Pavilion NVMe-oF Storage for Media and Entertainment

Accelerate media and entertainment projects

Save space, time, and money with no-compromises

Media and entertainment (M&E) organizations need to produce information and entertainment in a variety of different formats and delivery mediums. Full uncompressed editing with multiple collaborators requires massive storage bandwidth *and* low-latency. Traditionally, this is achieved by purchasing a large number of storage arrays and disks (HDDs or SSDs). The result is excess capacity stranded for a single media asset. This can be as much as four times the amount of actual storage required. The Pavilion HyperParallel Data Platform™ delivers up to 120 GB/sec. of throughput, sufficient for multiple seats/streams of uncompressed 4K/8K media asses, regardless of size.

With zero-footprint snapshots, making copies and clones is instantaneous. Clone the snapshot inside the system to another shared volume and move it along the production workflow without slowing down network traffic that should be dedicated to post-production workers.

Replace legacy fibre channel SANs with standard Ethernet and NVMe-oF to avoid hidden costs. Move to Ethernet and assure a consistent, low-cost growth path with a future-proof storage solution as 3D, VFX, and AR/VR requirements expand.

The Pavilion HyperParallel Data Platform

The Pavilion HyperParallel Data Platform delivers performance and density at a level that enables the combination of Pavilion and a favorite shared storage management tool. With up to 2.2 PB in each array, use it as top-tier storage, a shared namespace, partition it to specific M&E requirements, and leverage existing investments in StorNext, Spectrum Scale, PixStor, and other platforms.

Besides performance and capacity, the Pavilion HyperParallel Data Platform offers several important data management and enterprise availability features, including thin provisioning, instant and space-saving snapshots and clones, and no single point of failure in an enterprise-class chassis and platform. Multiple active-active controllers and support for multi-path I/O ensure no single point of failure out to the host. Finally, the Pavilion HyperParallel Data Platform requires no proprietary software to be installed on server farms, freeing up host resources for processing and eliminating deployment complexity.

Caveat Emptor — The NVMe Hype-Cycle

Most vendors are now promoting "All-NVMe" as the answer for uncompressed 4K and 8K editing and delivery. But beware. Many of these systems are traditional all-flash arrays or Just A Bunch of Flash (JBOF) designed for legacy SAS and SATA SSDs. They have limited numbers of storage controllers, limited PCIe lanes to backend NVMe SSDs and require multiple arrays to achieve performance goals. Pavilion delivers up to 20 active-active controllers across dual redundant PCIe fabrics and requires no DRAM for write caching. With more than a dozen patents, and more pending we are designed to optimize NVMe investments.

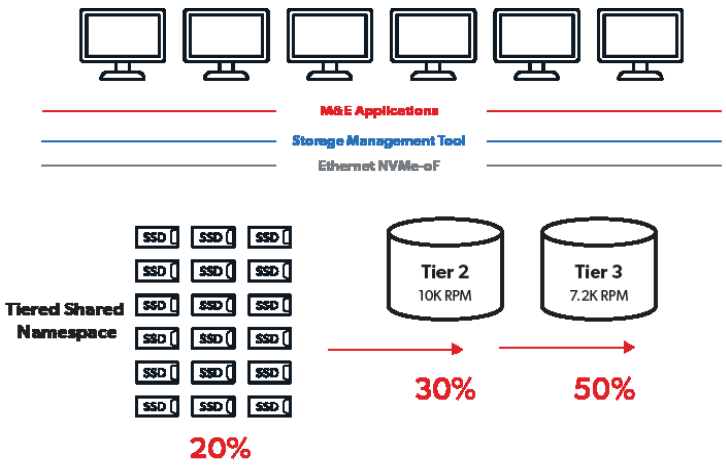
Benefits

- Consolidate racks of storage into a 4U system
- Double compute density
- Linear scaling of capacity and performance
- Hyperparallel NVMe architecture accelerates operations and ensures consistent video playback
- 120GB/sec bandwidth, 20M IOPS, and 25µs latency
- Unlimited, linear scalability
- Edit, transfer, and distribute multiple 4K/8K streams
- Use any preferred Storage Management tool – proven with StorNext™, Spectrum Scale™, or Pixit PixStor™
- Lower SSD procurement costs and future-proof investment
- Uses in-the-box Ethernet, InfiniBand, and NVMe-oF drivers
- Multiple enterprise features, like RAID, data at rest encryption, snapshots, and thin provisioning
- Global collaboration with fast video editing
- Enhance media asset integrity and security
- Continuous operations
- 24/7 Proactive support

Disaggregated, Shared, Tier-Optimized

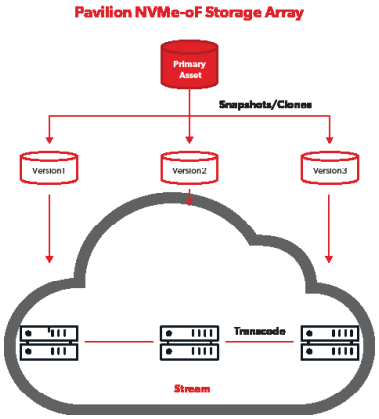
Pavilion recommends using a tiered approach for rich media workflows and it is a best-practice to use a tiering file system for M&E applications. The Pavilion HyperParallel Data Platform can use a mix of NVMe SSDs in separate zones to optimize performance and utilization. Use these drives with auto-tiering or deploy a structured, managed hierarchy where file sets are pinned to storage tiers and moved across tiers throughout the creation and processing lifecycle. One customer uses Pavilion for the top tier, multiple 10K RPM SAS hard disk drives for tier 2, and 7.2K RPM near-line SAS drives for their tier 3.

This approach, in conjunction with Pavilion's extreme bandwidth and low-latency, it is possible to allocate the precise asset size (4K or 8K uncompressed) along with number and size of edit streams per user to optimize investment. In many cases, this will be less expensive than all-in-one solutions from legacy array vendors.



A Colorist Dream

With unprecedented throughput and the lowest latency of any shared NVMe-oF solution, the Pavilion HyperParallel Data Platform lets applications avoid the "conforming step" in workflows, ensuring they work in the native resolution of the source media. If a project calls for 8K 12 bit DPX, multiple concurrent streams of HD 4444, 4K EXR or hours of original camera RAW files, the Pavilion HyperParallel Data Platform will harness the parallelism and power of shared NVMe drives, consolidating storage pools, reducing copy and render times, allowing multiple artists to work at full productivity.



Optimize Transcode, Versions and Delivery

Space-efficient instant snapshots and clones allow an entire asset to be copied inside the Pavilion array. The Pavilion HyperParallel Data Platform does not use complex caching that stands in the way of dynamic bandwidth management and it's hyperparallel NVMe architecture lets transcoding operations take place in parallel, boosting operations, both of these significantly increase transcode billable hours per server.

Perform editing, translations, and closed-captioning independently of the original uncompressed asset without moving large files across the network and impacting production workers. Stream in compressed or uncompressed resolution directly from media assets inside the same array. The Pavilion HyperParallel Data Platform has plenty of space to edit, translate and stream from the same system.

Find Out More

Pavilion shatters customer expectations and resulting organizational outcomes by revolutionizing data processing for modern AI/ML, HPC, Analytics, Enterprise Edge and other data-driven applications. The Pavilion HyperParallel Data Platform, powered by Pavilion HyperOS, delivers unmatched performance and density, ultra-low latency, unlimited scalability and flexibility, providing customers unprecedented choice and control. Learn why Fortune 500 companies and federal government agencies choose Pavilion. Visit www.pavilion.io or follow the company twitter at https://twitter.com/PavilionData