



StorNext & Scalar Series

## StorNext Enables Aechelon Technology to Double Workflow Speed

Aechelon Technology provides image generation systems and geospatial databases to the U.S. Armed Forces for use in flight simulations. These simulations enable pilots and aircrew members to train for a diverse set of operations, as they would in the real world. In addition to providing training simulation systems, the company also offers its customers visual databases that cover most of the planet.

During the last two years, the company's database business began growing at a rapid rate. To supply its customers with more precise visual imagery—including ground contours and features—the San Francisco-based company enhanced its databases and underlying delivery capabilities and tripled its database and modeling team. However, its internal processes were struggling to cope, as only one computer at a time could access a project, making simultaneous collaboration between employees nearly impossible.

With Quantum's StorNext software, the sky is the limit. It has allowed us to at least double the speed of our workflow, take on four times more projects, and deliver high-resolution imagery over areas ten times what we could before.

**David Morgan**  
Systems Architect

Aechelon Technology turned to Quantum's StorNext® data management software to enable multiple users to access projects and databases concurrently. The company also added a Quantum Scalar® i500 tape library as a repository to deal with the tremendous increase in backup files.

"Imagery sizes used to be a few terabytes," said David Morgan, systems architect at Aechelon Technology. "With Quantum's StorNext software, the sky is the limit. It has allowed us to at least double the speed of our workflow, take on four times more projects, and deliver high-resolution imagery over areas ten times what we could before."

### STRUGGLING WITH RAPID DATABASE AND EMPLOYEE EXPANSION IN AN UNSCALABLE INFRASTRUCTURE

As part of its growth and expansion, Aechelon Technology had also greatly increased the quality of its deliverables. The company began offering spatially larger databases with higher-resolution imagery, which necessitated databases that were four times larger than before. Therefore, it was no surprise that its processes struggled to cope.

"Before we deployed StorNext, staff could not collaborate conveniently on a project, and the amount of computational horsepower we could bring to bear was limited to a single workstation per project," said Morgan. "Our direct-attached infrastructure simply wasn't scalable, and it was difficult to share databases with other departments. We ended up copying an awful lot of databases back and forth, tying up network bandwidth."

Traditional file system protocols such as NFS or Windows file shares simply could not meet the company's requirements. It needed a high-performance file system that would enable close collaboration among workers and an accelerated workflow.

Morgan saw a description of Quantum's StorNext software on a website and realized the product's potential to expedite the company's workflow. After evaluating the product, the team immediately recognized the merits of the StorNext architecture and how it could enable engineers and graphic designers to share data and access multiple workstations simultaneously, thereby avoiding downtime. Morgan was so impressed that he decided there was no need to evaluate competitive products.



"With Quantum's StorNext software, the sky is the limit. It has allowed us to at least double the speed of our workflow, take on four times more projects, and deliver high-resolution imagery over areas ten times what we could before."

**David Morgan**  
Systems Architect

### SOLUTION OVERVIEW

- Quantum StorNext File System
- Quantum Scalar i500 tape library
- LSI and EMC disk arrays

### KEY BENEFITS

- Doubled workflow speed
- Quadrupled the number of projects able to be managed
- Multiplied the amount of detailed imagery in databases by 10x

## CASE STUDY

### STORNEXT REVOLUTIONIZES THE WORKFLOW

As a result of deploying StorNext data management software, source data can now be received on USB drives from various imagery providers and transferred into the StorNext file system. It is then available to Aechelon Technology's team of imagery experts who can process it before it is transformed into millions of multi-resolution files. StorNext also makes it possible for multiple team members to work on the same project simultaneously or share data with internal customers without tying up bandwidth. The increased efficiency has enabled the company to take on four times the number of projects it had previously managed.

"Our imagery team lead was incredulous at the outstanding performance of StorNext when compared to the performance of individual disk arrays," said Morgan. "After seeing the incredible speed and ease of accessing multiple workstations, they thought we must have misconfigured the file system. Quantum StorNext has revolutionized our workflow. As we have a common pool of storage, we can assign multiple workstations to one project with ease. In addition, the quality of our images has skyrocketed because we now have the processing power to manage these images."

### QUANTUM'S SCALAR i500 TAPE LIBRARY PROVIDES INDUSTRIAL-STRENGTH BACKUP

With StorNext, Aechelon Technology was able to increase the amount of data it could manage to unprecedented levels for the company. It helped facilitate a move from direct attached storage to the deployment of a several-hundred-terabyte SAN consisting of disk arrays from LSI and EMC. However, the sheer extent of the company's SAN meant that it was no longer feasible to back up individual arrays on an ad hoc basis using tape drives and a SCSI interface.

Based on its positive experience with StorNext and Quantum, Aechelon Technology did not need to look very far for a new backup solution.

"As we were very happy with the technology and support we had received, we decided to go to Quantum to find a scalable, industrial-strength backup solution—the Scalar i500," said Morgan. "Backup of any volume can be done most economically on tape."

The company deployed one Quantum Scalar i500 with multiple drives and more than a hundred cartridge slots, and the Scalar i500 now serves as the backup repository for the hundreds of terabytes of data the company generates.

### TAKING QUANTUM'S STORNEXT SOLUTION TO THE NEXT LEVEL

Aechelon Technology is now looking at the next phase of its expansion—harnessing the power of StorNext to enhance its on-site training services.

The company sometimes sends several trainers to the same Marine Corps or Air Force location. When a new database is being deployed at those sites, the same database has to be copied for each trainer. In the future, the company may consider using StorNext to provide a central database at each location, which could then be shared by all trainers and deliver greater performance than is available on local disk.

"This capability will be particularly useful when we have to conduct a fast data insertion of a specific location for an upcoming mission," said Morgan. "As soon as the images were available from satellite, we could utilize StorNext to make them available to everyone involved instantaneously. This could save days in mission preparation."

"Quantum StorNext has revolutionized our workflow. As we have a common pool of storage, we can assign multiple workstations to one project with ease. In addition, the quality of our images has skyrocketed because we now have the processing power to manage these images."

**David Morgan**  
Systems Architect

### ABOUT AECHELON TECHNOLOGY, INC.

Aechelon Technology, Inc. is a leader in real-time computer graphics applications for training, simulation, and entertainment markets. The company provides COTS-based, high-resolution, multi-channel, geo-specific image generators, OTW and correlated sensor databases, and integration services. The company's image generators are field-proven, and are delivered with full logistics support and documentation. Aechelon Technology is located on the Internet at [www.aechelon.com](http://www.aechelon.com) and is headquartered in San Francisco, CA.

To contact your local sales office, please visit [www.quantum.com](http://www.quantum.com)

**Quantum**  
BE CERTAIN