TURVO

Turvo revolutionizes logistics with real-time shipment data, backed by YugabyteDB

AT A GLANCE

Turvo provides the world's first real-time collaborative logistics platform, enabling carriers, shippers, and brokers work together simply and seamlessly.
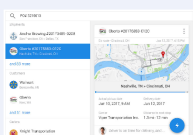
Tracking all the data – from trucks, to shipments and assets – requires ingesting and making available a large volume of time-series data with absolute reliability and impossibly low latency.

The previous MongoDB solution became a "flare-up" crisis and couldn't scale with the growing dataset. Turvo chose YugabyteDB for its massive scale, single-digit latency, and low total cost of operation.

Turvo is the cloud-based real-time artificial intelligence logistics platform for some of the world's largest shippers, carriers, and logistics providers.

Turvo allows carriers, brokers, and shippers to always know where their "stuff" is. It provides a consumer-like experience, real-time tracking, and monitoring for trucks, drivers, shipments, other assets using a fully cloud-native architecture.

Turvo partners with some of the world's largest logistics companies including Ryder and DHL.

CHALLENGES

- The existing data store, MongoDB, flared up into crisis mode
- It started to have scaling problems and, oft-times series data and operation data mixed together in the data store, was causing operational issues
- Data was projected to expand quite dramatically and MongoDB required a significant amount of effort to scale
- Turvo needed to alleviate the crisis and set itself up for long term solution

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KEY DATABASE REQUIREMENTS

Turvo needed a reliable, low latency database that performs at scale with a low total cost of ownership. Their requirements include:

- High scalability, especially during workload spikes
- Handle time series data use cases with ease
- Ingest a high velocity of data in an efficient manner
- Scale horizontally and natively with ease
- Single-digit latency for both writes and reads
- Cloud-native with low operational complexity in production
- Low Total Cost of Ownership with minimal maintenance
- No vendor lock-in

> We grew the cluster about 2x at the beginning of the year. With YugabyteDB, we were able to just point, click, and reshard the cluster. YugabyteDB has the ability to just naturally expand the cluster and everything just works out without any hiccups. This was *phenomenal* and is not something that I have experienced with any other data store before.

> The ease of upgrades is an amazing feature of YugabyteDB. We've gone through at least six upgrades since we've started using YugabyteDB with basically zero involvement on our part because the Yugabyte team is managing it for us. Upgrades with Yugabyte are very smooth.

Nick Hristov
Senior Software Architect,
Turvo

YUGABYTE SOLUTION

Fully managed cluster

6 nodes across 3 availability zones

YugabyteDB Anywhere for real-time monitoring and management

TECHNICAL RESULTS

1200+ INSE
baseline performance

300 US REA
ultra-low latency reads under 1/3 of a millisecond

1.1 MS WRI
very low latency

BUSINESS RESULTS

- Easily scaled cluster 2x
- Operational ease
- 3x more app features delivered
- 10x growth in dataset size
- 6+ rolling upgrades without downtime
- No service interruptions during spikes in traffic

> *Application Engineers no longer need to spend time diagnosing and optimizing the data store. Instead, Turvo engineers are able to build more features, having doubled or tripled the functionality of the application since introducing YugabyteDB. Now, Turvo can focus on continuing delivering innovative features and revolutionizing the logistics market.*

Sai Nagboth
CTO, Turvo