

# DataStax for Cassandra NoSQL on Dell EMC infrastructure

Modernize applications, consolidate and scale databases across data centers, cloud and edge

## Why DataStax Enterprise

DataStax® Enterprise is a scale out data management platform that combines the high performance and high availability of Apache® Cassandra® with enterprise grade deployment, security, and management tools.

DataStax gives enterprises the freedom to run data in any cloud — Kubernetes®, hybrid or bare metal — at global scale without downtime or lock in.

## Adopt a scale-out data infrastructure that handles modern workloads in any cloud.

Modernizing legacy applications is a critical aspect of digital transformation. That's because legacy applications tend to be monolithic units that require teams of developers, project managers, quality assurance staff, and operations personnel to develop, deploy and maintain them.

To reduce the time and cost required to maintain these business critical applications, many enterprises are modernizing them using microservices architectures, facilitated with the use of containers and container orchestration software like Kubernetes®. A microservices approach breaks applications down into independent components that are developed, deployed and maintained as separate units. These components are often simpler to maintain and deploy, and they can also be reused to enhance efficiency.

While a microservices architecture can help transform legacy applications into modern, scalable applications, another challenge of application modernization is designing a distributed database model that can span data centers, provide high availability, and deliver high performance data processing capabilities as data continues to grow in volume, variety and velocity.

DataStax® Enterprise, built on Apache® Cassandra®, offers a scalable, highly available NoSQL database solution that can be scaled on premises across data centers, as well as across cloud providers and out to the edge. The distributed nature of DataStax Enterprise means that organizations can deploy fault tolerant databases that can manage high velocity unstructured and semi-structured data while providing high performance and 100% uptime.

## Leverage a NoSQL database built on Apache Cassandra

Dell Technologies and DataStax have created an architecture for a highly available and secure Apache Cassandra deployment that can handle the large data growth and processing needs of modern and modernized applications. The solution explores the architecture of the jointly developed solution for application modernization and data management.

### Technical specifications

The architecture describes a baseline DataStax Enterprise solution architecture created by Intel, DataStax and Dell Technologies to test DataStax Enterprise performance in multiple scenarios. It also presents the results of several performance tests and best practices.

## Benefits and use cases

- Save costs by reducing reliance on mainframes.
- Capture and act on large amounts of data in real time.
- Store vast amounts of historical data with immediate access.
- Perform both real-time and batch analytics for personalized customer experiences.

## Learn more

[Application Modernization for High Volume Workloads with DataStax](#)

[Dell Technologies InfoHub](#)

[5 Steps to Solving Modern Scalability Problems Whitepaper | Webinar](#)

[DellTechnologies.com/Analytics](https://DellTechnologies.com/Analytics)

The engineering-validated architecture runs on Kubernetes, which can be Red Hat® OpenShift® or VMware® Tanzu® in a single node deployment, or can be both in a distributed deployment, however both are not necessarily required.

Dell EMC Infrastructure	Software
<ul style="list-style-type: none"><li>• 5x PowerEdge R640</li><li>• PowerSwitch S5232F-ON or Z9100-ON</li><li>• PowerSwitch S3048-ON</li></ul>	<ul style="list-style-type: none"><li>• VMware Tanzu</li><li>• Red Hat OpenShift</li><li>• DataStax Enterprise</li><li>• DataStax Kubernetes Operator for Apache Cassandra</li><li>• DataStax Enterprise OpsCenter</li><li>• Apache Cassandra, Spark®, Solr™</li></ul>

## Expert help when you need it

Dell Technologies analytics experts are available at every step of the analytics journey. From workshops and planning sessions to IT solutions created from our extensive portfolio of workstations, servers, storage, networking, software and services, Dell Technologies and VMware can help you unlock the value of your data. Connect with one of the worldwide [Dell Technologies Customer Solution Centers](#) for proofs of concept, design sessions and/or technical deep dives today.

## Dell Technologies, DataStax and Intel

More than 450 of the world's leading enterprises use DataStax to build transformational data architectures for real world outcomes. Dell Technologies has worked with DataStax and Intel for years, developing solutions that help organizations gain the greatest performance and value from their investments.

Dell Technologies is a DataStax and Intel customer, as well as a partner. As part of its ongoing digital transformation, Dell Technologies leverages DataStax with Intel technologies to evolve the online buyer experience to drive better performance and improve business results.

