SOLUTION BRIEF

NetApp AI solutions for automotive

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Boost data mobility, improve manufacturing agility, and drive development of next-generation vehicles.

The challenge

To be competitive in today's global market, automotive companies need AI solutions to meet ever-changing customer needs, behaviors, and expectations. Intelligent vehicles that can actively maintain safety, make critical decisions, adapt to preferences, and even drive themselves are the new standard. Not to mention the new needs for mobility on demand and expectations around pay-per-use service options. There's no shortage of data, but wrangling and analyzing data from a variety of sources in multiple forms is cumbersome and time consuming.

NetApp AI solutions for automotive

Automotive companies across the globe are turning to AI to get deeper insights into their mountains of data. Pushing the responsibility from driver to machine in autonomous vehicles (AVs), advancing connected vehicle capabilities, and operating a smart factory all rely on two things—data and AI.

- **Autonomous vehicles and mobility as a service (MaaS).** AI can speed validation during the design phase of Automated Driving (AD) and Advanced Driver Assistance Systems (ADAS). During this phase, huge volumes of data are gathered and analyzed from diverse sources to identify ideal driving scenarios. With AI, mobility teams become brokers of information that influence microsecond decisions—which can have a dramatic impact on the customer experience.

- **Connected vehicles and services.** AI combined with natural language processing enables in-car personal assistants to understand and respond to human speech. Soon connected vehicles will interact with one another to alleviate driving difficulties and make smart cities even smarter.

- **Smart manufacturing.** An AI-based smart factory allows trained algorithms to speed production, perfect product lifecycle management, and offer actionable insights to maximize profits. When AI is paired with computer vision, you can improve quality control and detect anomalies in faulty products while they're still in the factory.

NetApp® AI solutions help keep your data available in the right place and at the right time across the edge, core, and cloud. We remove data silos to help you get real-time connected vehicle information that enables AVs to make split-second decisions, and bring Industry 4.0 to your factory floor. We can also enable you to monitor and enact efficient utilization of resources and AI workload distribution.

The speed you need to drive innovation

AI can be a powerful tool for increasing operational efficiency and keeping costs under control. To be successful, you need a data management solution that can keep up. NetApp ONTAP® AI software gives you the performance you need to feed, train, and operate your applications. You get the performance, mobility, utilization, and scalability you need to design and produce the vehicles of tomorrow.

Key benefits

Get the speed you need to propel innovation

- Keep your data flowing to feed, train, and operate your applications so that they can provide real-time information. This information powers in-car personal assistants, guides the design of AD/ADAS functionalities, and helps you catch quality defects while products are still in the factory.

Extract the most value from your data

- Gain deeper insights into your data with a simplified AI solution that enables you to harness and analyze data from multiple sources.

- Efficiently utilize resources across a hybrid multicloud environment to maximize performance and optimize costs.

Keep your data protected

- Get trusted data protection, compliance, and secure access for your distributed, diverse, and dynamic data.

Grow without limits

- Start small and grow seamlessly—from hundreds of terabytes to tens of petabytes—without disrupting ongoing operations.

- Realize cost efficiencies with a resilient architecture that can scale and flex from production line to plant to enterprise.

- Run an exhaustive array of simulations to test the strength of your models.

NetApp AFF systems keep data flowing to deep learning (DL) processes with all-flash storage that leads in speed and flexibility. You can get up to 300GBps read throughput per all-flash cluster with well under 1ms of latency.

By adding more network switches and storage controller pairs to the ONTAP cluster, the architecture can scale to multiple racks to provide extremely high throughput, speeding model training and inferencing. With this flexible approach, you can alter the ratio of compute to storage independently based on the size of the data lake, the models you use, and the performance metrics you need.

Extract the most value from your data

To truly unlock the potential of AI, you need to capture, prepare, access, move, and protect large volumes of data from multiple sources, including all your connected vehicles and supply chain vendors across the globe. You need a way to harness and extract the most value from your data as quickly as possible so that you can make more timely, informed decisions. That requires powerful AI capabilities that reach from the edge to the core to the cloud—without adding to the complexities that are inherent in an AI environment.

Whether you're crunching petabytes of autonomous vehicle data or predicting and responding to demand from thousands of customers, NetApp solutions for AI seamlessly integrate with the world's biggest public clouds. A secure, reliable architecture keeps your data flowing from the edge to your ONTAP hybrid cloud environment—or to your hyperscaler cloud environment—for large-volume data tiering and high-performance modeling.

Keep your data protected

The growth in data from AI can make it difficult to keep up with constant security threats and ever-changing compliance requirements. With NetApp solutions, you can provide trusted data protection, compliance, and secure access for your distributed, diverse, and dynamic AI data.

NetApp enables you to integrate, protect, and secure your data pipeline. Our unified data solution supports multiple data formats. And to get your data where you need it—quickly and securely—NetApp Cloud Sync can help. This easy-to-use cloud replication and synchronization service automatically transfers your data across your hybrid cloud environment. Even the largest workloads are continuously synchronized, giving you immediate access to your data whenever and wherever you need it.
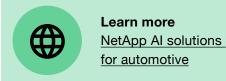
Grow without limits

With NetApp solutions for AI, you can confidently tap into growing data sources with nearly unlimited, nondisruptive scalability and performance. NetApp offers a powerful unified data solution for your data-hungry AI, ML, and DL applications. Our AI solutions help you realize cost efficiencies with a resilient architecture that can scale and flex from production line to plant to enterprise.

The NetApp rack-scale architecture allows you to start with a NetApp AFF A250 all-flash storage system and grow as needed to scale from hundreds of terabytes to tens of petabytes. And with NetApp ONTAP FlexGroup, up to 20PB of single namespace can handle more than 400 billion files.

Breakthrough AI solutions for automotive

Are you ready to transform your IT and take the market by storm? NetApp AI solutions help you simplify dataset management, enabling you to boost efficiency, speed validation, reduce errors and operational costs, and deliver next-generation vehicles. NetApp automotive experts understand your business challenges and can help you bridge the gap between infrastructure and business applications.

Learn more
NetApp AI solutions
for automotive

About NetApp
In a world full of generalists, NetApp is a specialist. We're focused on one thing, helping your business get the most out of your data. NetApp brings the enterprise-grade data services you rely on into the cloud, and the simple flexibility of cloud into the data center. Our industry-leading solutions work across diverse customer environments and the world's biggest public clouds.

As a cloud-led, data-centric software company, only NetApp can help build your unique data fabric, simplify and connect your cloud, and securely deliver the right data, services and applications to the right people—anytime, anywhere. www.netapp.com

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