

# tcVISION

tcVISION for MongoDB - The right data in the right time at the right place.

## The Challenge

In the digital age Big Data and Analytics are widely being talked about. The efficient integration of mainframe data has multiple reasons: Big Data, Workload relief of the mainframe to reduce cost, application modernization together with data- and application-migrations without a „Big Bang“. Declining mainframe knowhow, databases and their complexities grown over decades. All of these facts are big challenges when it come to data exchange in a mainframe environment.

Many corporations used FTP or other file-transfer solutions to resolve the data exchange problem realizing that this was extremely CPU intensive, insecure and created high costs for the distribution of mass data. Today these solutions are not acceptable nor practicable any more. Not only because of costs but also because of limited batch windows.

## The solution

There is a better solution to manage and master this complex and ambitious task in an easy, fast, reliable and efficient way: tcVISION for the timely, bi-directional data synchronization and replication based upon changed data. With tcVISION the data exchange becomes a single-step operation. No middleware or message queueing is required. The data is exchanged in raw format, compressed and reduced to the processing of changed data.

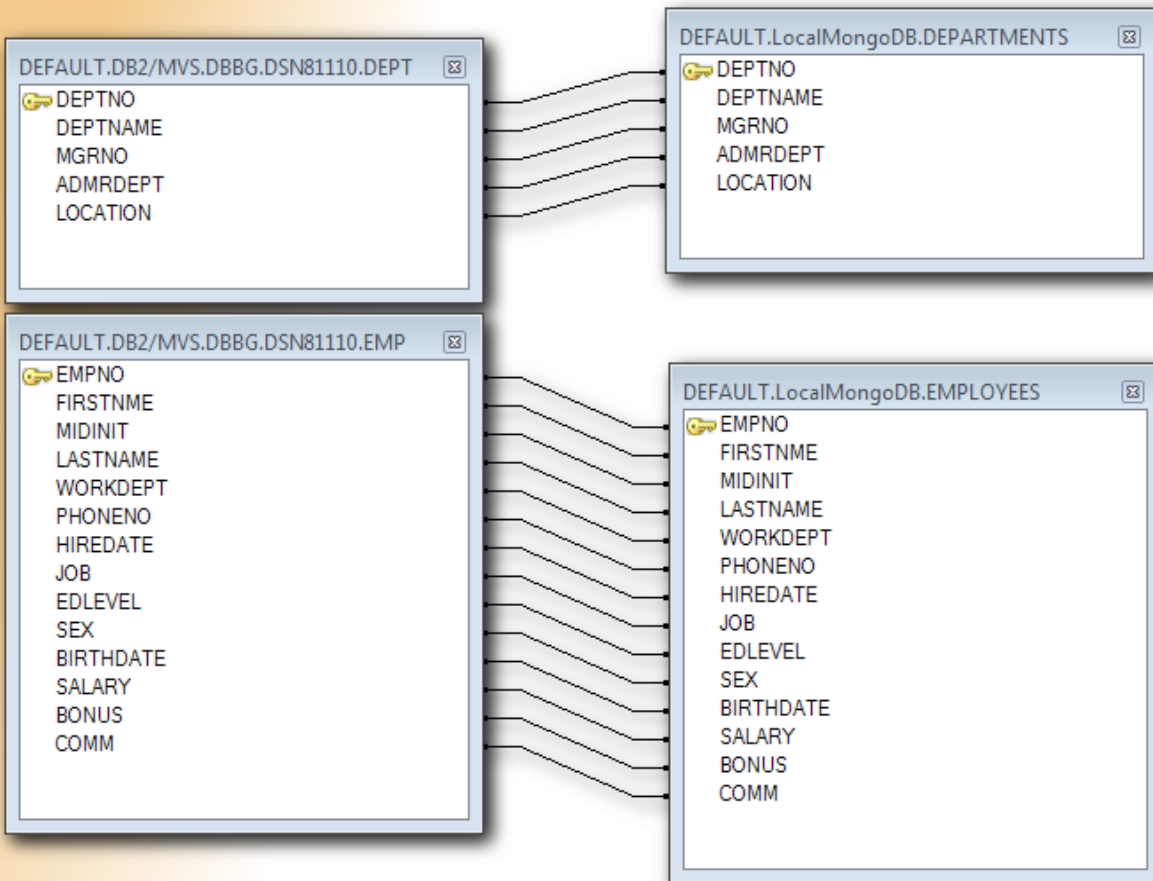
## Benefits

- Because the focus is on changed data (Changed Data Capture) the data transfer volume is reduced to a minimum
- Highest topicality through continuous real-time processing
- Cost reduction through relocation of data exchange processes from the mainframe to cost efficient platforms (e.g. UNIX)
- Cost reduction through compressed data transfers
- High integration potential of the tcVISION solution: multiple Change Data Capture technologies can be used depending upon change frequencies and latency times
- Comfortable data mapping into MongoDB documents
- Prevention of mainframe costs: integrated data repository creates transparency for all available data
- No additional middleware required – Elimination of costs and implementation efforts – efficient transport-layer
- Elimination of programming efforts for data transfers
- Comprehensive conversion of historically developed mainframe data structures
- Integrated Pooling/Streaming processes avoid programming efforts and message queueing to prevent data loss because of unavailability of the target system or delays
- Processes which have proven to work in practice are available to restart a replication after system failures (database errors, transmission errors etc.)
- Combination of data from different sources into one MongoDB document
- Creation of MongoDB sub-documents

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## Application examples

- Synchronization of data in a heterogenous system environment consisting of a mainframe and distributed systems
- Gradual migration of data and applications in heterogenous system environments
- Relieve the mainframe: Transfer of mainframe data to MongoDB for fast access by modern applications
- ETL of mainframe data for Data Warehousing, Business Intelligence, Analytics & Big Data

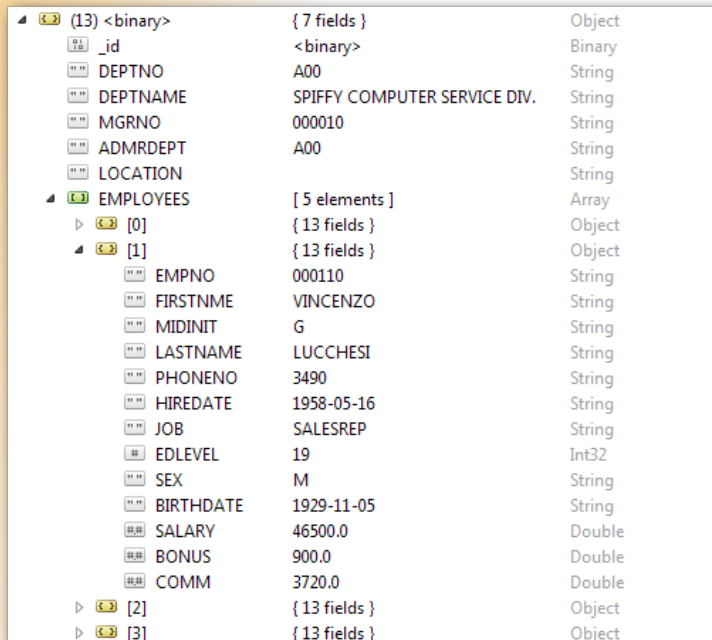


*Intuitive mapping offers comprehensive possibilities for data modeling and a variety of integrated functions for the transformation of data types between mainframe or open system data stores into the document structure of MongoDB. A complete change of the data model is possible with tcVISION.*

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## tcVISION for MongoDB – Facts

- ✓ Available for UNIX/Linux and Windows
- ✓ Comprehensive mapping functions to create the structure information for the document structure of MongoDB
- ✓ Central, relational Repository for storage of the meta data, linkage- and processing rules
- ✓ No additional middleware required
- ✓ No Message Queueing required
- ✓ Compressed and efficient data transfer
- ✓ Support of 1:1, 1:n, n:1 and n:n replications
- ✓ Convenient single-step-operations. Capturing of change data – transformation of data – application to MongoDB.
- ✓ Integrated workload balancing to shift tasks like processing and conversion to more cost-effective systems (e.g. from mainframe to UNIX/Linux).
- ✓ Parallelization of load processes in order to realize real low latency synchronization solutions.
- ✓ Integrated features for direct application of data into MongoDB.
- ✓ Combination of logically connected data through the usage of sub-documents
- ✓ Fast and efficient data transfer using the official C-API without using external components
- ✓ Built-in key management for non indexed data.
- ✓ Extensive monitoring, logging and integrated alert notification.



(13) <binary>	{ 7 fields }	Object
_id	<binary>	Binary
DEPTNO	A00	String
DEPTNAME	SPIFFY COMPUTER SERVICE DIV.	String
MGRNO	000010	String
ADMRDEPT	A00	String
LOCATION		String
EMPLOYEES	[ 5 elements ]	Array
[0]	{ 13 fields }	Object
[1]	{ 13 fields }	Object
EMPNO	000110	String
FIRSTNAME	VINCENZO	String
MIDINIT	G	String
LASTNAME	LUCCHESI	String
PHONENO	3490	String
HIREDATE	1958-05-16	String
JOB	SALESREP	String
EDLEVEL	19	Int32
SEX	M	String
BIRTHDATE	1929-11-05	String
SALARY	46500.0	Double
BONUS	900.0	Double
COMM	3720.0	Double
[2]	{ 13 fields }	Object
[3]	{ 13 fields }	Object

MongoDB-document of the above mapping shows the combination of multiple tables.