Western Digital.

CASE STUDY

Aviation Accounting Center Implements Open, Scalable, Shared Storage with Western Digital and Open-E

Challenge

Aviation Accounting Center's standalone servers did not provide the capacity, availability and performance needed for storing and accessing its geospatial data.

Solution

An open, scalable, shared storage solution based on Western Digital's highly-reliable high-capacity storage platform and Open-E JovianDSS storage software.

Key Results

240TB of centralized storage capacity in a mirrored, high-availability configuration with the potential to grow in 120TB increments in the future.

Company Profile

Aviation Accounting Center LLC is the leading Ukrainian engineering company for acquiring, processing and providing geospatial data. It uses a variety of remote sensing technologies, including digital aerial photography, LiDAR, radar, hyperspectral imaging and echo ranging, and produces topographic surveys, maps, databases and Geographic Information Systems.

Standalone Servers Insufficient

Aviation Accounting Center's (AAC) specialty is scanning and sensing the earth by digital aerial photography, aerial laser scanning, thermal aerial survey and space imagery. Out of these activities flow a large and continuously growing pool of geospatial data. This data must be stored, backed up and made instantly available for analysis, processing and delivery to clients. Access performance is critical because of the large amount of data involved, and performance must remain consistent even as the volume of data grows.

Previously, AAC used standalone servers with dedicated storage. These were limited in capacity and often had single points of failure. The off-the-shelf servers sometimes did not have sufficient bandwidth to satisfy all users with reasonable response times.

AAC needed a better storage solution that would provide a pathway for continuous growth in sensible increments of capacity. Throughput performance should not degrade as capacity grows. In addition, availability to the data analysts should be 24×7 and instantaneous across the entire company network.

Open, Scalable Solution Based on Western Digital and Open-E

Brand-name turnkey solutions proved to be to too expensive and came with the risk of vendor lock-in, making future upgrades more expensive than desirable.

Its system integration partner Entry proposed an open solution based on Open-E JovianDSS data storage software, standard x86 servers and Western Digital's highly-reliable high-capacity storage platform featuring HelioSeal® helium hard drives. The Western Digital platform, which can scale out in numbers of enclosures and scale up in drive density and individual HDD capacity, connected to mirrored standard x86 servers with high-bandwidth NICs, all managed by the JovianDSS software, based on ZFS. The solution was scalable and satisfied capacity, throughput, connectivity and high-availability requirements.

"The volume of geospatial data is growing year by year and has to be kept online at reasonable cost for processing and exploitation."

Sergii Polivoda
Commerce Director for Aviation
Accounting Center

Entry praised Western Digital for the reliability of their HDDs and the robust build of the Western Digital platforms, providing for many years of dependable service. Western Digital would also save several months of integration work based on the internal and third-party qualifications previously accomplished by Western Digital with various partners, which promised a swift and trouble-free implementation of the desired solution.

By choosing previously tested combinations from Western Digital's compatibility list, the implementation was quick and without any integration issues. Once the JovianDSS software was configured to AAC's needs, the solution was ready to go live.

"The volume of geospatial data is growing year by year and has to be kept online at reasonable cost for processing and exploitation," said Sergii Polivoda, Commerce Director for AAC. "Entry, our integration partner, brought together hardware and software from multiple vendors, providing us with a tailored solution at a very reasonable price."

Centralized, Shared Storage with Room to Grow

Prior to implementing the new solution, ACC used so-called departmental file servers that frequently hit capacity limitations and were difficult to keep synchronized. After the implementation, they had 240TB of centralized storage with the potential to grow in multiple steps of 120TB going forward. Data could be shared among multiple workstations. The mirrored servers running Open-E JovianDSS in tandem provided uninterrupted service to meet the 24×7 access requirement.

Ultrastar Data102 and Ultrastar Data60 Storage Platforms

Western Digital.

5601 Great Oaks Parkway
San Jose, CA 95119, USA
US (Toll-Free): 800.801.4618
International: 408.717.6000

www.westerndigital.com