

Top Reasons to Choose Dell EMC PowerScale for AD/ADAS



Dell Technologies helps automotive companies pursue new data-driven business opportunities in the data era by offering massively scalable, easily managed, high performance storage systems that can support both traditional workflows and data-intensive emerging workflows such as Advanced Driver Assistance Systems (ADAS), autonomous vehicles and connected cars. The following are just some reasons why Dell EMC PowerScale is the platform of choice in the automotive industry – already in use today by most of the leading integrated ADAS solution developers.

1 | Small Footprint, Big Performance for the Edge

PowerScale F200 and F600 are new small-scale all-flash nodes offering high throughput for small deployment scenarios such as on-prem data caching, required when streaming data from public cloud for Hardware-in-the-Loop (HiL) testing, or regional sensor-data ingest stations. These low-cost nodes can be added to existing Isilon clusters - making it simple to expand with high performance.

2 | Massive Scalability for the Data Center

AD/ADAS datasets are growing exponentially, with requirements ranging from petabytes to exabytes of data. Dell EMC PowerScale scales as your needs grow so you can invest in infrastructure that fits your current ADAS storage requirements without overbuying performance or capacity. Scalable to tens of petabytes (PB) in a single cluster, PowerScale offers truly scalable performance and an ever-expanding single namespace that eliminates data silos by consolidating all globally collected AD/ADAS data. Tools like CloudPools take this scalability into the exabyte range, allowing data to be moved between the high performance NAS and multiple lower-cost storage options like Dell EMC ECS object storage.

3 | Throughput to Accelerate ADAS/AD Time-to-Market

PowerScale delivers the consistent, high throughput required to concurrently deliver test data into hundreds to thousands of MiL / SiL / HiL servers, test stands and Deep Learning networks simultaneously. Multiple node types can be deployed within a single cluster, so you can deploy the storage infrastructure that meets your exact needs from high performance all-flash for AI to low cost SATA for long term archive. PowerScale also scales performance linearly as additional capacity is added to the cluster – critical for ADAS development where sensor data ingest rates of 2PB+ per week are becoming common.

4 | Maintain Sensor Data Compliance

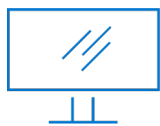
Most ADAS projects face strict requirements for data compliance and retention, including data privacy, physical media security, and even service level agreements (SLAs) dictating retention of petabytes to exabytes of data for decades, with as little as a few days' notice for full data restoration. Policy-based SmartPools and CloudPools alleviates SLA challenges by automatically tiering data to lower cost storage for long-term retention, and to higher-performance storage for revalidation. Keeping sensor test & verification data within easy reach avoids the “mad-dash” to restore large data sets from archive in the case of a defect, safety recall or audit. The necessary data remains directly accessible within the PowerScale & ECS storage infrastructure. To protect sensitive sensor data, 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.

5 | Debug Designs Faster

The PowerScale OneFS operating system includes native multi-protocol support so workflows can quickly access data stored on a single cluster, eliminating the need for additional data movement. OneFS offers simultaneous access to all PowerScale nodes for a mix of AD/ADAS workloads from data ingest, MiL, SiL and HiL testing, to Deep Learning using TensorFlow. OneFS also supports data enrichment with access to on-line databases for weather, GPS location queries, road surface types, etc. In-place analytics for sensor data and simulation results eliminates the time and expense of moving large data sets between File and other storage solutions typically required. Multi-protocol support includes NFS, SMB, HDFS, SWIFT, HTTP, REST and others. OneFS also supports S3, an essential protocol for cloud native applications. PowerScale easily integrates with the Dell EMC streaming data platform, offering insights on real-time and historical sensor data.

6 | Reduce Costs with a Single, Easy to Manage Data Repository

PowerScale OneFS makes managing petabytes to exabytes of sensor and AI-created data a “part-time job.” PowerScale delivers a range of powerful management tools - like SmartPools policy-driven, automated tiering – to further reduce storage costs by transparently aligning the data to the optimal price/performance tier – such as low-capacity, high throughput all-flash for data ingest, high-capacity all-flash for AI, hybrid SAS and SATA for MiL, SiL, and HiL, and affordable, high-density SATA for long-term retention. PowerScale 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 DataIQ takes data management even further, offering a single pane of glass view for all file and object data across a heterogeneous environment. Beyond file management and insights capabilities, DataIQ also features advanced monitoring and reporting tools to help maximize the performance of your PowerScale system. Dell Technologies also offers fully managed storage solutions that take the worry out of ADAS sensor data management – and makes it possible to integrate with multiple public cloud vendors, so you can choose the right services for your needs, in near real-time.



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