



Migration Case Study

Business Problem

Koçbank is one of the largest retail banks in Turkey and has subsidiaries in several other countries. It relies on a banking package developed internally in the proprietary Linc language which ran on Unisys Clearpath and Sun Solaris equipment.

Since the bank had ambitious expansion plans, it wanted to migrate the legacy application, interface programs and auxiliary libraries onto a much lower-cost platform which would require lower initial investment as well as reduced costs for future upgrades, maintenance, operations and facilities and also provide a much more maintainable, easy to develop software platform using Open Systems Based Architecture.

Koçbank had a limited window of opportunity since the Turkish currency the Turkish Lira was due to be replaced by the New Turkish Lira at the end of 2004 and this would involve significant changes to the software. It would be extremely difficult to enhance the application in the old environment or with a migration in progress.



Business Solution

Koçbank selected migration software from MSS International to port the application and database to open systems, and chose SUN to supply the enterprise-scale Unix platform. The bank also subcontracted from MSS the necessary training and education on how to efficiently use, modify and reconfigure the MSS Migration tools and products.

The project was accomplished and went live in time for the application changes to be performed in the new environment which Koçbank found to be more productive than previously. The system was deployed in Turkey itself, the Netherlands and Azerbaijan, and Koçbank now finds itself well-positioned to expand further having a much lower cost base, stronger system that is more scalable to cope with growth plus greater ease of deployment than before.

Overview

Koçbank is a large financial organization based in Istanbul, Turkey with assets of over 7 Billion Euros (31/12/2004) whose core business is retail private and wholesale banking. Koçbank had been a user of Unisys Clearpath (NX6800) mainframes for many years.

In 2003 Koçbank decided to lower their cost base by moving to Unix equipment. MSS won the contract to license the use of migrate!LINC technology to the Bank. MSS trained Koçbank staff on the use of this tool for performing the migration to the SUN Solaris platform, Oracle database and Oracle development tools. The screen handling was performed by the bank's own IT personnel using the MSS JSP library approach and the batch code was migrated to SqC. The migration took 9 months and involved a team of about 32 Koçbank staff - 22 IT and 10 Business Integrators.

The Linc system consisted of over a thousand ispecs (screen layouts), and around 2000 reports (batch programs) and global logic routines. Additionally many Algol modules were rewritten and the interface between the application and the Alternative Distribution Channels (ATMs, Internet, Fonobank, IVR, Credit Cards, Trade Finance and Branch applications etc.) were replaced (and were simplified using the Oracle technology). The system now supports several thousand users and has been deployed in 3 countries for Koçbank and for its foreign subsidiaries.

Challenges

In 2003, Koçbank decided that they needed to move to an open system from their proprietary mainframe, a Unisys Clearpath NX6800. The first challenge was the limited window of opportunity set by the overriding deadline of the currency change due for December 2004.

The extensive and functionally rich ATM network deployed throughout Turkey and other channels were connected to the Bank's application by a large and complex set of Algol library routines (to support this functionality) which had to be replaced.

The large code base had to be migrated from Unisys Linc to Open Systems languages – Oracle PL/SQL and SqC – and the screen formats and supporting infrastructure replaced.

The database definition and data would also have to be migrated with integrity checks on the data as it 'landed' in the target Oracle database.

Underlying all of this effort were the usual difficulties of moving from one operating environment to a very different one. At a low level this entailed moving from a 48 bit EBCDIC environment to a 64 bit ASCII machine. At a higher level, all the tools and utilities are different but little staff retraining was required since Koçbank IT staff had already excellent knowledge and expertise of both Oracle and Unisys LINC, MCP DMS, and full control over the applications.



Solution

Koçbank IT Staff, trained by MSS, used the migrate!LINC software to perform the main code conversion. The new application is deployable on any mainstream platform. The Bank chose SUN as their hardware partner and installed large scale Solaris servers to replace the Unisys mainframe.

Koçbank required a high throughput transactional online system and wanted a low overhead presentation layer that was easy to manage. They chose to implement the JSP architecture using MSS JSP approach developed by MSS which is an optional module of migrate!LINC. Koçbank IT staff were trained in depth by MSS on how to use the MSS JSP software and went on to improve it further to better meet their own needs.

Koçbank replaced all the Algol ATM interface code. Because of the modularity of the new application design, the new code is effectively much simpler than the original. Due to this modularity and openness it has also been very easy to replace Linc NOF with a much simpler mechanism.



Solution Cont.

The Oracle database schema and data migration programs are both products generated by the migration software and the Bank needed no special software to move the data smoothly and with no loss of integrity from DMSII to the new database.

Koçbank developed significant skill in tuning Oracle and found that, when configured correctly, the database gave significantly better response times and more throughput than DMSII running on the Clearpath.

Once the application had been fully tested Koçbank performed a cut-over of all the Turkish accounts and the system ran live without a hitch. After 2 weeks of live running, the code running in the subsidiaries in the Netherlands and then in Azerbaijan was migrated. Although the code for these countries was different from the home country it was, in general, a subset of it and testing produced no issues. And, again, the cut-over weekends for the 2 subsidiaries were uneventful.

Results

The migration was completed in 9 months and went live in mid October 2004 giving enough time to complete the currency changeover modifications. The cut-over went extremely smoothly and the new platform performed substantially better than the previous one, with a very much shortened batch window and an excellent gain in performance.

“The migration has saved over twelve million US Dollars” says Hishem Laroussi, CIO of Koçbank. “It also helped Koçbank to smoothly, easily and in a short time implement the mandatory change from the TRL currency into YTL. This involved not only cutting 6 zeros from all amounts, but also converting and applying this to all historical data. It also needed significant changes in all functions in the areas of Treasury, Accounting, Securities and Credits. This also included all delivery channels from Credit Cards and ATMs to internet banking.

The task was very intensive since all programs and logics needed to be revisited and code was modified to comply with the new rules of YTL. The new environment made it easy for the developers to conduct this task properly in quite a short time and have it ready by 1 January 2005.”

Results Cont.

Another reason to finish the migration in such a short time was to create additional saving by not renewing certain licenses. Without the MSS products and training the migration and conversion from the proprietary environment to an open one would have taken at least 2 years instead of 9 months, and would have cost too much.

“We are so happy that we did choose the right tool and we are very happy that our choice of MSS resulted in such a success.” continues Laroussi. “Our bank staff were delighted to observe not only a big improvement in response times, but also faster development and fulfillment of their demands for changes. Month-End on the old platform was always a nightmare especially when it occurred in mid week on working days. Since we migrated, however, our overnight is shortened to a few hours and the system is ready for a new day in the early hours of the morning even while transaction volume has increased. Since the migration many new applications and products have been released and we have achieved good savings much earlier than planned. We also kept our promise of fast deployment – now all new developments are done in less than 3 months including analysis, design and coding.”

Migration Summary

ENVIRONMENT	SOURCE	TARGET
CPU:	Clearpath NX 6800	Sun Solaris Server
Database:	DMSII	ORACLE
Language:	LINC	PL/SQL, C
Data Comm:	COMS	JSP

“The migration has saved over twelve million US Dollars. It also helped Koçbank to smoothly, easily and in a short time implement the mandatory currency change. This involved not only cutting 6 zeros from all amounts, but also converting and applying this to all historical data. This also included all delivery channels from Credit Cards and ATMs to Internet banking. The task was very intensive since all programs and logics needed to be revisited and code was modified to comply with the new currency rules. The new environment made it easy for the developers to conduct this task properly in quite a short time and have it ready by 1 January 2005.”

Hishem Laroussi, CIO of Koçbank