SingleStore™

Case Study

Healthcare Global Leader

HEALTHTECH

MADE ON SINGLESTORE

Global Healthcare Leader Delivers Better Care Faster, Lowers TCO, and Enables $10B Revenue Growth with SingleStore

About

A global health services company offering medical, dental, disability, life, and accident insurance in over 30 countries worldwide. It provides healthcare solutions to individuals, employers, and governments.

Industry

Healthtech

Use case

PIPELINES SCALABILITY MODERNIZE

Solutions

SingleStore Self-Managed

Overview

A global health services company that is one of the world's largest enterprises is gaining real-time data insights for mission-critical patient care and health provider-facing applications with SingleStore. This company is also reducing TCO and enabling $10 billion in annual recurring revenue (ARR) on a single end customer. By choosing SingleStore, this global healthcare leader is also positioning itself to successfully onboard multiple large new customers, which it could not effectively achieve with its previous data infrastructure.

Challenges and Goals

This company saw substantial revenue opportunities in front of it, but was unable to capitalize on them due to the limitations of its underlying data platforms, a complex architecture consisting of SQL Server, PostgreSQL and several other data engines.

One use case in particular is an application that enabled pharmacies to explore formularies, effectiveness, and cost drivers associated with various compound drugs. The existing database, SQL Server, is built on a single-node architecture and was not built for horizontal scale-out. Moreover, its rowstore-only and

symmetric multiprocessing (SMP) architecture rendered the enterprise unable to provide pharmacists with accurate and timely analytics and projections. It had to rely on scheduled reports and on pre-aggregation of data to try to optimize query performance. It also could not support high availability or high concurrency. It was already struggling to meet existing data volumes and could not meet the exponential data growth it knew was coming as its business grows, including new capabilities to be driven by machine learning.

These data infrastructure challenges were holding the enterprise back and it risked missing targeted annual revenue increases. More broadly than lost revenue opportunities, these issues were putting existing customer relationships at risk.

The need transcended technology: even as a massive global organization, it does not have enough people to upgrade and scale its data infrastructure on its own.

Technology Requirements

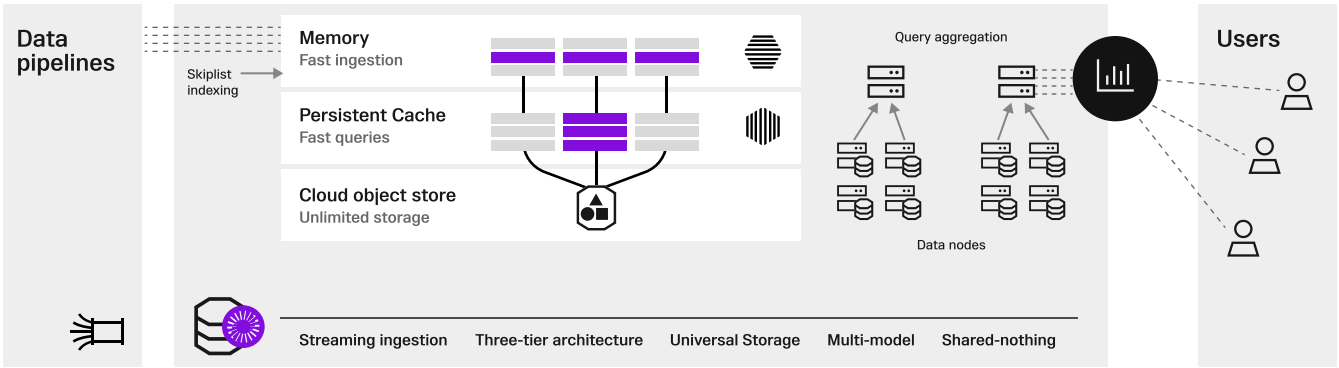
This healthcare leader's technology requirements for a new database included:

- A horizontal scale-out architecture that can grow seamlessly as data volumes and complexity grow
- The ability to ingest and integrate data from multiple sources to ensure the most accurate results
- Analytical capabilities for complex queries and reporting
- Architectural simplification and reduced complexity by reducing database sprawl
- Low latency and sub-second performance to enhance the user experience

Why SingleStore

This healthcare enterprise chose SingleStore to take advantage of its unique capabilities, including:

- Unifying transactions and analytics in a single database with no data movement
- Columnstore with low-latency analytics capabilities to drive complex aggregations and joins
- Distributed, scaleout architecture built for the cloud, but with the flexibility to also deploy on-prem, or in a hybrid environment utilizing both
- Ability to evolve away from single-node architecture and scale horizontally, quickly doubling the size of its data cluster without sacrificing performance
- Fresh data at scale to bring analytics to applications in real time
- SingleStore's three-tier architecture encompassing In-Memory or "hot" data, "warm" data on disk (SSD/NVMe), and bottomless storage of "cool" data through SingleStore's Unlimited Storage, which offers near-real time access to unlimited database capacity via the least expensive storage available



In addition to Unlimited Storage, it also sought other marquee SingleStore features such as:

Pipelines
which offer ultra-fast ingestion with non-blocking, low-latency analytics on data as it lands

Workspaces
Real-time database that supports partitioned separation of compute from compute

Universal Storage
Unified rowstore-columnstore table type for both fast transactions and analytics

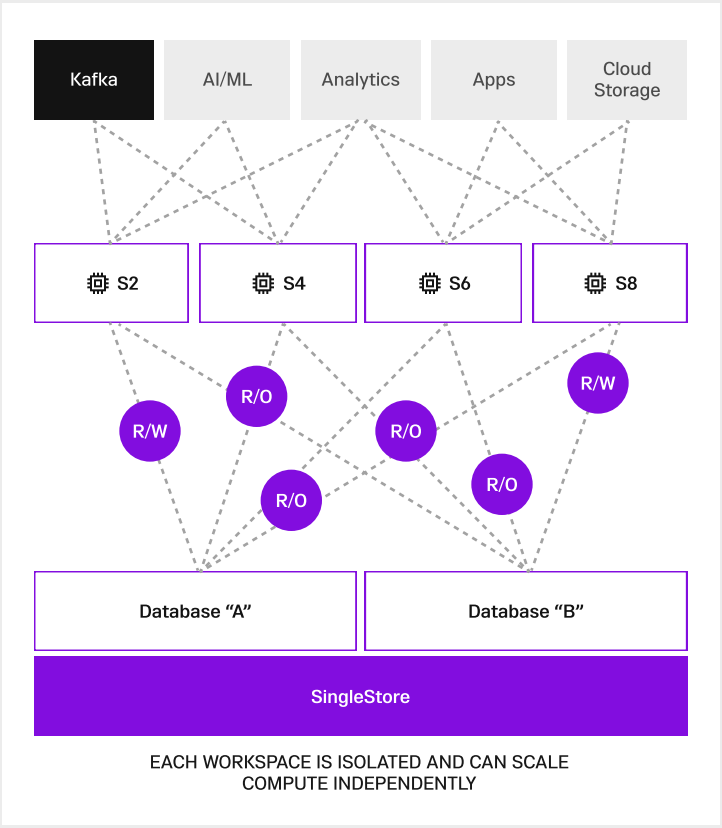
Unlimited Storage
Object storage provides near-real time access to unlimited DB capacity in least expensive storage available

Isolated Workloads on Shared Data

Compute operates on shared data without one workload affecting the performance of others.

- Allow granular scalability and isolation of compute resources
- Eliminate the cost of moving and maintaining data between multiple workloads
- Scale ingest and compute workloads independently
- Isolate internal and customer facing real-time applications simultaneously on shared data

Separation of Compute and Compute
Separate write transactions from read-only workloads (analytics) each with its own dedicated compute resources without data duplication.



Beyond the technical advantages, this global healthcare enterprise continues to choose SingleStore based on:

- Successful implementation of its first project with significant multi-year data growth
- The opportunity to leverage implementation best practices and successes going forward
- Continuous relationships and support with SingleStore teams including Technical Account Management, System Engineering Support, and core Account team
- Executive alignment across both companies to the CDO and CEO levels

Technology Requirements

This global healthcare giant has customers, often large health networks, with an array of data and application needs. It initially chose SingleStore as the data foundation for one mission-critical use case: a patient prescriptions portal.

A Prescriptions Portal, replacing SQL Server

The customer migrated this use case from SQL Server to SingleStore and currently manages 65-70 terabytes of data (uncompressed) in SingleStore. In addition to enabling pharmacies to explore pharmaceutical formularies, efficacy, and cost, this application analyzes patient health needs to recommend alternatives, helping them find generic drugs to help save costs. By modernizing and optimizing this application with SingleStore, the customer gained faster processing, query latency of 200ms, high concurrency, and the ability to manage large data volumes. Just as significantly, it also enabled the customer to start actively selling the app to pharmacies again, a process that had slowed to a crawl due to the limitations of the previous database.

A Patient Care Optimization Portal, replacing PostgreSQL

Based on the success it achieved with the Prescriptions Portal, this customer is onboarding another use case to SingleStore: a web portal that uses medical data to identify gaps in patient care. It is migrating this application from PostgreSQL to SingleStore. With PostgreSQL it was only able to store and analyze 18 months' worth of data; with SingleStore, it anticipates it will be able to manage five years' worth, at a total data size of up to 20 terabytes of uncompressed data, and still drive low-latency queries

The portal connects and analyzes pharmacy, lab, and biometric data to help:

- Providers identify patients most in need of outreach
- Clinicians customize treatment plans
- Members access information around testing, medication safety, preventative care, and any gaps in their current coverage

Providers can create dynamic queries with insights around multiple data points including medications, labs, medical conditions, and patient information. With SingleStore the customer gains the ability to let users add multiple conditions and segmentation options.

This move was an essential part of the customer's business expansion as it prepared to onboard two large new health network customers.

SingleStore is the database of choice for a new Medicare/Medicaid Platform

As a result of seeing the value of SingleStore across these two other applications, this global healthcare giant has now selected SingleStore for a third use case, a new platform that will provide real-time analytics supporting the customer's new program partnership with Medicare and Medicaid processing. While this customer chose SingleStore Self-Managed as the foundation for the Prescriptions Portal and Patient Care Optimization Portal, this application will use the SaaS offering, SingleStore Helios, as the foundation for this Medicare/Medicaid use case, running on AWS. In addition to all the other benefits of moving to a fully-managed cloud solution with SingleStore, a usage-based cloud enables the company to accurately assess the costs associated with supporting its end customers in order to bill them directly for resources consumed in supporting their applications.

The decision makers on this project were on the team that deployed SingleStore on the prescriptions portal, replacing SQL Server.

Outcomes

This global enterprise in the healthcare and pharma space is reaping positive technical and business outcomes with SingleStore.

Benefits this customer is already realizing with SingleStore include on-demand interactive analytics, instead of the old scheduled batch reporting constraints; and real-time aggregations instead of having to pre-aggregate data to try to obtain timely analytic insights, as it did before. SingleStore's support for all data sources and speeds is also crucial, as SingleStore is ingesting streaming data from multiple distributed sources such as Kafka and batch data from Hadoop.

Another advantage is that, with SingleStore, the customer is able to leverage its current SQL data assets and preserve access to the internally-developed business intelligence tool its teams are accustomed to using.

5%

Revenue Growth Annually

The company forecast that by migrating its original patient prescriptions portal from SQL Server to SingleStore, it is enabling 5% annual revenue growth on an existing $200 billion customer, or approximately $10 billion in incremental annual revenue.

14X

Faster Performance

The patient prescriptions portal helps patient patient care optimization portal will help identify patient care gaps 14 times faster than before, which means users can find the answers they need quickly and patients get better care.

Substantial cost-savings and positive revenue results

With SingleStore, the customer is achieving a significant reduction in TCO through more cost-effective licensing, and by eliminating the cost and overhead associated with managing and maintaining multiple existing databases along with unnecessary data movement.

A prescription for better experiences and care

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Foundation for continued healthy growth

The power to equip pharmacists with the analytic insights they need in real time positions this global enterprise to penetrate the pharmacy space further, faster, helping it expand its presence and increase market share.

The group that selected SingleStore for the New Medicare/ Medicaid Platform manages enterprise applications and solutions across the enterprise. Based on continuing success, this group is looking to use SingleStore to modernize data infrastructure as it retires legacy architecture such as Oracle and Teradata.