

z/OS
DASD

Migration and
Consolidation



malakoff médéric

USER EXPERIENCE

“When using FDRMOVE we found that it was possible to solve a complicated DASD consolidation and to avoid a lot of work during weekends or nights.”

Frédéric Gauthier
z/OS Expert

 **INNOVATION[®]**
DATA PROCESSING



malakoff médéric

Malakoff Médéric is a complementary social protection insurer with two core business lines: the management of complementary pension rights, and life & health insurance.

The Group was formed on July 1, 2008 from a merger between the Malakoff and Médéric groups.

The successful merger of two equals has created a leading, independent and competitive partner with sound fundamentals.

The group currently has over 6500 employees and is managed by Guillaume Sarkozy, Délégué général.

Its business units are either jointly managed (managed equally by employer and employee representatives), or mutualized (managed by representatives of the insured).

These organizational structures are designed to recognize and protect the interests of the insured, who are actively involved in the decisions that concern them.

The IT Department

The IT department, which is called GIE SI2M, is managed by Christian Lothore.

The z/OS Data Centre, which is located near Paris, is currently running at 234 MSUs, spread across 8 LPARs, and with 12 TB of primary DASD volumes.

The data is stored on two DS8300s, linked through a PPRC system with two other DS8300s.

Most of the 12 TB of DASD is being used, with little freespace remaining.



z/OS DASD Migration and Consolidation

The Need For DASD Consolidation

At the end of 2007, the z/OS storage management team noticed that:

- GIE SI2M had too many UCBs to manage.
- They had many very large multi-volume files.
- It was becoming more and more difficult to manage both SMS and non-SMS volumes.

So, a decision was made to change from 3390 model-3 to 3390 model-9, and to do the consolidation at the application or environment level.

Each application or environment had between 1.5TB to 4TB of data.

Consolidation had to be primarily done inside the same DASD controller.

The consolidation of the Test and Development LPARs would be carried out during the day.

The Challenge

For each of the 2 major Production LPARs, the only possibility was to do the conversion during a weekend period, within a window of less than 30 hours.

The plan involved:

- Taking a backup of the data.
- Consolidating from 3390 model-3s to (temp) 3390 model-9s.
- Re-configure the original 3390 model-3s to model-9s.
- Move the temporary model-9s back to the newly configured model-9s.
- FlashCopy and PPRC initialization of the new volumes.

This plan left very little time for doing the actual consolidation. It was going to be a real challenge!

The Requirement

In order to move from 3390 model-3 to 3390 model-9, GIE SI2M looked for a solution that could:

- Provide a reporting tool to help with the “cleaning” of the current configuration (e.g. search for uncataloged files, duplicate files, VVDS errors, etc.). The tool also needed to be able to provide various other reports and configuration information.
- Automatically select input and output volumes for the consolidation, based on Storage Group or file name selection.
- Give an online status display during the data migration and consolidation process.
- Be as non-disruptive or minimally disruptive to our users and applications as possible.

z/OS DASD Migration and Consolidation

Choosing a Solution

In choosing a solution for the consolidation from 3390 model-3 to 3390 model-9, GIE SI2M looked at 3 possible solutions:

- Do the consolidation with existing tools.
- Use FDRPAS and FDRMOVE, from Innovation Data Processing.
- Use z/DMF, from IBM.

Innovation Data Processing and IBM each spent a day on site with GIE SI2M to demonstrate their products. In the end, a decision was taken to use FDRMOVE for the consolidation.

The Process

FDRMOVE would be used to non-disruptively move data from the existing 3390 model-3s over to temporary model-9s.

The 3390 model-3s would then be re-configured as model-9s and FDRPAS (part of FDRMOVE) would be used to move the temporary model-9s back to the re-configured model-9s in the original LCU.

Notes From The Consolidation

One of the major production LPARs that had to be consolidated contained mostly DB2 data, and the consolidation process was split into 48 different jobs.

One part of the work involved moving more than 400,000 very small files, which was achieved with two FDRMOVE jobs using 10 concurrent tasks, moving more than 100,000 datasets per hour.

The other part of the work involved using FDRMOVE to move another 2 TB of small and large files. To give an idea of performance, three 3390 model-3's, with an average of 240 datasets per volume, were moved every minute. This part of the process took approximately 150 minutes. When moving very large datasets, FDRMOVE's data transfer rate peaked at 1 TB per minute!

The two parts described above were overlapped in order to speed up the process.

As well as being used during the out-going consolidation, FDRPAS (as part of FDRMOVE) was also employed to return the temporary 3390 model-9s back to the original LCU.

To give an indication of performance, on average, FDRPAS (using 32 simultaneous tasks in one job), moved 3.2 model-9s per minute, or 1.6 TB per hour.

"FDRMOVE appeared much easier to install and use; we were very impressed with everything we did during this first day of FDRMOVE use."

"Innovation Data Processing understood our needs. They explained to us how to use FDRMOVE, how to solve each issue and how to run a successful plan. We received a good and proactive technical support from them, giving us confidence with the consolidation."

"Before running the consolidation we used FDREPORT to check our volumes' contents, which provided a great help and added value."

"When moving a full 3390-3 to a 3390-9, it may be necessary to expand the VTOC to allow more datasets on the new volume. FDRMOVE's support of expanding VTOC on active volumes was very useful."

Hervé Charlet
Technical Services
Responsible

"With technical assistance from Innovation Data Processing, we were able to organize the right plan."

"FDRMOVE allowed us to solve a complicated consolidation, and helped us to avoid doing a lot of out-of-hours work during the evenings and weekends."

Frédéric Gauthier
z/OS Expert

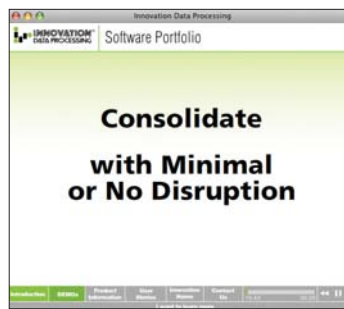
“Moving 12 terabytes from 3390 model-3 to 3390 model-9 was achieved quickly, safely & efficiently...”

Frédéric Gauthier
z/OS Expert



Online Product Demo

A 10-minute online visual and audio demonstration of FDRMOVE is available for viewing, FREE, on the Innovation Website: www.innovationdp.fdr.com



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