

## Case Study



### Infosys Implements Data Exchange Solution for a market leader in Health and Care Support Services

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#### Abstract

The Client is one of the leading health & care support company which deals with disease management and prevention. It is providing proactive, custom health and care plan for individuals at each phase of life. Its Health Support service helps individuals reduce their risk of disease and live an active, healthy life. The Care Support service assists individuals through the course of disease and provides high-risk care management.

Infosys have been engaged with different business units in providing IT solutions for their processes and helping them to develop innovative, value-added products.

## Client Description

One of the leading US based health & care Support Company which provides proactive, custom health and care plan for individuals at each phase of life.

As a company on the national forefront of disease management and prevention, they have helped major health plans, employer groups and government agencies save an estimated \$3 billion in healthcare costs in the past ten years.

The organization is committed to helping people reduce their risk of disease and live an active, healthy life, as well as assists individuals through the course of disease and provides high-risk care management.

## Problem Statement

The client utilized manual data exchange process to transfer member information from Oracle based Data Management system to SQL Server based sub system. The generated data or member information in the form of a text file and shared the same through a UNIX Server.

The Client faced the number of limitations in the system, some of them as mentioned below.

- The number of members in each file was increasing and the existing process was not scalable as huge files would take more time to pre-process.
- Member information was passed from the Oracle system to the SQL Server system via a file share and manual intervention was required to pre-process the file and then load it into database.
- All the members were passed through every time when a new file was received from the customer. The turnaround time was higher as the file needs to be loaded in off business hours.

The client needed An [Automated and Scalable solution](#) to be built for the data exchange between the two systems.

## Business Drivers and Objectives

The client needed a solution which implements a common Bus that can enable, exchange, validate, and transform member information to the SQL Server Database system.

Other Key Objectives:

- One Common ESB for the entire Data Exchange program with validations.
- Consolidation of Business rules within a single system.
- Message Flow Dashboard and Traffic Analysis.
- Scalability via Seamless integration with new applications
- Performance – Minimum of 15 messages per sec
- Disaster Recovery / Business Continuity – Reliable messaging
- Zero Data Loss

## Infosys Approach

Infosys provided the initial consulting, implementation of the base environment and migration of the existing customers to the new environment. Infosys has been involved in the following activities.

- Complete project delivery life cycle starting with Requirement gathering, Analysis, Architecture, Design, Develop, Testing and Deployment of the solution.
- Migration of the existing customers from old platform to the new ESB Platform by creating migration scripts, providing pre and post implementation support for the migrated clients.
- Implementation of new clients where it has been involved in requirement gathering & analysis, client configuration and map customization, testing, packaging, releasing to production and providing pre and post implementation support.

## Solution

Infosys proposed an Enterprise Service Bus (ESB) based solution which receives the member information from the Oracle system. This generic solution will receive the data, determine the destination(s) and send the message to the respective sub-systems (SQL Server based). Infosys provided the following solutions as part of the automated process,

- A BizTalk based ESB Solution,
- A BizTalk based Data Processing Solution for SQL based system.
- A WCF Service for WP Data Update using Net MSMQ binding.

### *Technical Overview:*

- BizTalk Server 2006 R2 is used as middleware to interact with backend systems like Oracle server, and send it to MSMQ from where a Windows Communication Foundation (WCF) service will pick up the message and send the message to SQL Database Management system.
- WCF based oracle adapter was used for easy data retrieval from the Oracle database. The ESB framework released by Microsoft was customized to suit the solution needs. WCF service using Net-MSMQ-Adapter and Net-MSMQ-Binding was used for reliable transfer between BizTalk and the WCF service.
- BAM (Business Activity Monitoring) database/framework and BAM Portal provided by BizTalk were used for end to end message tracking.
- ESB exception management service was customized to act as the single point exception management service.

### *Key Differences Between the existing and proposed solution:*

- The data transfer is now automated and event based and no longer manual.
- Reduction in the redundant traffic flow between the systems by identification and transfer of the delta data (i.e. modified members, new members and members to be deactivated).
- End to End data flow tracking that enables the account owners and development teams to track the member records processing at each stage.
- A new process for Automatic validation of Business Rules provided. This also includes reporting any non-compliance of business rules back to origin.
- The new automated reconciliation and error reporting process which reconciles the responses for each member sent and enables Oracle system to identify the erroneous record along with the error, so that it can be corrected and resent. This process can run during business hours due to which the turnaround time is lesser.
- The solution also provides comprehensive set of value added services such as: Message Validation, Message Transformations, Message Enrichment, Content Based Routing, Service orientation Enabling, Reliable Messaging - using MSMQ transaction, Response Tracking, Service Bus.

## Benefits to Client

- On boarding of new customer into the platform reduced from one person month to one person week reducing the cost to 25% of the original development cost.
- Support costs related to manual validation and repeated data loading at the SQL Server system side was eliminated. An average saving of around **\$1200 per week** was achieved due to automation provided by the solution.
- Reduction in turn-around time of member load process from ~1 day to few minutes. E.g.: For one of the migrated customers the solution is able to transfer data in **40 seconds** time, which took **45 minutes – 1 day earlier**.
- Zero down time for the web site as compared to 15 minutes earlier as the data transfer between the systems is now done on need basis and does not require downtime.
- Reduction in the storage Cost as the data movement has been reduced to 1% which delivered 99% reduction of storage space. The Volume of data transfer reduced to only necessary updates. Additionally, instead of loading data into the two separate databases at the destination end, it is now loaded only once thus providing additional reduction of 50%.
- Data synchronization between the systems through the response and reconciliation mode helped achieving data consistency. This is critical as data mismatch could lead to PHI and HIPAA violations which could have serious legal and regulatory penalties.
- Reduced end to end data flow time enabling tighter SLA.
- A maximum processing performance of 16 messages / sec for a load of 650,000 (The current load of the largest client that has a subscription for Lifestyle Management) has been achieved with the available virtual production environment of 3 BizTalk Servers and 1 SQL server.
- Currently, testing a load of 2.5 million through the system for one of the new clients.



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### About Infosys

Many of the world's most successful organizations rely on Infosys to deliver measurable business value. Infosys provides business consulting, technology, engineering and outsourcing services to help clients in over 30 countries build tomorrow's enterprise.

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