WhereScape®

Micron Delivers Same-Day Service for New Data Warehouse Solutions

Industry: Semiconductor

Location: Boise, Idaho

Employees: 30,000

Solution: WhereScape 3D, WhereScape RED, Teradata Data Warehouse Appliance 2800, Data Vault 2.0

Highlights:

- *Implemented the foundation for the global enterprise data warehouse within 90 days*
- *Delivered new data warehouse prototypes in less than an hour*
- *Improved speed, quality, consistency, and transparency of data warehouse solutions*

For more than 35 years, Micron Technology's teams of dreamers, visionaries, and scientists have redefined innovation—designing and building some of the world's most advanced memory and semiconductor technologies. Holding more than 20,000 patents and offering the broadest portfolio of memory solutions in the industry, Micron continues to transform how the world uses information.

Turning that same focus to its own information, Micron's enterprise architecture team set out to transform its data analytics capabilities and in the process help the company gain insight into how to reduce costs and improve manufacturing.

Challenge: Accelerate access to manufacturing data

In virtually any manufacturing environment today, big data is essential to fuel constant innovation and continuous improvement. In the semiconductor business, part of the big data needed comes from the manufacturing process. For Micron, analyzing the drivers for cycle time, yield, and quality can help the company keep costs as low as possible while ensuring quality.

"With WhereScape, we can build a solution from the ground up in an hour. That enables us to move right to prototype and deliver it to the users quickly so they can see the data and visualize it. If a picture is worth a thousand words, a prototype is worth a million."

— Michael Magalsky, Enterprise Data Architect, Micron Technology

As the director of enterprise architecture at Micron, Steve Taylor recognized that the company's approach to data warehousing and data analytics of production information was no longer able to keep up with the needs of the business. "We have 12 manufacturing sites," says Taylor. "But because preparing the data at each site for business intelligence and reporting took so long, users ended up going after the production OLTP data directly."

This created issues with data integration and performance. It was also highly inefficient because common tasks were getting performed over and over, from one manufacturing site to the next. As a result, projects were constantly one-offs, with no ability to build upon already created solutions.

Taylor and his team decided it was time to create a global enterprise data warehouse with an integrated foundation of manufacturing data that would put organized information and more sophisticated analytic capabilities into the hands of users quickly and efficiently.

Solution: Combine Data Vault, agile development, and automation

Micron chose to use the Data Vault 2.0 specification for the methodology, architecture, and model for its new global enterprise data warehouse. Michael Magalsky, enterprise data architect at Micron, explains the choice: "We saw in Data Vault 2.0 a way to achieve our objectives of integration, speed, auditability, and security. It enables an agile development approach, which we were eager to use."

To complement its Data Vault 2.0 and agile development approach, Micron decided to automate as much as possible to accelerate development, documentation, and deployment of its new data

warehouse environment. After a successful proof-of-concept, Micron chose WhereScape 3D for rapid design and testing and WhereScape RED for automating the creation, deployment, and management of its global enterprise data warehouse. Teradata Data Warehouse Appliance 2800 was selected as the data warehouse platform.

Magalsky and seven other engineers and analysts formed an agile SCRUM team for the project, initially supported by an onsite WhereScape consultant. "It was our first agile SCRUM team, first time working with Teradata, first time using WhereScape, and first time using Data Vault," says Magalsky. "While there was a definite learning curve, WhereScape accelerated our learning by generating well-performing, native code for Teradata right out of the box. We were able to quickly build and load our first vault object into our new global data warehouse and achieve rapid success."

Results: Respond to business requests in the same day

With the foundation for its global enterprise data warehouse in place after three months effort, Magalsky and team can now respond rapidly to new requests for data warehouse solutions. "With WhereScape, we can build a solution from the ground up in an hour," says Magalsky. "That enables us to move right to prototype and deliver it to the users quickly so they can see the data and visualize it. If a picture is worth a thousand words, a prototype is worth a million."

The enterprise architecture team also values the improved consistency and quality of their data warehouse efforts. "We can build solutions that conform to our standards and best practices," says Magalsky. "That benefits the entire organization

"WhereScape plays an integral part in our Data Vault development and is enabling us to substantially improve our delivery speed to our Teradata data warehouse."

— Steve Taylor, Director of Enterprise Architecture, Micron Technology

because not only can development move faster, operations teams understand what we've built, and users get a higher quality solution."

In addition to speed, consistency, and quality, Micron also appreciates the improved transparency with documentation generated automatically by WhereScape that shows the data model and lineage.

As a manufacturer known for innovation, Micron now has a global enterprise data warehouse that can keep up with the speed of the business.

WhereScape®

The pioneer in data warehouse automation software, WhereScape empowers organizations constrained by time, money or lack of resources, to deliver business value from their decision support infrastructure – including enterprise data warehouses, business facing data marts, and big data solutions. WhereScape has global operations in the USA, UK, Singapore, and New Zealand. www.wherescape.com

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