Storage Server Solutions for the Broadcasting World

Summary

AIC has formed an alliance with RAIDIX to deliver media and entertainment studios and production facilities a completely redundant, cluster-in-a-box solution with the fault tolerance technology that mission-critical performance demands. AIC provides high-availability storage solutions in its HA401-CP2 and SB302-CP2. The Intel Server Board supports dual Intel® Xeon® processors, E5-2600/ E5-2600 v2 family of products. In conjunction with RAIDIX software, the AIC server platforms achieve their maximum performance capabilities as well as storage performance. These configurations support the computational and storage requirements of the media and entertainment industry, giving them a highly cost-effective solution with 99.999 % availability and maximum productivity.

Introduction

Companies involved in the media and entertainment industry require robust data server equipment because of the sheer volume of data that is generated in modern video and audio production efforts. Whether working in a live context where high bandwidth is required to transmit streams of uncompressed video or in a production environment for further assemblage and editing of audiovisual files, entertainment and media professionals require fast and reliable equipment for their media platform.

They are often working under tight deadlines where access to mission-critical files is of paramount importance and hardware failures are not an option. This case study illustrates how organizations can use AIC products to their advantage.

When working with RAIDIX software, it's best to match equipment configuration with the stage of the media content life cycle.

For example, a company that must handle a single stream of 4K video will need to use a 16-bay drives storage server chassis. If the company is tasked with handling two streams of 4K data, the configuration should support a 24-bay drives chassis. Most small-to-medium sized studios find such setups ideal for storing data and to work on files during post-production.

RAIDIX software is designed to enable hardware such as that created by AIC to reach its theoretical maximum performance limits. Organizations will therefore select their platform based on the specific types of tasks and workflow that will be performed on the storage.

Companies working in broadcast should use a fault-tolerant configuration and enable the SSD cache function for best results.

RAIDIX usage reaches its highest functionality during production work when using the latest in AIC hardware, meaning that the processor must be Intel Nehalem or higher. The server boards developed by AIC all comply with this requirement because they use more powerful processors. They support PCI-e 3.0, meaning that there is sufficient throughput to handle as many as four simultaneous streams of 4K uncompressed videos.

It's important to keep in mind the performance of the connecting interface. A 16GB fibre channel is required to handle four streams of 4K data. Accordingly, RAIDIX supports MPIO functionality with AIC equipment, which will increase data throughput by uniting two fibre channels into one.

What's required

- 1 x AIC HA401-CP2 high-availability storage server solution
- 2 x AIC SB302-CP2 storage server solution
- RAIDIX software

Benefits of the HA401-CP2

- 4U 24-bay 3.5" drive storage capacity
- Dual nodes to provide high availability
- Supports active-active configuration
- Fully redundant and fault-tolerant
- No single point of failure
- Ideal for mission-critical, enterprise-level storage applications such as media and entertainment

Benefits of the SB302-CP2

- 3U 16-bay 3.5" drive storage capacity
- Supports dual Intel® Xeon® processors E5-2600/E5-2600 v2
- Supports Intel® C602 chipset
- Same server board as the HA401-CP2 to make service and maintenance easy
- Same design look and feel as the HA401-CP2

Top Features of RAIDIX Software

RAIDIX offers media professionals an ultra-high performance and high-availability scale-out storage software solution, which is designed to meet the needs of today's standard 4K-8K media workloads.

The system scales linearly in terms of capacity and performance and requires only a single storage space, which clients find is ideal for easy management of their data. It provides support for heterogeneous clients, including OS X, Windows and Linux via the storage area network or SAN, sharing the same data via network attached storage or NAS.

RAIDIX software allows for data high-availability and market-leading productivity thanks to RAIDIX's patented RAID 7.3 technology, which includes these features:

- Advanced Reconstruction technology provides guaranteed performance of the disk array with up to three lagging drives. Rapid reconstruction by the minimum read data does not require response from all drives.
- Partial Reconstruction technology lets the system monitor each 1/2048th of the hard drive and reconstructs only changed data. This feature dramatically reduces the reconstruction time.
- Silent Data Corruption Detection and Correction
  This makes sure that an organization's crucial files will always be available to work with. Producers won't have to worry about arranging for re-recording sessions or otherwise recreating media files because of easily preventable data losses.
- QoSmic Technology
  Ensures maximized storage performance for media and entertainment business-critical applications.
- The system scales linearly from both a capacity and performance standpoint, maintaining a single namespace for easy management. Added nodes integrate with the existing storage, expanding the capacity and performance without even a second of downtime. This technology also supports dynamic cluster configuration. Same data can be accessed via shared SAN or scale-out NAS storage protocols. RAIDIX allows the creation of multiple file systems, all sharing a single pool of available storage, providing instruments to maintain the user access control. Metadata management is simple due to the dynamic space allocation.

In effect, the alliance of AIC and RAIDIX gives customers one-stop shopping for all their professional media storage product requirements. Customers gain a top-performing storage product and have the advantage of getting technical support from dedicated professionals in their geographical region. The storage solutions are specifically designed to address the needs of modern multimedia workflow environments.

About AIC

AIC is a leading provider of both standard OTS, off-the-shelf, and OEM/ODM server and storage solutions. With expert in-house design capabilities, validation, manufacturing and production, our broad selection of products are highly flexible and are configurable to any form factor or custom configuration. AIC leads the industry with nearly 20 years of experience in mechanical, electronic, system-level engineering as well as a dedication to product innovation and customer support. Headquartered in Taiwan, AIC has offices and operations throughout the United States, Asia and Europe.

About RAIDIX

RAIDIX is a high performance SAN and NAS storage software development company. We tailor our product to fit industry-specific data storage needs in three diverse sectors: Media and Entertainment, Healthcare, and High-Performance Computing (HPC). Our patented RAID calculation algorithms provide users with the best in class storage performance. We support InfiniBand, iSCSI, and Fibre Channel interfaces, transforming standard x86_64 server hardware into an optimized cost-efficient storage solution. Founded in 2009, RAIDIX brings years of previous data storage experience to our clients. Together with a deep understanding of industry-specific processes, our vast technical expertise provides specific solutions through each of our software product families.

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