

# Customer Case Study

## Blum: Bidirectional tcVISION, IMS and DB2 z/OS, and DB2 z/OS and DB2 LUW



### PERFECTING MOTION

Blum turns the opening and closing of furniture into an experience that significantly increases the comfort of motion in all areas of a home, especially the kitchen. The Blum fittings systems shout "high quality" with their well-thought-out function, recognized design and high durability. They are designed to spark inspiration and create an emotional experience out of day-to-day kitchen tasks. Over 4,500 employees are working worldwide realizing their goal to create perfect motion for Blum fittings systems. Within this process, Blum always focuses on the needs of the kitchen and furniture user.

### BUSINESS BACKGROUND

Julius Blum founded his company on March 1, 1952 and produced his first product: a horseshoe stud. Today, more than 50 years later, Blum is a worldwide acting company with production plants in Austria, Poland, Brazil and the USA. Blum is headquartered at Höchst, a town in Vorarlberg, Austria, at Lake Constance.

### SYSTEM PROFILE

The central IT department of Blum operates an IBM mainframe with the z/OS operating system. In addition numerous WINDOWS systems with DB2/luw are in use in Austria and abroad. Programming language on the mainframe is PL/1. The production data is stored in DL/I and DB2/zOS databases. According to Mr. Otto Buchele, Manager Information Systems Architecture, "Our installations abroad are autarkic systems, especially the Inventory/Stock System of our Polish subsidiary. These systems run DB2/ LUW and the databases must be closely synchronized with our central databases. In addition to DB2 we also use ORACLE for our Data Warehouse. Several Application Servers with JAVA applications complete the picture of our 'open system' environment."

### BUSINESS ISSUE

Various factors prompted Blum to contact B.O.S. in 2008. "Our replication problems were on the table. We already had attempted to solve them with our own solutions. But it was time to do something that was going to have a positive impact on a number of projects that were started, but not close to being completed. A newsletter that we received from B.O.S. caught our attention and we asked B.O.S. for a visit to discuss a few of our challenges, such as:

- parallel maintenance of our master data in DB2 and DL/I,
- migration from DL/I to DB2
- implementation of an Operational Data Store which implies a near real-time copy of our operational data for reporting purposes
- a continuous and bi-directional data replication between headquarters and subsidiaries
- uni-directional replications between different systems, i.e. between the mainframe and the ORACLE Data Warehouse.

A meeting was scheduled between B.O.S. and Blum at the end of 2008. Walter Griesser, Database Administrator at Blum, said, "We discussed our requirements with the B.O.S. folks and agreed to conduct a workshop to create replication prototypes with tcVISION and tcACCESS that would meet our requirements."

The workshop took place early 2009 and was very productive. According to Mr. Griesser, "The concepts of the B.O.S. solutions were a positive surprise to us and we especially liked the flexibility and the short time it took to implement replication scenarios between different systems, databases and platforms." Towards the end of the first quarter of 2009 Blum executive decided to move forward with the B.O.S. solutions.



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## ABOUT TREEHOUSE SOFTWARE

Treehouse Software is a B.O.S. partner, offering the most comprehensive and flexible portfolio of solutions available anywhere for integration, replication, and migration of data between mainframe sources and any target, application or platform; and virtually any mainframe application modernization project. Using ETL, CDC and SQL/XML technologies, we connect your enterprise—from anything to anything. We offer software and services that enable mainframe customers to leverage their investments in legacy systems—employing virtually any data source—with data integration, data warehousing, modernization and conversion, Service-Oriented Architectures, and other new technologies.

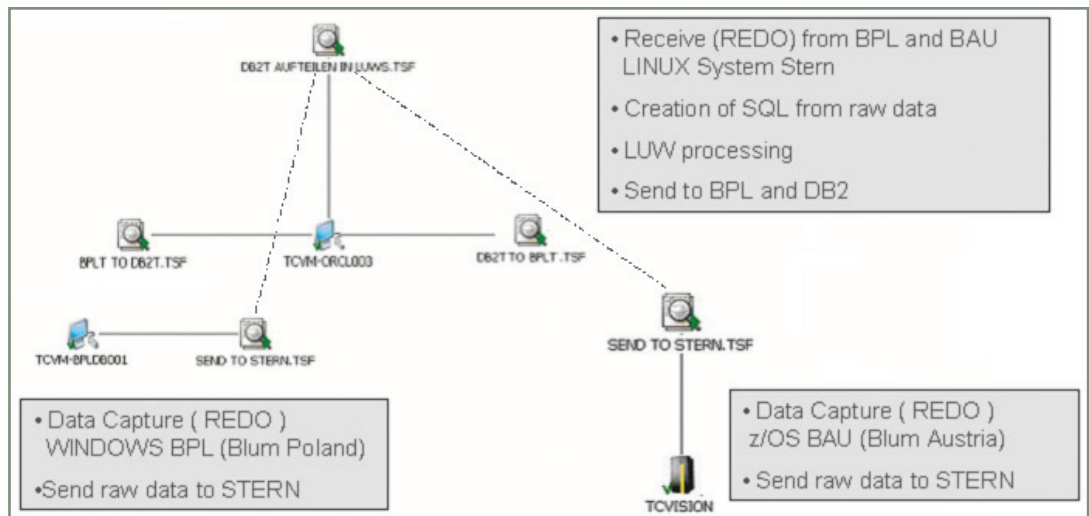
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Treehouse Software, Inc.  
2605 Nicholson Road, Suite 1230  
Sewickley, PA 15143 U.S.A.  
Phone: 724.759.7070  
Fax: 724.759.7067  
Email: [sales@treehouse.com](mailto:sales@treehouse.com)  
Website: [www.treehouse.com](http://www.treehouse.com)

## TECHNOLOGY SOLUTION

Less than 6 months later, the first replication scenarios went into production based upon the workshop prototypes. Mr. Griesser added, "The bi-directional replication between DB2/zOS on the mainframe at our headquarters and the DB2/LUW on the WINDOWS system in Poland have been in production for a while. Because both systems are of equal importance, changes applied to both systems must be replicated. We used the tcVISION "Near Real-Time" replication method to accomplish this. tcVISION extracts all changes found in the DB2 Active Log for tables that have the 'Change Data Capture' attribute and replicates them to the partnering system. Because the replication is bidirectional it is important to ensure that changes that have already been applied at one system are not replicated back. tcVISION provided functionality to check this in the replication scripts so we were confident there would not be the potential 'Loop- Back'-effect."

The replication between the DB2/zOS and the DB2/LUW uses a dedicated LINUX machine. Mr. Griesser stated, "It was our goal to have as little overhead as possible on the two production systems. On the mainframe tcVISION only captures the changed data and sends it to the LINUX system where the data is converted and transformed. The resulting changes are applied to the target DB2/LUW in Poland using DRDA. The reverse direction is the same: the changed data is captured by tcVISION on the WINDOWS system and sent to the central LINUX system where the data is converted and applied to the DB2/zOS using the DRDA protocol. The replication is performed by tcVISION on a transactional level. The receiving or propagating script collects the changed data per Logical Unit of Work (luw) and sends the complete luw to another script that actually applies it. Using this technique, we were able to 'kill two birds with one stone,' effectively reducing the overhead at the database server while having the flexibility to include multiple systems in new replication scenarios in the near future."



The replication paths between the mainframe based DB2/zOS of Blum Austria (BAU) and the WINDOWS DB2/LUW of Blum Poland (BPL). tcVISION processes the active DB2 logs on z/OS and on WINDOWS and selects all changes applied to DB2 tables that have the attribute "Change Data Capture". The changed data is sent as raw data to the distribution system STERN (Linux), tcVISION receives the data, creates luws and propagates these to either DB2/zOS or DB2/LUW. Changes that have already been applied are detected (Loop-Back Processing).