



Migration Case Study



Business Problem

Clal Insurance has a very sophisticated insurance application that has evolved over many years and suits the company's needs extremely well. It is seen as a big asset in the competitive marketplace for insurance in Israel. However the fact that the application was tied to a legacy Unisys mainframe frustrated Clal's long-term aim of moving towards open, commodity based systems. It also conflicted with shorter-term operational goals of improving availability, response times, operations and connectivity – the existing mainframe was either prohibitively expensive or simply not suitable. When it became clear that, in April 2004, the machine would either have to be scrapped or re-licensed for a long term, it was decided that a complete migration was the only logical option.



Business Solution

Clal Insurance selected migration specialist MSS International, partnering with HP Israel and using Micro Focus Cobol compiler technology, to port the existing applications to a highly cost-effective HP Alpha platform. The re-hosting was done under extreme pressure since missing the deadline by a day would cost several million US dollars in re-licensing the existing machine. The project was accomplished and went live within the deadline. The final result is that Clal Insurance has achieved all of its strategic goals and is operating on a much lower cost base than before.

Overview

Clal Insurance is one of the largest general insurance companies operating in the competitive Israeli market. In addition to in-house users the computer system is available to several thousand independent brokers. This user population produces a transaction throughput of 15-20 transactions per second with approximately 1500 users logged at any given time.

Their Cobol application runs Clal Insurance core business and has taken 17 years to evolve to a point where it is highly effective. The problem was that the mainframe running the 3 million line code base was just too expensive and difficult to interface with.

In addition to a general aim of moving towards commodity based systems, Clal faced some specific challenges:

- Availability - Clal wanted to have higher availability for its mission critical systems.
- Response Time – Clal had concerns about response times and future capacity, and the incremental cost of adding resources to the mainframe was very high.
- Better Operations – Clal wanted to improve code quality and version control.
- Better Connectivity – Clal needed to make the business logic in the Cobol application available to the newer web-based applications.

Challenges

In 2003, Clal insurance had already made the decision to move to an open system from their proprietary mainframe, a Unisys Clearpath NX4800, but realised it was not possible to undertake this on their own. The biggest problem was moving the online programs to the open platform and recreating the infrastructure provided by the Unisys machine. With a costly re-license scheduled for April 2004, the management decided that the only option was to use MSS' expertise in migrations and accelerate the project.

The code base of 3 million lines of code had to be migrated from Unisys Cobol74 to Micro Focus Cobol85.

The communications infrastructure was an even bigger challenge and a replacement for the screen presentation and transaction routing mechanisms had to be found. The Unisys COMS TP Monitor is very feature-rich and complex – the difficulties of putting in place an equivalent were substantial.

Finally, Clal were using a large library of Algol utility functions to supporting forms design and deployment, soft locking, memory resident code tables and database interface code.

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 were different and staff retraining was required.

Solution

Having previously worked with MSS, Clal Insurance had confidence in the dedication and abilities of the MSS staff from the beginning. Clal also had a very good relationship with HP Israel and asked HP to provide overall management of the project and, of course, supply hardware, systems software and support.

Using the MSS migrate!COBOL automated conversion software the hardware and automated migration approach allowed this to happen with the minimum of impact on day-to-day operations.

MSS did not attempt to replace all of the COMS features, just those needed. The mcs!LITE product used is designed to implement the essential functions – transaction based routing including program to program messaging, support for screen formatting and so on – with minimal overhead.

The Algol library code was redesigned to work in a Unix environment and rewritten in C.

Results

The migration was completed in 8 months and went live on April 15th – before the re-licensing deadline. The cut-over went extremely smoothly and the new platform performed substantially better than the previous one.

Clal Insurance has now moved along its desired strategic path and achieved its short-term goals:

- Availability - using a low-cost HP Alpha machine as a standby server, the DR site is now fully operational – at a fraction of the cost of a second mainframe.
- Response Time – moving to super-fast HP Alpha machines has made the system much faster and capable of supporting a much higher load – at a fraction of the cost.
- Operations – moving the code to a Unix environment has allowed Clal to implement code configuration management tools like CVS for better management of the development and QA environments.
- Connectivity – the MSS mcs!LITE product is a flexible, open tool that easily allows connection between the newer web based applications, developed using the Microsoft .NET framework, and Cobol based services.

The migration has not only saved many millions of dollars in cost but has also allowed Clal staff to work in a more productive and future-proof environment. The organisation is an enthusiastic user of the HP hardware and MicroFocus software and very happy with the migration project itself.

Migration Summary

ENVIRONMENT	SOURCE	TARGET
CPU:	Clearpath NX	HP Alpha
Database:	DMSII	Oracle
Language:	Cobol/Algol	Micro Focus Cobol / C
Data Comm:	COMS	MCS!Lite

“The MSS professionals were the leaders of this extraordinary project. Their superb professionalism and dedication alongside the uncompromising decisiveness to make it work created the basis for the infrastructure for our current system”.

Hanoch Ben-David, CTO of Clal Insurance Pension and Financial Group.