



## Beyond Traditional Data Integration



### Experience, Stability and Performance

***SIA is the European leader in project planning, implementation and maintenance of infrastructures and technical services. The services are provided to banks, corporations, public administration bodies and central institutions in the areas of credit and debit card processing, collections and payments, capital markets and network services for connectivity and messaging.***



Copyright: SIA

***The SIA Group is currently active in around 40 countries and also operates through subsidiaries in Belgium, Hungary and South Africa.***

***With 7.5 trillion transactions annually relating to cards, collections and payments, and 62.4 million cards managed, SIA carries 11.1 thousand trillion bytes of data on the network.***

On May 17, 2011 SIA became the new company name – before that, it was SIA-SSB. This change is the result of the preceding fusion of both companies. At first this took place on an organisational and technological level and then on the marketing level. For the IT systems the integration already started in 2007 with the consolidation of data centres from 4 to 2. This integration was successfully completed during the following two years.

This was a challenging project that resulted in a technological infrastructure which is regarded as one of the most modern in national and international comparison. In use is an IBM mainframe with the operating systems z/OS, z/VM and z/Linux. There also are Linux Server, UNIX and Windows workstations. The database efficiency is based on DB2 and ORACLE.

This heterogeneity is the result of the targeted selection of optimized technologies in various areas and services. They are all related to the specific requirements of the individual SIA projects.

"Most of the data processed by our network is stored in databases and is related to financial operations," says Gianpietro Ravasio, responsible for the mainframe systems and Fault Tolerant at SIA, "It is an absolute necessity that these transactions are processed according to the contracted service levels. This guarantees the positive result of the operation and also establishes the success of the company in the market."

The cross platform services provided by SIA must ensure the integrity of the data. In some cases – for example – it is required to mirror a z/OS DB2 database with a second z/Linux ORACLE database for administrative tasks.

In order to respond to these functional requirements, several solutions have been evaluated. These solutions had to meet several requirements crucial for the selection:

- Functions to feed the ORACLE database. This includes the initial database load as well as the ongoing replication in "Near Real-Time".
- The impact on the z/OS partition during the replication process had to be as low as possible.
- A central console to monitor and maintain all required operations for the data replication.

All of these requirements were met by tcVISION from B.O.S. Software. An intensive test was performed in

February 2011 and tcVISION efficiently performed all requirements for a data replication scenario.

Gianpietro Ravasio, "We have thoroughly checked the replication capabilities of tcVISION during the Proof of Concept. Changes applied to DB2 tables have been propagated into an ORACLE database. The tcVISION Manager was installed and configured on the mainframe and we adapted network rules to allow the changed data transport between the tcVISION components and to allow the use of the central console for the maintenance and monitoring. The graphical user interface of this central workstation was used to implement and activate all rules to process the data. The same rules can also be implemented using a batch procedure."

After the successful test, the performance of tcVISION was thoroughly analyzed. The CPU consumption on the mainframe only had a few MIPS: a positive low consumption especially when looking at the amount of data processed.

The efficiency of the product is also based on the fact that no external tools are required for the data processing (i.e. Websphere MQ). tcVISION directly uses the TCP/IP protocol.

"SIA paid a lot of attention to the consumption of the different products, because some costs are proportionally dependant on the consumption," Gianpietro Ravasio continues, "In this case we can safely confirm that tcVISION had performed the functions in the best possible way. tcVISION is in production operation and is also used for bidirectional replications between DB2 tables on different z/OS LPARs. All of this opens new horizons for other areas in our systems."

In addition to engineers from B.O.S. Software, specialists from SIA were involved in the project: System Administrator (z/OS, z/Linux and Windows), DB Administrators (DB2 and ORACLE), and Network Administrator. Each one has contributed to the implementation of the product.

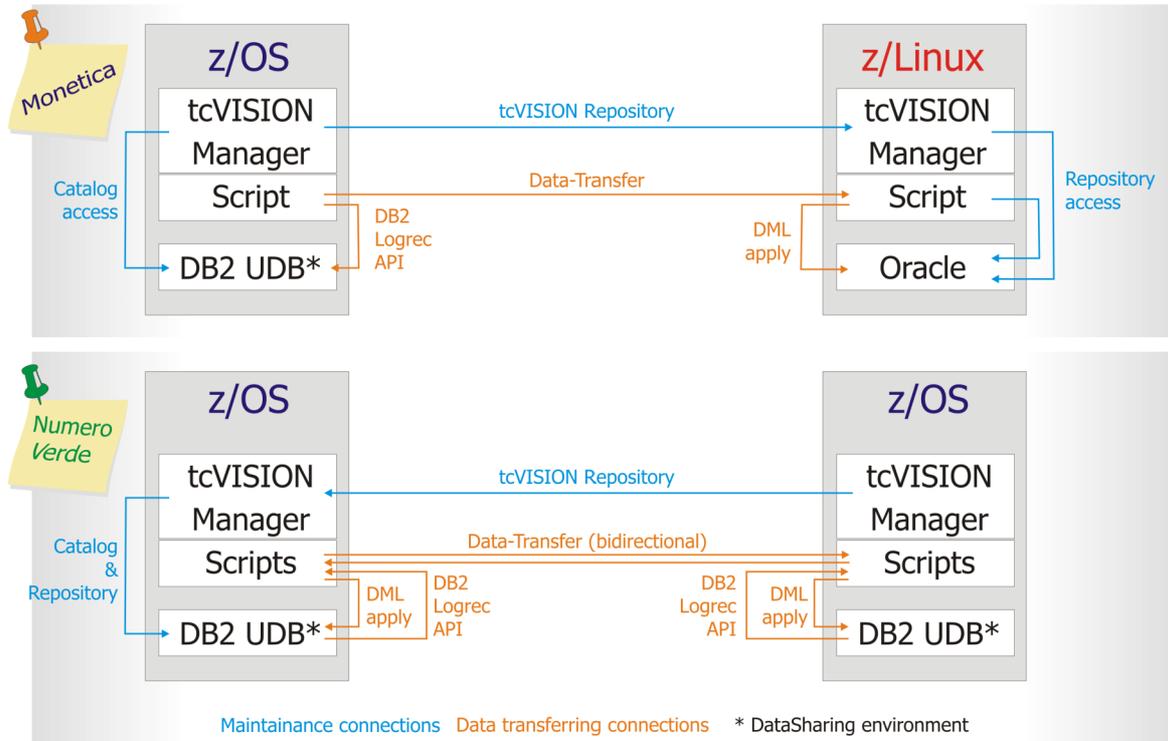
Gianpietro Ravasio, "We are already in a position to know that tcVISION will be used in other areas. Whenever we have the requirement to integrate and synchronize data between our central and distributed systems. Also in terms of user friendliness, tcVISION has proven to be very efficient and easy to use."



# Beyond Traditional Data Integration



## Implementation example: tcVISION at SIA



The tcVISION replication is based on a central Repository. The metadata, transformation and replication rules required by the processing are part of the Repository. The Repository can be stored in any relational database like DB2 or ORACLE.

tcVISION uses the DB2 Instrumentation Facility to capture the changed data in real-time from the active DB2 log. For the batch processing a combination of archived and active logs is used.

The tcVISION Manager on z/OS are connected to other tcVISION Manager (z/OS and z/LINUX) via TCP/IP. The changed data is applied to the target systems either via DB2 or the ORACLE Call Interface (OCI).

The tcVISION Control Board (GUI) is used to monitor all systems and to define and implement the replication scenarios.

The replication is fail-proof and can be restarted at any time.

### Contact:

Ing. Gianpietro Ravasio  
SIA S.p.A.  
Mail: Gianpietro.Ravasio@sia.eu

Josef Oberacher  
B.O.S. Software S.r.l.  
Fon: +39-0461-829650  
Mail: Oberacher@bos.it