5 reasons you need open storage for a data-driven auto industry

Data is revolutionizing the automotive industry

According to Forbes, a fleet of autonomous test driving vehicles can produce approximately 2.2 to 30.4 petabytes (PB) of data in a day. That's roughly equivalent to 10 billion photos on Facebook. Data is generated by a car's sensors, which can be outward-looking like cameras, radar, and lidar instruments, or inward-looking to track engine output, exhaust emissions, and suspension spring rates.

It is not economically or technologically feasible to store this data in the cloud because artificial intelligence and machine learning algorithms need rapid access to learning data sets on-premise. Red Hat® Ceph® Storage can address the scalability, access, cost, and security concerns associated with this problem. Here are five reasons open storage is an ideal option for achieving your business objectives.

1 Scalability

The average self-driving car creates between 1 and 15 terabytes (TB) data per day and robo-taxis could generate as much as 450TB data per day. This data creation is not limited to driving. High resolution cameras, for example, typically produce large amounts of data at a scale of 500 to 11,500 megabits per second. Red Hat Ceph Storage is suited for automotive applications because it can scale to multiple petabytes without compromising performance or cost.

2 Security and compliance

Training data sets are considered intellectual property, and therefore need to be stored securely while allowing access to authorized users. As vehicle-to-infrastructure communication increases with the advent of 5G networks, it will become even more critical for data and analytics to be compliant with government-set regulatory standards.

3 Accessibility

Public cloud data storage is constrained by access to high speed networks. In addition, 5G enables greater vehicle-to-vehicle and vehicle-to-infrastructure communication, making data access even more critical. Data stored in Red Hat Ceph Storage can be accessed via high speed S3 or RADOS Gateway (RGW) interfaces. Data is accessible to multiple analytic clusters for faster analysis with minimal data movement.

4 Cost

The cost of storing large amounts of data in the public cloud can be prohibitive. Egress costs from major public clouds can also be exorbitant. Red Hat Ceph Storage, built on open source technologies, has been deployed at some of the largest retailers, banks, and government agencies, enabling cost efficiencies that can help bring down the total cost of ownership of data. Red Hat Ceph Storage is suited for automotive applications because it can scale to multiple petabytes without compromising performance or cost.

[1] Tuxera. "Autonomous and ADAS Test Cars Produce over 11 TB of Data Per Day," Oct. 2018.

[2] Mellor, Chris. "Autonomous Vehicle Data Storage: We Grill Self-Driving Car Experts about Sensors, Clouds, and Robo-Taxis," Feb. 2020.

5 Efficiency

In partnership with IBM Spectrum Discover, Red Hat Ceph Storage helps close the gap between application development and data science workflows so you can efficiently manage, classify, and gain insights from massive amounts of unstructured data. When you use Red Hat Ceph Storage, you gain software-defined capabilities on industry-standard hardware and retain control of some of your most strategic assets: your data.

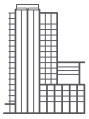
Why Red Hat

Red Hat Ceph Storage provides a robust and compelling data storage solution that can support your data, no matter the format or origin. As a self-healing, self-managing platform with no single point of failure, Red Hat Ceph Storage significantly lowers the cost of storing enterprise data and helps companies manage exponential data growth in an automated way. It is optimized for large installations and scales efficiently to multiple petabytes or greater. Red Hat Ceph Storage also supports containerized environments such as Red Hat OpenShift® Container Platform, making it suitable for a wide range of storage workloads, including:

- Data analytics and artificial intelligence/machine learning (AI/ML).
- Hybrid cloud applications.
- Object storage-as-a-service.
- Red Hat OpenStack® Platform applications.
- Backups.

Learn more

Try our massively scalable storage for demanding applications for yourself.



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Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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