



Uno-X & Exasol Espresso

Uno-X Accelerates Query Speed 120x with
Exasol Espresso

Exasol



About Uno-X

Uno-X Mobility is a sustainable mobility retailer with more than 200 outlets in Norway and Denmark providing services for carwash, fast EV charging and affordable fuel. It recently merged with YX Norge, the Norwegian-owned petrol station retailer and is part of the REITAN Retail company. Uno-X achieved an operating profit of 723 million NOK in 2022 and has 299 employees.



Background

Uno-X's systems include Point of Sale (POS), inventory management, and back-office systems, all running on MySQL. They also heavily relied on the Visma Business accounting system, powered by Microsoft SQL Server.

To report on up-to-the-minute business performance, the company used QlikView and Qlik Sense, using these tools to extract data from operational systems and transform it into analytic models and dashboards. At the same time, the company moved towards a data warehousing solution based on SQL Server using the modelling and transformation capabilities of TimeXtender.





Challenges

Uno-X faced three substantial challenges as its transactional data volumes continued to grow rapidly and strain its data and analytics architecture:

Real-time Business Insights: Uno-X grappled with the inability to provide its business with real-time insights. Understanding crucial metrics such as the median fuel purchase price, total sales volume and the number of millions of litres sold was essential for creating effective pricing models and timely price adjustments.

Slowing of operational systems: Uno-X's existing SQL Server data warehouse (which was used the same resources as its operational ERP systems) struggled to cope with the massive data volumes. This resulted in performance issues and a backlog of batch jobs. Additionally, data extraction jobs from Qlik Sense and QlikView further strained the source systems, causing operational slowdowns.

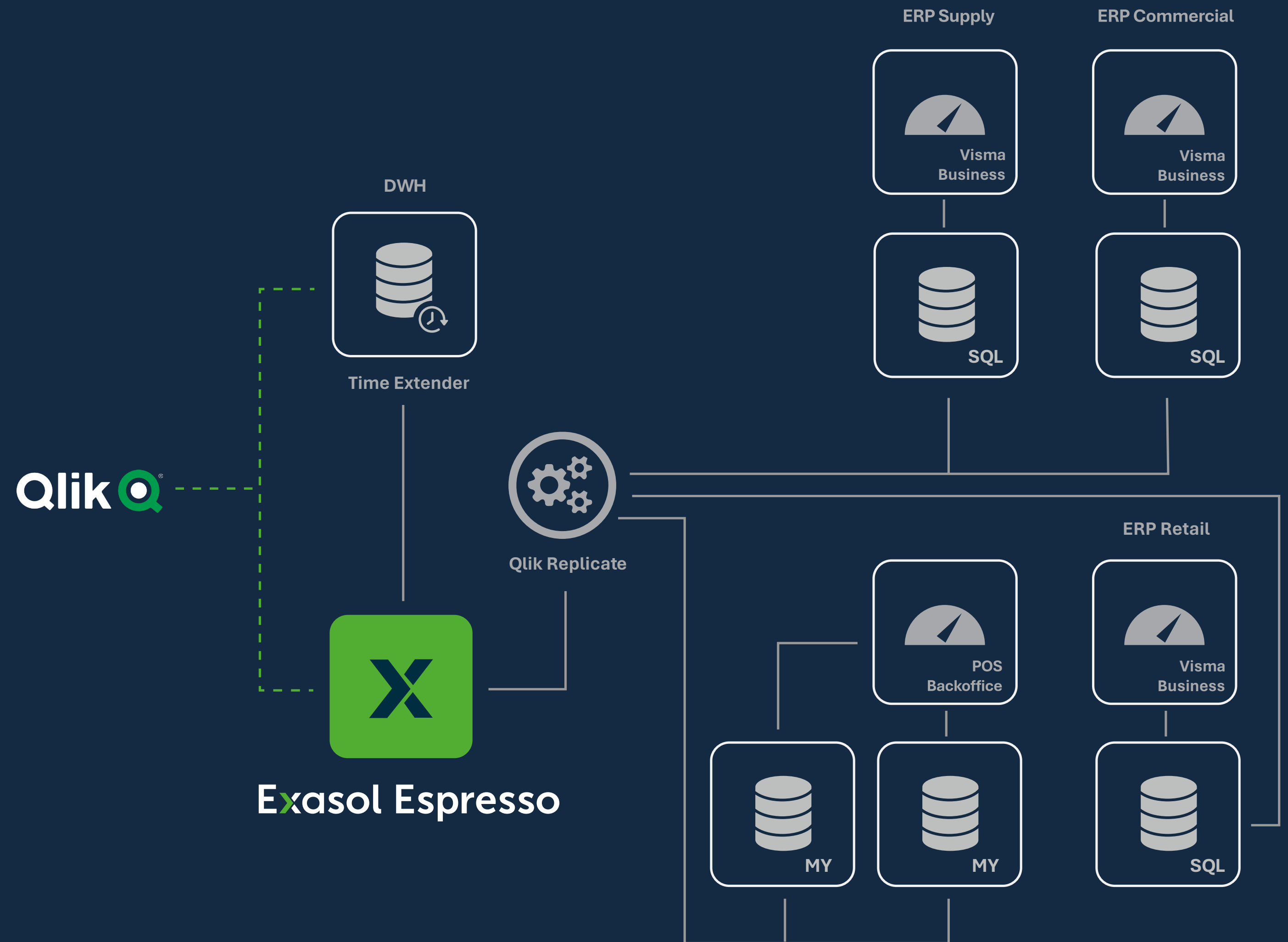
Low adoption of Qlik: The subpar performance of Uno-X's pricing models and dashboards within Qlik led to user frustration and a decline in system usage due to its slow responsiveness.

Solution

Rene Francis Lares, Information Technology System Manager at Uno-X, spearheaded a proof of concept to tackle these challenges. Collaborating with Nordic-based BI and Analytics consultancy Tallmaker, they selected Exasol Espresso and Qlik Replicate to implement the live replication of Uno-X's source systems within Exasol. Exasol Espresso was designated to act as a data acceleration layer for Qlik Sense's analytic models and dashboards.

In the new solution architecture, shown here, Qlik Replicate continuously monitors source system logs and promptly replicates changes to Exasol Espresso, achieving near real-time synchronization. By rerouting the Qlik Sense data extraction pipelines to retrieve data from Exasol Espresso and reworking data transformation scripts as views within Exasol Espresso, Uno-X managed to alleviate the strain on their company's source systems.

Crucially, Uno-X minimized changes to their new systems architecture and thereby reduced further development work and any painful "rip and replace". The proof of concept demonstrated its value successfully within a tight timeframe and with limited resources, prompting the decision to transition this environment into production without delay.





Business Outcomes

Uno-X's investment in the transformation yielded significant benefits:

Real-Time Pricing Analysis: Uno-X gained access to vital real-time pricing data, enabling competitive fuel pricing as a low-cost fuel provider. They could perform in-depth analysis of daily, weekly, and monthly sales data, facilitating the creation of intricate pricing models. Predictions, such as future sales volume and price points, became possible, allowing Uno-X to respond swiftly in a price-sensitive market. This is crucial, as quicker responses translate to higher likely demand, given the extreme price sensitivity of customers to fuel prices.

To illustrate the enhanced performance of the solution, a benchmarking pricing query that previously took 40 to 120 minutes to execute in MS SQL Server now accesses the same data using Qlik Sense via Qlik Replicate and Exasol Espresso and runs in less than 10 seconds.

Enhanced Adoption of Qlik Sense: The improved performance of Qlik Sense, powered by Exasol Espresso, resulted in increased user adoption. Users no longer experienced frustrating delays, leading to more individuals embracing Qlik. This shift prompted a move towards using Exasol Espresso as the source of truth, with a growing number of users adopting Qlik Sense. We see an increase of over 40% more users adopting Qlik Sense, and finance professionals can now work without the performance of their ERP system being negatively affected.



BI Architecture Efficiency: The revamped data and analytics environment empowered Uno-X's BI architect to design solutions in Qlik Sense more efficiently. This included the ability to provision data access for off-site users. Rich metadata views provided by Exasol Espresso and Qlik Replicate were also incorporated into a Qlik Sense monitoring dashboard, enhancing visibility and control over the data environment.

Ease of Systems Maintenance: Both Exasol Espresso and Qlik Replicate need minimal maintenance. Rene noted, "Exasol Espresso doesn't require any maintenance; it's self-contained and runs independently." Furthermore, the reduced latency between source and mirror databases enabled Qlik Sense to be regularly updated with new data throughout the day, often within seconds, alleviating the workload for Rene and his team.

Identifying Unnecessary Processing: Interestingly, the project uncovered unexpected IT benefits. Insights from Qlik Replicate and Sense logs revealed hidden background jobs and unnecessary updates that were causing excessive traffic in SQL Server. Visualizing system activity allowed Rene's team to conduct root cause analyses, revealing previously hidden issues and unnecessary CPU cycles in the ERP system.

*“Previously, our BI team struggled with sluggish response times, with queries taking over 20 minutes as they competed with ERP system resources. **After introducing Exasol Espresso as our acceleration layer, query response times have been slashed to less than 10 seconds.** This has delivered significant benefits by empowering more business users to access data and make smarter data-driven decisions. **Exasol Espresso has proven to be incredibly valuable for us!**”*

—Rene Francis Lares, Information Technology System Manager at Uno-X

Next Steps

Uno-X's data and analytics journey continues with exciting plans for the future, including building a data lake and migrating a sizeable portion of Power BI datasets over to it. This will allow Uno-X to expand its analytics capabilities into areas such as supply chain analytics and predictive maintenance for its charging stations and car wash units.



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