KAISER PERMANENTE®

Kaiser Permanente

Industry: Healthcare

Location: Kaiser Permanente Washington
Seattle, Washington

Members: 606,209 health plan
members in Washington

Solution: WhereScape® automation
for Teradata

Teradata Data
Warehouse Appliance

Highlights:

- Native Teradata objects are built within WhereScape® RED for Teradata, dramatically reducing hand-coding

- The entire data warehouse lifecycle resides in WhereScape so no other tools are required for modeling and deployment

- WhereScape provides a fully documented solution at deployment

- Legacy ETL tool is no longer needed

- Faster delivery of data warehouse projects is translating into award-winning analytics capabilities and business improvement

"The data warehouse is delivering more analytic and reporting capabilities and supports our reporting, governance and compliance efforts."

- Rhonda Ogilvie, Enterprise Data Warehouse Director

About Kaiser Permanente

For more than 70 years, Kaiser Permanente has provided access to quality and affordable healthcare. In 2016, Kaiser Permanente acquired Group Health, a member-governed nonprofit health care system based in Seattle, Washington that coordinates care and coverage for more than 600,000 residents of Washington.

WhereScape talked with Enterprise Data Warehouse Director Rhonda Ogilvie, responsible for EDW functions, including business analysis, data modeling and architecture, data integration and quality assurance, as well as the Teradata platform. Ogilvie discussed Group Health's initial use of WhereScape® automation for Teradata to build and deploy a fully documented enrollment and membership subject area for its Teradata warehouse, as well as subsequent enhancements and projects. The data warehouse is now delivering more analytics and reporting capabilities and supports Kaiser Permanente's reporting, governance and compliance efforts.

Can you tell us about the history of data warehousing within your organization?

We have extensive experience in data warehousing, and with Teradata as a database platform. Group Health's legacy Teradata data warehouse was migrated from an old Sybase system. We ceased further development on our initial Teradata data warehouse in early 2014 and started greenfield development on a new data warehouse. This second iteration was built by hand-coding rather than using an ETL tool. We developed and deployed our third Teradata data warehouse using WhereScape automation for Teradata in late February 2016. Within this data warehouse, we manage about 6.8 TBs of data, 250 databases (including data labs) and 6500 tables.

What does your user community look like?

Post our initial implementation in 2016, 500 frequent users accessed the enterprise data warehouse. That number has risen to more than 650 users as we've added more subject areas and built out our analytics group to take advantage of our enhanced data warehouse capabilities.

What were the drivers for developing the new data warehouse?

Compliance and data governance were key drivers for this new project. Having data consistency, complete data lineage, metadata management, as well as a supportable infrastructure were very important. In addition, in our previous warehousing environment we had a manual legacy process that existed in SAS—60,000 lines of code with one person possessing the knowledge of how to change it. Every month we had to do significant manual processing to get that data out the door. We knew that process had to change to something more sustainable.

Why did you reevaluate your development approach in tackling the current data warehouse?

Our previous Teradata development effort utilized our legacy ETL tool and involved complex and tedious development due to our data architecture. Our development efforts simply did not progress satisfactorily after the warehouse was initially deployed. What we were doing wasn't working for us in terms of throughput and we were struggling to keep up with our business customers in a timely way. We investigated whether there were places we could spend less time in development but still make the presentation layer and the data look all the same. We needed data consistency according to our stringent standards, with an end goal to build quickly, release iteratively and get projects done.

When evaluating WhereScape, what proof of concept (POC) did you employ?

As we knew this was a critical development project for us, we picked a crucial slice of the project for the POC so that we could effectively test the solutions to see their capability in our real-world environment. The POC consisted of a bake off between WhereScape® RED for Teradata, a data warehouse automation solution, and Informatica, our legacy ETL tool. In our 1.5 day POC, WhereScape was significantly ahead in the development process. The true selling point was everything WhereScape had done in that 1.5 days had been fully documented—with both technical and business versions. Our legacy ETL tool had limited/minimal documentation. We selected WhereScape after the results of the POC were analyzed.

How are you utilizing WhereScape RED?

We use WhereScape RED as an ELT solution for data integration and have been able to sideline the legacy ETL tool in our development efforts.

Combining our use of WhereScape RED with the Data Vault data modeling methodology has also allowed us to integrate data from multiple, diverse source systems. This allows us to provide a consistent view of the data to our end users, regardless of the source systems responsible for the data. When source systems change, or are replaced, we are able to change the underlying infrastructure with minimal impact to our users.

"The true selling point was that the documentation, both technical and business versions, for everything we had done during the POC was automatically generated. Our legacy ETL tool provided us with little to no documentation. As a result, it was often only in our developers' heads."

What have been your results with WhereScape automation?

With WhereScape automation for Teradata, we initially were able to deliver a fully documented enrollment and membership subject area for the new data warehouse based on Teradata best practices with complete data lineage and governance. Using WhereScape automation for Teradata and the Data Vault data model, we were able to deliver a data vault with five years of history on members demographics, specific health plan coverage and contract coverage. Our user community has much more robust reporting and analytics capabilities they can use to gather and share insights, and make predictions.

Since then, we've continued to use WhereScape automation to enhance and deliver more data warehouse functionality through numerous projects delivering considerable organizational value. Two projects that stand out include one focused on surgery services and a second on member medication adherence. In the surgery services project,

we developed a subject area that allows for the analysis of the types of surgeries conducted and the details involved — including facilities, doctors and surgery specific details. This is supporting facility, scheduling and staff utilization analysis.

Through the medication adherence project, we were able to apply complex business rules to pharmacy data to determine which members or patients are on medication for serious health conditions, which may not be taking their medication (by tracking and analyzing order refill history), and which to target with an outreach call to encourage them. By doing this, we have been able to achieve a 2% improvement in medication adherence - an impactful improvement in the area of healthcare. This specific project was also recognized in 2018 with a Teradata Opti Award, Teradata's award series to celebrate the highest achievements in analytics.

These are just two of the many impactful projects where WhereScape automation has helped us deliver more capability and insight to the organization faster.

"We no longer do any manual processing of data - a huge win for the EDW and for the organization."

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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