WhereScape® RED

Data Infrastructure Automation Software

for Amazon Web Services

Qrious | NOW CONSULTING

Data Infrastructure Automation Software for the Cloud.

Xero's secret to a streamlined cloud migration.

Generally speaking you need several tools to build anything in this world. A house isn't built with only a hammer. A bridge can't be built with only a crane.

Until WhereScape RED came along and changed the game, the same was true of building data warehouses.

Now, ultimate speed and efficiency can come from a single tool that manages the whole data warehouse lifecycle, end-to-end, fast.

WhereScape RED streamlines build time, increases agility and allows for the efficient redistribution of resources.
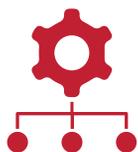
xero

Think: automated Swiss Army Knife of the future! And purpose built for cloud-based data warehousing.

This software enabled the success of Xero's Epic Data Migration. More on this inside...

The WhereScape RED benefits:

It delivers new data infrastructure and big data integration projects to the business fast.

It eliminates manual tasks, automates data and focuses on the high-value work that turns IT requestors into IT advocates.

Automates the Repetition + Increases Agility

WhereScape RED removes around 95% of the need for manual coding.

A lot of processes in building a data warehouse are repeatable. The way a data store is built is practically the same regardless of the database language being used.

Using the universal language of databases (SQL) WhereScape RED automates the repeatable frameworks.

Understand the impact before you act

As the business picture changes (and it does often for most businesses) WhereScape RED keeps you agile so you can keep pace with it. Software driven impact analyses means when you need to make a change, you get the full picture at the click of a button.

You have flexibility to change quickly as feedback comes from the business. This agility saves money and time and even allows for experimentation.

Built-in Best Practice Frameworks

Best practice agile data warehouse methodologies are built into the tool.

There's NO key man dependency.

One developer can pick up where another has left off. By the same token, the in-built best practice frameworks compress the learning curve for those picking it up for the first time.

WhereScape RED generates crucial documentation.

Documentation like; where data has come from, how it's been calculated, what rules have been applied and what they mean.
It automates the creation of and provides the single repository for all documentation and makes it accessible to all.

Reduces Complexity with end-to end lifecycle management

RED consolidates multiple tools into ONE complete data warehouse lifecycle management tool:

- ETL (Extract, Transform, Load) Tool
- Modelling Tool
- Requirements Tool
- Deployment Tool

The simplicity of a single toolset allows for greater agility and efficiency.

Cloud-Friendly ELT Architecture

WhereScape RED supports multiple databases with a light architecture which does not require an additional ETL server.

As it is PaaS (Platform as a service infrastructure) it is developed to 'plug in' to the cloud platform.

WhereScape RED's push down low data movement ELT architecture is perfect for cloud and bursty workloads.
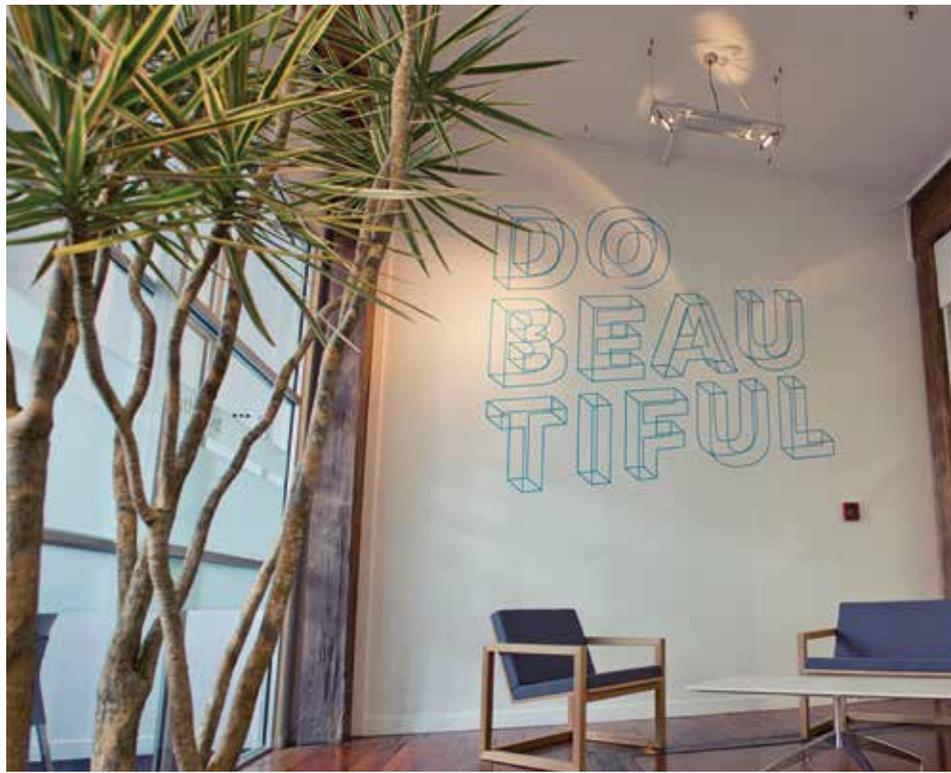
Take WhereScape RED for a Test Drive

The WhereScape RED Test Drive puts you in the driving seat, so you can experience data warehouse automation as our customers do!

WhereScape® RED

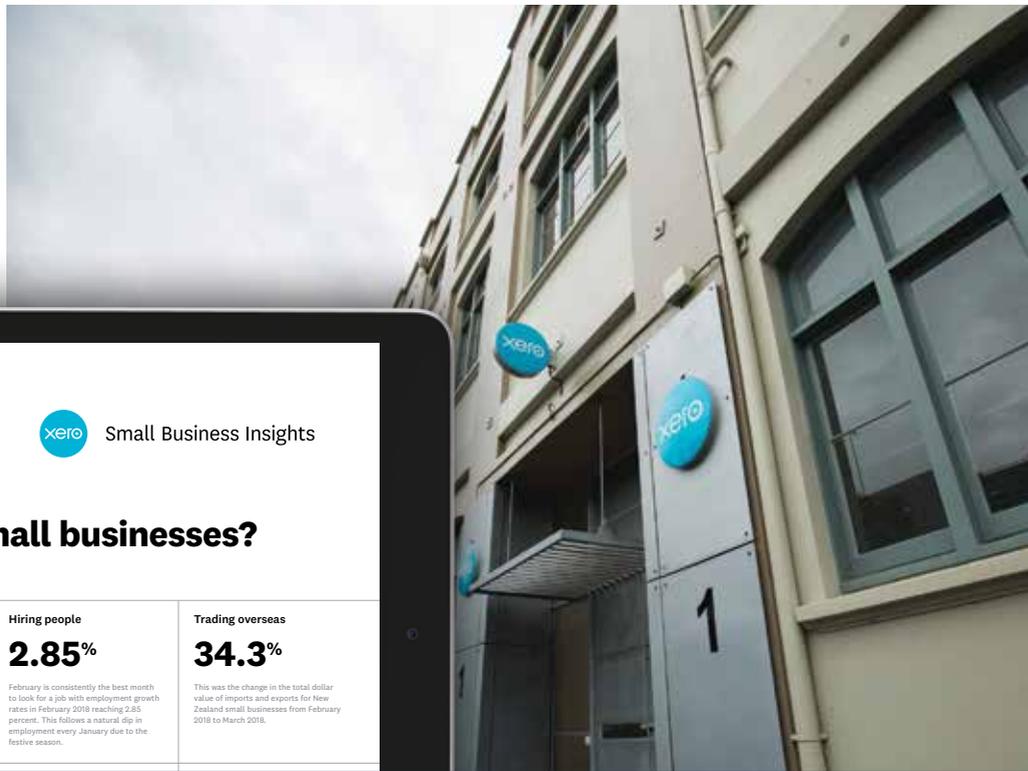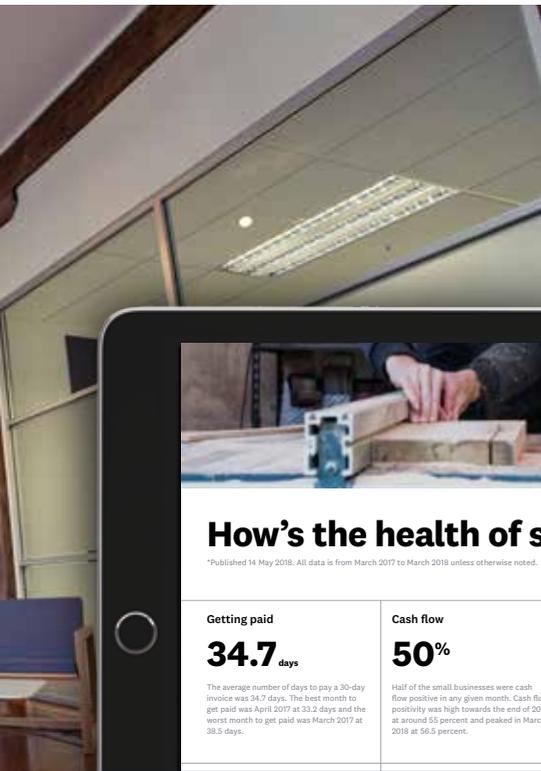# The Data Secrets behind Xero's epic cloud migration

Needing little introduction, Xero was founded in 2006 and is one of the world's fastest growing 'software as a service' companies.

It's one of New Zealand's biggest international technology success stories, and an organisation which lives and breathes data.

Xero leveraged NOW Consulting and the WhereScape RED data warehousing automation tool to move its data warehouse onto the Amazon Web Services (AWS) cloud.

This was no mean feat, as there were more than 59 billion records, 3,000 apps and 120 databases representing all data and applications for Xero's 862,000 customers globally (at the time). Clearly there was a lot at risk.

The first-of-its-kind migration meant the cloud accounting provider added its BI stack to its new Platform as a Service provider with minimal impact, while preserving the logic and functionality of an established on-premises data platform.

Xero leads the New Zealand, Australian, and United Kingdom cloud accounting markets, employs a world-class team of more than 2,000 people and was identified by Forbes as the World's Most Innovative Growth Company in 2014 and 2015.

It is a $400 million dollar company with a million customers. Data is vital to its continued success.

Xero's Datability is powered by:

How's the health of small businesses?

*Published 14 May 2018. All data is from March 2017 to March 2018 unless otherwise noted.

Getting paid	Cash flow	Hiring people	Trading overseas
34.7 days	**50**%	**2.85**%	**34.3**%
The average number of days to pay a 30-day invoice was 34.7 days. The best month to get paid was April 2017 at 33.2 days and the worst month to get paid was March 2017 at 38.5 days.	Half of the small businesses were cash flow positive in any given month. Cash flow positivity was high towards the end of 2017 at around 55 percent and peaked in March 2018 at 56.5 percent.	February is consistently the best month to look for a job with employment growth rates in February 2018 reaching 2.85 percent. This follows a natural dip in employment every January due to the festive season.	This was the change in the total dollar value of imports and exports for New Zealand small businesses from February 2018 to March 2018.

The importance of data

Xero has appreciated the value of data since its inception, and its engagement with NOW Consulting goes back to 'early days', confirms Nathan Griffiths, Data Services Platform Lead at Xero in Auckland.

"Data is a key business asset. We recognise this and recognise the value in the data we hold in terms of providing services back to customers, creating our Small Business Insights report, and even in pages on our website which provide high-level overviews of business performance in the regions where we operate," he explains.

"Our data is used by government analysts to assess trends within business, and it is used to inform innovation and provide services within Xero products. Essentially, data is a fundamental component in the services we offer."

"The BI team where I work has been around for five or six years, so that's more or less the time period in which we've used WhereScape RED for building the data warehouse."

Smoothing the migration path

When Xero opted to move to Amazon Web Services, the implications were enormous: (as we stated earlier there were more than 59 billion records, 3,000 apps and 120 databases representing all data and applications for its 862,000 customers globally at the time), the sheer scale of the migration was epic. When talking about the data warehouse, Griffiths says "It meant a huge rearchitecting of all infrastructure and systems which involved changing from SQL Server to AWS Redshift as the database platform. It was a major undertaking".

The data warehouse was part of this exercise; built over time it represented a considerable investment as it was created and constantly modified to meet changing business information demands.

But Xero had a couple of aces up its sleeve which would ease the transfer of this structure to the new platform.

Solution – steps to the cloud

The first step was an engagement with NOW Consulting, which performed a proof of concept to show that it was technically feasible to move from one platform to another while preserving the logic, processes and code of the data warehouse. "NOW delivered on that aspect successfully, then provided additional manpower for the actual migration," says Griffiths.

One of the major challenges faced was what he describes as 'a hefty SQL Server' hosting the existing data. "We just could not recreate a system of that size in Amazon; we couldn't just lift and shift, so we needed a new solution in Redshift which was an unknown."

"There was a fair bit of risk and a lot of work", says Griffiths. "With NOW's help and with WhereScape RED as the tool to do it, we were able to reduce the complexity and risk to a point where it was feasible."

There was a little pressure, too. "There wasn't any question of it not being done as we had to have a solution in place; the consequences of no solution would be a lot of internal analytics and reporting would have ceased to work, it would impact our Customer Experience teams, our sales and marketing teams and even our product teams."

NOW developed the necessary functionality within WhereScape RED which enabled connecting the existing data warehouse to the AWS Redshift database. "This was a new feature at the time called Templates; instead of code generated in WhereScape itself, the template has variables specifically for Redshift which allowed extremely flexible code generation. This was the key to moving to the new platform," says Griffiths.

> "...if we didn't have WhereScape RED, we simply would not have the tools to go to work on our data."
>
> Nathan Griffiths,
> Data Services Platform Lead, Xero

Successful migration results

In short, Griffiths credits NOW Consulting and the WhereScape RED product for enabling a successful migration with minimal disruption of a key asset in Xero's data-driven approach. "It's been extremely valuable, not only in terms of the migration itself, but after the fact," he confirms.

One of main differences between SQL Server and AWS Redshift, he explains, is that the former has a scheduling agent. "By contrast, Redshift is just a database with no other features; you have to provide your own. WhereScape RED provides that to run code on the database and do certain things, so if we didn't have WhereScape RED, we simply would not have the tools to go to work on our data."

Despite its name, Redshift also does not provide any tools to manage data migration. WhereScape RED plugged that gap.

The key features, Griffiths says, include WhereScape RED's provision of visual data representations and its ability to automatically generate code. "WhereScape RED is used daily by our BI developers who build data models, data marts and other models. The code is reliable and repeatable. That's hugely useful, you can easily schedule and manage jobs and dependencies."

Where in the past there were multiple environments, versions, tools and models, today it is all done within WhereScape RED and on AWS Redshift. That's brought structure and reliability to the development process and our data initiatives," Griffiths notes. "The ability to generate custom code by building and modifying templates has been very successful. It has allowed us to take advantage of specific Redshift features; matching the platform with the development environment and scheduling capabilities of WhereScape has enabled us to make the leap to AWS with minimal pain."

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Data Services Platform Lead, Xero

Qrious and NOW Consulting

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Engage

Intelligent data and marketing to unleash smart engagement.

Get a fresh perspective on your project. Qrious, with NOW Consulting, can help you find the right approach. **Get in touch:** info@qrious.co.nz

Take WhereScape RED
for a Test Drive

The WhereScape RED Test Drive puts you in the driving seat, so you can experience data warehouse automation as our customers do!

BOOK YOUR TEST DRIVE ON OUR WEBSITE:

nowconsulting.co.nz

Datability is powered by: **aws** + **WhereScape® RED**

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