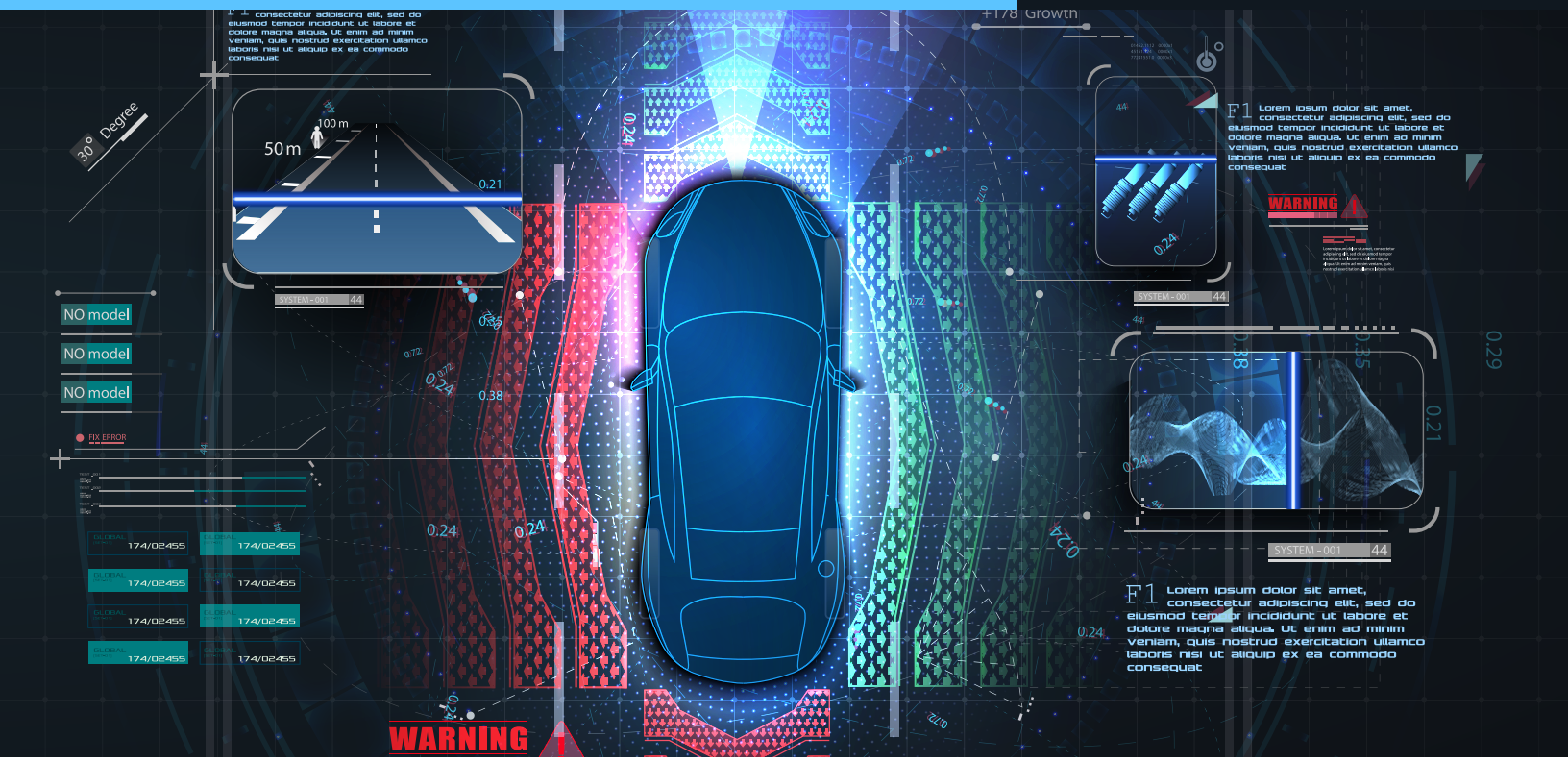
SOLUTION BRIEF

Akridata and NetApp

NetApp



Akridata™ | aws

Build intelligent hybrid data pipelines to operate and develop advanced driver assistance systems and autonomous driving.

The challenge

Developing models for autonomous driving (AD) and advanced driver assistance systems (ADAS) is a complex, iterative workflow. Data must move across environments and locations to ultimately translate sensory data into real-life action. Typically, one car collects up to 50TB per trip, and test and research fleets often consist of multiple cars. This results in huge amounts of data per year that need to be moved, managed, and stored.

To keep innovation flowing, automobile manufacturers need a data management solution that delivers seamless data movement from edge to core to cloud. The solution must be supported by high-performance storage systems with rock-solid data protection features. And it must provide a holistic view of the entire workflow to make sure that your data is where it needs to be when it needs to be there.

The solution
A true hybrid cloud solution from Akridata and NetApp provides the storage and data management technologies you need to establish an efficient, robust data pipeline for operationalizing the production of AD/ADAS. A data fabric built on high-performance NetApp® storage enables you to move data seamlessly throughout the pipeline, from edge to core to cloud. Enterprise-grade data protection and governance keep your data secure while enabling business continuity. Application-driven data protection keeps your Kubernetes workloads safe. To lower costs, NetApp's industry-leading data management and efficiency technologies such as thin cloning, Snapshot™ technology, and data compression reduce the amount of storage capacity you'll need.

To simplify data management, the Akridata global control plane provides cataloging, data workflow orchestration, and system management and monitoring, including data provenance and lineage, across your hybrid cloud.

Optimize data ingestion
Test fleets collect real-life data for machine learning by using onboard cameras and sensors such as radar and lidar and structured vehicle data such as telemetry. To develop models, data needs to be transferred quickly from the vehicle to the cloud. NetApp integration into Amazon Web Services allows automotive companies to distribute resources efficiently across the hybrid cloud. NetApp seamless data synchronization and replication features speed up the movement of large amounts of data to target environments. To deal with unplanned peaks, you can seamlessly distribute data from on premises to cloud or vice versa.

Improve data access
After the data has been collected, development teams must prepare it for processing and model training. This preparation includes transcoding, metadata management, and categorization of datasets. For maximum efficiency, development teams and stakeholders must have access to the data when and where they need it, with holistic visibility. A hybrid cloud solution built on Akridata and NetApp delivers on both. NetApp systems provide high availability, making sure that your data is always accessible. Akridata's data management platform provides a global catalog of all edge, core, and cloud data as well as raw and metadata management features.

Enhance productivity
Labeled and prepared datasets are used to train neural networks for specific tasks. Models for AD/ADAS are generally large systems with multiple GPUs running in parallel. This step requires massive compute capacity and high-performance storage. NetApp AFF systems deliver blazing-fast storage with consistent low latency under even the most stressful workloads. The ability to independently scale compute and storage resources helps to minimize costs without compromising performance.

Key benefits

Optimize data ingestion

- Increase upload rate and optimize ingestion operations and processes.

Improve data access

- Make data quickly accessible to relevant teams and stakeholders with a multidomain infrastructure and software framework.

Enhance productivity

- Fabricate AD/ADAS training models more efficiently by operationalizing infrastructure to identify high-value data early and by simplifying workflow automation.

Enable seamless data flow

- Facilitate AD/ADAS transformation from the research stage to real-world production with a true hybrid cloud solution that delivers seamless interplay between edge, cloud, and on-premises storage.

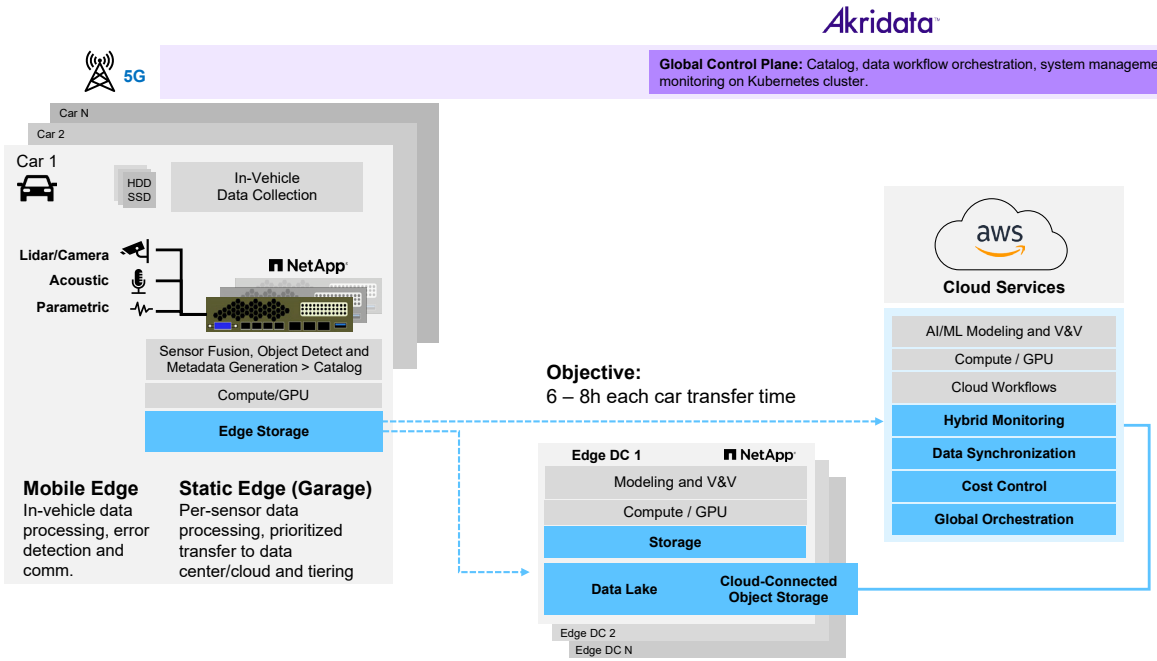


Figure 1: AD/ADAS workflow with a true hybrid cloud solution from Akridata and NetApp.

Enable seamless data flow

A free-flowing data pipeline is important for keeping innovation and development on track. However, it is also important for managing data long term. With huge amounts of data continually flowing in from test vehicles, older data needs to be archived and stored for long-term retention to meet litigation and regulatory requirements. NetApp systems running ONTAP® data management software enable automatic data tiering to on-premises or cloud storage. Your data can be archived cost effectively with easy accessibility in case it's needed.

For more information,
email sales@akridata.com or visit Akridata.com or NetApp.com.

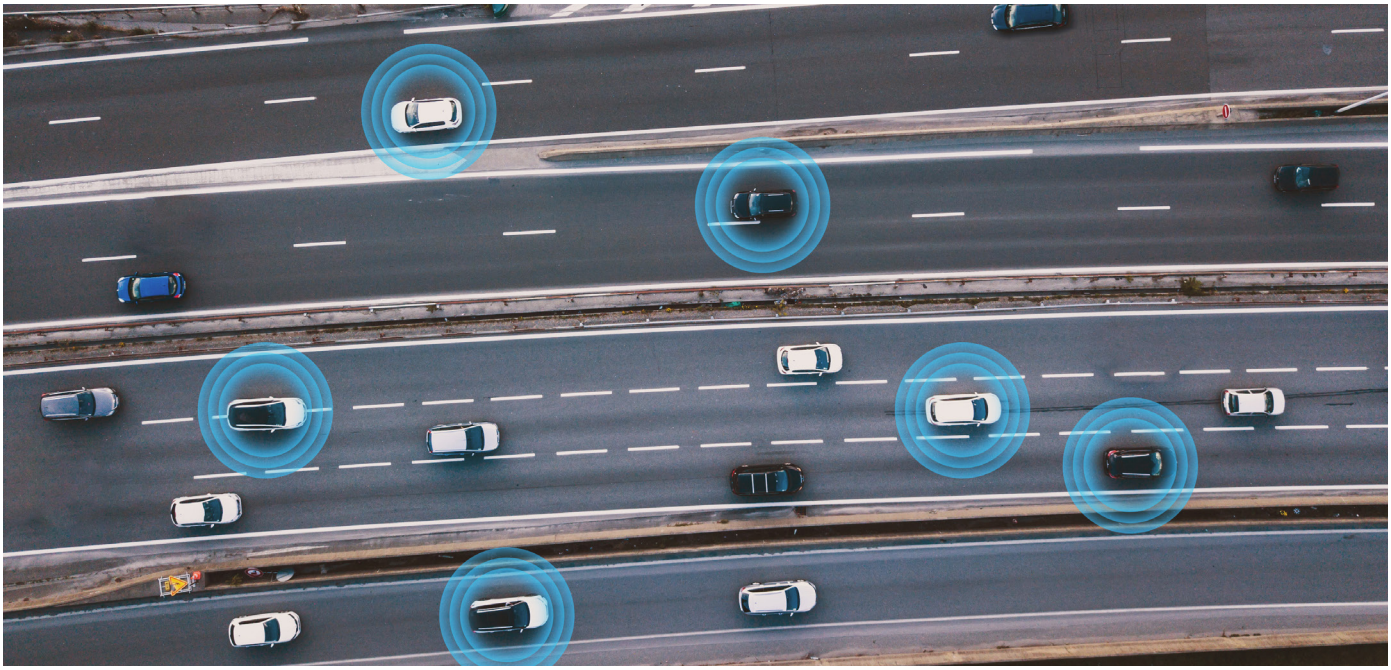
Performance improvement targets for a typical deployment

Strategic importance

- Time to market: Compress the data time components of AD/ADAS programs.
- Treat data like code to see quality and efficiency improvement throughout the program lifecycle.

Target KPI's for improvement

- Reduce time from data collection to access by 90%.
- Improve data transmission rate by **2 to 4 times**.
- Increase data scientist productivity by **30% to 50%**:
  - Search and data accessibility productivity
  - AI and ML model training acceleration (less time on DataOps plus higher-quality training data)
  - Faster data transfer, less redundancy
- Increase the number of software engineers who can contribute to the data fabric by **3 times**:
  - Collaboration framework lowers training requirements and improves the system integration experience
  - Increases reusability of IP across teams and programs
- Lower implementation time of data workflows by **50%**.



About Akridata
Akridata was started by a team of serial entrepreneurs with the vision to solve a unique set of problems around visual data in the life cycle of AI training. The team collectively brings years of experience ranging from deep engineering, fundamental research, and business experience and has a track record of building and scaling startups.

Akridata offers an ensemble of products that can be consumed as a single platform or as a standalone that collectively help the customers in data exploration, ingestion and training pipelines for AI, Deep Learning and Computer Vision.

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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