

Organization

Shengli Oil Field is the second largest oil production base of China. Shengli Oil Field Company is responsible for exploring and producing crude oil and natural gas in the field.

Challenge

Building a new clustered HPC system within budget limits to effectively handle the growing seismic data

Solution

Infortrend storage solution met the challenges with:

- High availability hardware designs
- RAID 6 protection
- Outstanding throughout power
- Wide platform support
- Highly scalable capacity
- Easy management

Sinopec (China Petrochemical Corporation) Shengli Oil Field Company Selects Infortrend Storage to Support Its High Performance Computing (HPC) Applications

Shengli Oil Field is the second largest oil production base of China. It was discovered in 1961 and started development in 1964. Shengli Oil Field Company is responsible for exploring and producing crude oil and natural gas in the field. The main working area covers 28 counties under the jurisdiction of eight cities in Shandong Province, which are Dongying, Binzhou, Dezhou, Jinan, Weifang, Zibo, Liaocheng and Yantai. Till the end of 2008, the accumulated proven oil in place amount to 4.824 billion tons and proven gas in place 50.085 billion cubic meters. Among its many oil gathering stations, the Binnan station produces more than 2 million tons of crude oil and 110 million cubic meters of natural gas each year.

The Challenges: Performance, Reliability and Scalability

To the productive Binnan station, the main IT challenge is seismic data processing. The data collected in one day may take as long as four days to process. In the past, the Binnan station had used supercomputers to handle the demanding tasks. However, when the seismic data rapidly grew in both size and complexity, they were faced with a dilemma. The power of the current supercomputers proved inadequate; but they did not have enough budgets to upgrade the supercomputers. At last, under the suggestion of Silvershine, Infortrend's main reseller in China, the Binnan station decided to turn to the clustered HPC system for a more cost-effective solution.

To fit in the data-intensive environment, the storage solution for the HPC system is required to meet the following demands:

- high reliability and redundancy to ensure high data availability
- high performance to meet data processing needs
- flexible scalability to grow along with increasing application demands
- wide platform support, including IBM-AIX, Sun Solaris and Linux
- exceptional price/performance

Infortrend Solution

To identify the most suitable solution, the Binnan station performed thorough tests on the competing storage systems. Competitively priced, Infortrend EonStor storage systems were proven able to satisfactorily meet the aggressive requirements with the following features:



"Infotrend storage systems respond to both read and write requests with outstanding high speed. The included management suite also greatly simplifies our administration tasks. These high-quality systems can be seamlessly integrated into a multi-platform environment and deliver high reliability. They have not malfunctioned since deployment. For users whose application requirements are as challenging as ours, Infotrend storage is undoubtedly an ideal choice."

-- Binnan Station of Shengli Oil Field Company

- redundant and hot-swappable hardware components, including controllers, power supplies and fans
- high-level hardware-based RAID protection including RAID 5 and RAID 6
- online capacity expansion of data volumes
- leading-edge throughput to eliminate performance bottlenecks
- compatible with various operating systems and application software
- supports up to 1024 data volumes for wide host connectivity
- flexible system capacity expansion to a maximum of 80 drives through expansion enclosure attachment
- shipped with SANWatch management suite, which allows access to all configuration and maintenance functions via a single intuitive and easy-to-use interface

Working in conjunction with the clustered HPC system, EonStor storage systems not only significantly accelerate seismic processing but improve IT efficiency for the Binnan station of Shengli Oil Field Company. Thanks to its wide platform support, the old supercomputers can also be integrated into the new production matrix. Combined power of the new and old machines makes the time taken to capture and to process the data coming close to a one-to-one ratio. As server nodes are added to meet increasing data demands, the storage capacity can also grow along. With high-availability hardware designs and RAID support, EonStor systems not only store but protect the mission-critical data. They work with third-party data protection software to support the highest data availability. On the full-featured management platform, various advanced functions, such as disk performance monitoring, automatic event notifications and real-time status view, are consolidated to reduce storage optimization efforts. The Binnan station is satisfied that the new HPC implementation based on Infotrend storage can help them meet all of the specific requirements while containing costs.

The Benefits: Supporting a High-Performance, High-Scalability Computing Environment While Protecting Current Investment

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