tcVISION

Test Company

POC Description

2023-14-03

1 Replication Scenario

The Trial should implement the general functionality of tcVISION. The criteria for the installation are defined as setup of a successful, repeatable, automated replication process with documented results from z/OS Db2 to a Microsoft SQL-Server 2022 database in the open world. The trail will be held for 60 days beginning April 1st 2023.

The five Db2 tables "Contracts", "Customers", "Addresses", "Risk assessment" and "Master data" are to be used for replication. These tables will be transferred to the SQL server using the tcVISION bulk functionality and then replicated to the SQL server using the tcVISION real time function. The throughput and the reliability will be considered. For the table "Risk assessment" a maximum latency of 1 second is given, important here is also the determination of the referential integrity. It is assumed that the test environment has the technical capacity to achieve the latency specifications.

2 Environment

tcVISION Mainframe Agent:	z/OS V2.5.0
tcVISION Source Databases:	Db2 V13 on z
tcVISION Server Agent:	Windows or Linux
tcVISION Target Database:	MS-SQL Server 2022
tcVISION Design Studio:	Any JAVA platforms

3 General

tcVISION can synchronize Db2 changes made online or via batch in real time via the Db2 log. To keep the impact on the mainframe as low as possible, tcVISION sends the changes directly to the server. The whole processing for initial load and real-time capturing can be automated.

4 tcVISION Agent Installation

4.1 tcVISION Agent in z/OS

It is possible to use the tcVISION function Db2 UDT agentless for pure Db2 processing without the host agent.

The tcVISION Agent will

- collect the changed data from Db2 via the Db2 Active Logs
- control the running transfer scripts

A detailed description of the mainframe installation under z/OS can be found in chapter 3 of the manual "tcVISION V7 Installation and Startup". The Db2 access will be described in chapter 3.4. Further information can be found in the manual "tcVISION tcSCRIPT" starting in chapter 8.4.

The tcVISION Mainframe Offload Data Feature can also be used for the method Bulk, whereas the bulk is done via Db2 Imagecopy on the tcVISION Server Agent.

4.1.1 tcVISION Agent Installation Requirements

The tcVISION Agent z/OS needs its own region.

The tcVISION modules, job samples, and macros require the tcVISION library. For maintenance a VSAM RRDS file will be created. All jobs are available from the installation library.

The tcVISION Agent requires access to all needed resources on the mainframe.

4.2 tcVISION Server Agent

The tcVISION on the server will receive the changed data from z/OS and apply the data to the target system(s). A standard installation procedure will install the components to the server. The installation requires 20 MB disk space. *If data is stored and buffered on the server, more disk space might be needed.*

The tcVISION Agent can be installed at the database server. However, this is not mandatory. The communication from tcVISION to the databases is established as follows:

- Db2 IBM Client and MS-SQL Server Client driver

For testing the z/OS compatibility, we recommend a Windows or Linux installation. tcVISION runs on the following operating systems:

- Linux 64-bit
- Linux on System/z
- IBM AIX 5L and later; IBM PowerPCs
- Sun/Oracle Solaris 9 and later
- MS Windows 64-bit

The tcVISION Repository can either reside on the server with the target database or on any other server of choice outside the host.

4.2.1 MS-SQL Requirements

If MS-SQL Server should be defined as target only, the current MS-SQL Server Client must be installed on the computer of the tcVISION agents. A tcVISION installation on the database server is not necessary.

5 TCP/IP

The tcVISION components must be able to connect to each other. Connections must be possible:

- from z/OS Agent and scripts to the server
- from server Agent and scripts to the mainframe
- from Windows Design Studio to both the server on which tcVISION is running and to the mainframe

All tcVISION components must be able to connect to each other in both directions. To ensure the connectivity, at least *ten* ports must be available. The number of ports to reserve depends on the number of parallel tasks desired to run in tcVISION. Please have a look at the firewall definitions!

6 tcVISION Design Studio

The tcVISION Design Studio will be used to monitor, administer, and control the different tcVISION agent and replication processes.

The tcVISION Design Studio is to be installed can run on any JAVA compatible platform. For the installation a directory with free space of 40 MB is required. All writing operations will be placed into the *user's* directory.

The tcVISION Design Studio is not necessary for the transfer itself. It will be used for defining and visually monitoring the transfer process only.

7 tcVISION Repository

The tcVISION Repository is the source for meta information about input and output objects. All replications performed by tcVISION must be based on the Repository.

The tcVISION Repository consists of tables that are part of a database. These tables may be part of the target database or can be stored in a separate database. All Agents in a tcVISION network access the same database. If it is not possible for an Agent to directly access the database, the Repository access can be redirected to another Agent in the network with direct access. This also applies to scripts.

Currently, support is provided for the mainframe, MS-Windows, UNIX, and Linux platforms on which the tcVISION Agent can run. When choosing the database that should be used for the tcVISION Repository, the main focus should be on platforms on which the DML statements reside.

A small PostgreSQL database is sufficient for this installation, or the MS SQL Server can be used.

8 Staff

For the installation we recommend that the following people are available:

- z/OS system administrator
- Database administrators
- Staff who is familiar with the data structure and content of the databases and files
- Network administrator
- Windows/Linux administrator
- Security administrator

9 Appendix A: Connections Overview