

Rent Dynamics' Path to Endless Possibilities

How Redis Enterprise became a Critical Component of their Microservices Architecture

Executive Summary

Rent Dynamics provides full-service lead capture and management services to the multifamily industry. As its client base grew, the company's ability to maintain accurate, live queues of prioritized workflows for its contact center was degrading at peak usage times. To push past the performance limitations of its transactional Microsoft SQL Server, Rent Dynamics turned to enterprise-grade Redis from Redis Labs. With Redis Enterprise's high-performing Sorted Set and Hash data structures managing Rent Dynamics' work queues, the leasing company was able to reduce the load on its database to unfailingly meet the demands of 100,000 monthly callers.

Easing the Burden on Rent Dynamics' Overworked SQL Server

As leads come into Rent Dynamics' contact center via phone or email, the company uses complex filters in real time to direct them into appropriate work queues. Initially, Rent Dynamics queried its SQL Server for top-ten lists of incoming leads requiring attention, but the complex filtering coupled with up to 100,000 monthly contacts was overwhelming the database's ability to maintain real-time work queues.

"As a contact center whose reputation revolves around promptly responding to all incoming inquiries, we simply couldn't afford to have our system slow or fail in the face of high user volumes," said Skyler Cain, Software Development Manager at Rent Dynamics. "We needed to find a solution in which we could offload the common database queries our system uses to maintain real-time work queues."

Redis Enterprise's High Availability Crushes It

Already using open-source Redis via Amazon ElastiCache in other areas of its system, Rent Dynamics recognized right away that Redis, with its flexible data structures and high performance, would be the perfect database to run alongside its SQL Server and PostgreSQL databases. However, Cain was concerned about the ability to persist data in their highly agile AWS environment: "We were spinning servers up and down pretty consistently and so we needed to ensure high availability within our microservices environment. With ElastiCache, we had some instances where the in-memory store wasn't persisted to the disk and data was lost as a result."

In a stroke of good fortune, the development team discovered Redis Enterprise's auto-failover and backup features. "That's where Redis Enterprise really crushed it," said Cain. "The ability to easily bring up and take down Redis servers without sacrificing high availability was a huge draw for us."

The team was also impressed with Redis Enterprise's Cluster Manager. "When the Redis Labs team showed us how easy it was to use the Cluster Manager's GUI to failover nodes or show our CEO stats in real time..." said Cain. "That tangible piece absolutely sealed the deal."

Lightning Fast Query and Queue Management

Rent Dynamics runs Redis Enterprise, along with the rest of its stack in AWS. The company is in the process of migrating to microservices so Redis Enterprise is currently deployed in Rent Dynamics' older monolith C# platform as well as its newer Python platform. This allows both to communicate with the queues Redis Enterprise oversees.



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Skyler Cain

SOFTWARE DEVELOPMENT MANAGER
RENT DYNAMICS

Rent Dynamics' Requirements

Rent Dynamics needed to offload the burden on its overworked transactional database in order to continue offering real-time work queue processing to its growing customer base.

“We use Redis Enterprise’s Sorted Sets to store the top-ten lists and Hashes for the details,” said Cain. “This flattened schema has dramatically improved work queue management speeds, and reduced the load on our transactional database.”

Through Redis Enterprise, Rent Dynamics has also regained the ability to precisely indicate the count of outstanding work items a user needs to attend to, a capability it had lost as contact volume grew and the query became too expensive for its SQL Server database to perform. “Redis Enterprise handles this query lightning fast,” said Cain. “We’re able to deliver these precise numbers without worrying that Redis Enterprise will be overwhelmed by a query that could easily be made 1,000 times per minute, basically every time an object count increments or decrements.”

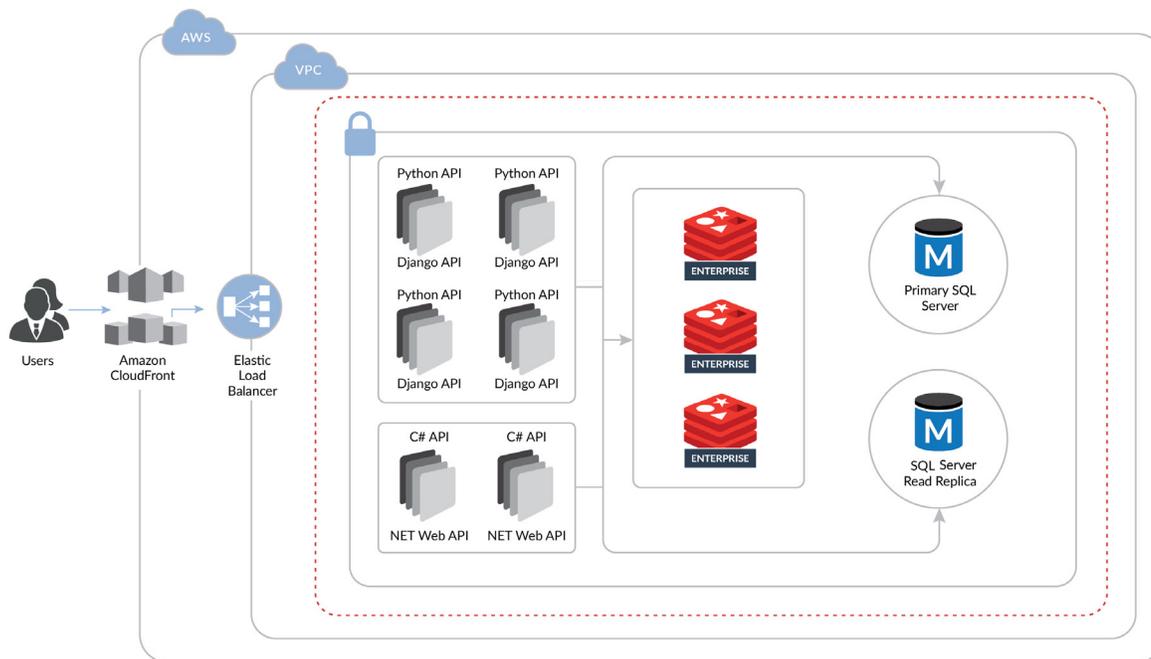
The Possibilities Are Endless

Today, Rent Dynamics relies on Redis Enterprise to optimize work queues for its lead management and contact center operations, but tomorrow, the options are endless. “The expertise of the Redis Labs team really opened my eyes to the possibilities,” said Cain. “I’m realizing that I can use Redis Enterprise as my primary database—leveraging it for additional work queues, follow-up calendaring, and basically all day-to-day tasks.”

Redis Enterprise Benefits

- High availability and unfailing persistence in an agile microservices environment
- Large load reduction on overworked transactional database
- Zero operational hassle with 24x7 support
- Flexible data structures and commands for efficient work queue processing

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