

# KCF Technologies Achieves 67% Cloud Storage Reduction and 54% Cost Savings with Rubrik NoSQL Protection on AWS



## INDUSTRY

Internet of Things (IoT), Technology

## RESULTS

- 67% reduction in NoSQL backup storage footprint
- 54% reduction in secondary cloud storage (AWS S3) costs
- Significantly faster restores and protection for 30-node Apache Cassandra cluster
- Tens of thousands of dollars in potential revenue savings in case of downtime
- Cloud-native NoSQL data protection

## THE CHALLENGE

- Increasing operational costs and management with native backup tools
- Point-in-time volume snapshots utilize expensive primary storage (AWS EBS)
- Traditional backup tools ineffective due to native-replication and compression

## THE SOLUTION

- Rubrik NoSQL Protection for backup and recovery for multiple Cassandra databases and tables
- Full control over backup storage on AWS S3
- Flexible and scalable deployment, compute only control plane, and API-based architecture
- Semantic deduplication that reduces 3 replicas down to a single copy

Founded in 2000, KCF Technologies is a technology innovation company that develops and commercializes internet of things (IoT) products for the military and industrial markets. Winner of numerous industry accolades, including the Shale Gas EH&S Award and CBICC Tech Company of the Year, KCF specializes in energy harvesting, wireless sensors, underwater navigation, and smart IoT material devices. With revenues growing at an average annual rate of over 60%, the company's vision is to be a leader in the development of federally-funded technologies and bridge the gap to successful commercial products.

"We design and manufacture wireless sensors that perform surveillance of machine condition and health for large manufacturing enterprises. The collected sensor data is transmitted to AWS for trend diagnostics, which we use to provide real-time monitoring and support services," said Myron Semack, Chief Infrastructure Architect. "We measure our company performance on how much money we are saving our customers; currently, we're on track to save them a billion dollars."

KCF uses a variety of database architectures, from relational databases to modern NoSQL databases, such as Apache Cassandra and KairosDB for their mission-critical applications. As a cloud-first company, all of their application and database infrastructure is primarily deployed on AWS.

## RUBRIK NOSQL PROTECTION FOR BACKUP AND RECOVERY

"Time series data is very common in sensors and industrial manufacturing. However, it doesn't fit well into traditional databases, which is why we keep this data on NoSQL," said Semack. "Protecting our NoSQL data is absolutely imperative. Our customers' sensor data is the most critical piece of our business; it literally is our product. Just a short period of downtime could result in tens of thousands of dollars worth of losses."

Prior to Rubrik, KCF relied on native EBS disk-level snapshots of the servers hosted on AWS to protect their data, but struggled with multiple drawbacks. "We were taking a point-in-time copy of the disk, regardless of whether the file was in a consistent state. When backing up our NoSQL data on Cassandra, we need to ensure all files are consistent; otherwise, it just ends up being a dumb disk copy. Moreover, storing these useless snapshots was very costly," said Brandon Bennett, Cloud DevOps Engineer.

As they searched for a new vendor, Semack and team wanted a cutting-edge, intelligent solution that could orchestrate data management across all 30 nodes (and growing) in their Cassandra cluster. "We evaluated some open source tools, but none of them were a good fit. Either they didn't support the latest Cassandra versions, or they had backup, but no restore capabilities," said Semack. "It became clear to us

that Rubrik NoSQL Protection is the market leader in this space of NoSQL protection. The peace of mind that we now have knowing that we can efficiently protect our NoSQL data with a tool that's specifically built for Cassandra is priceless."

With Rubrik NoSQL Protection, KCF Technologies was able to deploy a single-click fully orchestrated, compute only backup and recovery solution for Cassandra databases on AWS public cloud. Benefits include:

- **67% reduction in NoSQL backup storage:** "One of the biggest differentiators of Rubrik NoSQL Protection is its semantic deduplication capability. With our previous solution, we had our data replicated across three different data centers, which meant we had essentially three times the data backed up. With Rubrik NoSQL Protection, we were able to eliminate two-thirds of our unnecessary storage footprint."
- **54% reduction in secondary storage costs:** "Rubrik NoSQL Protection allows us to store our Cassandra backups on AWS S3, which is far more cost-effective than

retaining EBS snapshots. We saw immediate savings in secondary storage costs."

- **Significantly faster restores:** "Thankfully, we never had to perform a restore with our previous solution; my estimates are that it would have taken a day. With Rubrik NoSQL Protection, we know we'll be able to recover critical data significantly faster and are more confident about meeting our uptime and recovery goals."
- **API-based architecture:** "Thanks to Rubrik NoSQL Protection's API-based architecture, we had a very easy and flexible deployment to custom build parts of the solution to fit our complex environment."
- **Best-in-class support:** "Rubrik provides some of the best support we've ever seen from a vendor and we cannot give their team enough praise. They've worked with us around the clock to answer all of our questions."



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- Myron Semack, Chief Infrastructure Architect



**Global HQ**  
3495 Deer Creek Road  
Palo Alto, CA 94304  
United States

1-844-4RUBRIK  
inquiries@rubrik.com  
[www.rubrik.com](http://www.rubrik.com)

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cs-kcf-technolog9@2020123103