujifilm, Inc., provides imaging solutions for color film and digital cameras, print development, and information solutions such as medical and life science equipment, printing system equipment, recording media, and optical devices. Fujifilm Computer System Co., Ltd., manages all IT-related activities—from strategic planning to implementing and operating the IT infrastructure—for the Fujifilm Group.

THE CHALLENGE

Integrate file servers to support the new strategic business plan
Fujifilm is promoting a new business strategy and structure reform based on the company's VISION 75 business plan, which was proposed for the company's 75th anniversary. Based on a concept called Global One Fujifilm, VISION 75 specifies a number of projects for optimizing the entire IT infrastructure. One of these projects is to integrate the company's file servers.

"VISION 75's IT infrastructure strategy includes integrating our system operations, and we specifically made file server integration our top priority," says Mr. Tatsuya Yukawa, manager of the company's Systems IT Infrastructure department. "Fujifilm had a large number of file servers, which had been independently deployed at each office and department—almost 400 servers total. By physically integrating these file servers, we planned to reduce our total cost of ownership and improve worker productivity."

"Before this file server integration project, selected offices had implemented physical file server integration for up to a few hundred users," explains Mr. Yasuhiro Ishii, a staff member of the Systems IT Infrastructure department. "Because they achieved good results, we made file server integration a company-wide project, and all the companies under Fujifilm Group started performing file server integration. To maximize the benefits of file server integration, we also implemented an operation management system with a single domain using Microsoft Active Directory Service."

THE SOLUTION

Implement NetApp FAS systems to form an integrated file system
Starting in March 2004, Fujifilm Computer System installed file servers in all plants, laboratories, technical development centers, and headquarters. In October 2006, the company began to deploy the same systems in its affiliate companies. Today, Fujifilm implements file server integration in affiliate companies that are developing high-technology products and, therefore, need especially high security.

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Mr. Tatsuya Yukawa
Manager, Systems IT Infrastructure Department, Fujifilm Computer System Co., Ltd.

Each Fujifilm office has its own NetApp FAS system. The first installations used NetApp FAS900 series systems, while more recent installations have adopted NetApp FAS3020 storage systems.

As of March 2008, a total of 70TB storage capacity on NetApp FAS systems has been installed. Almost 20,000 user accounts are managed by Active Directory. The Fujifilm IT team describes the reasons that they implemented NetApp FAS systems as large-scale file servers supporting the entire Fujifilm Group.

"First, we debated the storage architecture, SAN or NAS," says Mr. Yukawa. "Because the integration was on such a large scale, it would be highly disruptive if the file server itself encountered security problems. When we implement a SAN and provide file services using a Windows® server, we have to consider how to maintain the security of this server.

"Because all our offices must have continuous access to storage, we cannot take the system down unless it's absolutely necessary," Mr. Yukawa went on. "It is even difficult to find the right time to apply security patches. So, to ensure high availability, we decided to provide file services using NAS exclusively."

"After comparing and studying the NAS offerings by various storage vendors, we found that NetApp had the largest market share as well as a great reputation," adds Mr. Ishii. "The Snapshot™ functionality that is standard in NetApp's FAS systems was one of the main reasons for our decision to use NetApp.

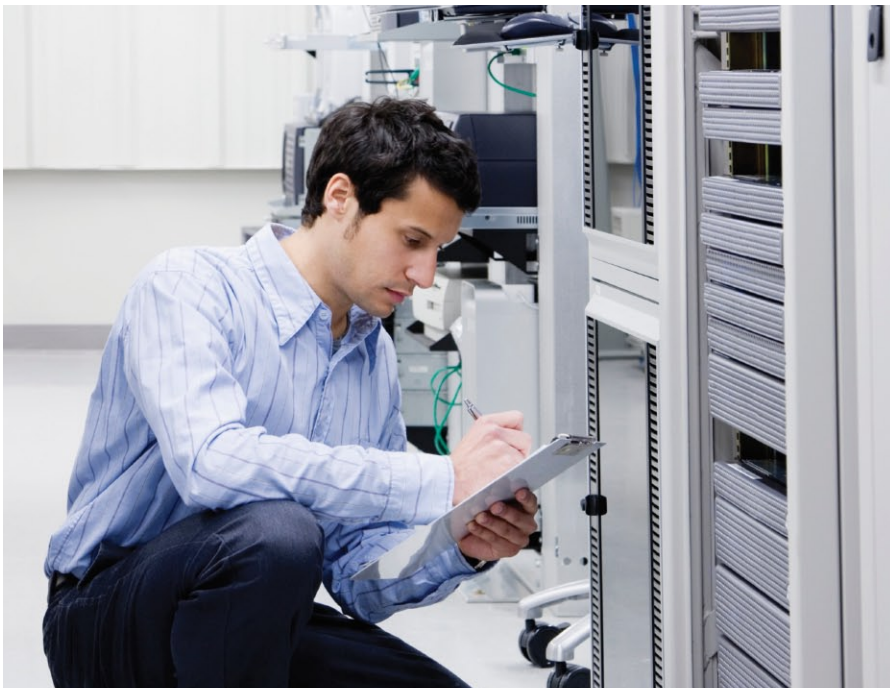
"In the past, system administrators needed to recover data from tapes. Now, each NetApp FAS system makes a Snapshot copy every hour. A large number of Snapshot copies are retained in a local directory, so users can directly recover their own data. Because users can now recover their data without involving our system administrators, we have reduced their workload and improved user access to information," Mr. Ishii says.

Microsoft DFS logically integrates file servers across the enterprise

Originally, the IT team considered integrating all file services for Fujifilm Group into a single server. Because VISION 75's IT infrastructure strategy also included a project to speed up the backbone network to 100Mb per second, the team expected that the improved wide area network (WAN) would provide the needed performance. However, when they actually tried to access file servers over the WAN, the response was too slow, especially for large data files. Based on this test, they decided to install individual file servers in each office.

"Our company has many groups that must access data in multiple locations, so having file servers dispersed in each office can complicate information sharing," Mr. Yukawa says. "Our original concept was to have one file server, and we wanted to provide that same user experience. Therefore we implemented Microsoft DFS for the files stored on the NetApp systems. Now our users can access shared folders stored in multiple file servers as if they were stored in one central server."

Fujifilm Group adopted Microsoft Active Directory to provide the directory services for managing user certification and DFS information. They also use the folder redirect function to store users' My Document and Desktop data on the file server, rather than on the individual PCs. This approach protects users from losing important business data in case of a PC failure. Because the system state is stored on the server, not the local PC, users can access their desktop by logging on to any system in any office. File server integration makes this convenient feature possible.



NetApp NearStore R200 disk-to-disk backup improves data protection
To enhance the company's business continuity, the Fujifilm Group improved its data protection capability by deploying a disk-to-disk (D2D) backup architecture. The system backs up information on a NetApp NearStore R200 system, which is then backed up to a tape library.

The NetApp NearStore R200 is a disk-based storage system running NetApp's Data ONTAP® operating system and equipped with low-cost SATA disk drives.

Fujifilm Group uses SnapVault to enable high-speed D2D backup, performing differential backup from the NetApp FAS systems located at each office to the NetApp NearStore R200 system at the main data center every night. Then they back up the R200 to a tape library once a week and transport the tape cartridges to an off-site archive center as protection against large-scale disasters.

Looking ahead to improve information lifecycle management and file access audit controls
The volume of data stored in file servers for Fujifilm has been increasing, in particular for departments that are engaged in medical research and development. This trend requires the ability to add storage in a cost-effective way. Information lifecycle management (ILM)—migrating data to lower-cost storage as it moves from creation to destruction—is one approach to better storage utilization.

"During the design phase for the new storage architecture, we calculated the total storage capacity by the average usage amount per user and the number of file server users," Mr. Ishii says. "Once we actually started its operation, we found out that we need much more storage than we expected. Our users are beginning to realize the benefits of integrated file storage, and that's why the amount of data stored is growing so rapidly. At the same time, storage capacity is limited. We now need to implement storage management based on the importance of data—in other words, ILM-based management."

Mr. Yukawa continues, "For better internal controls, we are looking at implementing a file access audit system that will track file access by location, person, and time. Integrating our files has potentially increased the risk of information leakage. Beyond ILM, we are planning to add auditing software to provide additional control for the information stored on our integrated NetApp storage."

SOLUTION COMPONENTS

NetApp Products
NetApp FAS900 and FAS3000 series storage systems

NetApp NearStore R200 storage system

NetApp Data ONTAP 7G

NetApp FlexVol® software

NetApp Snapshot software

NetApp SnapVault software

NetApp FilerView® management software

Partner Products/Services
Microsoft Windows Server 2003

Microsoft Distributed File System

Microsoft Active Directory

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