PAVILION

## Benefits

- Consolidate storage resources
- Accelerate production times
- Reduce costly copies/moves in post production
- Future-proof investments for 8K/16K resolutions
- 4U system optimizes rack space while delivering unmatched performance and density

## Features

- Hybrid cloud storage for block, file, and object (S3)
- Seamless tiering to HDD and Cloud
- Unmatched performance, density, scalability, and flexibility
- Extreme read performance of up to 120GB/s
- Unrivaled write performance of up to 90GB/s
- 20M IOPs at less than 25μs of latency as measured from the host
- Proven with Pixit Media® and validated by NVIDIA®

# Streamline Media Management and Storage with Pavilion and Pixit Media

## Turbocharge video capture, processing and post production workflows

Media and entertainment (M&E) organizations need to produce information and entertainment in a variety of different formats and delivery mediums. Developing and delivering content that reaches audiences whenever and wherever they are has increased in both importance and complexity. In today's highly connected, entertainment- driven world, M&E companies need to stay competitive to succeed. Workflows grow in complexity daily and time-to-market windows continue to shrink. The storage that powers video projects dictates how quickly employees can move on to their next project.

M&E projects need high performance and low latency. Traditionally, this was achieved by purchasing a large number of storage arrays and disks (HDDs or SSDs) from multiple vendors. The result was multiple storage silos with up to 75% excess capacity for the various media assets, increasing production cost. The Pavilion HyperParallel Data Platform™ consolidates media assets, eliminating stranded capacity, and reducing costs. It harnesses the power of NVMe storage, to consolidate storage pools, reducing copy and render time, enabling multiple editors to work at full productivity.

The last thing an M&E production house wants is to lose content, so the Pavilion HyperParallel Data Platform is fault-tolerant with built-in high availability and encryption. It also includes instantaneous zero-footprint snapshots to make instant copies of a project. Move this copy along the production workflow without impacting network traffic generated by post-production workers.

### The Pavilion HyperParallel Data Platform With PixStor

The Pavilion HyperParallel Data Platform delivers up to 120 GB/s throughput, 2.2 PB of storage, and 25μs of latency all in a compact 4U form factor to enable PixStor based video workflows. Its hyperparallel architecture unlocks the power of NVMe to enhance the performance of latency-sensitive workflows big and small.

If a project calls for 4K, 8K, multiple concurrent streams of HD 4444, 4K EXR or hours of uncompressed full aperture video, Pavilion offers the performance and density to address these needs with seamless precision.

Pavilion requires no proprietary software to be installed on a server farm and uses standard Ethernet, InfiniBand, and NVMe-oF drivers, freeing up host resources for processing and eliminating deployment complexity. With Pixit auto-tiering, performance and capacity are delivered seamlessly.
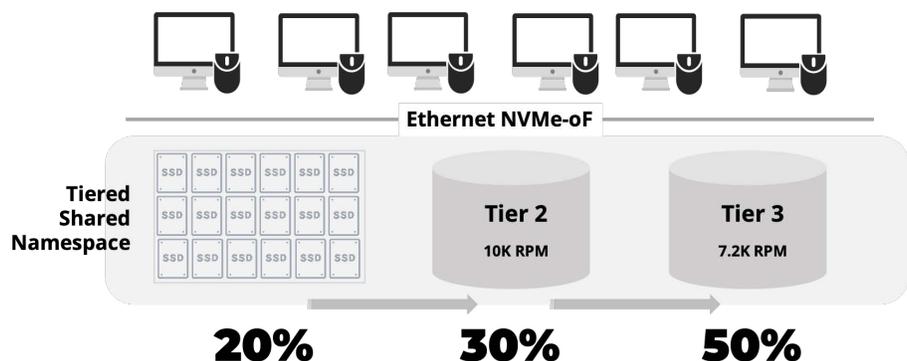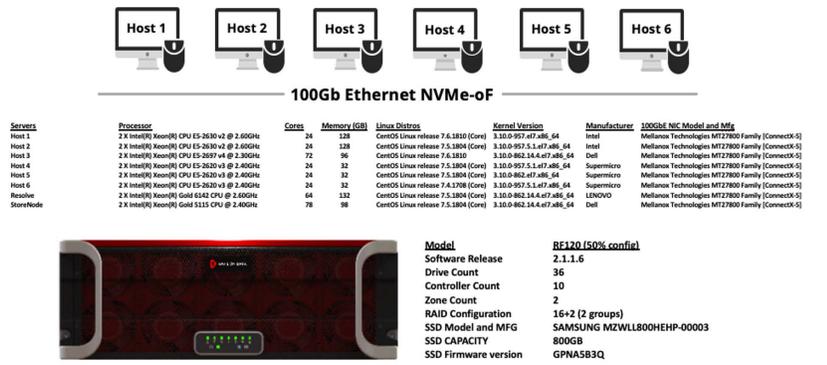
## Proven high performance FPS & Throughput

Pavilion tested media frames per second and throughput using PixStor version 19.01 with two metadata controllers in high-availability mode and six server nodes with four 4K/8K streams per server node.

To test performance, the Frametest utility was used, which simulates reads and writes. It was set to generate 10,000 frames at 4K and 8K resolutions. Frametest emulates raw still frames or frames generated by post-processing or 3D rendering software.

Through these tests, the Pavilion HyperParallel Data Platform delivered more frames with a higher throughput than any vendor's published results.

| Servers | Processor | Cores | Memory (GB) | Linux Distros | Kernel Version | Manufacturer | 100GbE NIC Model and Mfg |
|---|---|---|---|---|---|---|---|
| Host 1 | 2 X Intel(R) Xeon(R) CPU E5-2630 v2 @ 2.60GHz | 24 | 128 | CentOS Linux release 7.6.1810 (Core) | 3.10.0-957.el7.x86_64 | Intel | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Host 2 | 2 X Intel(R) Xeon(R) CPU E5-2630 v2 @ 2.60GHz | 24 | 128 | CentOS Linux release 7.5.1804 (Core) | 3.10.0-957.5.1.el7.x86_64 | Intel | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Host 3 | 2 X Intel(R) Xeon(R) CPU E5-2697 v4 @ 2.30GHz | 72 | 96 | CentOS Linux release 7.6.1810 | 3.10.0-862.14.4.el7.x86_64 | Dell | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Host 4 | 2 X Intel(R) Xeon(R) CPU E5-2620 v3 @ 2.40GHz | 24 | 32 | CentOS Linux release 7.5.1804 (Core) | 3.10.0-957.5.1.el7.x86_64 | Supermicro | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Host 5 | 2 X Intel(R) Xeon(R) CPU E5-2620 v3 @ 2.40GHz | 24 | 32 | CentOS Linux release 7.5.1804 (Core) | 3.10.0-957.5.1.el7.x86_64 | Supermicro | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Host 6 | 2 X Intel(R) Xeon(R) CPU E5-2620 v3 @ 2.40GHz | 24 | 32 | CentOS Linux release 7.4.1708 (Core) | 3.10.0-957.5.1.el7.x86_64 | Supermicro | Mellanox Technologies MT27800 Family [ConnectX-5] |
| Resolve | 2 X Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz | 64 | 132 | CentOS Linux release 7.5.1804 (Core) | 3.10.0-862.14.4.el7.x86_64 | LENOVO | Mellanox Technologies MT27800 Family [ConnectX-5] |
| StoreNode | 2 X Intel(R) Xeon(R) Gold 5115 CPU @ 2.40GHz | 78 | 98 | CentOS Linux release 7.5.1804 (Core) | 3.10.0-862.14.4.el7.x86_64 | Dell | Mellanox Technologies MT27800 Family [ConnectX-5] |

| Model | RF120 (50% config) |
|---|---|
| Software Release | 2.1.1.6 |
| Drive Count | 36 |
| Controller Count | 10 |
| Zone Count | 2 |
| RAID Configuration | 16+2 (2 groups) |
| SSD Model and MFG | SAMSUNG MZWLL800HEHP-00003 |
| SSD CAPACITY | 800GB |
| SSD Firmware version | GPNA5B3Q |

During read testing, an I/O pattern similar to that of video playback, the Pavilion HyperParallel Data Platform produced 124 4K FPS, 327 8K FPS, 29.6 GB/sec. 4K frame throughput, 27.8 GB/sec. 8K frame throughput, and 24 4K/8K streams on the six servers.  During write testing, an I/O pattern similar to that of video capture or ingestion, it delivered 137 4K FPS, 386 8K FPS, 25.9 GB/sec. of 4K frame throughput, 23 GB/sec. of 8K frame throughput, and 24 4K/8K streams on the six servers.

## About Pavilion

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 scale, and flexibility, providing customers unmatched choice and control. Learn why Fortune 500 companies and federal government agencies choose Pavilion. To schedule a demo, visit www.pavilion.io and follow the company on LinkedIn.