

# Data Protection for Cassandra

Rubrik NoSQL Protection provides a unified platform that enables organizations to protect and recover all of their Cassandra data across on-premises and the cloud.

## KEY BENEFITS

### Application-Centric

- Application and cluster-consistent point-in-time backups
- Scalable versioning supports large clusters
- Flexible deployment with API-based architecture and native-UI interface

### Recover in Minutes, Not Hours

- Single-click, fully orchestrated recovery
- Recovery to same- or different-sized clusters
- Granular recovery for fastest RTO

### Increase Ops Efficiency

- Semantic deduplication cuts backup storage requirements
- Automated Test/Dev refresh
- Use backup copies for migrations, Test/Dev and database cloning

## THE CHALLENGE

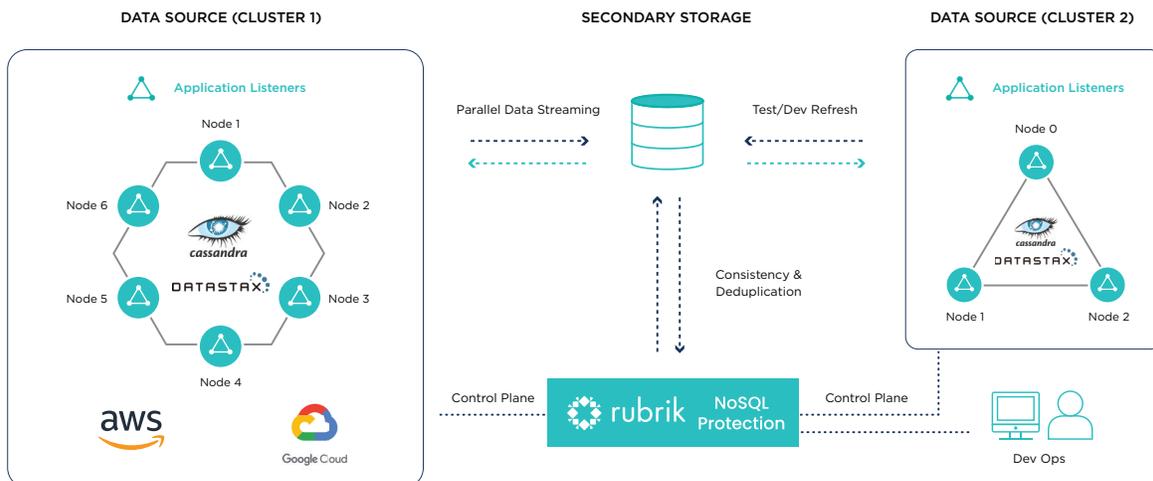
Businesses are in the midst of a digital transformation journey. According to research from IDC, 70% of CIOs have a cloud-first strategy. They want to harness the power of the cloud to drive growth by delivering new customer-centric products and services while also driving greater operational efficiency. To handle the data requirements of these modern high-volume, high-ingestion-rate, and real-time applications, enterprises are turning to scalable, nonrelational databases such as Apache Cassandra and DataStax Enterprise rather than traditional scale-up database and storage approaches.

However, this fundamental shift raises critical issues in data protection. Traditional backup and recovery products were originally designed for small-scale databases, tape-based storage media, and legacy on-premises architectures. This leaves modern applications built on non-relational databases and Big Data filesystems exposed to data loss and downtime.

## THE SOLUTION: RUBRIK NOSQL PROTECTION

Rubrik NoSQL Protection is the industry's first and only scale-out data protection software solution to deliver scalable and reliable backup and recovery for modern applications built on Apache Cassandra and DataStax Enterprise databases. With NoSQL Protection, enterprises can deploy business-critical applications on Cassandra and DataStax and be confident in the recoverability of data and the ability to maintain high application uptime.

## RUBRIK NOSQL PROTECTION FOR CASSANDRA: REFERENCE ARCHITECTURE



## FEATURES AND BENEFITS

Rubrik NoSQL Protection is built to address the data protection needs of modern, cloud-native applications deployed on Cassandra and DataStax. Unique capabilities include:

### Application-Consistent Backup and Recovery

By working at the application layer, NoSQL Protection provides a true point-in-time backup copy of eventually-consistent distributed databases—a concept that we refer to as cluster-consistent versioning. An application listener captures data before it is distributed on the cluster, ensuring consistency.

Unlike other solutions or script-based approaches, NoSQL Protection can produce a cluster-consistent version without quiescing the database, improving application performance and reducing downtime.

NoSQL Protection scales to support very large clusters, and allows you to back up the database at any interval and at any granularity. The backups are cluster consistent and application consistent, incremental forever, and always maintained in native formats on backup or secondary storage.

### Fully Orchestrated and Granular Recovery

Orchestrated and reliable recovery lets you restore for operational recovery and for Test/Dev use cases, on-premises and across cloud boundaries. All recovery operations result in repair-free restores, leading to reduced application downtime.

Rubrik NoSQL Protection provides fully orchestrated, any-point-in-time recovery. Granular recovery can be

selected based upon either time or query for optimal recovery time objective (RTO)/recovery point objective (RPO) and to support governance requirements like the European Union's General Data Protection Regulation (GDPR). Data can be recovered directly back into the same database (operational recovery) or recovered to a different database instance (e.g., Test/Dev refresh) with a different topology where the number of nodes on the destination cluster differs from the node count of the source cluster.

Because the backups are de-duplicated, the recovery process deals with only logical data, making it faster than traditional approaches, which results in a significant reduction in RTO.

### Semantic Deduplication

Rubrik NoSQL Protection includes semantic de-duplication, an industry-first capability that reduces the cost of storing backups of distributed databases over their retention period. These space-efficient backups dramatically reduce the overall storage footprint, resulting in up to a 70% reduction in backup storage requirements.

### Infrastructure and Storage Independence

NoSQL Protection is elastic-compute software that you can deploy on a physical server, a virtual machine, or any cloud compute instance (e.g., Amazon Elastic Compute Cloud [Amazon EC2]), Microsoft Azure, Google Cloud Platform or Oracle Cloud. You can back up data to any Network File System (NFS) or object storage on-premises or in a public cloud (e.g., Amazon Simple Storage Service [Amazon S3]). In addition to command-line interfaces and RESTful APIs, you can use the NoSQL Protection consumer-grade UI to manage your data protection environment.



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Rubrik is on a mission to secure the world's data. With Zero Trust Data Security™, we help organizations achieve business resilience against cyberattacks, malicious insiders, and operational disruptions. Rubrik Security Cloud, powered by machine learning, secures data across enterprise, cloud, and SaaS applications. We help organizations uphold data integrity, deliver data availability that withstands adverse conditions, continuously monitor data risks and threats, and restore businesses with their data when infrastructure is attacked.

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