



## Networking Capabilities – Building on Partnerships

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*employees in over 70 production locations, mainly in Germany, France, Italy, UK and Spain but also in the US and Australia.*

*A worldwide network of 30 representations maintains a close contact to the customers.*

*Military Air Systems (MAS), an integrated Business Unit of Defense & Security, combines the Division's capacities and capabilities in the fields of fighter aircraft, manned mission aircraft and trainer aircraft. Moreover, MAS is active in the field of Unmanned Aerial Vehicles (UAVs). In addition, it offers ground equipment, training and service support for airborne military systems.*

EADS Military Air Most of the strategic applications have been developed in PL/I. For performance reasons routines that operate at the system level have been developed in Assembler. The IT department provides services to the production and logistic departments of MAS at Manching. The production data is stored in DL/I databases.

MAS is a tcACCESS customer already since 1996. Wolfgang Schrul, Database Administrator and IT Trainer at MAS remembers: "In these days we were looking for ways to exchange data between our SAP R/2 system and Office applications. It was our goal to directly store the SAP data into Office ODBC-data sources. We made the decision to use tcACCESS because the product offered a lot of features and a great flexibility to achieve our goals. We used the tcACCESS functionality of the Virtual Disks and it became the file-system of our choice for our windows applications We asked the vendor of tcACCESS to provide us with a function so that we could make the files on the Virtual Disk available to our Windows applications as ODBC data sources."

MAS developed additional interfacing routines.

Wolfgang Schrul: "In the following years we have been using tcACCESS from our DELPHI-, .NET- and VBA-applications and used the tcACCESS ODBC driver to directly communicate with our CICS mainframe programs. We use the Stored Procedure feature of tcACCESS. This allows us to use existing mainframe applications like bill-of-material processing or plausibility checking and to integrate these programs into our Windows applications."

The core application of MAS is the Production-Planning and – Control system, called RAZI. The application is in production since 1985 and is based upon DL/I databases and PL/I programs. Wolfgang Schrul: "The data model used in DL/I is a hierarchical model and does not meet the today's requirement of our end users as far as reporting and analyzing is concerned. We are using a data warehouse that is based upon MS SQL Server 2005. The DWH has been fed in the past by numerous FTP- and tcACCESS-transfers. All of these transfers happened during the nightly batch window. However this window is too short now to manage the amount of data. We had to look for an alternative. At the same time we also wanted to enhance our online window by 2 hours, from 5 a-m to 12 p.m."

MAS had already learned about tcVISION at a B.O.S. user conference. In October 2006 B.O.S. has been invited to present tcVISION and the concept of "Change Data Capture in real-time". Mr. Schrul: "The concept that B.O.S. presented convinced us and we arranged a proof of concept in November of 2006. During the testing period we have thoroughly evaluated the different capture methods that tcVISION provides and we made a decision to use the real-time capture component for DL/I and BULK Transfer for our VSAM files."

For the automatic capturing of Online- and batch-changes a total of 15 DL/I databases with more than 45 segments have to be monitored. The total data volume sums up to more than 20 million records. Ludwig Beck, System Administrator of MAS: "Both VSAM files will be completely transferred every night to SQL Server. We use the BULK-Transfer feature of tcVISION. The daily synchronization of the Online files is performed by tcVISION on real-time. Approximately 50,000 changes are captured by tcVISION. The synchronization of the Batch databases is also performed in real-time. Roughly 5.7 million changes are captured and propagated every day by tcVISION. We started the implementation of the product in March 2007 and moved to production early July of 2007." Mr. Beck is responsible for the We faced some roadblocks during the implementation, especially in the area of processing alternate indexes in DL/I. However together with B.O.S: we have been able to remove these roadblocks. We have found a very professional and competent partner in B.O.S. The good working relationship that we already encountered with tcACCESS has also been confirmed with tcVISION."

Wolfgang Schrul draws a conclusion: "We have met our goals. All of our old reporting procedures and data-transfers have been migrated from the mainframe to SQL Server-Services. All FTP-Jobs have been migrated to SQL Integration Services. The implementation of tcVISION did not require any changes in our application programs. Our high demands for recovery have been fully fulfilled: even in a case of emergency tcVISION can buffer the changes for multiple hours Yes and we managed something else: We could increase our Online window for the end-users from 5 a.m. to 12 p.m. Our decision for tcVISION and for B.O.S. was the correct step in the right direction."



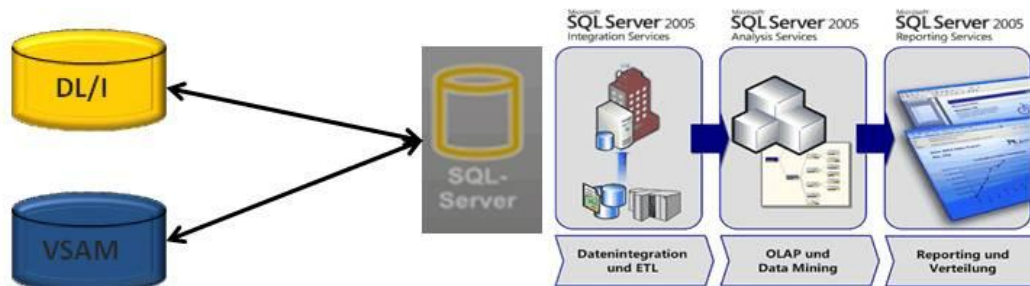
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## Products in Use at EADS:

**tcACCESS** → SQL access to DL/1 and VSAM  
Real-time integration and data-exchange using Visual Studio.net / Delphi / VBA

**tcVISION** → Data-synchronization DL/1 and VSAM with MS SQL Server 2005 for data warehouse



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