



## *Q3 technologies*

### Going an extra mile to create affordable, cutting edge components of future technology

Q3's global sourcing model gives the maximum benefit to customers in terms of cost savings, improved quality, access to highly talented professionals, flexibility of operations and reduced time to market.

# Case Study – Client in Chicago, IL

## Company Profile

- » Client delivers software solutions with emphasis on Data Profiling, Data Cleansing, Data Quality and Customer Data Integration. A Chicago-based privately held Company in its 8th year of business.
- » Client provides industry-leading technologies that allow organizations to collect profile and cleanse their corporate data. These are essential processes for corporations that are involved with major projects such as customer relationship management (CRM), enterprise resource planning (ERP), business intelligence systems and data warehousing.
- » Client is Microsoft partner in providing data profiling and data cleansing systems which are seamlessly integrated with Microsoft SQL Server Integration Services in context of taking data management to the next level.

Client had a vision to provide data cleansing and data profiling solutions for companies working extensively with data as in CRM and ERP systems through their e-cartography suite of products. Major hurdles for this category of companies involved in data management were:

- » Non availability of accurate, timely data, the lifeblood of any competitive organization in today's world. There was high demand for consistent, accurate, and reliable information to boost sales and initiate healthy customer relationships that can affect the company's bottom line. This was achievable through data profiling.
- » Companies were starting to promote and understand the need for good quality data. Assessment of corporate data to implement integration processes was driving more corporations toward a complete data quality initiative. Enterprise data integration can only be made possible by taking advantage of the robust functionality of profiling and quality tools.
- » Incompatibility of legacy database systems with next generation applications was driving large scale migration operations, but this was required to be completed only after cleansing and profiling of data for the migration to be a success. The migration operations attract Return on Investment considerations, making affordable profiling solutions all the more important.

## Business Situation

## Technical Situation

Client's flagship product e-cartography was built in C++ platform and required a major revamp based on customer feedback and market reviews. Major driving factors related to the need for rework and enhancements of e-cartography are listed below:

- » User Interface unable to meet industry expectations
- » Product non-scalable to new applications due to legacy platform
- » Non compatibility with some native Oracle database as they do not recognize C++ components
- » New business logic was being developed and required to be integrated
- » Enhancements in terms of cross platform, system independency and multiple database handling was the need of the hour

Q3 set up a special built up team which could work at higher efficiency and greater quality to meet the challenge of building a product which needs changes on the fly and at the same time has to meet the expectations of partners like Microsoft.

- » Complete operational transparency was maintained by keeping communication of status updates and progress as a regular process. People at Client would hear from the team lead, the program manager and the developers on a regular basis, with more detailed weekly status reports indicating progress against milestones.
- » Program Managers at Q3 were geared up to ensure success of Client business ventures and not only the product development. They were committed to building a better design at lower cost than competition, not limiting themselves to specifications received from Client, instead suggesting addition to core functionality working as a joint team with peers at Client.
- » Automated load and functional testing tools like Winrunner and Loadrunner were used for Quality Assurance functions. At the same time state of the art Integrated development Interface were used like Visual Studio 2005 with .Net 2.0 technology which has integrated Business Objects for better performance on multiple databases.
- » Specialized architecture design was created for eCartography as described here

### Architecture

The design pattern of eCartography is based on Abstract Factory Pattern i.e. the pattern provides an interface for creating families of related or dependent objects without specifying their concrete classes

## Solution

## UI Layer

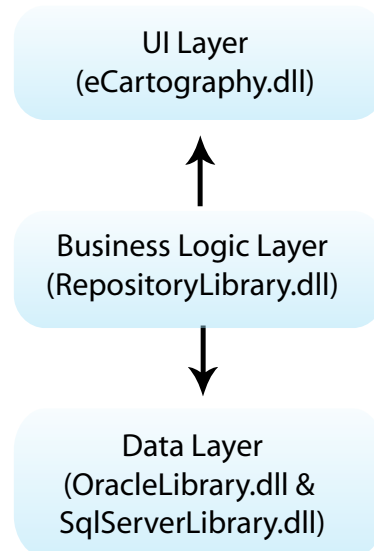
The UI layer consist of eCartography.dll, it contains all the forms, controls and images used in the product.

## Business Logic Layer

This layer consists of RepositoryLibrary.dll, it contains all the Interfaces that are being implemented by the data layer. It also contains the base classes for the cyclone operations and all the common functionalities being used in the product.

## Data Layer

This layer consists of OracleLibrary.dll and SqlServerLibrary.dll. It performs all the profile and cyclone operations on the source data using the procedures and tables created using the script. The respective dll is called depending upon the repository (target) chosen, right now for Oracle 10G or SQL Server 2005.



## Main Modules

**Data Map:** The data map is used to perform actions on the source data to get the results from the selected data table. Following actions can be performed in data map:

- o Profile
- o Domain
- o Domain Stat
- o Relationship
- o Standardize Recommendation

**Process Map:** In this map the cyclone operation is performed on the selected columns of the source data and the resulted table is stored in the repository database. Following are the cyclone operations that can be performed:

- o Find Replace
- o Validate
- o Trim Whitespace
- o Standardize
- o Fuzz Matching (Jaro-Wrinkler)
- o Name Matching (Double Metaphone)
- o No Action

**Main Classes Used:** In this map the cyclone operation is performed on the selected columns of the source data and the resulted table is stored in the repository database. Following are the cyclone operations that can be performed:

- o BaseClass.cs:
- o Business.Common.cs:
- o Cyclone.cs:

## Benefits

- » Shorter time to market due to highly flexible business model and work culture at Q3. Client used to get continuous feedback and customization requirements from companies, trade shows and partners. All this went on during the course of development process and change requests kept on coming regularly. Q3 ensured that these were processed efficiently cutting down precious time and delivering up to 3 releases in a week.
- » Extension of Client's development teams globally by taking advantage of different time zones and Q3's highly flexible Software Development Life Cycle (SDLC) methodology.
- » Q3 went that extra mile, conceptualized, designed and implemented cross database functionality allowing different database platforms to be used at source and destination, because business model and culture at Q3 entails ownership of the product development process. It is not only the team members who are dedicated to a Client; it is the whole company management which works in complete tandem and efficiency to ensure that the relationship is seamless and successful.
- » Client was able to involve Q3 in overall product evolution by creating a multiple party relationship. When Client was having discussions with Microsoft for e-cartography integration in SQL Server Integration Services, Q3 was gearing up to enhance the product design. Evidently, Q3 team was working with Program Managers at Microsoft to implement added features like a new product definition related to SQL Server views.
- » Client takes pride in being able to provide latest technology product which has more in terms of functionality compared to competition and costs a fraction of what others charge, on account of being able to cut down resource costs from average \$90,000 to approximately \$30,000 per resource.