



Xero Uses WhereScape® Automation to Migrate 30 TB Data Warehouse to Amazon Redshift

Industry: Technology

Location: Wellington, New Zealand

Employees: More than 2,000

Solution: WhereScape® RED,
Amazon Redshift

Highlights:

- With automation, one developer migrated a Microsoft SQL Server data warehouse to Amazon Redshift in six months of effort
- Accelerated data warehouse development, deployment and ongoing operations
- Met company-mandated project deadline, and reduced project risk and complexity
- Enabled big data and data science approaches for gleaning greater insight from the data warehouse

“WhereScape automation means our developers spend less time writing code. Instead, they spend more time on producing business logic that is unique to Xero, delivering solutions more quickly and providing better value to the business.”

- Nathan Griffiths, Data Services Platform Lead, Xero

Founded in 2006, Xero is an easy-to-use, software-as-a-service (SaaS) accounting solution for small businesses and their advisors. The company now has 1.4 million subscribers in more than 180 countries as well as a thriving ecosystem, integrating with more than 700 third-party applications.

Intent on changing the game for small business, Xero is one of the fastest growing SaaS companies in the world, leading the New Zealand, Australian, and United Kingdom cloud accounting markets.

Challenge: Move massive data warehouse to the cloud

Xero has appreciated the value of data since its inception. “Data is a fundamental component of our business,” says Nathan Griffiths, data services platform lead at Xero. “Our data is used by government analysts to assess business trends, and we use it to inform innovation and provide services within our products.”

To support the data needs of the rapidly growing company, a small business intelligence (BI) team was tasked to create a new data warehouse. The team chose Microsoft SQL Server for its data warehouse platform and WhereScape® RED, part of the WhereScape automation collection of products, to automate the design, development, deployment and operation of the new data warehouse.

After several years of success deploying and operating the new data infrastructure on SQL Server, the BI team turned its attention to the cloud. A company-wide initiative had begun to transfer Xero’s entire portfolio of on-premises applications and data to Amazon Web Services (AWS).

The implications for the BI team were enormous. At the time, the on-premises infrastructure was 30 TB in size and included more than 59 billion records, approximately 3,000 apps and 120 databases, representing all data and applications for Xero’s customers.



“Moving to the cloud meant a huge rearchitecting of all infrastructure and systems, which involved changing from SQL Server to Amazon Redshift as the database platform,” says Griffiths. It was a major undertaking for the company as a whole and for the BI team, which needed to migrate its substantial data warehouse infrastructure as well.

Solution: Automate migration to reduce complexity and risk

The first step was to conduct a proof of concept with WhereScape partner NOW Consulting, which showed that it was technically feasible to move from one platform to another while preserving the logic, processes and code of the existing data warehouse. Using automation capabilities, including WhereScape templating features developed for Redshift, demonstrated to the Xero team how WhereScape automation could simplify, ease and accelerate the migration process.

Migrating an existing SQL Server data warehouse containing a massive amount of existing data was no small feat and would have been extremely difficult to accomplish on time without automation. “We relied on WhereScape automation to reduce the complexity and risk of the migration, while accelerating the project timeline,” says Griffiths.

Time was a factor for the BI team as the company deadline for moving to the cloud approached. “The consequences of not completing the migration of the data warehouse on time would have been detrimental for many areas of our business,” says Griffiths. “A majority of internal analytics and reporting systems would have ceased to work, which would have impacted our customer experience teams, sales and marketing teams, and even our product teams.”

Results: Pave the way for big data

The Xero team completed the migration by the company’s deadline and largely through the effort of a single developer.

Where in the past there were multiple environments, versions, tools and models, today all data infrastructure is done within WhereScape RED and on Amazon Redshift. “That consistency has brought structure and reliability to the development process and to our data initiatives,” says Griffiths. “The ability to generate custom code by building and modifying templates has been very successful, allowing us to take advantage of specific Redshift features and make the leap to AWS with minimal pain.”

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Now the BI team can focus on taking advantage of the scalability, agility and time-to-market benefits of cloud computing. “With the cloud, we can scale up our data capabilities to include big data and a data science function for analyzing huge amounts of data to provide insights internally and for our customers,” says Griffiths.



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About WhereScape

WhereScape helps IT organizations of all sizes leverage automation to design, develop, deploy, and operate data infrastructure faster. More than 700 customers worldwide rely on WhereScape automation to eliminate hand-coding and other repetitive, time-intensive aspects of data infrastructure projects to deliver data warehouses, vaults, lakes and marts in days or weeks rather than in months or years. WhereScape has global operations in the USA, UK, Singapore and New Zealand. www.wherescape.com

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