Case Study – Documentation & Migration – Adabas/Natural

Business Scenario:

The UK Government's system for licencing and authorization was written over 20 years ago in a language that is difficult to support.
The system utilized work files with local and global datasets interconnecting the applications to execute desired business processes. The business rules were embedded in the code which was primarily data driven, making it difficult for the application to be maintained and extended to serve the changing and growing business needs of the department.
User access to the system was provided through terminals located geographically across the country. System calls to external applications were made a significant feature of the application.

Challenge:

Over the years the system had been maintained by several different groups within and outside the department, further increasing the code complexity. This made the code patchy and difficult to maintain.

Complex as the code was, the cost to maintain the system skyrocketed as the availability of support personnel began to decrease. There was no current documentation for the system and the only way to understand the logic written over the years was by reading any available inline comments.

This unreliability and risk had to be mitigated as quickly as possible by documenting the code's business rules and database. This task would also be a pre-cursor to moving the application to a modern language with a relational schema.

Other business drivers that supported this decision were the rising cost of the mainframe, a dwindling pool of support staff, the inability to extend the system to other departments within the Government and the need to centralize databases.

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In addition to extracting the business rules and the database schema, it became important to review and modernize the extracted rules so that specifications for a new system could be generated. The development of the target system was subject to budgetary approvals.
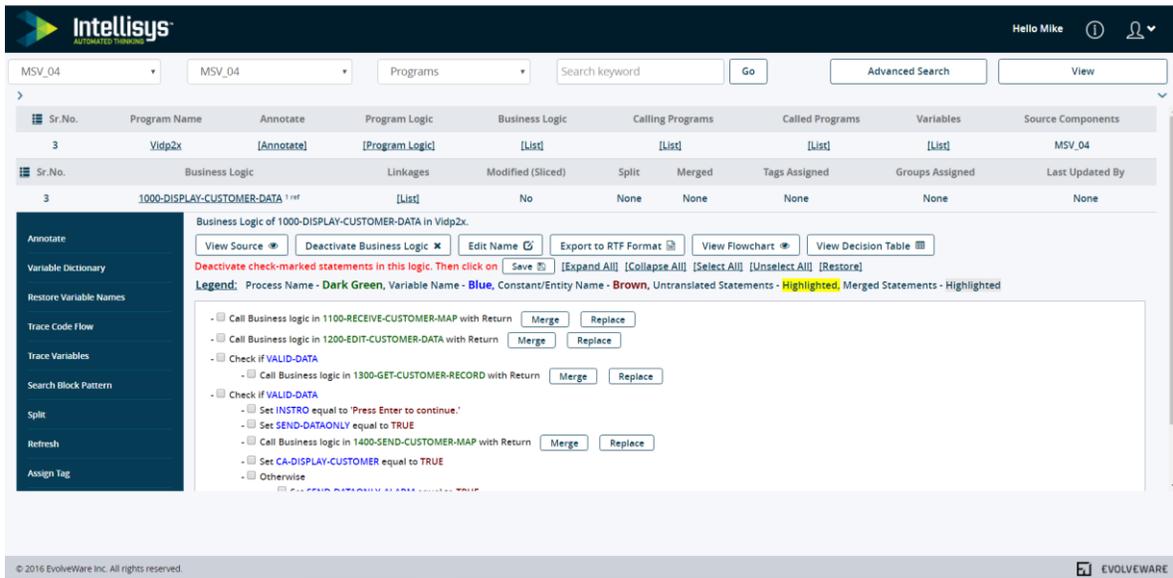
Business Objective:

Extract the business rules and data structures from a legacy application written in Adabas/Natural to a format that was easily understood, maintained and potentially enhanced.

Solution:

The agency began soliciting for solutions and awarded a contract for the documentation and business rules extraction to a group of service providers. After 2 years the project remained incomplete, having gone through multiple methodologies that included the use of some custom automation tools. Based on undocumented estimates, the cost of this exercise had been in excess of £1 million (U.K. pounds).

EvolveWare was approached to use its Legacy Modernizer product to extract the system's business rules, optimize and modernize them and export the resultant rules into MS Word and Flowchart formats.

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Project Deliverables & Time Lines:

The project included the following deliverables:

- Business Rules documentation for 1.2 million lines of code
- Relational database schema as SQL/DDL scripts.
- Optimization and modernization of extracted business rules to make them business analyst friendly and utilize them to derive target specifications
- Export business rules in MS Word and Flowchart formats so that they could be archived for audits and meeting compliance requirements

The code was processed and the business rules extracted, modernized and exported in 6 months. A total of 15 personnel worked with the product's console to derive, optimize and modernize the extracted business rules. The following statistics provides the calendar time spent on each of the major tasks performed in the course of this re-learn and modernization project.

1. Business logic and data model extraction from source code – 4 weeks
2. Derivation, optimization and modernization of business rules to generate target specifications – 14 weeks

Business Benefit:

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An effort that had not accomplished its objective for almost 2 years was completed in about 6 months. The business logic and data model were extracted from the source code with 100% automation and the product's web-based console allowed the service provider to use personnel from different locations to derive, optimize and modernize the extracted business logic into business rules and processes.

The cost of licensing the Legacy Modernizer was miniscule as compared to the amount that had been spent for an unsuccessful effort using other methodologies.

The immediate benefit was the reduction of cost to maintain the system. With the ability to view and analyze the system's business rules, the agency's ability to make changes to the system increased dramatically. Another advantage was that the agency was now going to be able to meet audit and statutory regulations of the Government.

Perhaps the biggest benefit would be derived in the future when the agency migrated the system to a modern platform. Without the benefits of documentation this would have been an extremely difficult and risky task.

Customer Comments:

"It is amazing how quickly the agency was able to document, modernize and create target specifications for this large mission critical application when over 2 years had been wasted in failed attempts using other methodologies. The speed and cost at which this project was completed surpasses anything we have seen in areas on re-learning and documenting applications"

Independent Consultant

Environments:

Source System:

Adabas/Natural – 4000+ Natural objects plus associated maps

EvolveWare, Inc. has been awarded 5 U.S. Patents and 1 Australian Patent for the technology that is incorporated into Legacy Modernizer and its successor, Intellisys™. The U.S. Patent numbers are 7,769,704, 7,774,290, 7,917,457, 8,051,410 and 8,412,653 respectively. The Australian Patent number is 2007348312.

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