



Claims Spending Analytics solution

SITUATION OVERVIEW

- The client is a health informatics company focused on improving the quality and value of healthcare and other employee benefits
- The target customers for the client are employers, insurance brokers and third party administrators (TPA).

The business challenge:

- Required a sophisticated and flexible system with a Business Intelligence dash board and reporting solution having Data Visualization features that enables access to real-time actionable information on spends and performance.
- Require a more reliable and robust system to locate outliers based on particular criteria with evidence based practical reports and other specific needs like identifying services with higher spending.
- The existing Windows based application developed using FoxPro software, had limitations in handling large data and issues with scalability to cater multiple clients requiring web based access.

THE NEED:

The client required a SaaS enabled web based platform with the following objectives:

- Should contain generic data warehouse to hold eligibility and claims data together.
- Should have a self-servicing capability with ability to generate and save ad-hoc analytics.
- Support for multiple sources as well as multiple formats for eligibility and claims data.
- Client specific skin for user interface.
- Intuitive interface for benefit design and chronic
- Predictive analytics.

NOUS SOLUTION

Nous Infosystems developed a data warehouse solution, implementing the Ralf Kimball approach. The designed warehouse holds claims and eligibility data together in single Star Schema. Our solutions also provided the application framework including SaaS enabled web application, multiple Windows and web services. The objective of the web services is to provide greater flexibility to the user and enable design capabilities while permitting storage of ad-hoc analytics. The following

are key tools, technology choices and key features implemented:

- Custom ETL tool developed using .NET and SQL stored procedures to support multiple data sources.
- Developed ASP.NET based web application to seamlessly access the CUBE through dynamic MDX queries.
- Developed dynamic charting interface using ChartFX that can directly query SSAS cubes and provide end users with charts that can be manipulated interactively to specific need.

Batch Reporting: Built in Windows service to generate periodic reports in a batch for multiple employers and move to reporting area for review.

Benefit Design Modeling: Developed intuitive user interface to define benefit plans, using a complex Excel based template model to create benefit design models.

Chronic Disease Models: Developed windows services and user interface for generating chronic disease models for tracking / modeling all major chronic diseases such as Diabetes, Depression, COPD, CHF, Asthma, Hypertension.

Predictive Modeling: Developed algorithms using SAS tool and implemented predictive risk modeling for all major diseases which included but not limited to Diabetes, Ischemic Heart Disease, CHF & Cardiomyopathy, Coronary Artery Disease, Osteoarthritis and Hyperlipidemia.

Other key features delivered:

- Supports around 10 million Claims.
- Easy Drag and Drop of Dimensions/ Measures.
- Supports around 150 Dimensions and more than 300 Measures for data analysis.
- Reports in Charts, PDF and Excel Formats. Printable reports in PDF format.
- Highly Interactive 2D/3D Charts with around 20 selectable chart types.
- Client specific skin that dynamically changes based on the user logged in.
- Broad analysis of integrated data that can be “sliced and diced” in an infinitely.



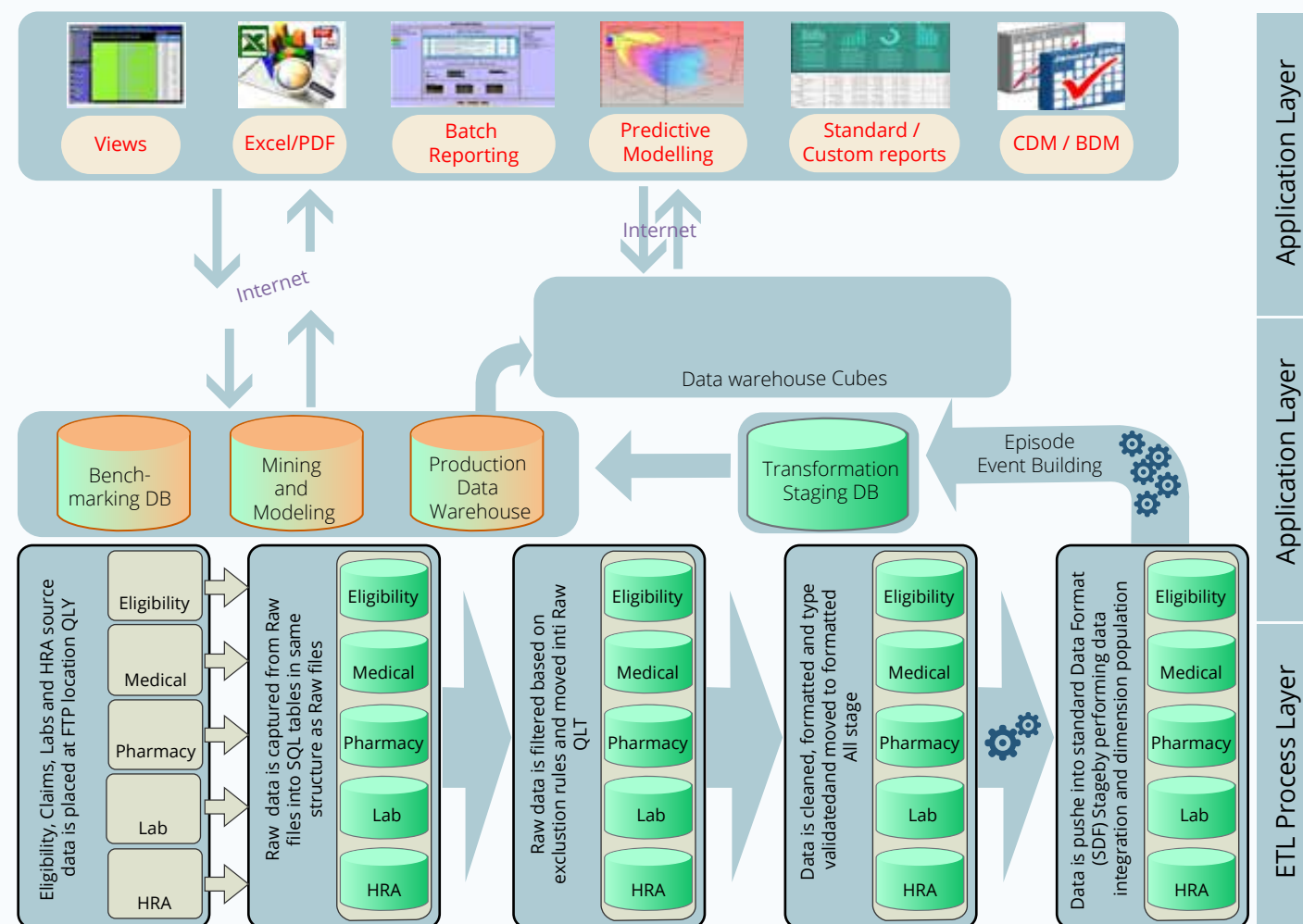
Domain - Health Care

Platform - .NET, SQL Server

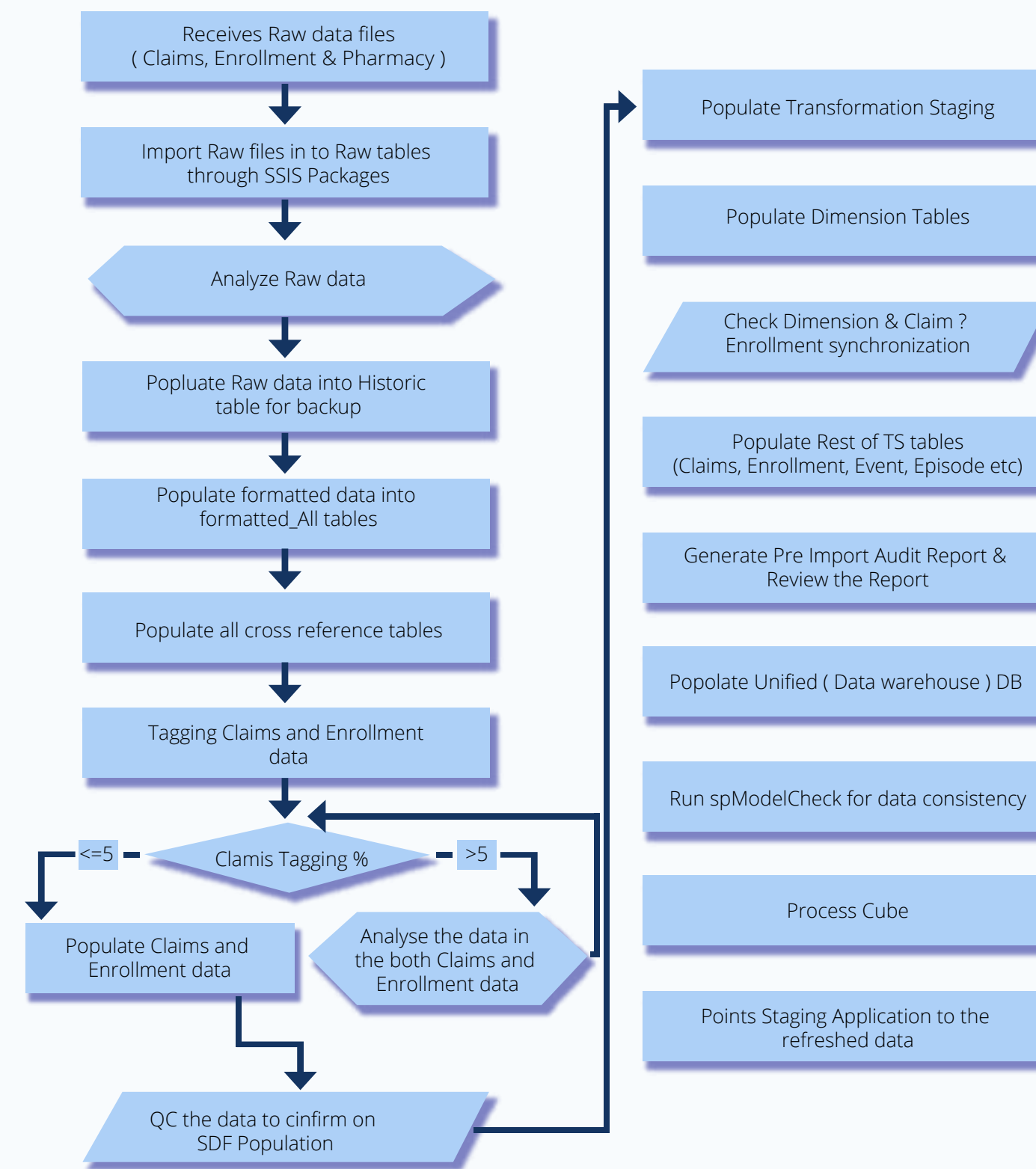
Technologies - ASP.NET, MVC, C#, Ajax, JQuery, CSS Sprite, DynamicPDF, OWC, ChartFX, Windows/ Web Services, SQL Server, SSRS, SSAS, SSIS.

Deployment - SaaS, Web-based

- Drill Down feature that helps the user to analyse the data at a different levels of summarization. The granularity of the data changes as drills down, essentially examining the data at different levels in the hierarchy.
- Performance tracking feature to help identify controlling areas



High Level Data Refresh Flow: The ETL process was designed to handle Qly data refresh from multiple sources. The process includes among other things, episode, event building, provider population and employer population.



CUSTOMER BENEFITS

- Integration of claim data on an inpatient & outpatient basis
- Broad analysis of integrated data that can be 'sliced and diced' infinitely.
- Better timely and decision making on health insurance plans with reduced assumptions.
- Periodic refreshing of the entire data base, which was not possible in the legacy application.
- Better visibility on spends to optimize the procedure and reduce cost
- Predictive models for performance scorecard and for risk analysis.



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