

DATA INTEGRATION

Unifying a complex data environment

Schneider Electric improves time to data with Qlik Data Integration



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Laurent Marzouk, Director of Architecture and Innovation for Global Data Platforms, Schneider Electric

A continuous drive for innovation

With origins that can be traced back to 1836, Schneider Electric has long understood the importance of developing and expanding its offering as technologies change and markets evolve. The French multinational now specializes in digital automation and energy management for homes, data centers, infrastructure and industry, offering a broad suite of energy-related products, software and services.

Schneider Electric’s global revenue now stands at €29 billion, with over 128,000 employees in more than 100 countries worldwide. It also boasts a sizeable R&D operation and a solid commitment to sustainability across its business.

Critical to Schneider Electric’s success is its highly extensive data infrastructure, which is managed by the business’ Data and Performance unit. Its task is to define data governance at group level and provide the executive committee and other business units with analytics, KPIs and reporting to enable the measurement and management of operational and financial performance.

Unsurprisingly for a business of Schneider Electric’s scale, this data environment is complex and resource hungry. It comprises more than 80 ERPs, mainly based on SAP, and included a series of regional data lakes that originally fed into a global data warehouse.

Quality, completeness and accuracy

As demand for analytics across the business grew dramatically, the data warehouse’s limitations began to emerge. Meeting the new volume of requests became difficult and scaling up to handle increased demands for artificial intelligence, cognitive services and data classification was problematic.

Solution Overview

Customer Name

Schneider Electric

Industry

Manufacturing

Geography

United States and Europe

Function

Finance, HR, IT, Marketing, Supply Chain Management

Business Value Driver

Reimagined Processes

Challenges

- Meet rising volumes of requests for data
- Improve data completeness and accuracy
- Improve time to deliver trusted data

Solution

Schneider Electric chose Qlik Replicate[®] for its ease of use and change data capture technology (CDC) which helped to decrease the workloads and move away from manual batch data extraction processes.

Results

- Data extraction times are now significantly reduced (from days to hours)
- Improved time to accurate data enables previously unachievable levels of analysis
- Business agility and autonomy both substantially improved

The team working on Schneider Electric's in-house data extractor tool was therefore limited in terms of what it could transfer from its SAP systems and had to limit the data it supplied to business teams.

"The original idea of a data lake was to access any data we needed from our systems without being limited in terms of rows or columns," explains Laurent Marzouk, Director of Architecture and Innovation for Global Data Platforms at Schneider Electric. "However, the extractor was initially developed using client-type technologies and encountered scalability problems."

Adding to the problem were issues with missing data. Massive update batches were periodically carried out to correct data in the SAP ERPs; however, performance issues meant the logging of these batches had been disabled.

"Because the method used by our tool to extract the changed data relied partly on SAP logs, we could not detect changes that had taken place or records that had been deleted," Marzouk notes. "We estimated that between 2% and 5% of the overall dataset was missing."

Schneider Electric needed a new solution that would enable its data lakes to deliver their intended highest levels of quality, completeness and accuracy.

Enabling a unified view

Step one was to establish regional data hubs, deployed in AWS cloud, to gradually replace the struggling data warehouse. Delegating responsibility for data ingestion to individual regions would solve key performance problems and meet data privacy requirements. Establishing an end-to-end architecture would also provide a unified view of all the data and make it easily consumable for a range of needs.

However, Marzouk realized he also needed a change data capture (CDC) tool to capture database-level transactions at source, regardless of application, and push data out to target platforms. After studying the few solutions that would meet these requirements, Schneider Electric chose Qlik Replicate, a Qlik Data Integration solution, to take in the data changes and handle their onward distribution.

"In three months, Schneider Electric's team in North America was able to deliver a pilot. Two months later, the team started to gradually move into production on the platform," says Marzouk. "We then deployed the solution at global data hub level and began to integrate data from the group's other main ERPs."

"When a serialized table is modified, a notification, including the ID of the modified record, is sent to the Qlik Replicate server, which then reads the record via the SAP layer to deserialize it before forwarding it to the defined targets," Marzouk explains.

Key changes in paradigm and scale

With Qlik's CDC technology in place, Schneider Electric no longer needs to define individual incremental extraction patterns. As a result, the time needed to extract data from SAP ERPs and deliver it to data lakes has been significantly reduced from between two and five days to a few hours. Critically, teams can also be sure of recovering 100% of deleted, modified or added data.

"Qlik Replicate has allowed us to completely change paradigm and scale, with very significant operational gains and substantial cost reductions," explains Marzouk. "The interface is much more user-friendly and you can connect directly to the source ERP and obtain the list of tables that interest you."

The resulting improved time to accurate data now supports a range of analytical needs across the business and some key operational use cases. It also substantially decreases the workloads and bandwidth consumption generated by batch data extraction processes, while reduced operational risks and technical debts lead to key sustainability benefits.

Agility and autonomy

Qlik Data Integration now acts as an important technical pillar to support Schneider Electric's Data Mesh strategy and make its DataOps, digital and business teams more autonomous. It has also led the business to look at other ways to define data models to become more agile and increase levels of autonomy further still.

Other business units that stand to benefit from the tool now include HR, global supply chain, global marketing and the digital customer relationship team, which is responsible for analyzing the customer journey.

"Qlik Replicate has become a tremendous accelerator for our DataOps teams and will provide our digital and business teams with the autonomy and agility they expect for their activities," Marzouk adds. "All these teams need fast time to data and this will allow them to generate new insights that were previously difficult to access."

The keys to success



Hours

for data extraction, accelerated from up to five days previously



100%

data accuracy and completeness assured

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About Qlik

Qlik, with the recent addition of Talend, delivers an industry leading portfolio of solutions for data integration, data quality and analytics. This includes advancements in real-time, AI, ML and automation. The most successful organizations are investing in data to make sense of the increasing amounts and varieties of data from diverse sources. The challenge is to effectively integrate, analyze and act on the data while ensuring its trustworthiness. With more than 40,000 active customers in over 100 countries, Qlik's solutions work with any data source, target, architecture or methodology, to ensure customers have the data they need, whenever they need it.

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