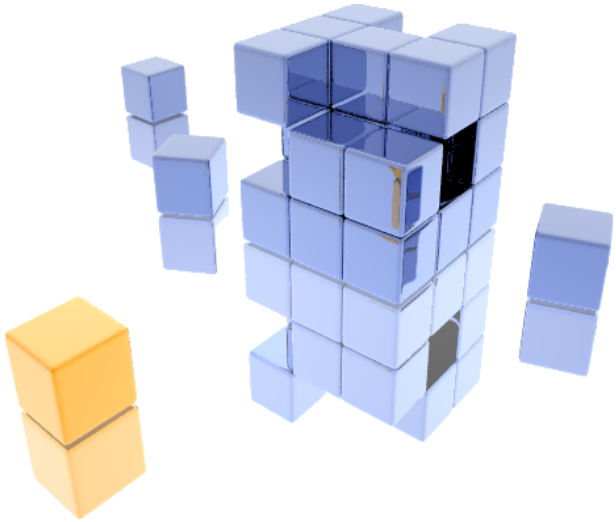


tcVISION

at

Cedacri

Proof Of Concept

lunedì 06 febbraio 2017

1 General and Success Criteria....3
2 Environment....3
3 General....4
4 tcVISION Manager installation....4
4.1 tcVISION S390 Manager in z/OS....4
4.1.1 tcVISION S390 Manager installation requirements....4
4.2 tcVISION Server Manager....4
5 TCP/IP....4
6 tcVISION Control Board....5
7 Repository....5
8 Intesa Staff Requirements....5
9 Appendix A: Connections overview....6
10 Appendix B: Staging concept of tcVISION....7
11 Appendix C: Installation and Verification....8

1 General and Success Criteria

The Proof of Concept should implement the general functionality of tcVISION. The criteria for the installation are defined as *setup of a successful, repeatable, automated unidirectional replication process with documented results DB2 in z/OS to a kafka data-stream. The data-format used should be JSON.*

tcVISION POC will prove and successfully deliver all clients transaction history from DB2 to JSON in kafka in Real-Time with minimal latency for both the online and batch environment. The initial load should be made using an imagecopy of DB2.

tcVISION POC will also enable Cedacri to replicate this process to other areas within their IT enterprise.

2 Environment

tcVISION S390 Manager:	z/OS 2.1 or beyond
tcVISION Source Databases:	DB2 V10 / V11
tcVISION Server Manager:	Linux (RedHat 6.x / 7.x)
tcVISION Target:	JSON data format delivered to kafka data stream
tcVISION Controlboard:	Windows 7/8/10, Windows Server 2008-2016

3 General

tcVISION can synchronize DB2 changes in real-time via the IFI_306 interface. This processing can be automated.

The initial load can be made by accessing DB2 directly to read the data or by Imagecopy. On kafka side JSON output will be produced automatically.

4 tcVISION Manager installation

4.1 tcVISION S390 Manager in z/OS

The tcVISION S390 manager will

- collect the source data from DB2,
- control the running transfer-scripts,
- start jobs for reading DB2 tables or imagecopies for the initial load.

4.1.1 tcVISION S390 Manager installation requirements

The tcVISION S390 Manager z/OS needs its own partition with at least 20 MB of memory.

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

The tcVISION manager needs access to all needed resources on the mainframe.

More detailed installation instructions can be found in the manuals.

4.2 tcVISION Server Manager

The tcVISION on a LINUX / UNIX Server will receive the changed data from z/OS and apply to the target system. A standard installations procedure will install the components to the server. The installation requires 40 MB disk space. *Data will be stored and buffered on the server. The necessary amount of disk space increases by the amount of data to be hold (and the time the data should be hold in the past).*

The tcVISION manager will be installed at the database server in this case. However, this is not mandatory. The communication from tcVISION to kafka is made via kafka libraries.

For the installation in LINUX / UNIX the following software packages are needed:

- unixODBC
- glibc3 runtime
- openSSL
- kafka C runtime (client libraries)

A repository for holding the metadata must be created in any RDBMS Database. For the repository a table space and a system temporary table space with 32K page size is required. More detailed installation instructions about the creation of the tcVISION repository can be found in the manual '*tcV6Repository_en.pdf*'.

5 TCP/IP

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

- from z/OS manager and scripts to the server
- from server manager and scripts to the mainframe
- from Windows Control Board to the server tcVISION is running on and to the mainframe

All tcVISION components must be able to connect to each other in both directions. To ensure the connectivity at least *five* ports must be available. The number of ports to reserve depends on the number of parallel tasks desired to run in tcVISION.

Please refer to the *connection plan* in Appendix A: Connections overview on page 6.

6 tcVISION Control Board

The tcVISION Control Board will be used to monitor, maintain and control the different tcVISION manager and replication processes.

The tcVISION Control Board is to be installed on a windows machine running at least Windows Vista. For the installation a directory with free space of 100 MB is required. All writing operations will be placed beneath the *users* directory.

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

7 Repository

The tcVISION Repository consists of tables that are part of a database. These tables may be part of the source database or can be stored in a separate database.

The DDL for the table creation is shipped with tcVISION.

8 Intesa Staff Requirements

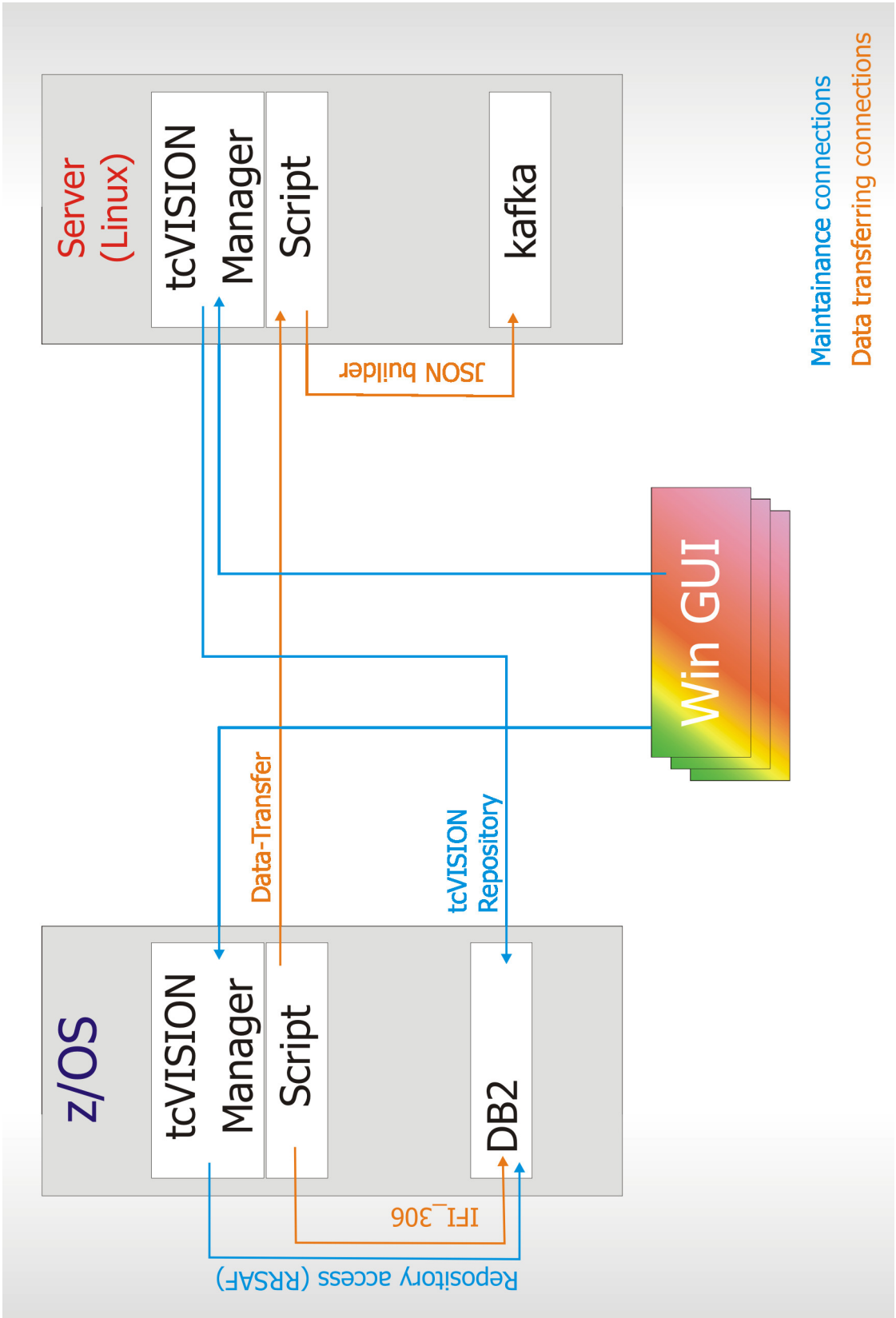
For the installation of tcVISION we recommend that the following Intesa people are available:

- z/OS System Administrator (typically the Head System Programmer)
- staff who's familiar with the data structure and content of the databases
- Administrator for Kafka Queueing System
- MS-Windows or UNIX/LINUX System administrator
- Network administrator

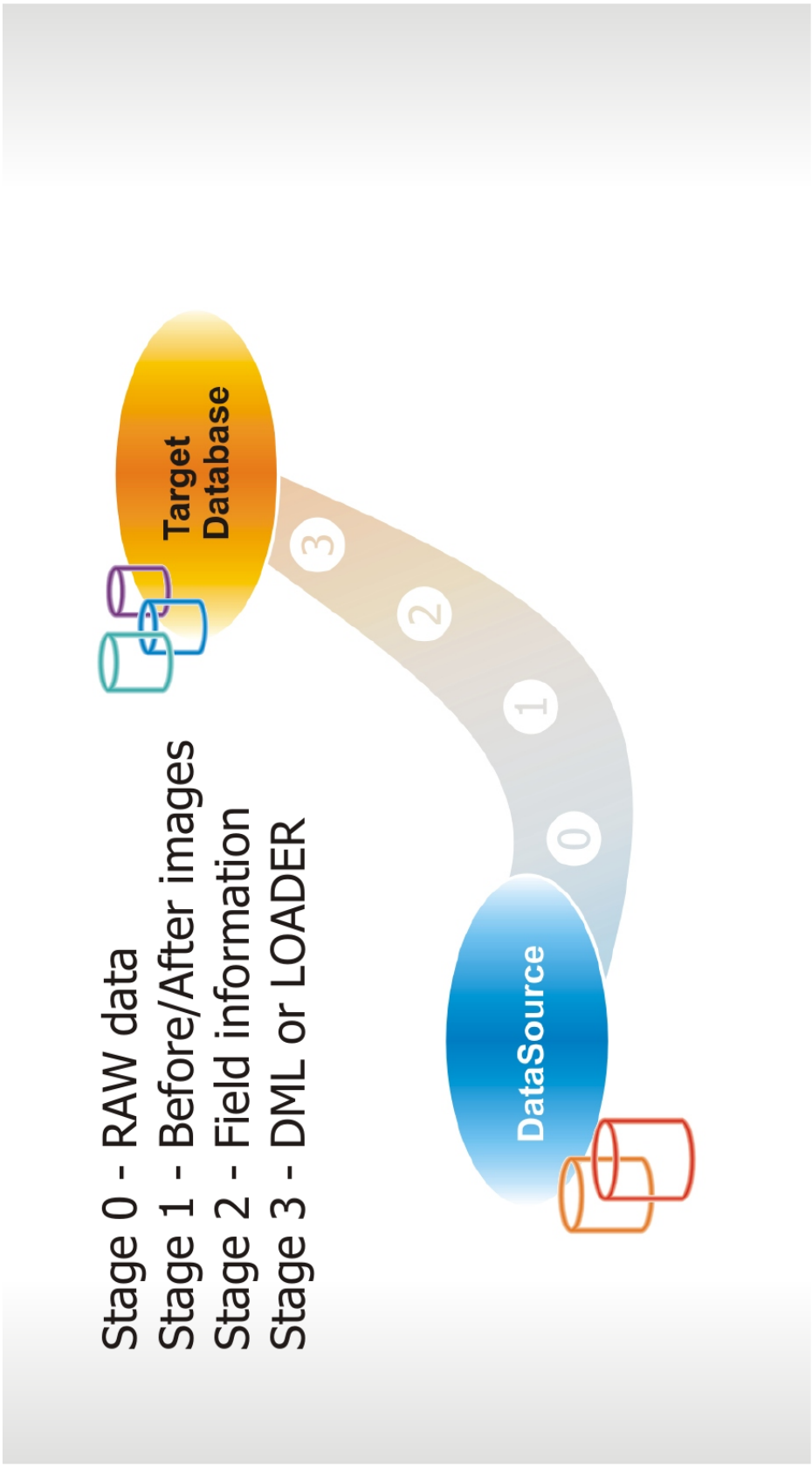
For the training the following resources should be participating:

- Project manager for the tcVISION solution
- Application development staff who's familiar with the applications, data structure and content of the databases and files and will be involved in the project frequently
- Administrator for Kafka and Data Manager responsible for DB2
- MS-Windows or UNIX/LINUX System administrator

9 Appendix A: Connections overview



10 Appendix B: Staging concept of tcVISION



11 Appendix C: Installation and Verification

Installation of tcVISION:

Please follow the installation process and steps listed in these documents:

- "tcV6HostInstallation_en"
- “tcV6WorkstationComponents_en”

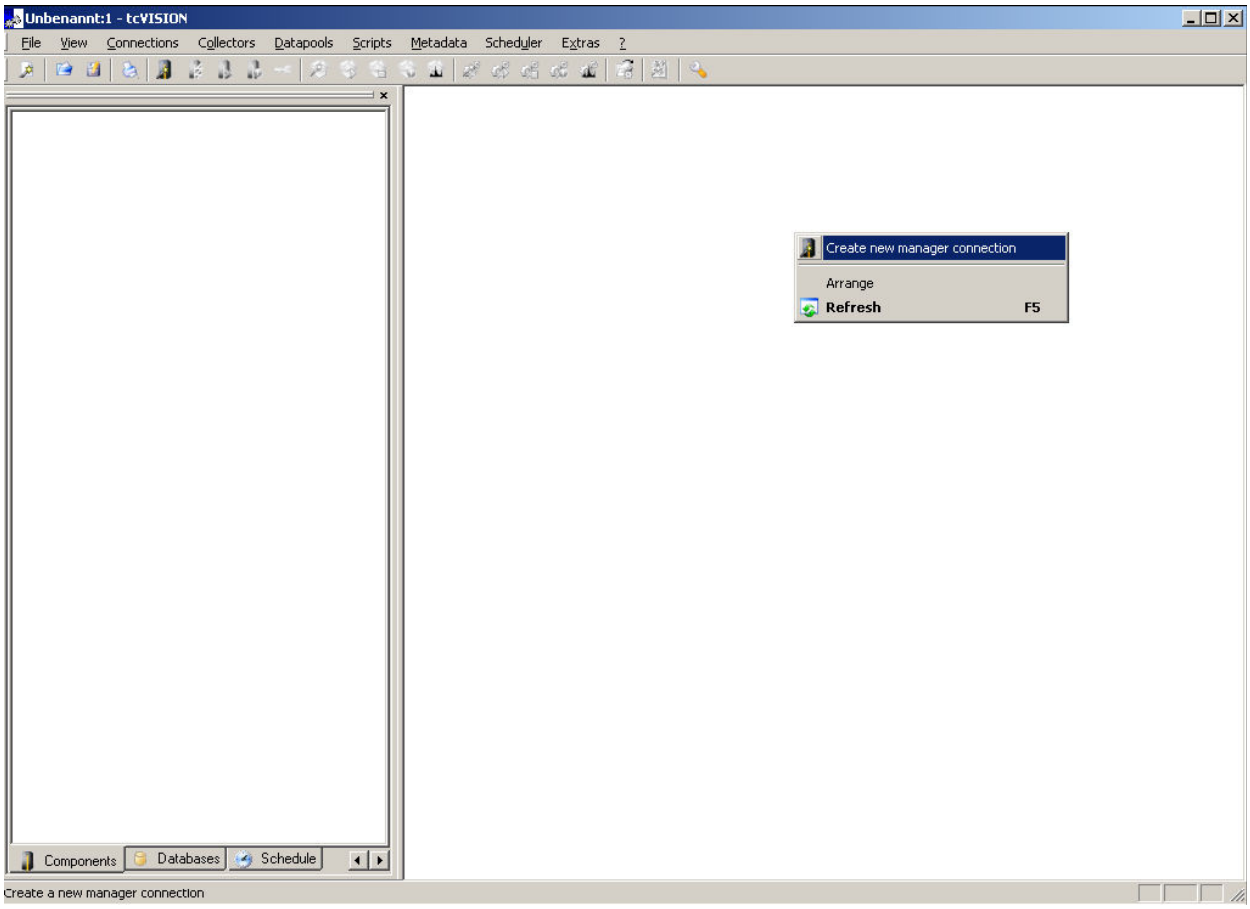
tcVISION Installation verification

After completion of the installation the following steps can be used to verify the internal communication between the tcVISION components.

Create a connection between tcVISION Managers

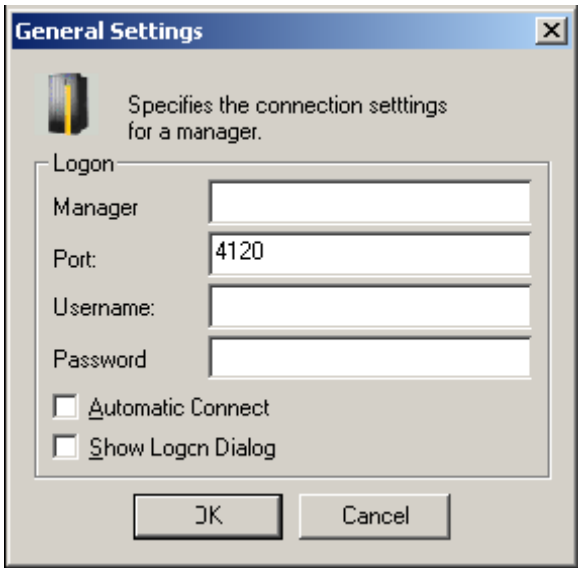
Start the Windows application "tcVISION Control board".

Right mouse click on the empty desktop and create a new Manager connection:

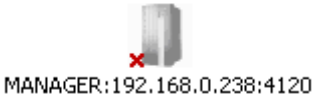


Move the cursor symbol to the place on the desktop where the Manager symbol should be displayed and click.

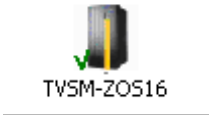
The general settings dialog pops up:



Specify the IP-address or the name of the tcVISION Host-Manager.
Click OK and the connection has been created.



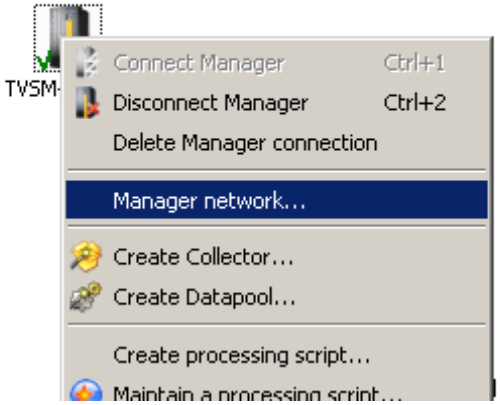
Double-click on the symbol to establish a connection. The login dialog can be skipped for this test by clicking on the OK button. The Manager symbol changes the color and the name of the Manager will be displayed.



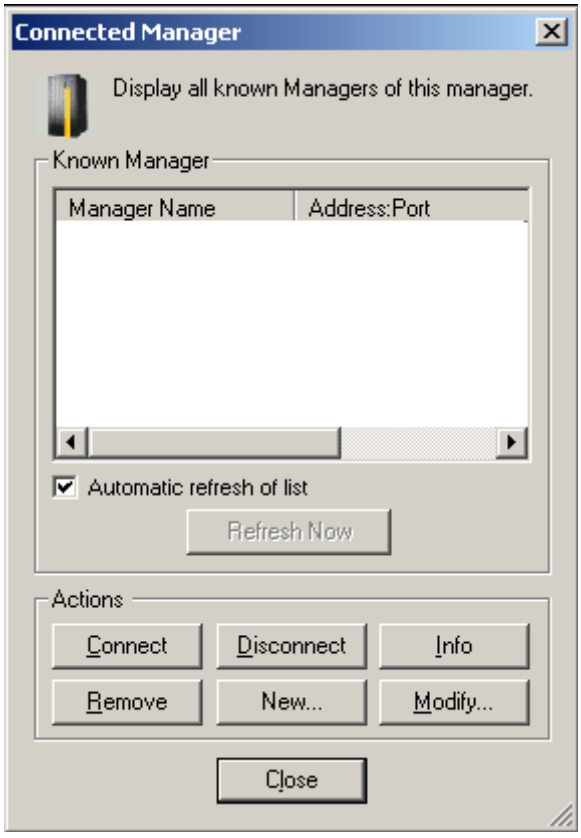
Please perform these steps for all relevant workstation Managers After completion of the connection definitions, they should be saved. Use menu entry "FILE/Save as...".

Checking the Manager communication

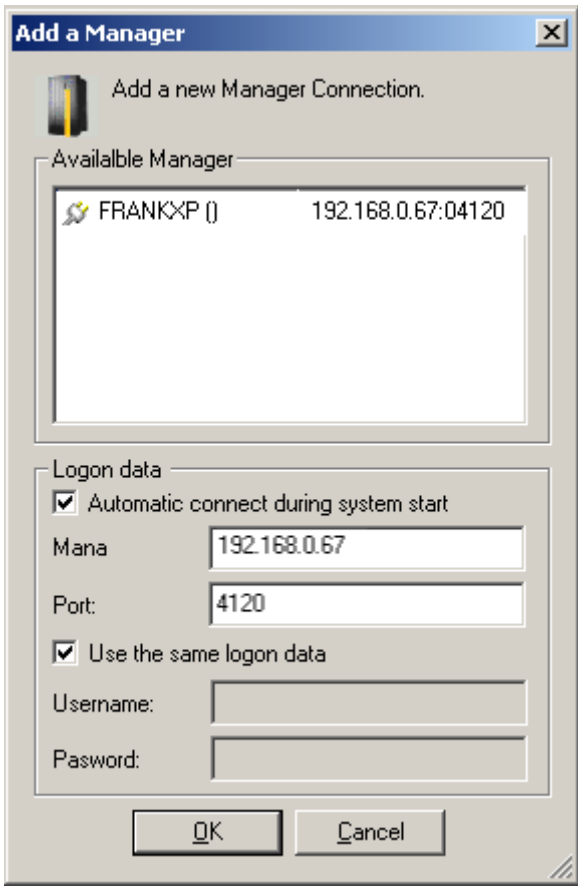
A Manager network should be defined to establish the Manager communication. Right mouse-click on a Manager symbol on the desktop of the tcVISION Control board the Manager network can be established:



A dialog is displayed that shows all existing connections for that Manager:

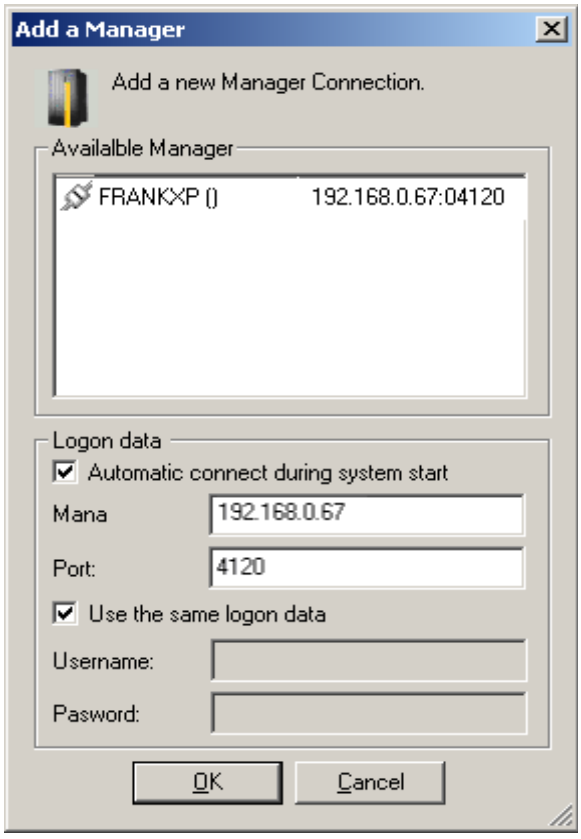


Click on button ‚New…' displays a dialog that contains all Managers currently known to the tcVISION Control board:



Select the Manager and click OK.

A message confirming that the connection has been created is displayed and the dialog "Add a Manager" is redisplayed:



The "connected plug"-symbol indicates that the connection has been successfully established.

Please perform this test for all defined Managers.

Please connect all Managers with each other.

Communication problems may have the following reasons:

- Wrong or erroneous routing information
- Suppression of the connect request by a firewall
- Problems during name resolution
- Different IP-addresses for different subnets