# Highly Available Redis For Cloud Foundry Applications

## Redis Labs Provides Enterprise Class Redis Integrated into Pivotal Cloud Foundry

**Pivotal Cloud Foundry** delivers a cloud-native modern application development and operations environment that lets your developers focus on generating value for your customers. Redis, the world's most popular in-memory NoSQL is the preferred database for cloud-native applications because of its persistence, versatility and incredibly high performance (millions of operations/second with sub-millisecond latencies on a single cloud instance). Developers choose Redis for its data structures and modules that reduce application complexity and network bandwidth consumption while delivering a variety of application functionality in diverse environments.

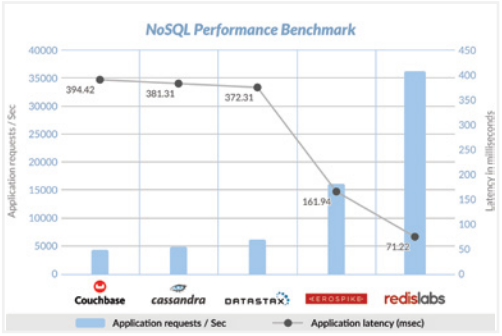
**Redis Labs Enterprise Cluster (RLEC)** extends open source Redis and delivers the operational benefits of high performance and high availability at scale with substantially lower operational costs. RLEC is the most scalable way to deploy Redis for consistent stable high performance, high availability, linear scalability and reliability.

The integration of Redis Labs' RLEC with Pivotal Cloud Foundry delivers the only true enterprise grade Redis for your applications, with its hassle-free, zero-downtime scaling, persistence, cross-rack/zone/region in-memory disk-less replication, instant automatic failover, and stable linear high performance.

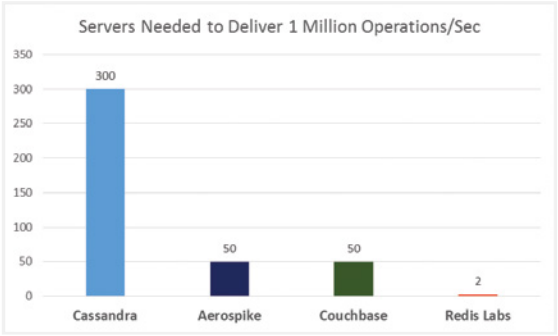
## About Redis

Redis, the world's most popular in-memory NoSQL data structure store, frequently used as a database, cache or message broker also leads the field in performance. Unlike other in-memory stores, it persists data and is remarkably versatile due to its data structures (sets, sorted sets, hashes, lists, strings, bit arrays, etc.) and modules (graph, search, image processing and more). Redis enables developers to perform advanced operations on these structures at the lowest possible complexity and highest possible performance. In other words, Redis is purpose built for performance and simplicity.

Recent benchmarks have found Redis to be the best database for millions of operations/second with sub-millisecond latencies and with the least amount of hardware.




*Redis Labs RLEC outperforms other technologies: based on independent performance benchmark by Avalon Consulting*




*Benchmark performed using Google Cloud Platform*

## Highlights

- Build and deploy world-class enterprise applications with stable high performing, highly available Redis from Redis Labs (millions of operations per second with sub-millisecond latencies on a single standard server)
- Pivotal Cloud Foundry-based applications can now scale infinitely with the effortless scaling and true high availability of Redis Labs Enterprise Cluster (RLEC)
- Seamless integration allows unified access and one-click deployment of the RLEC Tile from Pivotal's Marketplace

## Why Use Redis In Your Applications

Redis use cases are numerous, particularly due to its versatile nature.

**High Speed Transactions:** Redis' support for transactions and RLEC's high performance at scale make RLEC an ideal choice for high speed transactions in industries such as financial services, e-commerce, telecom, healthcare and more.

**Real time Analytics:** Use the power of Redis and the reliability and scalability of RLEC to deliver high velocity analytics like behavior–based personalization or recent purchases/trending items in e-commerce/retail applications, leaderboards & top scorers in gaming applications

**Geo-spatial Searching:** Use the built-in efficient geo-commands in Redis and linear scalability of RLEC to power high speed location-based processing and analytics used by retail, e-commerce, transportation, social and mobile applications

**In-app social functionality:** Redis' powerful set operations, atomic counters and advanced data structures combined with the high scale of RLEC make it a great fit for social functionality in applications such as top followers, timeline and social graphs.

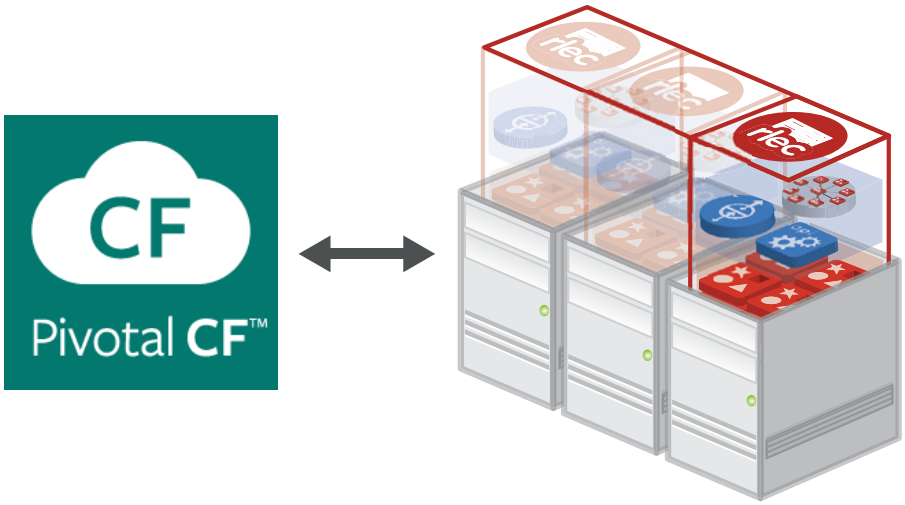
**Time series data:** Redis' sorted sets accelerate processing and analysis of time-series data by orders of magnitude compared to other disk based key value stores. Use RLEC to gain a high performance and highly available time-series processing engine.

**Big Data Analytics Acceleration:** Use RLEC in conjunction with Big Data frameworks like Hadoop and Spark to dramatically accelerate analytic processing by several times. Use insights from Big Data to power real time decisions.

**Job & Queue Management:** Increase the responsiveness and reliability of your applications by using RLEC as a key facilitator of job & queue management.

**High Speed Data Ingest:** Continuously ingest high velocity data such as millions of events from websites or IoT devices with very little hardware using the high performance data structures of Redis.

**High Speed Caching:** RLEC enables the most responsive user experience by providing a very high performance distributed, highly available cache for your application.



## RLEC Delivers High Availability and Seamless Scaling

**Enterprise Grade Redis Scaling & Clustering:** Scale Redis deployments seamlessly for larger datasets or higher throughput and lower latencies by creating additional database instances (shards), on the same server or across multiple servers dynamically, with no performance impact or downtime. Utilize multiple cores on a single server more efficiently and overcome the limitations of memory on a single server by extending Redis clusters across servers, with the simple click of a button or through API calls.

**Always On, Automated High Availability:** Ensure high availability with built-in data persistence (AOF or snapshots), rack-aware multi-datacenter/region/cloud database replication and periodic backups all enabled through a simple, intuitive UI. Protect your applications against unplanned downtime, outages and data loss with instant automated failover. Gain the performance benefits of a local copy with continuous database replication across datacenters, regions and clouds.

**Dramatically Lower Operational Costs:** Lower operational costs of Redis deployments with UI, CLI or Rest API based provisioning, configuration, deployment, continuous monitoring and re-balancing of shards. Run multiple Redis databases and clusters, in a single RLEC deployment, each as its own process and in a non-blocking manner. Track over 20 important Redis metrics, threshold-based alerts and use RLEC's auto-migration mechanism to isolate high load databases to ensure high performance. Deploy RLEC on a combination of RAM and Flash memory used as a RAM extender for up to 70% lower costs.

**Enterprise Class Support:** Gain 24x7 enterprise class support backed by expertise in managing and scaling 200k+ Redis databases for thousands of customers worldwide. RLEC also includes interfaces for enterprise monitoring systems.