Oracle ZFS Storage Appliance for Media and Entertainment Workloads

Media and entertainment companies, the powerhouses of digital asset creation and distribution, require high-performance, cost-efficient, and secure storage solutions. Oracle ZFS Storage Appliance has demonstrated tremendous success in these environments thanks to its unique in-memory architecture and ability to cost effectively secure and accelerate digital assets.

Where Creativity Thrives

The media and entertainment industry brings together cutting-edge creativity and technology in continually groundbreaking ways to deliver rich digital experiences to consumers. Advancements in movie making, higher-than-ever resolution media formats, Internet Protocol television (IPTV), and media streaming have ushered in the need for high-performance, high-efficiency storage solutions. Oracle ZFS Storage Appliance, Oracle's enterprise-class family of NAS offerings, is built for high performance and offers unparalleled storage cost efficiencies. It can easily support thousands of servers in your render farm, enabling your graphic artists to create dramatic visual effects for your next 4K, 8K, IMX, or 3D film. Your transcoding operations can accelerate 2x or more, and if yours is a media streaming company, your customers can enjoy a seamless viewing experience with Oracle ZFS Storage Appliance. Equally as important, Oracle ZFS Storage Appliance models offer protection against security breaches.

Superior Performance in Media and Entertainment Workloads

Oracle ZFS Storage Appliance combines intelligent caching and scalable storage operating system for faster streaming of media files. It enables studios to produce movies in multiple formats (2K, 4K, 8K) and bring them to market faster. It also offers simplified storage acquisition in comparison to competitors such as EMC Isilon, where you have to choose from five types of purpose-built nodes to architect a solution that meets the capacity and performance requirements of your environment.

Highly Scalable Performance for Visual Effects Generation

Visual effects (VFX) environments typically have large render farms with thousands of servers to which VFX artists connect and create stunning digital renderings. These environments require a storage system with scalable performance that can easily handle millions of DPX files and seamlessly deliver content to interactive digital artists during peak

editing periods. Oracle ZFS Storage Appliance is designed for maximum performance with a unique dynamic random access memory (DRAM)-centric architecture, exceptional compute power (120 CPU cores in Oracle ZFS Storage ZS4-4), symmetric multiprocessing operating system for parallelism, and more. A single Oracle ZFS Storage ZS4-4 system can scale to support 2,000+ physical server nodes and deliver consistently high performance. Additionally, Oracle ZFS Storage Appliance supports adjustable record size (8 KB to 1 MB), enabling you to select large block sizes for enhanced streaming performance of 2K, 4K, 8K, and high frame rate 3D media content.

Seamless Transcoding Operations

Transcoding operations require storage systems with high throughput and low latency, as sudden spikes in latency will abort a transcoding process that might have been running for hours. Oracle ZFS Storage Appliance with the robust Hybrid Storage Pool feature provides an architecture that is extremely beneficial for performance in latency-sensitive workloads. Massive DRAM combined with specialized, write-optimized SSDs deliver dramatically low-latency read and write operations, making the storage system ideally suited for transcode operations. To learn more about the Hybrid Storage Pool architecture, please see Architectural Overview of the Oracle ZFS Storage Appliance white paper.

High-Speed Video Streaming

IPTV services such as time-shifted television and video-on-demand have revolutionized the way people consume media content. Additionally, the introduction of new consumer services such as network personal video recording (nPVR) have created a huge demand for storage capacity for IPTV service providers and cable companies. The low-latency and high-throughput performance of Oracle ZFS Storage Appliance enables you to stream media content seamlessly and improve the overall viewing experience.

Securing Rich Media Assets

Security breaches and cyber attacks are increasing at an alarming rate. Enterprises are emphasizing data security more than ever, and media houses are no exception — it's a top priority to secure their valuable, creative media assets. Oracle ZFS Storage Appliance encryption capabilities offer highly secure, granular, and easy-to-implement storage-level encryption. Strong AES 256-bit data-at-rest encryption combined with a two-tier key architecture provides you with high levels of protection against security breaches. One-click implementation with LUN-, project- or share-level granularity provides ease of use and flexibility. With more than a million encryption keys, local and remote key management, and integration with Oracle Key Manager, this encryption capability delivers scale, protection, and management ease.

Million-Dollar Performance at a Fraction of the Price

Oracle ZFS Storage Appliance makes productive use of DRAM, flash cache, and hard disk drives to move data across different tiers, based on their usage level, making sure that hot data is always delivered from the fastest media available while simultaneously maximizing value with low-cost disk. This cutting-edge caching technique enables Oracle ZFS Storage Appliance to deliver the same level of performance as the scale-out architecture of EMC Isilon, with at least 86% fewer nodes and 4X shorter latency, offering unmatched cost and operational efficiencies. The cost effectiveness of Oracle ZFS Storage Appliance is also

demonstrated in its SPC-2 benchmark results. It holds three of the top five performance results[1] in the SPC-2 benchmark and does so at a fraction of the cost of the other systems. For example, Oracle ZFS Storage ZS4-4 crossed the 30,000 SPC-2 MBPS™ mark at the lowest $/SPC-2 MBPS™ — that's million-dollar performance at half the price, while the Oracle ZFS Storage Appliance ZS3-2 holds the record for SPC-2 Price-Performance™ at $12.08. See "Realizing the Superior Value of the Oracle ZFS Storage Appliance" to learn more about the business value of Oracle ZFS Storage Appliance.

Co-engineering with Oracle Applications and Systems

Tiered Archive Infrastructure

Innovations in archive software that simplify hardware management enable media and entertainment organizations to adopt tiered storage solutions to place rich media assets in the most cost-effective storage platform. Tested, supported, and engineered together, the combination of Oracle's Front Porch Digital DIVA content storage management software, Oracle ZFS Storage Appliance, and Oracle's StorageTek tape libraries delivers policy-based automation and high performance along with leading availability, reliability, and TCO for the long-term preservation of digital assets. Unparalleled intelligence and co-engineering efforts between Oracle ZFS Storage Appliance and Oracle's Front Porch Digital DIVArchive will provide an intelligent advantage over non-Oracle disk offerings in the market.

Conclusion

Oracle ZFS Storage Appliance offers compelling performance, cost efficiency, security, and management advantages that make it uniquely and ideally suited for media and entertainment workloads and business requirements. With Oracle ZFS Storage Appliance, you can create amazing digital visual effects and deliver a rich experience for the consumers of your products.

DIVA CONTENT STORAGE MANAGEMENT SOFTWARE AND ORACLE STORAGE SYSTEMS

Front Porch Digital DIVA content storage management (CSM) software and Oracle storage systems provide an end-to-end digital asset management solution for broadcast, post-production, and rich media distribution organizations.

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