

SoftwareMining – Legacy Transformation Case Study

“We give Software Mining 10 out of 10 for the conversion and support we received”

Bank's Technical Project lead

North American Bank

The back-office applications of one of the top 4 Canadian banks were implemented in COBOL / DB2 from the 1990's. The applications were primarily batch applications, and updated frequently to reflect the banks changing business requirements. The applications and the associated DB2 was one of the last applications still running on the IBM Mainframe.

These back-office applications meet the business requirements of the bank. There has been a large investment in creating and updating them.

Issues:

- The applications and the associated DB2 was one of the last applications still running on the IBM Mainframe. There were cost benefits associated with moving away from the mainframe.
- The application generates reports and data-files used by other COBOL applications in other departments, as well as other mainframes (UNISYS). Maintaining backward compatibility and maintaining a gradual modernization path is essential.
- The bank is standardizing on Java as the development language. Re-hosting of COBOL applications are not considered to be a long term solution.
- Whilst limited budget and resources ruled out manual rewrite – a high level of priority was given to “Maintainable” java. It was a requirement that translations should be legible to Java developers with little or no training.

Solution:

Migration to Java addressed these issues by Automatic Translation of the COBOL applications to Java.


- **SoftwareMining** provided a Translation Service, allowing the bank's resources to concentrate on test, maintenance and enhancement of the new application. During the translation process, all further updates to the COBOL programs were rapidly re-translated by SoftwareMining.
- **Bank's Java development staff** were brought in from other projects for build, maintenance, and deployment, and also to run new applications against existing data in the DB2 databases and generate the new reports.
- **Legacy development staff** - the COBOL development staff already had good exposure to Java. The COBOL staff also generated reports and data-files from the COBOL application for testing purposes. Comparison of the data-files generated by COBOL and the new Java application provided an easy way to validate the new application.
- **Financial Benefits** - Some 150-200 programs per man year are tested and moved into production. (compared with approximately 10/15 programs for manual re-writing).
- **Next Step** – An additional department within the bank will shortly be using SoftwareMining services for migration of their COBOL applications.

Client's Focus:

- Enhancements and Future Maintenance

The bank's selection of SoftwareMining solutions was after careful evaluation of the various suppliers, including the manual rewrite option. It was decided that the code produced by SoftwareMining's Translation Tools offered the most legible and easy to maintain code. SoftwareMining Tools were customized to export all Embedded SQL statements to file system. This allows migration and testing of the SQL statements without having to touch any of the tested Java code.

- Performance



COBOL applications tend to have better performance than the translated Java applications. However, the distributed architecture of Java allows running different batch programs on multiple processors / lower cost machines.

Further performance improvements to application was achieved by a mixture of

- Clean-up of SQL scripts
- Data caches on java
- Splitting some long running batch programs