

SOLUTIONS FOR THE AUTONOMOUS VEHICLE WORKFLOW

Autonomous vehicle developers use various workflows to create their perception, planning, and control models. These workflows typically involve collecting, processing, and storing a massive amount of data so that data scientists can build data sets for training and validating their models.

The diagram above represents a typical workflow. From an infrastructure perspective, there are four elements in this workflow:

 <p>DATA SCIENCE WORKSTATION Performant, tailored Data Science WaaS available on site or in the cloud.</p>	 <p>MULTI-GPU TRAINING AND VALIDATION SERVERS Non-virtualized servers with flat-rate billing and no egress fees on data.</p>
 <p>HOT-TIER STORAGE Designed to handle lots of small files and be faster than local NVMe.</p>	 <p>OBJECT STORAGE Cost-effective, reliable bulk object storage for large amounts of data.</p>



DATA SCIENCE WORKSTATION

The first Workstation-as-a-Service offering perfect for Autonomous Vehicle Workflows and engineered for data scientists that demand superior cloud performance.

SOLUTION OVERVIEW

Compiling the right data set can be as important as crafting the neural network. Cirrascale engineered its Data Science Workstations to accelerate the preparation of data sets for training and validating networks for autonomous vehicles.

Cirrascale Data Science Workstations feature today's fastest processors from Intel® and AMD and feature NVIDIA® Quadro RTX™ GPUs for up to 260 teraflops of compute performance and 96GB of memory using NVIDIA NVLink® interconnect technology, providing the capacity and bandwidth to handle the largest datasets and compute-intensive workloads. Now, Cirrascale customers can receive dedicated, non-virtualized, next-level cloud-based workstations for their Autonomous Vehicle workflows.

KEY ADVANTAGES

Flexible Use Cases

Can be used for ingest, processing, or data science tasks to help reduce costs during early stage development.

Performance Delivered Anywhere

Dedicated, remote access enables the power of a high-end workstation at home, in the office or on the road.

Superior, Powerful Technology

Workstations by BOXX Technologies and featuring NVIDIA® Quadro® RTX GPUs ensures the most performant cloud-based workstations anywhere.



MULTI-GPU TRAINING AND VALIDATION SERVERS

A true non-virtualized, dedicated multi-GPU cloud platform that delivers the consistent and dependable compute and GPU performance you need for your Autonomous Vehicle workflows.

SOLUTION OVERVIEW

The Cirrascale Cloud Services platform keeps you in the fast lane with a true bare-metal experience. There's no virtualization to slow you down. Within our private cloud, you get the entire system and all of its CPU, GPU and local storage resources.

Cirrascale provides the largest variety of NVIDIA Quadro and Tesla GPUs to ensure your models train at the fastest speeds. The company also offers the widest variety of processor architectures including Intel® Xeon®, AMD EPYC®, and IBM® POWER®.

Our variety of configuration offerings are set up to allow you to start small and scale up building the best solution to tackle your toughest challenges.

KEY ADVANTAGES

Dedicated, Bare Metal Access

You get 100% of the system resources with our dedicated, bare-metal multi-GPU servers. No virtualization here.

High-Speed Networking Made Easy

Our network is standardized on 25/50Gb with options to upgrade to 100GbE or InfiniBand if needed.

Hybrid Cloud Connectivity

Whether its merging your company's network with ours, or utilizing another third-party cloud provider, we can help make the process seamless for you.



NVMe HOT-TIER STORAGE OFFERINGS

The only way to ensure the removal of storage bottlenecks for Autonomous Vehicle customers creating development and inference training data sets consisting of millions of files.

SOLUTION OVERVIEW

In partnership with companies such as WekaIO and IBM, Cirrascale has created a specialized NVMe hot-tier storage offering that is guaranteed to eliminate storage bottlenecks while improving outcomes and increasing accuracy of deep learning models.

Cirrascale deploys fully parallel and distributed storage file system architecture that has been designed from scratch to leverage Flash technology. Both data and metadata are distributed across the entire NVMe storage infrastructure to ensure massively parallel access to NVMe drives. Customer's can now saturate a GPU cluster and deliver more than 10GBytes/second per node across an InfiniBand network.

KEY ADVANTAGES

Lightning Fast Access

With hot-tier solutions that are faster than local NVMe, your guaranteed to get the absolute best performance.

Multi-Tier Support

Unlike other cloud providers, we offer options so your hot-tier can also be connected to object store.

Made for AV Workflows

Accessing millions of small files can kill performance on conventional storage solutions. Our hot-tier options are designed to keep GPU servers fed.



OBJECT STORAGE

Cost-effective, S3-compatible Object Storage that solves your biggest storage challenges while boosting interoperability, data durability, and operational efficiency.

SOLUTION OVERVIEW

Cirrascale offers object storage solutions that are perfect for the retention of massive amounts of unstructured data.

Unlike other cloud solutions, Cirrascale provides the ability to store data in our cloud and not get hit with variable ingress/egress fees when trying to move data either from your office or from other cloud providers.

When part of a multi-tiered storage solution, and linked with a Cirrascale hot-tier storage offering, customers are able to seamlessly move data to be worked on between storage tiers. Overall, customers can reduce latency, improve throughput, and eliminate access charges.

KEY ADVANTAGES

Price/Performance Leadership

Together, our Hot-Tier and Object Storage provides the best combination of performance and cost.

Connectivity to Cloud Providers

Connect your Cirrascale storage pools directly with other cloud providers through our Megaport network service.

No Egress/Ingress Fees

Move data reasonably in and out of our cloud without having to worry about costly transfer fees. Our customers love our “no surprises” flat-rate billing.

WHY CHOOSE CIRRASCALE CLOUD SERVICES

Cirrascale Cloud Services offers the most complete end-to-end solution for Autonomous Vehicle workflows enabling customers to have a Zero DevOps approach to their hardware needs.



End-to-End Deep Learning Solutions

We provide our customers with end-to-end deep learning solutions that accelerate development, pilot, and production lifecycles.



Bare-Metal Cloud Access

You get direct-access to our servers with no virtualization. Customers experience improved performance over other cloud providers.



Flat-Rate Billing, No Added Fees

You pay a flat-rate for our services with no surprises. There are no ingress/egress fees for standard data transfers in and out of our data centers.



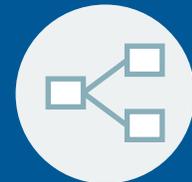
Multi-Cloud Enabled

Customers have the option to use other cloud providers for rapid burst capacity. We use high-speed Megaport connections to enable multi-cloud support.



High-Speed Networking & Storage

We offer multi-tiered, lightning fast storage solutions as well as the ability to upgrade your network interconnectivity to 100GbE/InfiniBand for the best cloud performance.



Management & Provisioning

Manage your servers and maximize overall efficiency with our integrated Management and Provisioning Server (MAPS) platform.



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