

# THE ART OF STORAGE

Dell iSCSI solution simplifies storage management for MisterArt.com, supporting 80 percent business growth and nearly two times better performance.



Established in 1996, MisterArt.com was among the first companies to sell arts and crafts supplies online. Today, the company maintains its competitive edge by offering a vast selection of this merchandise—more than 60,000 items—to millions of painters, illustrators, photographers, and hobbyists across the United States.

## SOLUTIONS

- BACKUP/RECOVERY/ARCHIVING



### CUSTOMER PROFILE

**COUNTRY:** United States

**INDUSTRY:** E-business

**FOUNDED:** 1996

**NUMBER OF EMPLOYEES:** 150

**WEB ADDRESS:** [www.misterart.com](http://www.misterart.com)

### CHALLENGE

The MisterArt.com IT group needed to increase storage capacity to accommodate its 80 percent year-over-year business growth. The team wanted to simplify storage management with a reliable system that could deliver outstanding performance.

### SOLUTION

After testing the performance of several storage systems, the MisterArt.com IT team selected a Dell™ PowerVault™ MD3000i Internet SCSI (iSCSI)-based storage area network (SAN) array with a PowerVault MD1000 disk expansion enclosure.

### BENEFITS

- Nearly two times better performance than a competing system
- Improved database performance, contributing to better system response and increased productivity for employees
- Increased Web site responsiveness and enhanced customer satisfaction
- Simplified storage administration with standard Ethernet connectivity and the intuitive Dell Modular Disk Storage Manager interface
- Improved reliability with a high-availability configuration, along with easy serviceability with the standardized hardware design
- Easy future scalability with modular hardware options



DELL



## HOW IT WORKS

### HARDWARE

- Dell™ PowerEdge™ servers
- Dell PowerVault™ MD3000i storage area network
- Dell PowerVault MD1000 disk expansion enclosure

### SOFTWARE

- Dell Modular Disk Storage Manager

### SERVICES

- Dell Gold Enterprise Support

**“THE POWERVAULT MD3000i OUTPERFORMED THE COMPETING SYSTEM ON ALL THE METRICS WE TESTED. IN ONE TEST, THE DELL SYSTEM DELIVERED NEARLY TWO TIMES THE TRANSACTIONS PER SECOND OF THE OTHER SYSTEM. THAT’S A 200 PERCENT IMPROVEMENT.”**

**Marco Nicolayevsky**, chief technology officer, MisterArt.com

To uphold its mission of delivering the best selection of products, the best prices, and the best customer service, MisterArt.com relies heavily on Dell technology. “IT is the engine that runs our business,” says Marco Nicolayevsky, chief technology officer at MisterArt.com. “We’re an online company, so every customer interaction, every product purchase is handled by technology. We standardized on Dell PowerEdge servers and Dell storage solutions years ago because we needed reliable, high-performance systems that could deliver the best customer experience while also optimizing the productivity of our IT staff.”

### **EIGHTY PERCENT BUSINESS GROWTH DRIVES THE NEED FOR SCALABLE STORAGE**

The company’s reliance on computers means that the IT infrastructure has to grow as the business

grows. Currently, MisterArt.com is growing at a rate of 80 percent per year. “The company’s phenomenal growth placed significant demands on our IT infrastructure and staff,” says Nicolayevsky. “We needed to increase our storage capacity to make room for more product information and customer data. We needed to add storage that would accommodate our growth for the next 12 to 18 months.”

Though the IT group was satisfied with their existing Dell/EMC CX300 Fibre Channel SANs, they wanted to investigate cost-effective alternatives to expand the SAN. “The Dell/EMC SANs had the reliability we needed. In five years, we never had an unplanned outage,” says Nicolayevsky. “Still, we realized that we could save significant costs on host bus adapters, switches, and drives by integrating an iSCSI system.”

Looking at cost-effective alternatives to Fibre Channel connectivity, the IT team knew reliability was essential; the new system would be required to support a round-the-clock online business. “We did not want to introduce any risk into our environment,” says Nicolayevsky. “Also, we needed outstanding performance. File and database access times have a direct effect on employee productivity and customer satisfaction. Faster is better.”

The team also wanted to select a storage system that would simplify storage administration. Says Nicolayevsky, “If we could help our IT staff become more productive, they could spend more time on finding innovative ways to help improve our shopping site.”

# “AS AN ONLINE RETAILER, HIGH AVAILABILITY OF DATA IS PARAMOUNT. WITH DUAL CONTROLLERS AND REDUNDANT COMPONENTS, THE DELL POWERVAULT MD3000I HELPS US INCREASE THE AVAILABILITY OF OUR ENTIRE NETWORK.”

**Marco Nicolayevsky**, chief technology officer, MisterArt.com

## DELL POWERVAULT MD3000I PERFORMS 200 PERCENT FASTER THAN A COMPETING SYSTEM

The MisterArt.com IT group decided to investigate iSCSI-based storage systems. “Because they use standard Ethernet connectivity, iSCSI storage systems are much easier to manage than Fibre Channel systems,” says Nicolayevsky. “Also, iSCSI systems are typically less expensive than Fibre Channel systems. iSCSI systems do not need specialized host bus adapters and other hardware. And the disk drives cost less than Fibre Channel drives.”

After considering iSCSI systems from several vendors, the MisterArt.com IT group tested the Dell PowerVault MD3000i iSCSI-based SAN array against a comparably priced system from another vendor. “We brought both systems into our lab, set up an identical environment, simulated typical workloads, and measured results. We recorded I/O operations per second, transactions per second, and megabytes per second,” says Nicolayevsky. “The PowerVault MD3000i outperformed the competing system on all the metrics we tested. In one test, the Dell system delivered nearly twice the transactions per second of the other system. That’s a 200 percent improvement.”

## THE INTUITIVE DELL MODULAR DISK STORAGE MANAGER INTERFACE HELPS SIMPLIFY MANAGEMENT

In addition to its proven performance, the Dell PowerVault MD3000i system’s intuitive Modular Disk Storage Manager interface was another strong draw for the IT group. “Reducing the amount of time and resources required to manage storage was important to us,” says Nicolayevsky. “When I

was first introduced to the PowerVault MD3000i, the Dell account team set up a Web conference so that I could test-drive the interface. Even before the Dell engineer began the demonstration, I was able to start using the system on my own. With tabs on the top of the screen for the major tasks, and clickable descriptions of those tasks, the intuitive interface of the Modular Disk Storage Manager software greatly simplifies administration.”

## COMMONALITY AMONG SERVER AND STORAGE PARTS HELPS MAKE MAINTENANCE EASIER

The common components of the PowerVault MD3000i and Dell PowerEdge servers make the PowerVault MD3000i easy to service. “The PowerVault MD3000i uses the same 15,000 rpm Serial Attached SCSI drives as the PowerEdge servers,” says Nicolayevsky. “Using the same drives for servers and storage lowers the cost of carrying replacement parts so our business can stay up and running. Of course, if we need it, we can always use our Dell Gold Enterprise Support for fast assistance—there is just one number to call.”

## HIGH-AVAILABILITY CONFIGURATION SUPPORTS THE RELIABILITY NEEDED FOR AN ONLINE BUSINESS

As a result of the performance shoot-out and the Modular Disk Storage Manager test-drive, the MisterArt.com IT group selected a PowerVault MD3000i storage system along with a PowerVault MD1000 disk expansion enclosure for a total of 9 TB of storage. The 30-drive configuration would provide both the required capacity for growth and the performance necessary for running the company’s applications. “We created a virtual storage

environment across the drives so that we could improve performance as we add drives by spreading I/O activity across disks,” explains Nicolayevsky.

The MisterArt.com IT group selected the high-availability configuration of the PowerVault MD3000i to help ensure business continuity. The high-availability version of the system includes dual active/active controllers that mirror each other’s cache. If one controller fails, the disk drives are transferred to the other controller and operations continue. “As an online retailer, high availability of data is paramount,” says Nicolayevsky. “With dual controllers and redundant components, the Dell PowerVault MD3000i helps us increase the availability of our entire network.”

## THE POWERVAULT MD3000I SAN GOES INTO PRODUCTION IN MINUTES

Using the intuitive Dell administrative tool, the IT group installed the system rapidly. “We had a very short time to put the additional storage into production. Dell delivered the unit in less than one week—no question, the Dell sales team clearly understood our needs,” says Nicolayevsky. “Once we had the system in the data center, setting it up was simple. We plugged it in, configured it for our environment, created virtual volumes, and then created the host and the mappings. We were able to roll it into production in about 20 minutes.”

## POWERVAULT MD3000I HELPS IMPROVE PRODUCTIVITY, BUSINESS AGILITY, AND CUSTOMER EXPERIENCE

The IT group received immediate positive feedback from employees about the great performance of the new storage system. “We began to migrate some

# “THE IMPROVED PERFORMANCE OF THE DELL POWERVAULT MD3000i HELPS ENHANCE OUR CUSTOMERS’ EXPERIENCE ONLINE. NOW THEY CAN VIEW A GREATER VARIETY OF PRODUCTS AND IMAGES IN A GIVEN PERIOD.”

**Marco Nicolayevsky**, chief technology officer, MisterArt.com

back-office applications from the Fibre Channel SAN to the PowerVault MD3000i without telling anyone. People actually asked me if I had upgraded a server because everything was faster,” says Nicolayevsky. “That made me realize that the Dell SAN had a direct effect on worker productivity.”

The change in storage performance should also help to improve business agility. “As the costs of our products change, we must quickly apply those changes to our prices,” says Nicolayevsky. “Making those changes is a time-consuming process. The speed of the PowerVault MD3000i will help us accelerate the process of adjusting product pricing, which ultimately will help our business become more agile and adapt more quickly to change.”

Faster access to product photos will also help enhance the customer shopping experience. “For each of our 60,000 products we have several images. The improved performance of the Dell PowerVault MD3000i helps enhance our customers’ experience online. Now they can view a greater variety of products and images in a given period,” says Nicolayevsky.

## **POWERSVAULT MD3000i PROVIDES A CLEAR VALUE PROPOSITION FOR CONTINUED GROWTH**

As the MisterArt.com IT staff looks ahead to further growth, they have a storage platform that can be expanded as required. “The PowerVault MD3000i gives us a number of ways to address growth,”

says Nicolayevsky. “With the Modular Disk Storage Manager, I can increase the size of volumes so I can provision more space to a server or a set of servers. If we need more physical capacity, the modular design of the PowerVault MD3000i makes it simple to add another PowerVault MD1000 with 15 more drives. And if we need to move beyond the capacity of the PowerVault MD3000i or if we want to spread the I/O load across another system to avoid bottlenecks, we can simply add another PowerVault MD3000i.”

According to Nicolayevsky, the PowerVault MD3000i offers tremendous value. “We were willing to pay a premium for reliability, performance, scalability, and simplified management,” he says, “But after looking at several different SANs, we found that the PowerVault MD3000i has all the features we need at a very attractive price. For us, the PowerVault MD3000i is an ideal storage foundation for an online business.”

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