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Successful Migration from IMS/DB to Db2 using an automated Transformation Factory

A financial sector institution has demonstrated, through a preliminary study and a proof of concept, that IBM IMS/DB databases can be migrated to IBM Db2 in an automated, production-ready manner — at project costs approximately 35% lower than those of a manual migration.

Client

Institution in the financial sector

Project

Preliminary study and proof of concept for the migration from IBM IMS/DB to Db2 on IBM z/OS

Initial Situation

For several decades, the financial Institution has operated business-critical applications based on IMS Database (IMS/DB). In total, approximately 50 active databases are used by around 600 COBOL and PL/I programs. Furthermore, there are about 400 databases that are no longer in use but are still referenced within the source code.

In addition to high annual licensing costs, the growing scarcity of IMS/DB expertise, significant technological complexity, and the need to maintain two separate database environments posed a strategic challenge. Previous manual replacement projects had demonstrated that traditional migration approaches entail a substantial investment of effort: converting just five databases in one area required approximately 1,800 person-days.

Against this backdrop, the company sought an economical and low-risk way to gradually modernize its IMS/DB landscape by transitioning toward Db2.

Target

Together with the client, SQ Solutions, and Delta Software Technology, a preliminary study and a subsequent Proof of Concept (PoC) were conducted. The objective was to evaluate the automated transformation from IMS/DB to Db2 using the AMELIO Modernization Platform, while assessing whether the implementation was technically feasible and economically sound.

The focus was on:

- Analysis of the existing IMS/DB landscape
- Development of a robust business case
- Evaluation of potential migration strategies
- Assessment of whether Delta's proven "factory" approach, aimed at achieving the highest possible level of automation, can be applied
- Demonstration of technical feasibility via a PoC

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Procedure

Assessment

As part of the preliminary study, the existing system landscape was analyzed and evaluated in terms of complexity, database structures, and program dependencies. For the migration from IMS/DB to Db2, Delta offers a scalable factory approach that has already proven successful in other projects. The preliminary study examined whether this approach could also be applied to the client, as well as what adjustments would be necessary to meet the bank's specific requirements and guidelines.

Proof of Concept

Based on these results, the factory was set up and - together with SQ - applied to a selected subset in order to demonstrate the technical feasibility and the quality of the automated transformation:

- A proposal for the Db2 model was derived from the established IMS/DB model and coordinated with the client.
- The relevant sections of the source code were transformed in an automated, rule-based manner using the factory.
- A custom-tailored data transformation was generated for the data migration.
- Finally, the results were evaluated in terms of functionality, performance, and maintainability.

Project Results

The PoC confirmed the technical feasibility of the factory approach. The automated transformation process was able to carry out the migration task in a reproducible manner and to a high standard of quality, resulting in a solution ready for production. Furthermore, the databases that were automatically converted during the PoC, along with the corresponding transformed programs, have since been deployed into the production environment, where they are currently in active use.



The preliminary study also demonstrated that significant savings can be achieved compared to an approach based exclusively on manual implementation.

- Reduction of estimated project costs by approximately 35%
- Reduction of total effort through automation of the transformation
- Standardized and reproducible migration processes
- Reduction of project and operational risks
- Design of a modern and future-proof database platform based on Db2



A sustainable economic benefit has been identified: it is possible to save on the very high annual licensing costs. In addition, there are advantages resulting from a reduction in administrative overhead, decreased reliance on specialized IMS/DB expertise, and the opportunity to make greater use of modern technologies and more cost-effective zIIP processors.

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Client Benefit

With the preliminary study and the successful PoC, the organization now has a solid foundation for the strategic replacement of its IMS/DB landscape.

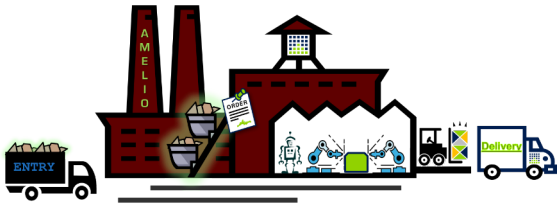
- Successful demonstration of technical feasibility
- Significant reduction in effort and costs compared to conventional migration approaches
- Minimizing operational risks through standardized and automated processes
- Long-term preservation of maintainability and expertise
- Technological foundation for future modernization projects

Statement

"The joint preliminary study and the successful proof of concept have demonstrated that migrating a complex IMS/DB environment to Db2 is both economically and technically feasible using an industrialized factory approach. By combining automation, standardized processes, and in-depth analysis, a robust path for the long-term modernization of a mainframe landscape has been identified."

Conclusion

The preliminary study conducted jointly by SQ Solutions and Delta Software Technology, along with a successful proof of concept (PoC), has laid the foundation for the strategic modernization of an established IMS/DB environment. The factory approach developed, utilizing the AMELIO Modernization Platform, enables a significant reduction in costs, risks, and the effort required for project execution and testing, while simultaneously providing a clear path toward future consolidation on Db2. These results thus offer a robust basis for decision-making regarding the further implementation of a transformation program.



About SQ-Solutions

Innovative IT consultancy with over 10 years' experience in the field of mainframe application modernisation. A hybrid approach combining the latest research with many years of project experience.

https://sq-solutions.de

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