DataStax Enterprise with IBM

Scale-out with a cloud-native NoSQL database built on Apache Cassandra and designed for hybrid cloud enterprise deployment.

Highlights

- A single source for purchasing, deployment, and support of DataStax Enterprise based on Apache Cassandra.
- Highly scalable, highly available with zero points of failure.
- Supports more workload types from graph to search and analytics.
- Designed to meet the availability and performance demands of mobile, web, and IoT apps.
- Leverages IBM's expertise and global footprint.
- Deploys on IBM Cloud Pak for Data to unlock data faster with a data fabric.

Apache Cassandra is an open source, distributed NoSQL database that delivers the continuous availability (zero downtime), high performance, and linear scalability that modern applications require, while also offering operational simplicity and effortless replication across data centers and geographies. It is one of the most popular open-source databases.[1] However, Apache Cassandra faces issues like those that plague standard open source software. These issues include scaling, security, lack of advanced data management tools—important features required to run within an enterprise.

DataStax has worked closely with the open source community to build on Apache Cassandra's decade-plus of maturity to solidify its position as the leading database for cloud-native applications. Now IBM®, in partnership with DataStax, simplifies the entire enterprise Cassandra experience by providing graph, search, analytics, administration, developer tooling, and monitoring in a single integrated offering that can be deployed on IBM Cloud Pak® for Data. This fully integrated data and AI platform is built on and takes advantage of Red Hat® OpenShift® Container Platform and can be deployed on any cloud. It fully supports multicloud environments such as AWS, Azure, Google Cloud Platform, IBM Cloud® and private cloud deployments.

In addition to this one-stop experience for the procurement, use, and management of Cassandra, users will gain access to IBM's global deployment capabilities and expert support, which includes client consultancy on individual open source database technologies and overall solution architectures.

The DataStax Enterprise advantage

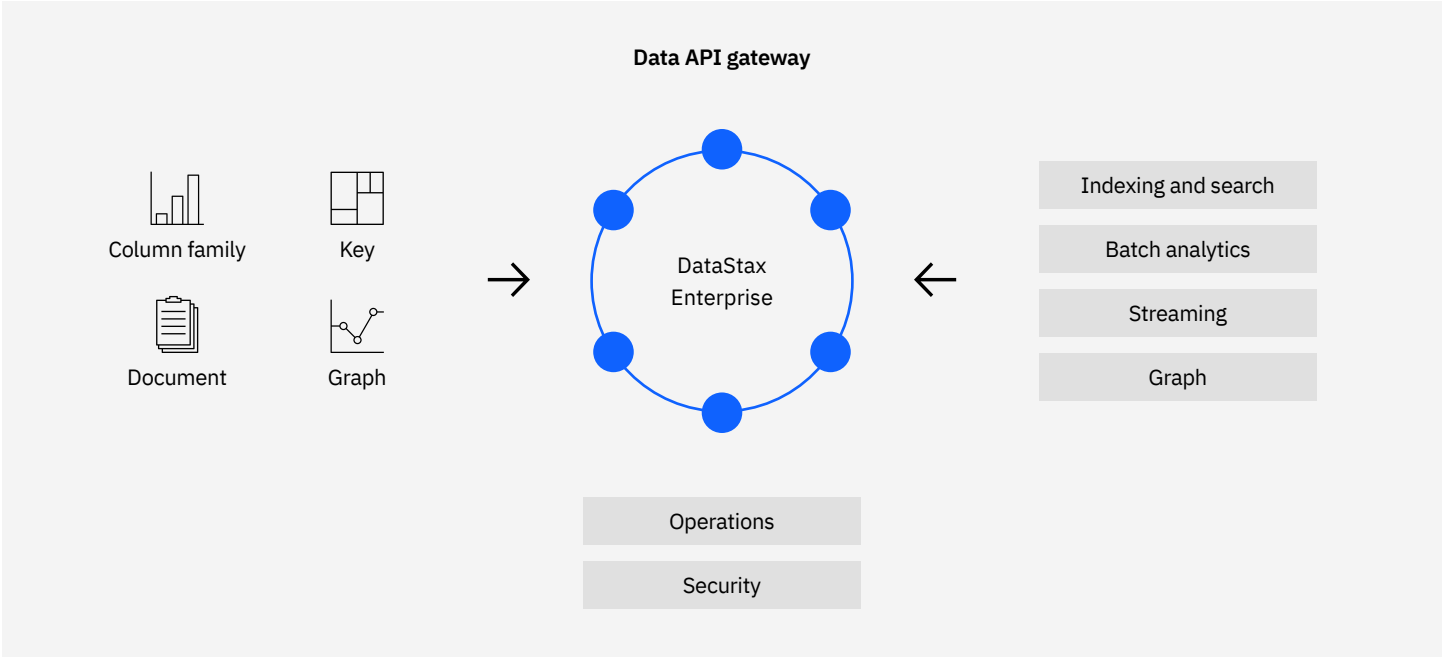
DataStax Enterprise (DSE), built on Apache Cassandra, is the world's most scalable database, well known for 100% uptime, unmatched low latency, and the ability to handle massive data at planetary scale. DSE delivers enterprise capabilities used by the best internet companies, and trusted by 40% of Fortune 100 and a fifth of Fortune 500 companies. What does the data-driven enterprise get with DSE?

DataStax Enterprise is a flexible, high-performance, and trusted open data stack for the data-driven enterprise, built on NoSQL Apache Cassandra

Freedom of choice
The flexibility to deploy DataStax Enterprise anywhere, on any platform
- On-premises
- Bare metal
- Virtual machines
- Any cloud
- Kubernetes

Superior performance for various workloads[2]
- 50% lower read/write latencies
- 10x better performing graph engine
- 3x faster Spark-based analytical queries
- 4x faster zero copy streaming scaling and node recovery
- 4x faster data transfer than open source cqlsh

Peace of mind and increased productivity
- Enterprise-grade security
- Easier-to-manage operations
- Reduced learning curve with powerful and modern Stargate APIs including REST, GraphQL, CQL, and schemaless JSON



Capabilities and benefits

For enterprises that want to self-manage Cassandra clusters, DataStax Enterprise is the only open, multicloud stack built on Apache Cassandra that reduces operational burden, avoids vendor lock-in, and unleashes developer productivity.

Support for Kubernetes and multiple O/S distributions
- Avoid vendor lock-in with the freedom to deploy on premises, on any cloud, or in a hybrid model.
- Accelerate cloud-native adoption with support for different Kubernetes flavors, including Red Hat OpenShift, the container technology underpinning IBM Cloud Pak for Data.
- Greatly simplify cloud-native application development, deployment, and scale-out capabilities with integrated Kubernetes tooling.

Stargate Data API Gateway
- Reduce the learning curve for getting productive through the abstraction of Cassandra-specific concepts and support for popular API options such as REST, GraphQL, and schemaless JSON.

Multiple data models
- Gain the flexibility to develop using all styles of NoSQL data models including key-value, wide-column, document, and graph.

Graph engine
- Explore data relationships fast and at scale with a graph-optimized engine.

Enhanced search
- Ship search capabilities (including full-text search, faceting, suggester, and geospatial search) with the scalability and resiliency of Cassandra.

Storage-attached indexing
- Query any column without being restricted to the primary key.
- Stop denormalizing data, and reduce architectural complexity.

Integrated analytics
- Execute super fast advanced analytics. Inject ML if necessary.
- Support BI and ETL using AlwaysOn SQL.

Development and migration tools
- Use any popular development language with the appropriate driver.
- Transfer data fast and easily using the bulk data loader.
- Seamlessly migrate data from open source Cassandra.
- Support Apache Kafka streaming with the Kafka connector.

Enterprise-grade security
- Secure data and protect privacy using encryption, role-based access control, and single sign-on.
- Detect and prevent potential breaches through configurable auditing and log scanning and filtering.

DataStax OpsCenter
- Easily provision, upgrade, monitor, backup, restore, and manage your DataStax Enterprise clusters using visual management and monitoring tools.

Diverse use case support
- Build a real-time recommender with content-based, collaborative filtering and predictive modeling.
- Spot unusual events including potential security threats or suspicious activities.
- Support data gathering and normalization from a large variety of endpoints in real-time for logistics optimization.

The added advantage of IBM

IBM brings a single unified experience, strong integration capabilities, and a global presence to improve the value provided by SingleStore.

Single unified experience with IBM
IBM has developed considerable experience across thousands of client engagements spanning decades. It shares that experience in two primary ways: consultancy and support. Anyone interested in integrating databases into their data architectures should note that IBM experts are happy to consult on individual technologies or the overall architecture of a business. In this way, an organization can leverage IBM's previous experience to double-check their options and preparedness prior to or even after selecting a solution.

Integration into your data fabric
IBM allows the deployment of multiple databases on a unified AI architecture so that data can be brought together within a hybrid environment.

One-stop shopping-freedom of choice
Choose the best databases for your workloads, condensing multiple vendor interactions into one.

One-stop support and industry expertise
Many of the support issues are due to lack of product knowledge–IBM's client history spans thousands of engagements, providing end-toend guidance for all your infrastructure and database issues.

Accelerate your journey to AI
Leverage immediate access to IBM Watson® services and IBM Cloud Pak® for Data for end-to-end enablement of your journey to AI.

In addition, organizations struggle to track and manage risk in the form of security vulnerabilities, license conflicts, compliance and reliability. By providing level 1 support and consultation in addition to multivendor support, IBM can help reduce support and maintenance costs.

Integration
Integration is vital for hybrid data management environments so that businesses can increase efficiencies and drive down costs and wasted time. IBM provides three levels of integration across the various stages of implementation. Foremost, by purchasing databases from IBM alongside other hybrid data management technology, an experience that once would have required interaction with multiple vendors can be accomplished easily with one-stop shopping. This also allows the various technologies to be deployed together. IBM also provides one unified architecture for AI so that all data can be brought together in a hybrid environment for self-service analytics with integrated governance. Finally, support can also be delivered through a single source. IBM experts can be leveraged to speak to entire architectures that span multiple offerings. Together, these factors provide a seamless environment with a strong vendor relationship.

Global presence
As a global company, with a presence in over 175 countries and support for 127 languages, IBM understands various geographic challenges and opportunities better than providers who limit themselves to a single market. The advice shared in consultations and support reflects that knowledge. In addition, having data centers around the globe can benefit customers in two key ways. First, locating data nearer to where it will be used reduces latency and helps provide insights more quickly. Second, some regulations require that data is stored in the country of origin. This cannot be done by vendors who are absent from particular markets.

For more information

To learn more about DataStax Enterprise with IBM, schedule time with an IBM expert for a no-cost, 30-minute discussion.
Or visit: ibm.com/products/datastax-enterprise

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1 https://db-engines.com/en/ranking

2 Based on IBM internal testing