High-Performance Hitachi NAS Platform Helps Chinese Media Group to Simplify Data Management

Since its establishment in 1999, Wasu Digital TV Media Group has become a large-scale, state-owned new media and Internet culture industry group and has experienced rapid growth. In the emerging media industry, the group has created the largest digital content library in China. It owns millions of hours of digital media content resources and offers a full line of service licenses, including interactive TV, mobile TV and Internet. To support these efforts, the group chose a solution based on Hitachi NAS Platform and Hitachi Adaptable Modular Storage.

About Wasu
Wasu Digital TV Media Group (Wasu Group) was established with joint investment of Hangzhou Media Group and Zhejiang Broadcasting and TV Group, among others. It has deployed new media services for 3 major communication operators: China Telecom, China Mobile and China Unicom. Through these ventures, Wasu Group covers the broadcasting and TV broadcast networks of nearly 30 provinces in China, and tens of millions of Internet TV terminals in the country. Moreover, the company has built 9 business units, including video, commerce, game, reading, music, information, payment, communication and content creation. These units provide strong support for the development of new media, digital TV, new culture, industry applications and the modern service industry. Wasu Group has created the 1st new business “cloud data” center in China to lay solid foundation for the development of the new media industry.

A leading organization for developing “one network in one province” within the Zhejiang province, Wasu Group provides digital TV and broadband service covering 13 million households in the province. Currently, by catching up with the latest trend of global IT development, Wasu Group has created a world-leading “cross-generation network” development strategy, the 1st in China. The group will employ a new strategic platform to support cloud city, cloud family, cloud TV, cloud broadband and cloud communication to drive development of new media and new networks.
SUCCESS STORY

Challenges and Solutions

To improve its film media content resource management system, Wasu Group wanted to address the following challenges:

**Massive Data Growth**
Having created the largest digital content library in China, the Wasu Group owns millions of hours of digital media content offered through various media licenses. The storage capacity required by digital media content keeps increasing, which poses very high requirements on the volume of data supported by the storage platform. To address this challenge, the storage platform must support massive capacity growth.

**Simplified Management Requirement**
As there are more end users getting used to new digital media, there is requirement to enrich the contents library of Wasu Group. The group has encountered significant challenges of providing faster access, more content and high-definition (HD) content. Specifically, HD content requires tens of gigabytes of capacity, and is limited by the small system capacity and less than 16TB file system limitation of most file servers. These capacity concerns imposed big challenges for the WASU Group. Hence, the group requires not only a high-capacity storage platform, but also a professional management model.

**High-Performance Improvement**
For Wasu Group, providing high-speed and high-performance access to media content is the key benchmark of service quality. The storage system access performance was the key issue that Wasu Group had to address to scale the business. The group identified that the bottleneck is not the network bandwidth, but, rather, with the storage system. Therefore, to improve overall access speed and performance, it was critical to enhance the storage system performance.

**Hitachi Storage Solution**
In considering the above requirements and future business growth of Wasu Group, Hitachi Data Systems offered a high-performance solution. Components included Hitachi NAS Platform (HNAS) 3090 and Hitachi Adaptable Modular Storage (AMS) 2500. Figure 1 illustrates the solution topology.

![Figure 1. Hitachi High-Capacity, High-Performance Solution for Wasu Bank: Topology](image)

**Solution Benefits**
Main advantages of this solution include:

- **Cluster namespace management.** Eliminate previous management model of several mount points, and simplify the management dramatically.

- **Storage hardware performance advantage.** HNAS 3090 provides NAS service, and AMS 2500 provides SAN service. Both have powerful access capabilities and processing performance. AMS 2500 uses the industry-leading active-active controller architecture, enabling application servers to access the storage resource via 2 controllers to improve concurrent access efficiency.

In terms of the Wasu Group’s media content resource management system, the group was happy to employ Hitachi storage expertise and the high-performance Hitachi NAS Platform based solution for its new media and new network endeavors.
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Reduced contention for system resources. The HNAS 3090 uses a combination of multicore processors and FPGAs (field programmable gate arrays) to optimize and separate data movement and management processes that would normally contend for system resources. (See Figure 2.) The hybrid core architecture features high sustainable performance, high capacity and high scalability.

System scalability. 8PB capacity and almost linear scalability of up to 4 nodes in a cluster of single namespace will meet the business growth needs of Wasu in the coming years.

High availability. The high-quality storage solution of AMS 2500 and HNAS 3090 features redundant design with no single point of failure and provides 99.999% availability.

Why Hitachi Data Systems?

Several factors pointed Wasu Group toward Hitachi Data Systems to answer the challenge of providing a high-capacity, high-performance storage solution. The group had previously been a Hitachi Data Systems customer and had successfully deployed multiple Hitachi storage systems for various applications. The group also recognized the reputation and outstanding record of HDS for providing uninterrupted services. It noted that HDS has been verified and recognized by customers in terms of the business communication with customers and customer service. Specifically, in terms of the Wasu Group's media content resource management system, the group was happy to employ Hitachi storage expertise and the high-performance Hitachi NAS Platform based solution for its new media and new network endeavors.

Figure 2. FPGAs in Hitachi NAS Platform: Separation of Data Movement and Management Processes