Facial Recognition V2.0

Facial recognition is a game-changer for government agencies concerned with safety, improvement of mass-transit security and citizen privacy. IBM Spectrum Scale (also known as GPFS) is an ideal platform for this type of big data analytics where integration with social media, geo-location and other real-time feeds deliver unprecedented accuracy and agility.

This client is a government agency that was looking for a storage solution for the world’s fastest GPFS cluster with thousands of nodes to support real-time analytics and facial recognition. The agency demanded high throughput (>100GB/s), high performance (>10M IOPS), and low latency (<100 µs). Pavilion was the only solution that could meet these requirements, and we actually exceeded them.

They were looking for a solution that had four features:

- Encryption at rest
- On-demand reconfiguration to accommodate an unknown quantity of daily data collection and analytics
- Thin provisioning to assure ample capacity for unknown data growth
- Snapshots for zero-downtime backup

Composed By Pavilion, Powered By Spectrum Scale

The client looked at installing NVMe SSDs into their existing SAN, but found that doing so did not provide the parallel performance provided by an NVMe SSD. Since the client wanted to build a several thousand-node GPFS cluster, Pavilion setup a GPFS environment and demonstrated to the customer that the Pavilion Hyperparallel Flash Array (HFA) combined with GPFS provided the performance their applications need.

The Pavilion HFA’s use of NVMe-oF gave the client the same parallel performance as local NVMe SSDs. The Pavilion HFA also gave them advanced SAN-like features including thin-provisioning, snapshots/clones, framework integration, encryption, performance monitoring, multi-pathing, and 24/7 proactive cloud-based support.

The Pavilion HFA delivers up to 120 GB/s throughput, 25µs of latency, and 1.1 PB of storage in a compact 4U form factor. It is the industry’s first hyperparallel flash array that unlocks the parallel performance of NVMe.

Combining the Pavilion HFA with GPFS enabled the customer to optimize the ingest and retrieval of large and small files. It provides them with ultra-high performance, consistent video playback, improved storage utilization, enhanced global collaboration, and reduced production costs.

The ability to make clones directly from snapshots accelerated transcoding operations and eased completion headaches. The client found that expanding their SAN for equivalent performance would cost 25 times more than the Pavilion HFA, they also found that the Pavilion HFA used 95% less rack space. So the customer replaced their SAN with the Pavilion HFA. It gave them the bandwidth needed to process assets from additional sources, improving their production workflow. They also found that the Pavilion HFA enhanced their latency-sensitive video workflows.
The client used the Pavilion HFA’s zero-footprint snapshots and clones to make multiple instant and transparent copies of real-time analytics and export these to other teams and clusters to further their insights. They also export these snapshots with their existing backup solution and presented clones of the snapshot to minimize traffic within the primary cluster.

**Summary**

Pavilion worked closely with the client to extend its initial footprint to support several thousand nodes, up from an initial configuration of 512, and provide them with high performance, low latency, and gave them a linear price and capacity scalability. The client found that the Pavilion HFA is ideal for operations.

Operations staff also found that the Pavilion HFA’s SAN-like management for snapshots, clones, and thin provisioning aligned to the processes they had implemented for the SAN.

**Find Out More**

The Pavilion HFA is Shattering Expectations by defining the future of composable disaggregated NVMe-oF. Our expertise is in simplifying and optimizing NVMe to make the impossible, possible. When storage is business-critical, there’s no substitute for the guaranteed performance, functionality, high availability, and professional software support of a Pavilion HFA. We partner with leading organizations to design, implement and deliver a complete solution tailored to the environment. Contact us today to get in touch with our talented extended teams of professionals.