# Aerospike on Red Hat OpenShift

Modernizing real-time applications and infrastructure

### Highlights

Deploy the Aerospike real-time database for the lowest latency with predictable performance at any scale.

Manage Aerospike and underlying storage, network, and compute infrastructure together through Red Hat OpenShift.

Rapidly scale the deployment of Aerospike infrastructure as needs dictate.

Connect with other containerized applications and services in the Red Hat OpenShift ecosystem.

Exploit the security and proven reliability of a verified solution in the Red Hat OpenShift ecosystem.

### About Aerospike

Aerospike is a multimodel non-Structured Query Language (NoSQL) real-time data platform for large-scale JSON/Document, SQL, geospatial, key-value, and graph use cases for on-premise and multicloud environments.

facebook.com/redhatinc
@RedHat
linkedin.com/company/red-hat

## Deploying modern real-time applications

For many critical applications, shrinking time windows and expectations for real-time responses are unrelenting. Consumers demand near-instantaneous gratification and will go elsewhere if their expectations are not immediately met. Digital payment systems must provide privacy, security, compliance with relevant data regulations, and real-time settlement requirements across geographies. Fraud detection and prevention systems must act rapidly to protect against attacks before financial damage spreads. Risk analysis applications must perform quickly to identify patterns, trends, and relationships while they are still relevant, yielding a more comprehensive understanding of likely conditions and the ability to make more informed decisions.

The Aerospike Real-time Data Platform serves all these use cases and others, allowing organizations to act in real time across billions of transactions using massive parallelism and a hybrid memory model to ensure the smallest possible server footprint. Aerospike ingests and acts on streaming data at the edge and can combine edge data with data from systems of record, third-party sources, data warehouses, or data lakes for operational, transactional, or analytical workloads. Deployed on Red Hat® OpenShift®, Aerospike can also help organizations modernize their applications and infrastructure for an increasingly competitive, demanding, and cloud-oriented world—on-premise or in the hybrid or hyperscale cloud.

## Aerospike on Red Hat OpenShift

As the demand for real-time applications grows, so does the need for application and infrastructure modernization. Older and established applications are often monolithic and not particularly interconnected with other applications and services. In contrast, sophisticated cloud-native applications are typically designed to interconnect with each other and with other external services. Red Hat OpenShift lets organizations embrace cloud-native development while managing new applications, services, and microservices. The DevOps model available with containers is compelling, and many organizations now mandate cloud-native Kubernetes orchestration for new applications.

In addition to bare-metal deployments, Aerospike can be deployed on Red Hat OpenShift using the Aerospike Kubernetes operator, available through the Red Hat certified operators catalog. The operator delivers cloud portability and automates best practices for deploying and managing the Aerospike database. Aerospike's support for Red Hat OpenShift means organizations can deploy real-time database applications as they scale and automate the underlying infrastructure through a single management framework. Red Hat OpenShift unburdens organizations from the complexity of infrastructure operations and empowers them to manage Aerospike clusters, data, and underlying database infrastructure together. Configuration, provisioning, scaling, and recovery of Aerospike clusters are all automated, reducing the complexity of manual deployment and life cycle management.

Running Aerospike on Red Hat OpenShift lets organizations implement a cloud-agnostic hybrid cloud deployment strategy, supporting:

Red Hat® OpenShift® Platform Plus is a unified platform to build, modernize, and deploy applications at scale. Multicluster security, compliance, application and data management work across infrastructures to provide consistency throughout the software supply chain. It includes:

- Red Hat OpenShift Container Platform
- Red Hat Advanced Cluster Management for Kubernetes
- Red Hat Advanced Cluster Security for Kubernetes
- Red Hat OpenShift Data Foundation
- Red Hat Quay

- Simplified management of Aerospike clusters on Kubernetes with automatic deployment and operation of multinode clusters
- Reduced operational complexity with automated upgrade/downgrade and other configuration options
- Easy coordination of multiple clusters using operational best practices for DevOps efficiency
- Interoperability, security, and life cycle management with a certified Red Hat OpenShift operator that meets Red Hat standards

With Red Hat OpenShift, infrastructure can scale rapidly, reliably, and in an automated fashion—not by 1 or 2 servers, but by 10, 20, or 30 at a time. Aerospike clusters can deploy on-premise or in the hyperscale or hybrid cloud as needed. As applications grow, organizations can choose optimized in-house or cloud-based infrastructure for the most efficient and cost-effective use of resources, all while applications continue to operate.

## Capabilities overview

Together, Aerospike and Red Hat OpenShift provide a wealth of indispensable capabilities, including:

- **Scalability.** With Red Hat OpenShift, you can rapidly deploy Aerospike clusters across multiple nodes, supporting more data and traffic as your application grows.
- **High availability.** Aerospike provides excellent data availability and reliability through its distributed architecture. With Red Hat OpenShift, you can take advantage of features like automatic failover and self-healing to ensure that your Aerospike clusters stay up and running at all times.
- **Flexible deployment.** By deploying Aerospike in Red Hat OpenShift, you can take advantage of features like rolling updates, which allow you to update your Aerospike clusters without downtime or disruption to your application.
- **Integration with other services.** By deploying Aerospike on Red Hat OpenShift, you benefit from a rich ecosystem of integrated services to build more robust and resilient applications.



redhat.com
#348309_0523