



## CASE STUDY

# Inovonics Leverages Redis Enterprise on Google Cloud Platform to Launch Its New IoT Data Analytics Products

## Executive Overview

Inovonics is the industry leader in high performance wireless sensor networks for life safety applications in healthcare, education, government, banking, multifamily housing and senior living. With more than 10 million devices deployed around the world, Inovonics has access to tremendous amounts of data highly unique to its industry. Previously, this data was largely siloed, but the company's adoption of Redis Enterprise VPC from Redis has allowed Inovonics to centralize this data on Google Cloud Platform (GCP), opening up valuable new product offerings to its customers in the form of easy-to-access, insightful data analytics.

## Inovonics Turns to the Cloud for Its New Data Analytics Applications

For most of its 30-year history, Inovonics has considered itself primarily a wireless technology provider. But with the onset of the big data era, the company quickly came to understand that the unique sets of data collected by its wireless devices and sensors also had tremendous application.

"We have access to insights that can't be gleaned anywhere else," says Lalit Pandit, Inovonics Software Development Manager. "For example, we can track anomalies in energy usage patterns to provide our submetering customers with predictive maintenance analytics. Or, on a macro level, we can amass data from our thousands of intrusion detection systems to provide unique insights into periods of increased risk or trending illegal entry methods."

Inovonics' edge platform required a robust set of data platform capabilities for resiliency and performance with the least operational footprint and operating costs. To build its new data analytics offerings with as little overhead as possible and closer to the sensors at the network edge, Inovonics turned to the cloud. It chose Google Cloud Platform as its virtual private cloud, running Redis Enterprise VPC, a fully automated database-as-a-service from Redis. "As a small company, it's very important that we outsource as much work to the cloud as possible," says Pandit. "Redis Enterprise's easy compatibility with Google Cloud Platform, as well as its fully managed operations, allow our IT personnel to focus on the analytics we're providing rather than maintaining the underlying environment."

## Redis Enterprise: An Easy Choice

Inovonics uses Redis Enterprise on their IoT edge devices to push data to their gateways, as well as at their gateways to ultimately push data to their virtual private cloud on Google Cloud Platform. On Google Cloud Platform, Redis Enterprise acts as a data ingest, storing the millions of daily messages coming from Inovonics' sensor networks and providing a central view from which data can be analyzed in the aggregate. Redis Enterprise also stores the application data model so that incoming messages can be correlated with representational information such as sensor location.

In addition to its fully managed operations and seamless compatibility with Google Cloud Platform, Redis Enterprise VPC has many other selling points that made it an easy choice for Inovonics when deciding the engine that would drive its new IoT data analytics operations:

- **NoSQL structure.** Inovonics wanted the simplicity that NoSQL database structures offer. "Relational databases are not very well suited for hierarchical data," says Pandit. "With NoSQL Redis we have complete control at the lowest data level without conjoins or transactional overhead, allowing us to go straight to the metal."



*"Redis Enterprise makes it possible to process a large amount of data generated by connected edge devices while adhering to low-latency requirements from millions of sensors every day. With its versatile support for many data structures, Redis Enterprise is perfectly suited to live in our edge devices, providing ultimate flexibility to our developers."*

**Lalit Pandit**

SOFTWARE DEVELOPMENT MANAGER  
INOVONICS

### Inovonics' Requirements

- Advanced analytics to derive actionable insights from large volumes of high-velocity data from thousands of sensors
- Reduce the hassles of operations, maintenance, and reliability, supporting the need for innovation at lower costs
- Reliability, availability, and serviceability of cloud IoT environment

- **High performance on high-speed transactions.** Inovonics collects massively large quantities of data from millions of sensors, making high performance, elastic scale and responsiveness critical.
- **Programmatic access.** Inovonics wanted a seamless method of sharing data between its applications and edge devices to correlate real-time streams with historical data and understand anomalies and usage patterns. The many flexible data structures supported by Redis Enterprise makes it easy to program for many use cases such as time series, graph and machine learning, simplifying application development and the platform architecture significantly. “With its versatile support for many data structures, Redis Enterprise is perfectly suited to live in our edge devices, providing ultimate flexibility to our developers,” says Pandit.
- **Small in-memory footprint.** Redis Enterprise requires a very small in-memory footprint, providing a good balance between performance and robustness.
- **Redis on Flash.** With Redis on Flash on Google Cloud Platform, Inovonics is able to intelligently tier its data, storing cold data in cost-effective Flash and reducing the need for expensive RAM. “We collect high-velocity data from millions of sensors every day,” says Pandit. “Redis on Flash allows us to store and process these large data sets reliably and cost-effectively, without sacrificing the high performance that is critical to our operations.”
- **Fault tolerance with Native Kubernetes Support on Google Cloud Platform.** Inovonics chose to deploy their applications on Google Kubernetes Engine to benefit from a container-centric cloud environment. With native Kubernetes support of Redis Enterprise on Google Cloud Platform, additional compatibilities exist that will allow Inovonics to further expand upon its existing investments in Redis and Google Cloud Platform while simultaneously reducing complexity of infrastructure management.

### Redis Enterprise Benefits

- Harness and process data of any structure (key-value, events, time series data, geospatial coordinates), making it simple to handle the rapidly changing IoT
- Drive real-time analytics on data from millions of sensors without complex hardware or extra software cost effectively with Redis on Flash
- Future proof cloud journey with native Kubernetes on Google Cloud Platform support

## Future Proof

As the company ramps up its data analytics operations, it expects to take its cloud products into multiple markets. “Our main push moving forward is to get the most value out of the data for us and our customers,” says Pandit. “We are energized by the many innovations from Redis that allow us to deploy, manage and configure our applications in the cloud autonomously. We see Redis Enterprise VPC on Google Cloud Platform as a future proof investment that will sustain this evolution, without requiring an architecture reset a few years from now.”

## Get Redis Enterprise Products Today!

Talk to a Redis Enterprise expert today—contact [expert@redis.com](mailto:expert@redis.com).  
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