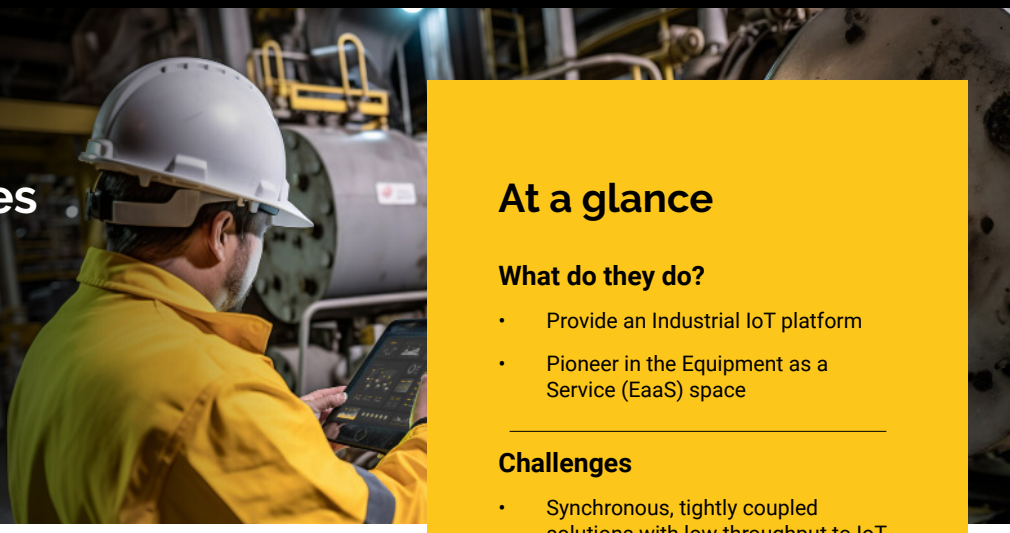
Relayr Eliminates Downtime and Reduces Overhead Costs with HiveMQ



At a glance

What do they do?

- Provide an Industrial IoT platform
- Pioneer in the Equipment as a Service (EaaS) space

Challenges

- Synchronous, tightly coupled solutions with low throughput to IoT devices
- Home-grown broker was not efficient or scalable

Solution

- HiveMQ helped minimize production downtime on network-constrained devices
- Separated the ingestion and processing layers through the Kafka Extension from HiveMQ to efficiently manage data

Results

- Zero downtime
- >20,000 devices running concurrently
- Cost savings in resources and overhead

Creating a Scaling IoT Platform for Analysis and Modeling

Relayr is an industrial technology company that delivers IoT platforms, bespoke solutions, and end-to-end support to transform predictive data insights into higher productivity, sustainability, and profitability.

Relayr leverages machine data to provide analysis and modeling to its partners. Additionally, Relayr offers services that facilitate the transition from CAPEX to OPEX-based business models, combining IoT technology with financial services and transformation de-risking instruments, all from a single source.

For its IoT platform offering, Relayr wanted to minimize production downtime and modernize its systems by moving away from synchronous, tightly coupled solutions with low throughput to IoT devices. This would improve not just the system uptime for network-constrained devices, but also reduce maintenance-related challenges. At the time, Relayr faced challenges with its NodeJS-based open-source library, which resulted in production downtime. The team struggled with the storage capacity and knowledge constraints on major components of the system.

Breaking Constraints with a Reliable Enterprise Solution

Relayr needed to remove barriers and constraints to increase the speed of message delivery to connected devices with a reliable platform. The team faced an outage with a previous solution and then created its own home-grown broker. That option was inefficient and not scalable. After evaluating multiple vendors for MQTT, HiveMQ was the preferred choice to decrease downtime and increase throughput.

Kiran Kumar, Technical Lead at Relayr explained, “We chose HiveMQ because of the excellent support, strong integration with Kafka, and its alignment to our technical stack. Plus, the various deployment options such as virtual machines, Kubernetes, Azure Marketplace Image, and SaaS deployment allowed us to be flexible and extensible with other solutions.”

relayr.

The team created a custom HiveMQ extension to ensure their specific use case was successful. Relayr customized HiveMQ to support a custom authentication and authorization mechanism. The team enriched message metadata before forwarding to a Kafka extension, which routes messages between Kafka and MQTT.

Zero Downtime and Cost Savings with HiveMQ

Relayr has not experienced any downtime since adopting HiveMQ in 2020. Its production environment supports over 20,000 devices concurrently, which helps the business serve its partners and achieve its mission to be a service-centric business. Additionally, the reduction in firefighting and maintenance efforts resulted in cost savings for the company in resources and overhead expenses. This drove an increase in business continuity and a decrease in time spent on urgent, preventable problems.

0 minutes of downtime

>20,000 devices running concurrently

Cost savings in resources and overhead

> **With HiveMQ, we can securely and confidently integrate and manage data from tens of thousands of devices.**
>
> *Kiran Kumar, Technical Lead at Relayr*

A Reliable, Efficient Operational Offering

Relayr can now minimize production downtime, especially for network-constrained devices, and separate the ingestion and processing layers through the Kafka Extension from HiveMQ. This allows them to efficiently manage data and provide valuable insights to customers.

“With HiveMQ, we can securely and confidently integrate and manage data from tens of thousands of devices. The speed and flexibility of the information from those devices improves predictive maintenance and other smart manufacturing processes for our valued partners,” said Kumar.

Relayr’s adoption of HiveMQ and related technologies brought significant improvements to its IoT digital platform. By optimizing system uptime and reducing maintenance challenges, Relayr has achieved a more reliable and efficient operational environment, benefiting both the company and its customers.