



# DataStax Enterprise + VMware Tanzu

Modern, scale-out, cloud-native applications require a transformational data architecture that enables improved operating economics, developer productivity, and faster time-to-market. DataStax and VMware have partnered to certify DataStax Enterprise (DSE) on VMware Tanzu Kubernetes Grid (TKGI), guaranteeing the smooth provisioning and operations of DataStax Enterprise data clusters on VMware TKGI. Enterprises gain the high performance, linear scalability, and always-on availability of DSE and the operational reliability and usability of VMware TKGI.

## Advantages of Running DataStax Enterprise on VMware Tanzu

### *High Availability and Linear Scalability On Prem, in Public Clouds, or across Hybrid Environments*

Built-in high availability in your cluster and data centers, across clouds, whether in your own private cloud, public clouds, or hybrid environments, without being locked in to any cloud vendor. Leveraging VMware TKGI, operators gain global visibility, scalable operations, and consistent policy management to their modern apps by centralizing Kubernetes across teams and clouds.

### *Superior Performance NoSQL and Advanced Workloads on a Single Platform*

Blisteringly fast write and read transactions for NoSQL workloads and also advanced workloads like search, graph and analytical.

### *Increased Productivity, with Peace of Mind*

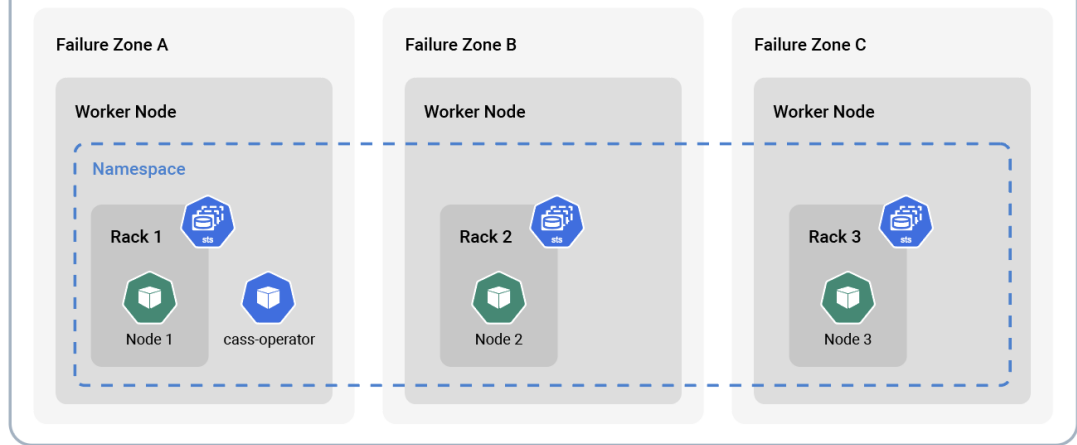
Gain all the benefits of Cassandra®, with increased productivity for operators when running DataStax Enterprise on VMware TKGI. Allow developers to move fast with self-service access to Kubernetes in their chosen environment, with security and policy guardrails in place.

### *Cluster Lifecycle Management*

Provision DSE on VMware Tanzu Kubernetes Grid clusters and manage the lifecycle of the clusters across environments.



## VMware Tanzu Kubernetes Grid



For enterprises that want to self-manage Cassandra® clusters, DataStax Enterprise™ (DSE) is the only open, hybrid stack built on Apache Cassandra® that reduces operational burden, avoids vendor lock-in, and unleashes developer productivity. It amplifies the benefits of Cassandra® with superior performance and trusted security. Now the best Cassandra distribution in the market is certified to run on VMware Tanzu Kubernetes Grid, the leading Kubernetes distribution.

*"Kubernetes and VMware Tanzu represent the best and most efficient way to modernize and operate applications and data workloads. DataStax, K8ssandra, and the Apache Cassandra project enable developers and enterprises to seamlessly and efficiently run their Cassandra workloads on VMware Tanzu at enterprise scale alongside the entire suite of VMware Tanzu Data services."*

**Jacque Istok**, VP Data, VMware Tanzu

*"VMware and DataStax are central components of our platform. Having the option for hybrid and multi-cloud deployments will further guarantee the resiliency and uptime customers have come to expect from us."*

**Rune Birkemose Jakobsen**, Development Manager, Danske Bank

*"DataStax Enterprise gives us the power to change information in our supporting systems into actionable insights with historical views into account statuses. This was previously impossible with relational technologies. With Apache Cassandra and DataStax Enterprise as our database infrastructure, we can not only scale but give our users a real-time, engaging customer experience."*

**Micky Csaszni-Shaked**, Technology Lead, Mint Bills (Intuit)



## Capabilities and Benefits

CAPABILITIES	BENEFITS
<b>Certified on VMWare Tanzu Kubernetes Grid</b>	Avoid vendor lock-in and greatly simplify cloud-native application development, deployment, and scale-out capabilities with integrated tooling and support for different Kubernetes flavors. Increase operator productivity 3x by provisioning DSE on VMWare Tanzu (using the Kubernetes Operator for Apache Cassandra).
<b>Developer Friendly</b>	Bring your applications to market quickly by using (Stargate) modern data APIs such as REST, GraphQL, and Schemaless JSON. Continue to use CQL or appropriate language drivers like Java, C/C++, C#, Python, Node.JS, and Go (community maintained).
<b>Multiple NoSQL Models</b>	Gain the flexibility to develop using all styles of NoSQL data models including key-value, tabular, graph, and schemaless document.

<b>Graph</b>	Write to Cassandra® and query it in real-time using the Gremlin traversal language. Build multi-model applications with joins, matching, and traversals over large distributed Cassandra data sets through graph queries.
<b>Search</b>	Ship search capabilities (full-text search, faceting, suggestion, and geospatial search) with the scalability and resiliency of Cassandra®.
<b>Fast Secondary Index Queries</b>	Query any column without being restricted to the primary key using Storage Attached Indexing (SAI), with minimal impact on performance.
<b>Zero Copy Streaming</b>	Scale-out during peak demand periods and perform business continuity tasks far more quickly with up to 4x faster node addition, removal, and recovery.
<b>Unparalleled Scalability and Performance</b>	Easily grow your Cassandra® cluster to petabytes of data, and your graph data to billions of edges and vertices. Scale out to hundreds of thousands transactions per second by simply adding nodes while maintaining unmatched read/write latency.
<b>Zero Downtime Migration</b>	Seamlessly transfer data from open source Cassandra® to DSE using the DSBulk data loader or via a Spark program. Take advantage of DataStax professional services' best practices and toolkit to migrate from RDBMS with zero downtime.
<b>Enterprise Grade Security</b>	Secure data and protect privacy using: Encryption in flight (TLS) and at rest (TDE), KMIP security policies. Role-based access control (RBAC), Row-level access control (RLAC), User and application authentication (Kerberos)  Detect and prevent potential breaches through configurable auditing, log scanning and filtering.

## More Info

- [Download DataStax Enterprise](#) to try on your own data center or cloud.
- Check out the vibrant [Community](#) and [DataStax for Developers](#).
- [Contact us](#) about DataStax Enterprise or Cassandra.

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