DATASTAX

riptide io™

Use Case: Internet of Things
Refers to the revolution of a growing number of internet-connected devices that can network and communicate with each other.

Industry
Internet of Things (IOT)

Challenges
- Streaming time-series sensor data to drive energy analytics
- Achieving performance at scale at a very low cost
- Getting into production very quickly with a lean team

Solution
- DataStax Enterprise provides data management for time-series data, scalability and 100% uptime
- DataStax support and community
- DataStax on Google Cloud Platform

Results
- Saved retailers millions of dollars in energy usage and operational costs
- Brought their application to market in two months, with a very lean team
- Reduced TCO by over 67% compared to traditional relational systems

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INTERNET OF THINGS

RIPTIDE IO MINIMIZES OPERATIONAL COSTS, SAVES ENERGY WITH DATASTAX

Riptide IO helps large enterprises navigate the transition to an internet-based, data-driven world of integrated device management. Their team has spent the past decade solving complicated issues around connecting and managing devices in building and energy projects worldwide. Riptide IO has built systems connecting thousands of sensors and devices in thousands of locations, saving money while increasing operational efficiency.

The Challenge

Riptide IO turns small commercial buildings into "smart" buildings to save the world's energy resources and retailers' operating expenses. They connect sensors on rooftop machines in commercial buildings that house retailers small and large, including AT&T, Verizon, ULTA, and others. By ingesting, organizing, tagging, normalizing, and analyzing time-series sensor data from machines, Riptide IO helps retailers optimize their customers' experience, improve operations, reduce energy footprints and save millions of dollars.

"Rooftop air conditioning systems are a rich resource of data. They are loaded with information to help you figure out how to run them more efficiently," explained Marti Ogram, Riptide IO co-founder. "But that is stuck on the rooftop and these retailers don't have an effective solution to make use of that valuable data."

A typical retailer could have 8,000 stores, each with about eight rooftop machines providing HVAC, security, and refrigeration, from which data points are captured at least every few minutes. That's a tremendous amount of data to ingest, an amount that used to "break" legacy relational systems. Even after data collection is achieved, data still needs to be analyzed to yield valuable information; until now, cost and complexity simply prohibited companies from doing so.

The team at Riptide IO knew it faced huge challenges in capturing and analyzing sensor data to drive more energy efficiency. With disparate legacy rooftop machines that control lighting, HVAC, security, and refrigeration in commercial buildings, it was very difficult to capture, analyze and optimize time-series sensor data so systems stay always-on while reducing energy usage. Total cost of ownership was also an issue as retailers needed to achieve high performance, at the lowest possible cost. And last, they were looking to develop and get their solution in production very quickly with a lean team.

Riptide IO's founders sought to answer one question: how do we capture data from devices and equipment that are in buildings to make them smarter? Getting data out of these buildings is a key requirement, so having a high performance database was always a central need. At the same time, almost all existing applications were built around relational databases and Riptide IO's team knew they just wouldn't work at scale, and certainly not for the costs they needed.

> "It's very difficult to deliver optimal performance for very large enterprises due to their sheer size. With DataStax behind us, we are confident that we can deploy a solution that won't break on them. That's impressive."

Marti Ogram
Co-Founder
Riptide IO

The Solution

With backgrounds in SQL Server, the team understood that relational database infrastructures could not ingest the time-series sensor data from thousands of machines coming in at minute intervals, let alone provide analytics in real time. The Riptide IO team performed an extensive evaluation to make sure it was making the right decision, and it chose DataStax Enterprise as the core, so it would have Apache Cassandra™, which is optimal for time-series data, plus enterprise capabilities from DataStax they would need in production: expert training, round-the-clock support, enterprise security, and other benefits.

Furthermore, Ogram cited DataStax's extensive training as a primary reason for their success. "Your training is very effective," said Ogram. "You make learning DataStax and Cassandra really easy, which is critical for not only our engineers but our partner customers as well."

The Results

Thanks to Cassandra's optimized architecture and DataStax's expert training, Riptide IO's development cycle lasted a very short 2 months and it started saving money for its retailer clients immediately. The company capitalized on DataStax's partnerships with Google Cloud Platform, and expanded quickly into new markets with ease.

Most of Riptide IO's IT team stays focused on its application because it hasn't had to invest in resources to keep nodes up and running. And the application is already experiencing great results. In less than 1.5 years, Riptide IO has seen remarkable impact on the business, reducing overall costs for its customers and saving them millions of dollars in energy usage and operational costs. DataStax Enterprise's ease of use allowed them to bring their game-changing technology to market in only a couple of months, with a very lean team. They were also able to secure expert training and support for their development and administration teams as well as for their partners to ensure optimal use of DataStax Enterprise. And they were able to ensure 100% uptime and scale to any size without impacting performance, all at less than 1/3 of the cost.

With Riptide IO's business thriving, Ogram had one last parting comment to share. "If we didn't have a high performance database we wouldn't have a business. DataStax is the core of what we do."

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About DataStax

DataStax is the fastest, most scalable distributed database technology, delivering Apache Cassandra to the world's most innovative enterprises. Datastax is built to be agile, always-on, and predictably scalable to any size.

With more than 500 customers in 45 countries, DataStax is the database technology and transactional backbone of choice for the world's most innovative companies such as Netflix, Adobe, Intuit, and eBay. Based in Santa Clara, Calif., DataStax is backed by industry-leading investors including Lightspeed Venture Partners, Meritech Capital, and Crosslink Capital. For more information, visit DataStax.com or follow us @DataStax.