DELTA
software technology

NEWSLETTER
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IN THIS ISSUE

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1 3 Important Steps for the Sustainable Software Modernisation

- You value the reliability, speed and functionality of your COBOL and PL/I applications?
- These applications are an indispensable part of your application landscape for you in the future?
- You want your operational back-end applications to be permanently of good quality?

But: You also want to implement changes quickly and benefit from new technologies. You want to play it safe with all changes.

In this and our next two newsletters, we will show you 3 steps that will help you to modernise your applications securely and sustainably.

Best Practices for the Application Modernisation

There are many reasons for an application modernisation, e.g. adding new functions, replacing old technologies, consolidating applications, etc. The goal is always to reduce the risks of old applications, save costs and increase organisational agility.

In this and our next two newsletters, we will show you 3 steps that will help you to modernise your applications securely and sustainably.

1. Complete assessment for good decisions
2. Clean-up so that your resources are used properly
3. Fully automated transformation for absolute security and flexibility
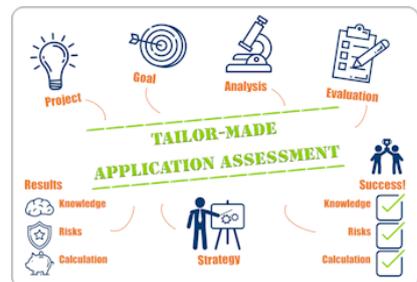
Legacy Applications = Garbage or Treasure?

A word about the term "monolith": Back-end applications that were developed in COBOL or PL/I are often referred to as monoliths - or should I say "insulted". From our experience with very large projects, we can say that the opposite is usually the case, because software design, architecture and engineering have not just been around today. Most applications are "only" very large and complex, use different architectures and often the necessary knowledge

about the applications is lacking. The existing documentation is not suitable for the modernisation.

The problems with estimating the risks and efforts for the modernisation and the decision for the right path lie in the fact that these applications have grown over decades: the expected problems are often not the real ones at all. A precise understanding of the applications is lacking, that is why functions have only ever been added in places with the least effort and risk. As a result, the originally good design was lost. So, how do you come to good decisions and strategies as well as to reliable cost and resource planning for a sustainable modernisation?

Step 1

Complete Assessment - Why?

The solution is an assessment. But, be careful: It is not enough - as many providers propose - to simply list a few figures about the approximate size and number of modules in order to receive reliable estimates of the effort and costs. The risks, as so often, lie in the details.

Of course, rough decisions and gut feeling could also lead to success. As a rule, however, they lead to delays (also in other projects) and significant cost increases and, unfortunately, often also to the failure of modernisation projects.

In its Chaos Report 2019, the Standish Group reports that 83.9% of IT projects fail partially or completely. The following reasons for failure are repeatedly cited in studies:

1. Badly defined requirements
2. Poorly defined or unrealistic planning
3. Inaccurate and unrealistic estimates

The modernisation projects that we have implemented for large financial service providers have shown that only a complete analysis of all sources in advance provides reliable information. The emphasis here is placed on Complete and All. This is the only way to recognize all obstacles and dependencies. This is the only way to make good decisions and eliminate the risks.

Tailor-made Assessment - Why?

Simply collecting all the data about your applications will not help you to reliably assess the risks and costs of extensive changes. This can only be achieved by an analysis that is precisely tailored to your project goal and your applications.

Our projects have shown us that a targeted and individually tailored analysis of the applications is a crucial basis for:

1. The exact definition of the requirements
2. Reliable planning
3. The realistic assessment of the risks and efforts

A tailor-made assessment finds all stumbling blocks and helps to precisely define the requirements for a project, enables precise planning and thus paves the way for the successful implementation.

What Can We Do for You?

If you want to ensure the success of your modernisation projects, find out about the possibilities of our tailor-made application assessments.

You can find an initial overview in our flyer "Application Assessment: Don't Guess – Assess".

Application Assessment

Tailor-made application assessments enable you to pinpoint and to reliably evaluate all critical issues for your projects. They help you to accomplish your projects in the areas of modernisation, migration, mass changes and clean-up of your COBOL and PL/I applications successfully in time and in budget.

Read more...
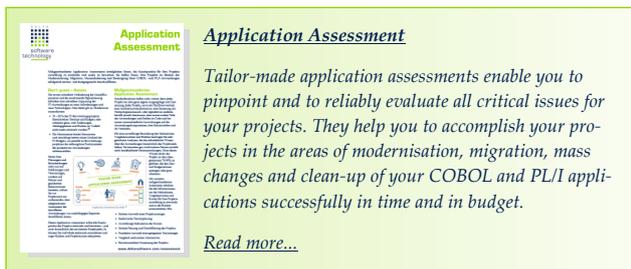
Every project is different and our flyer just gives you a first general idea. To get the best solution for you, you should directly discuss the requirements and details of your project with us.

Outlook

In the next newsletter, you will receive more information and we will explain criteria for sustainability in software modernisation.

We can help you to make better use of your resources by using clean-ups or the concept of the "washing machine" and to ensure absolute security and flexibility in your modernisation projects through the fully automated transformation of your applications.

2 msg Relies on AMELIO Logic Discovery for Modernizing Applications

On behalf of a large insurer, msg Systems ag Switzerland was looking for an analysis tool to rewrite parts of a business-critical core application. For this purpose, a tool should be found that automatically extracts the business logic from the application and displays it clearly so that it can be understood more quickly and transferred into a new language.

There are special hurdles to overcome in modernization projects: On the one hand, some of the original developers are no longer available. Instead, the applications are maintained by their "heirs" who, however, know nothing of the origins and the reasons for certain decisions. On the other hand, the existing documentation is used to support the maintenance. But for modernization or rewriting information is required that the documentation usually does not provide. Thus, the only reliable source is the source code itself. The problem is aggravated when a service provider wants to understand or modernize a customer's application. So how can the knowledge necessary for modernization be transferred and possibly even regained?

The msg is confronted with this task - for a large insurance company, parts of a business-critical core application should be rewritten. The existing application was developed in COBOL and PL/I, partly native and partly generated with Delta ADS. The msg decided to evaluate the performance of AMELIO Logic Discovery. A part of this application has been removed and analyzed and assessed manually and automatically. It quickly became clear:

> *„AMELIO Logic Discovery helps and presents everything very clearly!"*
>
> *msg Systems*

AMELIO works model-oriented and makes the analysis results available as language-neutral documentation. AMELIO is configurable and can be perfectly adapted to the needs of a (modernization) project.

Clear Recommendation for AMELIO

The msg is convinced that AMELIO is a great help with modernization and offers support with the conversion. The knowledge of an application can be built up faster, easier and more securely so that it can be rewritten more efficiently.

About the msg Group

The msg systems ag Switzerland is part of msg, an independent group of companies with more than 8,500 employees. The msg group is active in 28 countries in the automotive, banking, consumer products, food, healthcare, insurance, life science & chemicals, manufacturing, public sector, telecommunications, travel & logistics and utilities sectors and supports its customers in their digital transformation.

See for Yourself

Do you also have business-critical core applications and are looking for a way to analyse them fully automatically and reliably?

Then contact us. We would be happy to show you the capabilities of AMELIO Logic Discovery **using your examples**.

3 RDW Removes Technical Debts using Delta's Automated Solution

Existing applications have accumulated a lot of technical debt over the years. Removing it could speed up main-

tenance significantly. In reality the task of improve the software by removing the obsolete parts is seldom performed. The risk of introducing errors and the cost of testing is the biggest reason for not doing anything.

RDW has been able to take up the task of removing technical debt in a secure manner. Delta's AMELIO Modernization Platform plays a key role in this endeavour.

Technical Debt hampers Application Maintenance

The Netherlands Vehicle Authority (RDW) is a long-time user of Delta ADS, Delta Software Technology's software development product suite. In the past decades, the key applications have grown and also been migrated to different platforms. All these changes over the years have decreased the maintainability of the application portfolio. To improve the maintainability of this application portfolio the decision was made to invest in the removal of technical debts.

The task of discovering and safely removing technical debts is a complex one. To remove or change code from a program that you have written yourself might be an option but if it has been written years ago by a predecessor that is not available to consult is another question. It is not without reason that many programmers do not trust themselves to perform these type of program changes. They have a rightful fear of cascading side effects of a change.

Another obstacle arises because removing the technical debts involves many programs that are depending on each other to work correctly. The fact that all these programs must be changed at the same time

leads to freezing them all preventing all other functional maintenance that is needed for the business.

Database Access – an Example of Reducing Technical Debt

RDW had implemented a new architecture for the database access in their applications which co-exists with an older way of accessing the data. This hybrid architecture was more and more considered to be a technical debt. A manual change was started for the less complex situations but in general a large portion remained and with the manual approach the completion would have taken many more years.

The remaining 9,000+ data access calls (of originally 16,000) contained also the most complex ones, some of them not yet made available in the new architecture. RDW decided to make use of Delta's AMELIO Modernization Platform to perform an automated replacement of the remaining old data access architecture by the new one.

Transformation Step-by-Step

Knowing that the new data access architecture did not yet support all features of the old architecture, the chosen approach was to use the AMELIO Modernization Platform to create a learning factory to discover and perform all the necessary changes in the application sources. That didn't have to be perfect for all possibilities in the beginning. No time was lost with specifying everything in all detail, the specification for the already performed manual transformation was used as a starting point. As a first step, the simpler data access types were analysed and transformed with the goal to make the programs productive even when they still contained other or more complex data access types using the old architecture. The next step was to remove the next type of data access, where the result from the previous step could be input as well as programs that were not handled by the factory before. This iterative process continued until at the end also the most complex data accesses were transformed.

> *"In the end our decision paid off. Using an automated approach also means almost no freeze and the possibility to change implementations at a very late stage. It enabled us to improve on the end result without any problem. With a manual approach, we would have passed the moment to do something in a different way long before."*
>
> *Roland Römer*
> *Product Owner RDW*

Continuously Moving Forward

After the migration to the new Data Access architecture the AMELIO Modernization Platform will now be used as an environment to perform other mass changes in the application sources that will reduce the technical debt.

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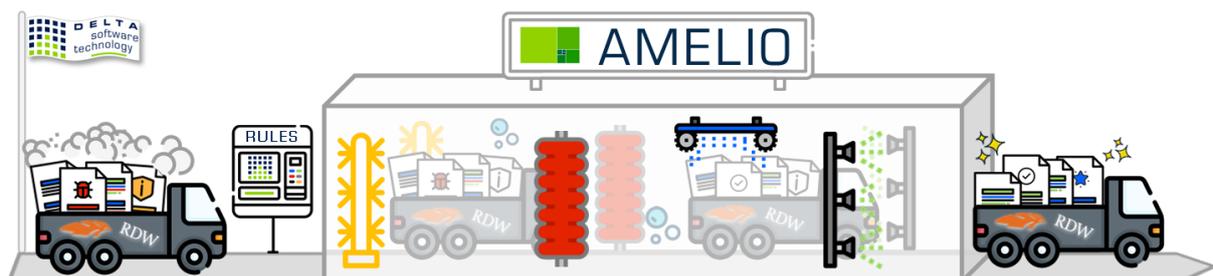
> "We now see Delta's AMELIO Modernization Platform as a kind of washing machine. As long as we chose the right program it will remove a 'stain' (technical debt) from our applications. It's a great solution for when we have mass changes that need to be carried out on our application portfolio."
>
> *Gert-Jan Theuwissen*
> *Division Manager RDW ICT*

About RDW

RDW ICT is the IT service provider of the national vehicle authority of The Netherlands. Their main tasks include the inspection and registration of vehicles, market authorisation of vehicles, administration of driving licenses, information services for the police – in total more than 300 million transactions annually. RDW repeatedly has been awarded as the best and most innovative government organization, for best management and best annual results.

Convince Yourself

Interested in reducing the technical debt in your applications? Contact us and let us prepare a demo with some of your sources.

RDW removes technical debts using Delta's automated solution

Existing applications have accumulated a lot of technical debt over the years. Removing it could speed up maintenance significantly. In reality the task of improve the software by removing the obsolete parts is seldom performed. The risk of introducing errors and the cost of testing is the biggest reason for not doing anything.

Read more...

4 Review: Our Highlights 2020

Home office and social distancing dominated a large part of this year and required organizational changes. Nevertheless, we managed to implement business-critical projects on time and on budget together with our customers and partners. Once again it has been shown how much can be achieved by using automated solutions.

Here you will find our Highlights:

- Gothaer Systems starts migrating its IBM IMS Databases

- LzLabs teams up with Delta Software to ensure seamless application maintenance & development

- Insurance company assesses unified Micro Focus development environment with Delta Software

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