



Head Office Wüstenrot
in Ludwigsburg

photo:Wüstenrot

Support and Implementation of Migrations at Savings and Loans:
a Report from Experience

Miles and More

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For the second time, employees of MaK DATA SYSTEM assisted in the move of all data used in production for a savings and loan system into a new environment. These migrations across all system and technology borders are currently one of the most important challenges facing IT at the largest and most traditional companies in Germany.

Broad Experience Gathered

The first migration project of savings and loan systems, from Heimstatt Bauspar AG into the systems at Vereinsbank Victoria Bauspar AG (VVB) took place between August, 1999, and September, 2001. The start of Project Miles, the internal name for the migration of the Leonberger Bausparkasse into Wüstenrot Bauspar AG, was in August, 2002, for the staff of MaK DATA SYSTEM. Both projects were supported by BGK in Gerlingen. BGK supplied the procedure and methods for the migration.

Why a Migration?

The reasons for undertaking such projects are first and foremost the reduction in complexity of custom applications afforded by the migration onto new platforms. This step is often bound to a complete redevelopment of the application, or the purchase of new software. The goal in this case is the exploitation of economic advantages due to lower maintenance overhead, lower license costs, and so forth. On the other hand, company mergers also lead to consolidation of their core systems, in other words, migrations of their operational data resources. And finally, the savings in maintenance and licensing costs are also sought in the case of mergers. Company mergers were the trigger

for both of the projects described here.

The goal of both migrations was the complete replacement of the data processing system. The old systems were based on the Adabas/Natural technology, and the target systems were IMS/DB2 with COBOL/PL1 applications. Data scrubbing and migration processing took place under the technology of the source system.

The following basic activities were necessary:

MaK DATA SYSTEM staff followed the work from the first cost estimates right through to the conclusion of archival of the old system.



Project Miles

Activity Overview

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| <ul style="list-style-type: none"> ■ Migration of data in reconciliation with revision and the accounting audit firm. ■ Integration of data from the old DP system with the necessary consequences with regards to | <p>technical details like numbering systems and so forth.</p> <ul style="list-style-type: none"> ■ Consulting on the development of the target system with regards to the business and technical requirements of the old | <p>systems (host and peripheral systems).</p> <ul style="list-style-type: none"> ■ Shutdown and permanent archival of the old system |
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Support Activities

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| <ul style="list-style-type: none"> ■ Survey and specification of the data resources to be migrated ■ Specification of the technical and organizational scope ■ Choice of programming language ■ Documentation of migration rules („transformation rules“) ■ Naming conventions for programs, lists, reconciliations, etc. ■ Communication within the subprojects as well as with the subprojects „DP target system“ and „business process“ | <ul style="list-style-type: none"> ■ Specification of the schedules with the computer center for the migration ■ Integration into the Migration Strategy ■ Determination of requirements for JCL, job scheduling, etc. as well as resource requirements for drive space, tapes, CICS systems, databases, files, and so on ■ Specification of reconciliation procedures like: balance reconciliation, quantities, and comparison of values ■ Support for system testing ■ Specification of the | <p>implementation strategy and quality control measures</p> <ul style="list-style-type: none"> ■ Specification of requirements for the target system and for the target peripheral systems from the point of view of the Heimstatt DP system, and following development ■ Programming, testing, and release of the migration application ■ Performance of the cutover of the data from the old system to the target system ■ Permanent archival of the old system |
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Requirements in Financing: the Exact Schedule

One distinctive feature of migration in the financial industry as opposed to general project work is the determination of a deadline for the cutover.

While the date of introduction of a product is often derived from the planned progress of a project, the time window for a migration project plays a very important role. A large number of migration rules, of the reconciliation of account balances

and so forth, is coordinated with a particular point in the yearly process, in this case with the conclusion of year-end processing. If this one-time deadline cannot be met, the migration programs must be revised, for example, to a quarter-end date instead,

Professional Planning is a Prerequisite for a Problem-free Execution

and the corresponding tests conducted with time travel, test reconciliations, and so on. In the projects described, work of such scope would be necessary that any postponement of migration was simply ruled out early on.

This pressure for a timely conclusion must be reflected in the project structure, planning, staffing, test procedures, and implementation of the migration itself. In concrete terms, this means that all preparations must be finished days or weeks before the cutover. Diverse test runs with the entire data set, as well as completed general testing must be followed meticulously, and the results of all of them must give the final "go" for the migration.

For the core team of the Miles project, this meant that the main work of creating the migration programs had to be complete and accepted by about August, 2003. From autumn on, only minor changes, with no influence on the overall course of the migration, would be permitted. After that point, the cutover procedure was intensively prepared. Beginning in December, all program code for the creation of the master file and the existence and migration rules was frozen. It is remarkable that this deadline, despite an increase in workload peaking in August, 2003, could be met. Among others, the data migration project leadership contributed to this with a successful acceptance of other subprojects.

In the framework of both migrations, there were three subprojects to meet the various requirements:

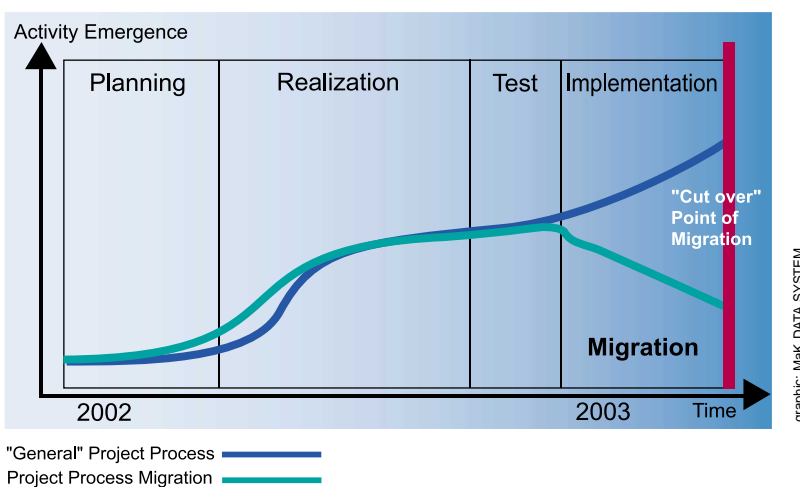
- Retirement of the old system (batch and online activities must be analyzed and shut down in an orderly fashion)
- Planning and implementation of the data transport (the core migration), and
- Acceptance of the data in the target system (here, too, there were batch and online activities to be adapted)

Nothing short of a picture-perfect coordination of these subprojects as well as the planning and general testing described above would result in a successful migration.

Goals Set Were Achieved without Exception

In both migrations, all goals were achieved. A decisive part played the master file concept used. The technological control of the process was done using an existence rule for the migration programs (one or more programs for each target file) and transformation rules for the individual data fields. This process proved in both migrations to be a goal-oriented, organizationally helpful interim step given the number of individual tasks.

The data to be migrated (contracts) were written to a central master file before being processed by the migration programs. This file contained the legal closing balance and also served as a supporting document for various



Schematic illustration of events over the course of the project

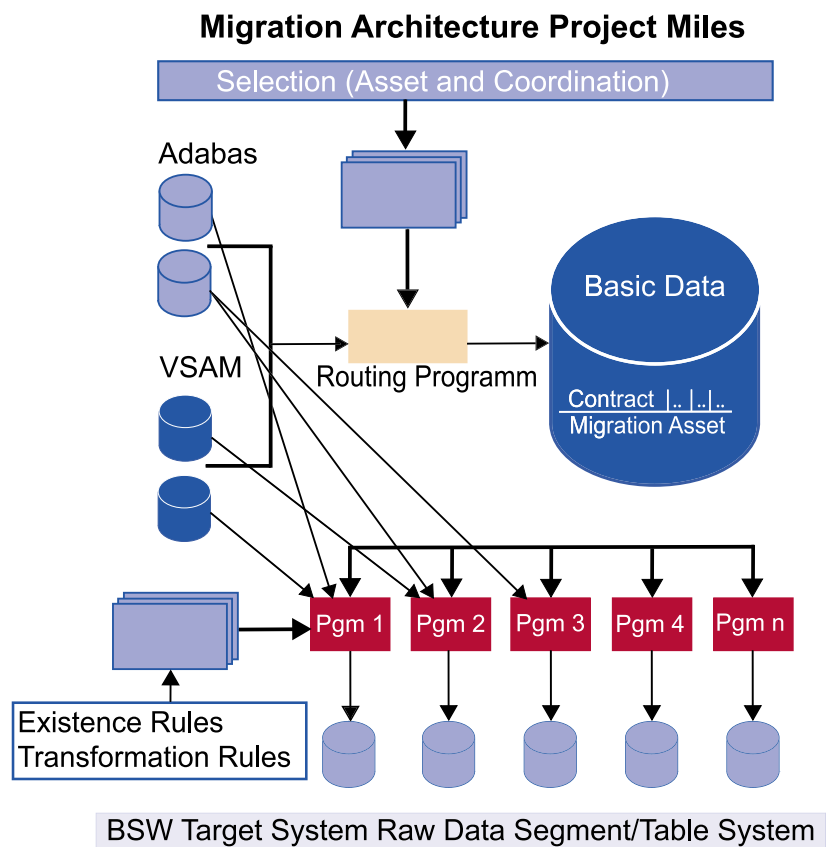
Routine Brings Confidence

reconciliations. After the construction of the master file – the first step in the cutover plan – the audit trail could already be followed over the migrated contracts. The first reconciliation with the old system was then possible. A prediction of what the individual migration programs must supply in terms of data also became possible at this point. This gives the responsible department the confidence to be able to certify the validity of the migration even while it is still in progress.

A further significant advantage of this methodology is the times saving achieved by preselecting the migration data sets. In the individual migration program, there is no longer any time-consuming retrieval of data and checking for existence, which in the absence of a master file would have to be performed many times. The existence rule is thus only logically seen as a trigger for the individual migration programs; almost all existence rules were implemented in the loading programs for the master file.

Summary

In the framework of the Miles migration for Wüstenrot Bausparkasse AG, a seven-digit number of contracts were migrated. In all, over 60 million data sets were moved. The target system was in production with the new and previous data sets on the day after the migration, with all consequences for the savings and loan business. The first month-end process ran with no problems.



graphic: MaK DATA SYSTEM

Reproduction migration architecture

These concrete experiences with data migrations over all platform and technology boundaries have been requested more and more over the past few years, and today – next to application development and maintenance – they represent an important field of business in which our clients can confidently and successfully complete their migrations.

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