Comprehensive SaaS Data Warehouse Solution for Benefit Healthcare Insurance

ORGANIZATION

Our client is a leading health insurance provider, widely recognized for its commitment to delivering high-quality healthcare coverage across a major metropolitan area in the Midwest United States. Serving 32 counties across two states, the client offers a diverse range of 40 health insurance plans designed to meet the needs of individuals, families, and employers.

To support their operations and drive informed decision-making, the client built a sophisticated data warehouse platform that serves as a cornerstone for reporting and ad hoc analytics while keeping HIPPA security regulations in place. Maintaining and updating this platform involves collecting patient and insurance data from various subject areas, processing it through a third-party grouper service to ensure consistency and categorization, and integrating the processed outputs back into the warehouse. This streamlined approach reflects the client's commitment to leveraging innovative data solutions to enhance operational efficiency and provide a superior healthcare experience for their members.

CHALLENGE

The legacy data warehouse platform was unable to accommodate the escalating ad hoc and data mining requirements, and there was no automated ETL process for consolidating the necessary data for grouper processing. Our client envisioned an analytics (OLAP) platform that would provide partner access in a Software as a Service (SaaS) model. The current data warehouse platform lacked the scalability to meet the anticipated future business demands. Furthermore, the objective was to reduce costs by minimizing reliance on third-party grouper processing vendors. This was proposed as a solution by acquiring a Groper product and fully integrating it with the SaaS data warehouse platform, which would be accessible to prospective clients.

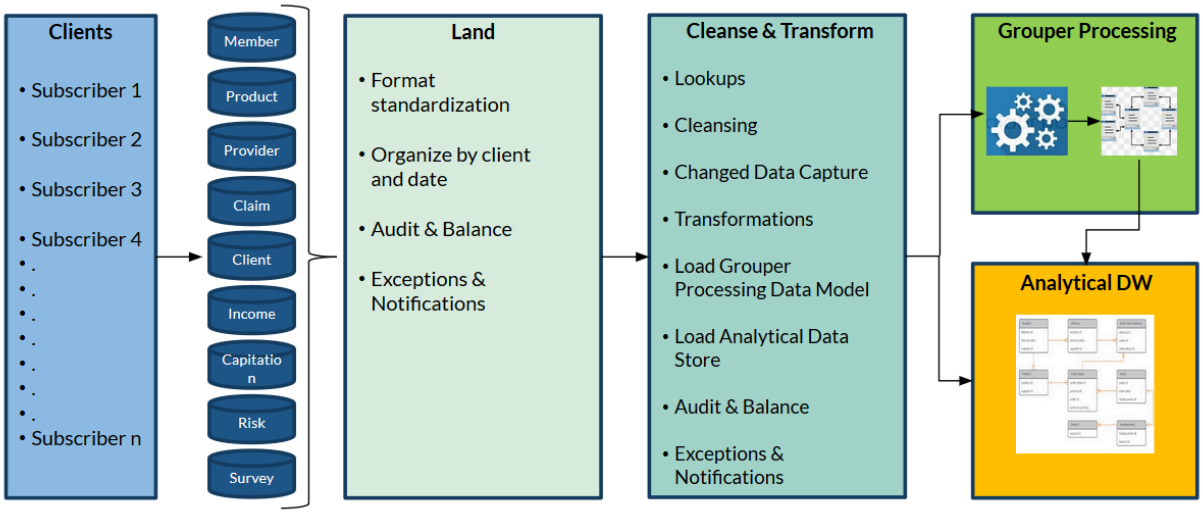
TECHNICAL SOLUTION

XTIVIA has proposed a comprehensive solution that involves selecting and deploying an enterprise-class data warehouse platform. This will be followed by the creation of both logical and physical data models. Additionally, industry-standard healthcare groupers and custom methodologies will be integrated to ensure data accuracy and reliability. The proposed solution also includes the development of reports, dashboards, and visualizations to provide valuable insights and support decision-making. By implementing this solution, the client aims to position itself towards a hybrid-based business model for both consumers and intermediaries.

As part of the pre-establishment phase, XTIVIA conducted a thorough analysis of the business problem, storage requirements, and processing needs. They recommended the Teradata Data Warehouse Appliance to host the Analytics Data Warehouse.

The ETL solution involves extracting data from various insurance subject area sources and loading it into a landing area where it undergoes basic sanity checks. The data is then transferred to the staging area, where data cleansing, data capture, surrogate key generation, and transformations are performed. Finally, the cleaned and transformed data is loaded into Grouper and the Enterprise Analytics Data Warehouse.
The data warehouse is designed to include entities and attributes necessary for Grouper processing. The processed data is then sent to Grouper, and the enriched data is loaded into the Enterprise Analytics Data Warehouse.

The ETL processes have been fully automated and scheduled to run monthly on a Linux environment. This ensures that the data is processed consistently and efficiently.
The solution also includes a flexible and secure data model that supports SaaS clients. Additionally, the ETL process incorporates restart capability and audit logs, providing a robust framework for data management and monitoring. Teradata Viewpoint is used to monitor database activities and alert users to any events related to resource usage.



Highlights of the solution are the usage of Teradata utilities for ELT processing, changed data capture processing, surrogate key generation, ETL Audit-Balance-Control, and Row-level security for multi-tenancy.

BUSINESS RESULT

The solution provided a scalable data warehouse and analytics platform, serving as a centralized hub for the client and its partners (potential SaaS tenants). It incorporated a flexible and secure data model tailored for multi-tenancy. The platform facilitated cost reductions and operational enhancements by minimizing reliance on third-party vendors for group processing. Furthermore, it generated additional revenue for the client as each new tenant subscribed for access. The unified platform also enabled the exchange of best practices among partners.

BY THE NUMBERS

80+ years in business

40+ health insurance plans

30+ counties served

1 million members

KEYWORDS

SaaS Data Warehouse, Teradata Data Warehouse, Healthcare Data Warehouse, Data Modeling, Teradata ELT, Layered ELT Architecture

SOFTWARE

Teradata, Teradata Load / Unload Utilities, Teradata Viewpoint, Linux Shell Scripting, CA Erwin

HARDWARE/PLATFORM

Teradata Data Warehouse Appliance, SUSE Linux

ABOUT XTIVIA

XTIVIA is a proven technology integration and innovation company known for delivering leading-edge technology solutions to our clients' specific requirements, regardless of project complexity. We bring next-level business operations to reality through Application Development, Business Intelligence, Data Warehousing, Database Support & Management, Enterprise Information Management, Digita l Experience Solutions, and Enterprise Resource Planning. Our success stems from a demonstrated ability to deliver deep expertise via professional services, empowering clients to leverage their chosen technology successfully, competitively and profitably. XTIVIA has offices in Colorado, New York, New Jersey, Missouri, Texas, Virginia, and India. www.xtivia.com