TOP FIVE REASONS TO CHOOSE DELL EMC ISILON FOR AD / ADAS

Accelerate Autonomous Driving innovation with powerful storage solutions

Dell EMC Isilon® provides an enterprise-grade, scale-out NAS platform that scales from 10s of TBs to 10s of PBs capacity in a single volume file system—accelerating time-to-market by enabling concurrent ingest of sensor data from test vehicles with high bandwidth egress of data for embedded system development and Artificial Intelligence (ML / DL) solutions. Isilon is the platform of choice of the automotive industry – already in use today by most of the leading integrated ADAS solution developers.

PERFORMANCE AT SCALE

Autonomous Driving / Advanced Driver Assistance System (AD/ADAS) development requires consistent, high throughput to sustain large ingest rates from test vehicles while concurrently delivering test data into hundreds to thousands of MiL / SiL / HiL servers, test stands and Deep Learning networks. Isilon supports multiple node types within a single cluster, including high performance all-flash storage for deep learning and other data intensive workflows reliant on high throughput; SAS-based nodes, perfect for MiL / SiL / HiL testing, and high-density SATA storage, perfect for low-cost, long-term archiving of raw sensor data and simulation results. Isilon also scales performance linearly, so performance isn’t degraded as additional capacity is added – critical for ADAS development where sensor data ingest rates of 2PB+ per week are becoming common.

SCALABILITY

Isilon scale-out NAS scales to over 68 petabytes (PB) with truly scalable performance and an ever-expanding single namespace that eliminates data silos by consolidating all globally collected AD/ADAS data. Isilon capacity can be expanded non-disruptively throughout the project as sensor data is captured and capacity requirements grow – keeping costs low. Adding capacity to an existing cluster is literally a plug and play procedure, with OneFS capable of automatically sensing and adding new hardware transparently and without disruption. Isilon’s automated policy-based tiering within a cluster eliminates file server sprawl and performance bottlenecks while streamlining management, backup, and disaster recovery operations. Isilon CloudPools and File-Object Orchestration takes this scalability into the exabyte range, allowing data to be moved between the high performance NAS and multiple lower-cost private and public cloud storage options. CloudPools fully encrypts data before offloading it to the target, which can include your own on-premises Dell EMC ECS object storage and third-party providers such as Virtustream, Amazon S3, Google Cloud Platform and Microsoft Azure.
### THE ISILON FAMILY

#### All-Flash F800

Ultra-performance and scalability for massively concurrent, high throughput automotive workloads.
- Up to 250K OPS and 15 GB/s per 4U chassis
- 96 TB to 924 TB capacity per chassis

#### Hybrid H600, H500, and H400

Realize performance, capacity, and value for a wide range of automotive and other enterprise workloads.
- Up to 117k OPS and 12GB/s per 4U Chassis
- 72TB to 480TB per 4U chassis

#### Archive A200, A2000

Reduce the cost to store and protect business critical project data, libraries, and legacy designs.
- 120TB to 800TB per 4U chassis

### COMPLIANCE

Most ADAS projects include strict requirements for data compliance and retention, including data privacy, physical media security, and even service level agreements (SLAs) dictating retention of tens of petabytes of data for decades with as little as 1 to 7 days’ notice for full data restoration. Policy-based Isilon SmartPools alleviates these challenges and more by automatically tiering data to lower cost storage for long-term retention. Keeping sensor test & verification data within the cluster avoids the need to “restore large data sets from archive” in the case of a defect or safety recall. The necessary data remains directly accessible within the Isilon & ECS Scale Out Data Lake storage infrastructure. Searching and filtering using HDFS can then lead to rapid re-simulation using NFS. Dell EMC also offers fully hosted Infrastructure as a Service options that include servers, networking, storage, security and management, making easy to stay in compliance while offloading management overhead.

### MULTI-PROTOCOL

A single Isilon cluster can be utilized simultaneously for a mix of workloads, thanks to its OneFS operating system with native multi-protocol support, which includes NFS, SMB, HDFS, SWIFT, HTTP, REST and others. With Isilon, simultaneous access to storage for a mix of key ADAS workloads is possible, including: MiL, SiL, and HiL simulation servers and test stands; access to on-line databases for weather, GPS location queries, road surface type, and others for data enrichment; in-place analytics for sensor data and simulation results; and Artificial Intelligence (AI) access to training sets using TensorFlow for Deep Learning. Multi-protocol access eliminates the time and expense of moving large data sets between File and Hadoop storage etc.

### COST

Isilon makes managing tens of petabytes of file data a “part-time job.” Hundreds of isolated volumes can be consolidated, along with hidden islands of wasted storage space, which helps Isilon deliver market leading storage utilization of greater than 80%. SmartPools® policy-driven, automated tiering further reduces storage cost by transparently aligning the data to the optimal price/performance tier – such as all-flash for AI, hybrid SAS and SATA for MiL, SiL, and HiL, and affordable, high-density SATA for long-term retention. Isilon allows you to pay as you grow, so you can invest in infrastructure that fits your current ADAS storage requirements without overbuying performance or capacity. Isilon is also enterprise-ready with features like backup and recovery with snapshots, disaster protection, push-button fail-over and failback, auditing, and Data at Rest Encryption (DARE). Dell EMC offers additional cost-reducing options, including fully hosted/managed solutions, hybrid cloud options, and even Dell Financing.

### CONTACT US

To learn more, contact your local representative or authorized reseller.