PAVILION

Sony Innovation Studios Creates Reality out of the Virtual World

Benefits

- No alternative could match Pavilion's performance and density
- Large-scale volumetric capture and AI/GPU enabled rendering
- Helps Sony Innovation Studios to attract and retain the best creative talent

Pavilion's unmatched storage performance and density enabled Sony Innovation Studios to deliver an unrivaled solution in a practical footprint, while creating an environment where Sony Innovation Studios can employ and retain the best creative talent for virtual production.

To capture, enhance and produce 3D/4K/8K virtual production content with the finest creative talent, Sony Innovation Studios (SIS) had to reimagine data storage. There was no alternative with a workflow including inline video content analysis and AI/GPU enabled editing and rendering along with volumetric capture, VFX/Color grading postproduction using sophisticated rendering engines.

Virtual Production (VP) is at the forefront of film and television production. It is at the intersection of live-action merging with virtual environments. VP is Augmented Reality and Mixed Reality on steroids. It offers many advantages over traditional on-location production, enabling greater production creativity and audience-engaging content.

One of the foundations of state-of-the-art virtual production is constructing a high-fidelity 3D model of a physical location. Three-dimensional models provide directors with the ability to simultaneously use multiple cameras and dynamically change a camera's viewpoint just as they do in physical production. These models are generated using various digital techniques, including 3D modeling software, laser scanners, or volumetric capture.

Volumetric capture brings a new paradigm of file and data set size while requiring the highest performance in render speeds. Sony Innovation Studios needed a storage solution that could meet GPU-based rendering's performance requirements. Fibre Channel SAN was seen as a high TCO and legacy technology. NAS alternatives lacked the performance. The only other option would be racks of costly storage that could not meet the studio's need for outstanding performance and density in a small footprint.

Sony Innovation Studios' vision required a move away from the Status Quo

Sony Innovation Studios selected the Pavilion HyperParallel Data Platform as part of their storage strategy to achieve their vision of real-time volumetric capture and rendering in a studio-friendly 4U footprint.

Powered by Pavilion HyperOS™

Designed for the most demanding environments, Pavilion HyperOS combines enterprise-class management, security, and data protection features with a highly intuitive GUI to ensure maximum availability and ease of use. An API-driven approach ensures that the Pavilion HyperParallel Flash Array integrates easily within the datacenter. Designed from the ground up for NVMe and NVMe-oF, the Pavilion HyperOS enables the Pavilion HyperParallel Flash Array to deliver unmatched storage performance without the cost and complexity of traditional storage arrays.

Performance	Density	Scalability	Flexibility
Read 120 GB/s 20M IOPS @100 µs **Write** 90 GB/s 5M IOPS @ 25 µsec Performance from each array	4RU Platform 2.2 PB 72 NVMe SSDs 40 x 100 Gb ports 10 x 200 Gb ports 20 Independent Controllers	Start small, grow big Independent, linear scale of capacity or performance within a system Scale out across an unlimited number of systems NFS Global Namespace S3 NFS Global Namespace	Best-in-Class performance for block, file, and object simultaneously iSCSI, NVMe-oF, NFS, S3 Any combination of data types or protocols Ethernet or InfiniBand

Results

Pavilion, software partner Pixit Media, and Sony Innovation Studios reimagined a workflow and storage solution with a modern architecture from the ground up for NVMe and NVMe-oF. Together, we revolutionized their volumetric capture, rendering, and virtual production to improve time to content release and help them attract and retain the best creative talent.

Sony Innovation Studios avoided legacy and costly Fibre Channel Storage, looked forward beyond 2010 versions of scale-out NAS, and were able to find the best new technology and bring it into production with the goal of designing for what is next to come.

> "We look at storage systems that can help us move forward and future proof our environment. I am not inclined to brute-force solutions that are just bigger and stronger versions of what already exists," said Michael Pearce, Manager of Productions Systems at Sony Innovation Studios. "We want a strategic, forward-thinking solution. The combination of performance due to parallelism, operational simplicity, and density is unmatched in the industry."

With the Pavilion HyperParallel Data Platform and HyperOS 3.0, Sony Innovation Studios is reaching new heights in virtual production while giving its creative teams speed, agility, and flexibility to optimize creativity and return on human capital investment.