

Organization

A major broadcaster based in Henan province in central China.

Challenge

Growing capacity and performance demand drove Henan TV to look for a new storage solution. The new solution had to meet the following requirements:

- High bandwidth
- Strong expansion capability
- Low latency
- 24x7 data availability

Solution

Infotrend's ESVA solution met the challenge with:

- Storage virtualization
- Large capacity and performance expansion capabilities
- Excellent response time
- Redundant hardware design
- A single, user-friendly interface to manage all storage systems

Chinese Broadcaster Henan TV Relies on Infotrend ESVA Solution to Meet Growing Storage Demand

Henan TV is a major broadcaster based in China's Henan province. Currently, Henan TV operates 15 channels (nine regular channels and six digital channels). On June 1, 1996, its satellite channels started broadcasting, covering all regions of China as well as 52 other countries and regions. In May 2003, nine channels started to broadcast via hard disk drive systems.

Henan TV's storage capacity and performance requirements for non-linear editing operations have increased as a result of high resolution demands and the company's overall business growth. The original storage solution used by the company, HP EVA8400, was no longer able to meet the company's demand for storage capacity and performance growth.

Therefore, Henan TV started to look for new storage equipment in order to replace the existing product and upgrade its capabilities. Based on the application demand of Henan TV's editing department, UDSAFE, Infotrend's major channel partner in China, recommended Infotrend's ESVA solution. Henan TV conducted a series of tests on the ESVA to make sure the solution would meet its stringent application requirements. Based on the excellent results of these tests, Henan TV decided to adopt the ESVA solution, replacing the HP EVA8400.

Customer Challenges

Bandwidth

The application environment of Henan TV mainly consists of non-linear editing of both HD (High Definition) and SD (Standard Definition) content, and it has high requirements for storage systems' bandwidth. In the current environment, a bandwidth of 1.2GB/s is required for multiple applications operating at the same time. As the editing department is experiencing continued growth, Henan TV hoped that the new solution could be used well into the future and reach a bandwidth of more than 4.0GB/s.

Expansion Capability

With the business growth of Henan TV, including increases in the number of channels and programs, the company's application systems feature increasing demand for storage capacity. Therefore, the company looked closely at capacity growth capabilities and maximum capacity during its selection process. In addition, the company demanded that performance could increase in tandem with capacity expansion.

Latency

Due to the nature of the application environment, Henan TV had extremely high requirements for the response time of the new storage systems. The company used specialized tools to test response time, requiring that latency of the storage system responses could not exceed 400ms.

Overall Reliability

As the data source for editing and broadcasting, the storage solution is an extremely critical part of the company's overall IT architecture. The storage solution needs to be able to provide 24*7 uninterrupted operations to enable regular recording of material and ensure the stability of the editing system's operations.

Infotrend Solution: ESVA

Virtualization Combines Capabilities of Multiple Arrays

Following a thorough analysis of Henan TV's editing environment by UDSAFE and Infotrend experts, a SAN (Storage Area Network) solution was designed for Henan TV based on Infotrend's ESVA. The solution consists of five ESVA arrays, with each array connected to four expansion enclosures. Through the virtualization management functions of ESVA, storage resources are combined into a single storage pool (four arrays allocated to regular I/O operations; one array allocated to data backup operations). The solution thus provides centralized performance and capacity for multiple front-end non-linear editing workstations.

Excellent Bandwidth and Processing Power

ESVA provides supreme bandwidth and combined processing performance. The ESVA arrays adopted by Henan TV feature a total of 20 PowerPC CPUs, 10 ASIC667 RAID engines, 40GB cache memory and 20 4Gb/s FC host ports. The high-quality hardware components, combined with ESVA's automatic load balancing technology, provide excellent overall performance.

Redundant Hardware Design

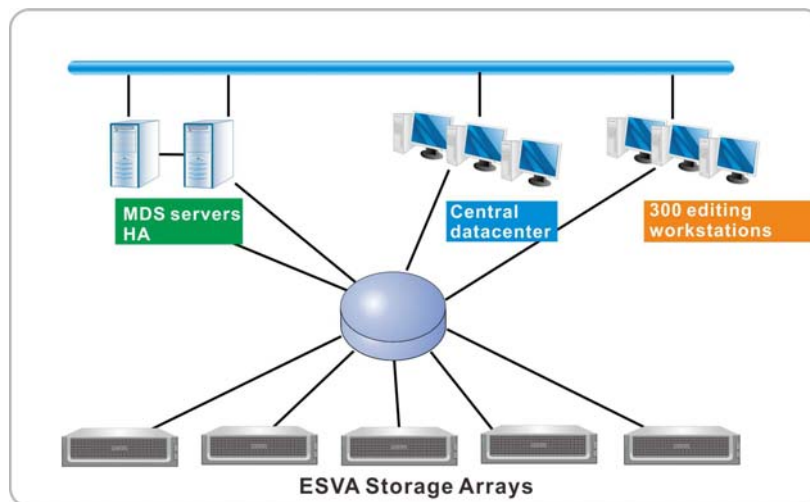
Each ESVA array in Henan TV's solution adopts a redundant hardware design, preventing any single point of failure. The RAID 5 technology used by ESVA can deal with two simultaneous disk drive failures without causing system downtime.

Easy and Convenient Management

ESVA enables centralized management of multiple ESVA arrays through its management suite SANWatch, a Java-based GUI. RAID configurations, data protection etc. can all be achieved with only a few clicks of the mouse.

Overall Performance Meets Customer Demand

Since the ESVA systems came online, they have provided stable and high-performance storage operations. Based on tests in which almost 100 non-linear editing workstations simultaneously conducted read/write operations, the five ESVA arrays combined are able to continuously deliver bandwidth of 2.6GB/s. As for response time, long-term testing has shown that the systems' response latency is stable at approximately 15ms. Only a very small number of I/Os experience latency up to 75ms. These figures are much lower than the 400ms required by Henan TV. Overall, the company has been extremely satisfied with the overall performance of the ESVA solution.



About Henan TV

Henan TV is a major broadcaster based in China's Henan province. The company was established in September 1969 and started broadcasting in the same year. Its broadcasts reach more than 90 million people. Currently, Henan TV operates 15 channels (nine regular channels and six digital channels). On June 1, 1996, its satellite channels started broadcasting, covering all regions in China as well as 52 other countries and regions. In May 2003, nine channels started to broadcast via hard disk drive systems. Henan TV broadcasts 168 hours of content per day.

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