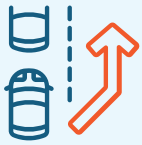
FACTION®

ADVANCED DRIVER ASSISTANCE SYSTEMS

Pave the way to Level 5 Autonomous Vehicles with Cloud AI

Predicted by 2030 there will be 90 million autonomous vehicles on the road, creating 1 ZB of data. Sophisticated models built in the cloud need fast access to this data. Data models may need to be rebuilt in the case of errors or accidents. Multi-cloud provides flexibility to leverage the best-of-breed tools to rapidly re-calculate and release these models in the event of unforeseen accidents or errors in the vehicles.



ACCELERATE PATTERN RECOGNITION WITH AI

Analyze huge datasets to train connected cars how to reach to changing road conditions, identify and avoid people and obstacles in the road. Learn from post-crash data uploaded by cars in service to prevent recurrence.

COST-EFFECTIVE DATA LAKES

Native cloud storage solutions are too expensive and may not have the right performance levels for the exponential growth of sensor data, images, and maps used and reported by each vehicle. Faction CCVs offer multiple storage tiers to balance performance requirements, cloud-adjacency, and budgets.

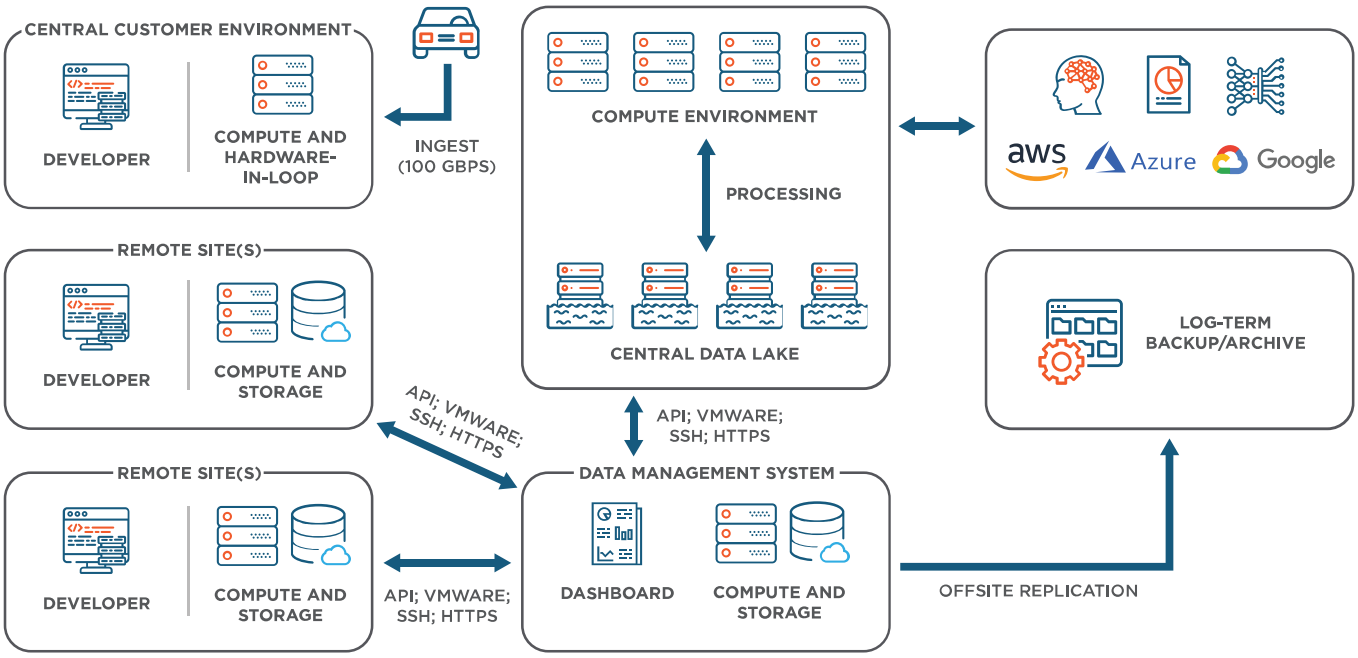
IOT PROCESSING

Services like AWS IOT Core can securely support billions of connected devices and enable them to interact securely with cloud applications including AWS Lambda and Amazon Kinesis.

CLOUD-TO-CAR UPDATES

Public clouds like Microsoft Azure are working with manufacturers to provide over-the-air updates that deliver navigation intelligence (weather, traffic, infrastructure), in-vehicle infotainment (IVI) and voice assistants to improve market competitiveness.

SOLUTION ARCHITECTURE



SOLUTION SCENARIO

- The Central Customer Cage provides ingestion services for importing automobile sensor data to the Data Management System (DMS).
- Remote sites provide developer resources for the design and development of algorithms and processes for submittal to the Compute Environment.
- The DMS components provide the primary facilities for processing and preparing raw car sensor data for the Central Data Lake
- The Central Data Lake is the primary repository of processed and unprocessed car sensor data and supports the primary analytics and HPC compute functions of the service.
- The computing environment provides CPU and GPU facilities for training models from car sensor data.
- The Long-term Backup Archive environment contains backups of processed results for long-term archives.

SOLUTION BENEFITS

- Data is stored in a geo-adjacent datacenter, connected to cloud over high speed connections, giving you a centralized data lake. Data in the Central Data Lake is available to the Compute Environment for training jobs. The Data Management System interacts with the Central Data Lake for ingestion, summary analytics, dashboards, and reporting functions.
- No need to store multiple copies across clouds. Drive down complexity and cost with a single set of data that is accessible from everywhere on your centralized data lake.
- Simultaneous access from any cloud drives a flexible selection of cloud tools that are familiar to your developers or data scientists, compressing time needed to deliver insights.

SPEAK WITH A CLOUD SPECIALIST

+1 855 532 4734
getcloud@factioninc.com