

WHITEPAPER | MEDIA STREAMING

VIKING ENTERPRISE SOLUTIONS® ALL FLASH ARRAY OPTIMIZES MEDIA & ENTERTAINMENT APPLICATION ENVIRONMENTS

PROBLEM

Media streaming workloads need high throughput storage capable of simultaneous streams of sequential reads and writes. Also needed is highly available storage services with no single points of failure (NSPOF). Storage systems rated for high performance do not inherently meet the needs of media streaming in production environments.

CHALLENGE

A key reason why many storage systems are not usable for media streaming is they include hidden bottlenecks that create hot-spots. These issues create queue buildups and increase response times, resulting in lower usable performance and a reduction in the total number of media streams that can be served simultaneously.

SOLUTION

A vital component for media streaming is a performance-optimized storage system like the Viking Enterprise Solutions software and hardware appliance model number OSA-Fx60. It features an architecture without hot-spots and bottlenecks with industry-leading price/performance.

This Viking Enterprise Solutions solution supports a configuration with maximum parallelism at all layers including:

- Multiple ports on the storage system
- Multiple paths between storage and clients
- Multiple RAID groups per storage controller
- Multiple volumes for data and metadata
- Redundant pairs of SSDs for data protection
- Redundant storage networks for high availability

PERFORMANCE BENCHMARKS

The OSA-Fx60 delivers impressive performance for media streaming as shown in the following test results:

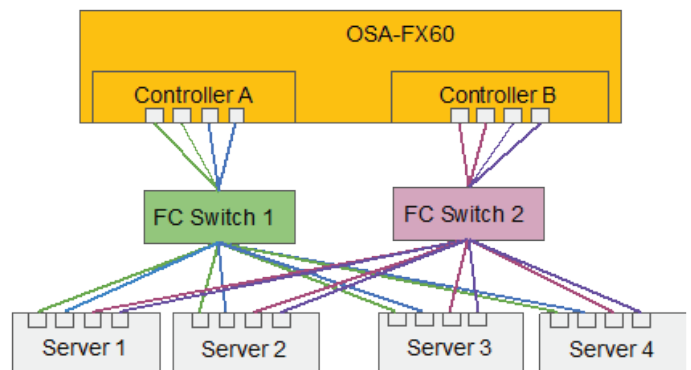


Write Performance with Recommended Configuration

The testing above shows total writes from serving multiple streams simultaneously nearing 12GB/s for the array, consistently well balanced across all SSDs.

RECOMMENDED CONFIGURATION

Viking Enterprise Solutions has demonstrated optimal performance supporting "line rate" Fibre Channel performance for media streaming using the following configuration:



Recommended Configuration for Media Streaming

Disks and RAID configuration details:

- Up to 60 SSDs (60TB with 2TB SAS SSDs)
- 2 SSDs per RAID group
- 15 RAID Level 1 groups per controller
- RAID groups mapped to quad controller ports
- RAID SSDs mapped to optimize for locality

Volume configuration details:

- 54 total MPIO volumes
- 48 volumes for data and 6 volumes for metadata
- All volumes exposed to all FC ports

Host-side LUN configuration details:

- 8 volumes per stripe
- 4 volumes assigned to controller A
- 4 volumes assigned to controller B

ABOUT THE OSA-FX60

The OSA-FX60 is a highly available, all-flash array designed to deliver optimum performance (high IOPS and high bandwidth) to environments with demanding storage requirements such as media streaming application workloads. This OSA-Fx60 solution provides high performance and high density over a range of metrics including cost per IOPS, IOPS per rack U space, and IOPS per watts.

Key features include:

- Support for 32/16G FC and 100/40G iSCSI
- High performance with up to 60 solid state drives
- High efficiency in a compact 2U package
- Data protection against failures or power loss
- High availability with full redundancy
- Quality of Service (QoS) for IOPS and bandwidth
- Automated configuration and monitoring via CLI

ABOUT VIKING ENTERPRISE SOLUTIONS

Viking Enterprise Solutions enables organizations to make powerful business decisions, whether in JBOD storage expansion enclosure product platforms, integrated RAID server/storage application product platforms, racks or other full solution items targeted for the robust data center environment. Viking Enterprise Solutions was founded in 2000 as an innovative design company developing and manufacturing easy-to-deploy server and storage technology for Original Equipment Manufacturers (OEMs). Viking Enterprise Solutions was then acquired by Sanmina® Corporation (NASDAQ: SANM) in July 2003.



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