DELTA
software technology

AMELIO®
Modernization Platform

Success Story

How could RDW prepare their applications for platform and technology change - without endangering the on-going operations?

RDW:
Platform Independence Guarantees Safe Platform Change

"AMELIO Modernization Platform is the reliable solution for the systematic modernisation of our complex applications - 100% automated, tailor-made and generative. Using AMELIO we are able to accomplish this demanding large project faster and with less resources."
Carine Joosse, ICT Manager Projects, RDW, The Netherlands

RDW

Founded in 1949 and privatised in 1996, RDW is the central vehicle authority of The Netherlands.

As a service organisation, RDW is responsible for the central registration and administration of all vehicles, approvals and driving licences. Beyond that, its mission comprises technical standardisation, engineering expertises, annual vehicle inspections as well as the monitoring of safety and environmental aspects.

The Solution

RDW used Delta's AMELIO Modernization Platform to automate the changes for more than 11,000 software modules.

AMELIO Modernization Platform

- implemented all changes fully automatically – 100%,

- changed the code consistently, reproducibly and absolutely error free,

- accomplished the modernisation without blocking other projects or the ongoing maintenance

- documented all decisions and changes audit proven,

- delivered easily maintainable code for the further development.

The Benefits

With platform-independent applications RDW was able to quickly and easily migrate to future-proof and less expensive platforms and technologies.

AMELIO Modernization Platform

- reduced risks by complete, i.e. 100% automation of all changes,

- cut down the test effort by more than 90%

- needed less resources

RDW's result:

- Vendor independence

- Excellent quality – 1.3 million changes in 14 million COBOL LoC's at a defect injection rate of only 0,0004%

- Provision of 3.200 platform-neutral data services

- Significant quality improvement in development and maintenance.

RDW

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RDW

RDW has to adapt its IT applications constantly to the requirements of their external partners and to the changing Dutch and/or European Union laws and directives.

All public authorities, the post, the police, insurances and all garages are directly connected to the central system of RDW. Therefore, changes resulting from the modernisation of the applications were not allowed to affect other projects in any way.

The core of RDW's enterprise IT consists of extensive mainframe applications that have originally been developed for Unisys OS 2200 with DPS, TIP, UCOB, ECL as well as RDMS with RSA SQL. The applications were implemented using Delta ADS and COBOL. The online systems were based on a well-customised framework using Delta macros; batch processes were controlled using ECL and SSG.

Goal: Platform Independence

Following a long-term modernisation strategy RDW decided to first make its applications platform independent, in order to be able to quickly migrate to less expensive platforms and new technologies without taking risks.

The requirements were extremely challenging: More than 11.000 modules were affected. RDW wanted a solution suitable for any possible future platform. An emulation was not acceptable. Under no circumstances the project was allowed to interfere with other projects or the on-going maintenance.

The transformation had to be automated as far as possible in order to prevent errors due to manual changes on the one hand,

and on the other hand to reduce the necessary test effort. All changes had to be audit-proven.

The Solution: AMELIO

AMELIO Modernization Platform implemented all changes of the sources completely automatically, and thereby reduced the test expenditure necessary for a project of this magnitude by more than 90%.

- More than 11.000 modules were changed.
- More than 10 million lines of code were affected.
- More than 1.3 million individual changes were implemented.
- At a defects injection rate of only 0,0004%.

Data Formats

All Unisys-specific data formats, e.g. 9-bit binary fields, 1-bit fields, return codes and the like were automatically transformed into platform neutral definitions. It was essential to track all dependencies and to change the interfaces consistently.

Front-Ends

RDW has implemented 1,700 screens using the Unisys DPS technology. These front-ends were converted into platform independent screen descriptions, which now simply can be generated to use browser-based technologies.

Data Accesses

The Unisys RDMS accesses via RSA and Dynamic SQL as well as the transaction handling which previously were embedded in the programs had been transferred to a separate application layer with platform-neutral data access servers. This separation

of data accesses and application logic built the necessary foundation for a smooth step-by-step migration to the new Windows platform.

Cost Reduction

AMELIO's full automation of the changes reduced the test expenditure by more than 90%. The major part of the tests were executed prior to the productive changes: Instead of testing the transformed programs, the change algorithms and the changes were validated. The sophisticated transformation process was able to fulfil the strict quality demands of RDW.

Prepared for the Future

Thanks to the platform independence and application architecture transformation, RDW is now well prepared for future developments. In the first step, .NET and browser-based front-ends have been introduced and the data was migrated to Microsoft SQL server. The quality and effectiveness of the development and maintenance have been increased significantly.

"AMELIO's technology and the close co-operation with Delta guarantee a transformation quality that meets our high quality and security standards."

Gerard Doll, Director ICT,
RDW, The Netherlands

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