Industrial^{IT} Freelance

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Freelance

Getting Started

CBF Viewer 2013 with System 800xA (Build 158)

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Table of Content:

1. Installation

This chapter explains the Installation of CBF Viewer.

> **i** This guide is based on a running System 800xA Configuration with implemented Freelance 2013.

1.1 CBF Viewer

> **i** Install the CBF Viewer **on all nodes of your 800xA System!**

Run the *"Autoplay.exe"* program from CD labeled *"CBF Viewer"* and follow the instructions.

At first you select your preferred language:

Start of the installation by selecting *"CBF Viewer"* followed by a click on CBF *"Viewer Software Installation"*.

Having started the setup, you will see the following dialogue:
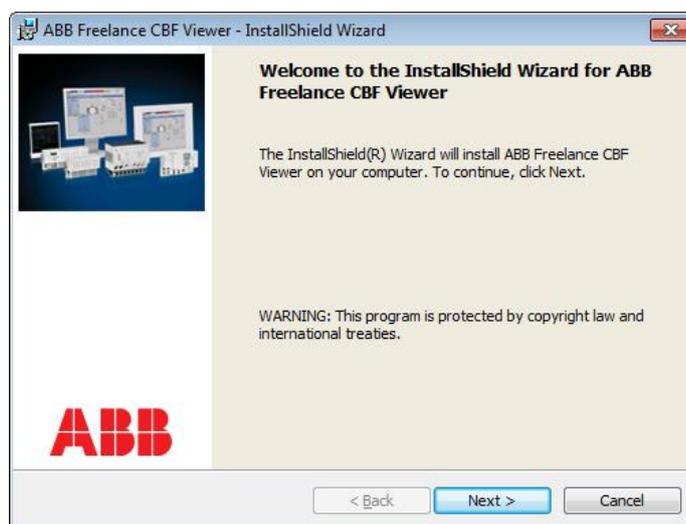
Follow the instructions on the screen.

> **i** The default installation path for System 800xA is „c:\Program Files\ABB Industrial IT\CBFViewer"

The installation is now completed. You can terminate the setup with „*Finish*".

## 2. Freelance configuration on Primary Connectivity Server

> ℹ️ The connection to the OPC server cannot be configured redundantly. If the PC with the local OPC server breaks down, no CBF Viewer is in a position to ascertain online values from the process station.

Run the *"Configure"* program of Freelance on the *"Connectivity Server"*.

Start → All Programs →ABB Industrial IT → CBF Viewer → Freelance 2013 → Configure

Select the option *"Freelance OPC-Server Options"* and enter the **New resource ID.**
Then press "*Add*". Select the new OPC-server in the list of existing resources and press the "*Configure*" button.

Enter the username and password of the operation system (800xA service account).
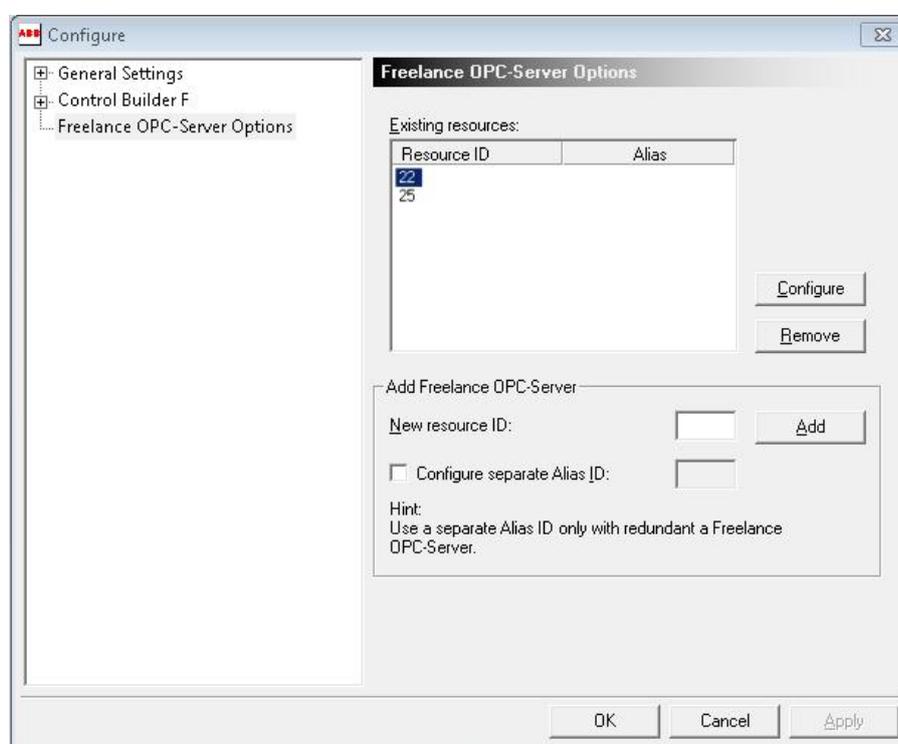
> ℹ️ The name of the 800xA Service Account is placed in the 800xA Configuration Wizard. *"Start" → "All programs" → "ABB Industrial IT 800xA" →"System" →"Configuration Wizard".* In the program window select *"System software User settings"* and confirm by hitting *"Next".* You will find the username within the field *"Service Account".*

Finally you have to change two values in the "Registry Editor" of Windows to finish the configuration of the primary connectivity server.

Run the "Registry Editor" and go to key *"OPCServer".*

On a 64bit Node: "HKEY_LOCAL_MACHINE" → "Software" → "Wow6432Node" → "Hartmann & Braun" → "Freelance" → "OPCServer"

On a 32bit Node: "HKEY_LOCAL_MACHINE" → "Software" → "Hartmann & Braun" → "Freelance" → "OPCServer"

Change the values "*TaskBarEntry*" to 0 and "*PPAConnectivity"* to 1.
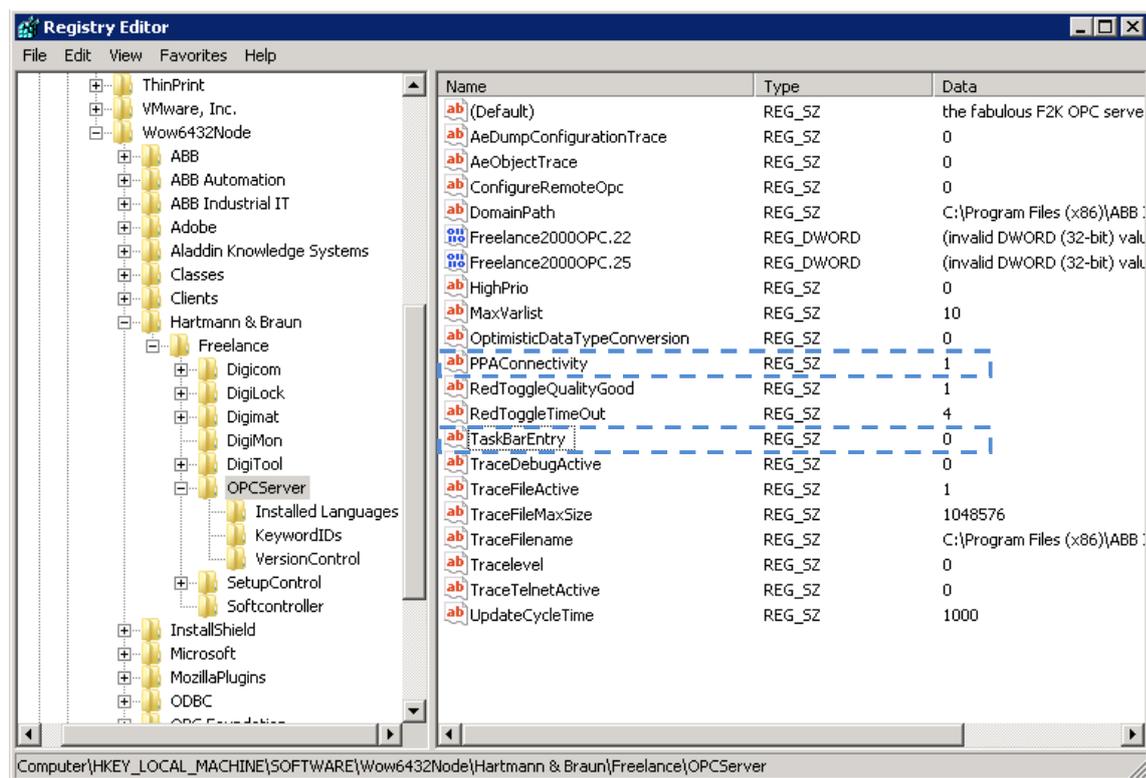
3. CBF Gateway configuration

In order to integrate the CBF Viewer into the Control Builder F, you have to insert an OPC gateway with read and write access to all variables and tags.

Insertion of an OPC Gateway into the Control Builder F:

Open your project, go to the project tree in the configuration mode and insert a gateway station (D-GS) on the resource level:
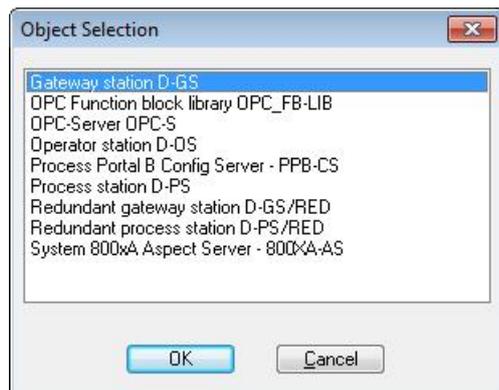

Select *"OPC-Gateway"* in the dropdown list *"Type"* and use the following access rights:
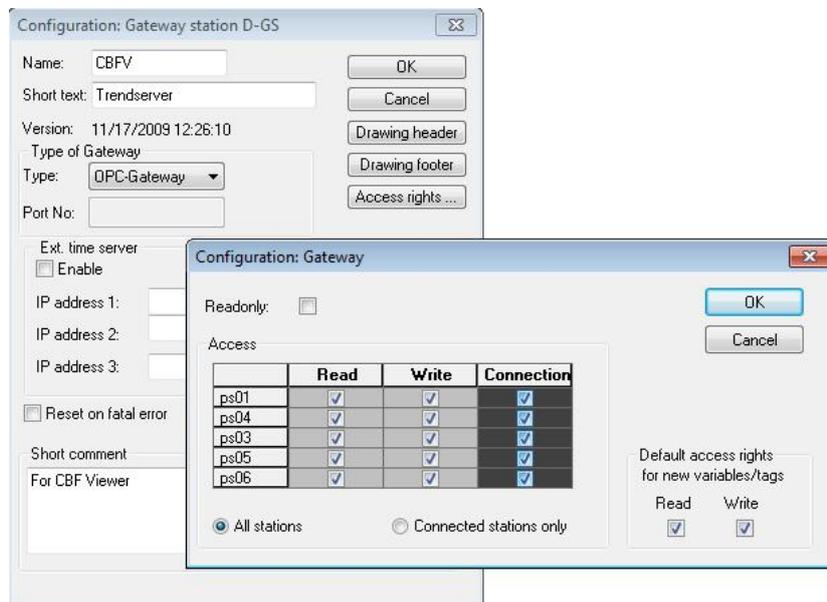
If read and write access is not desired for all variables and tags, configure the access to variables and tags in the variable and tag lists of the Control Builder F as default.

Confirm all your entries with "*OK*" and go to the hardware structure.

Insert a gateway station into the hardware structure:
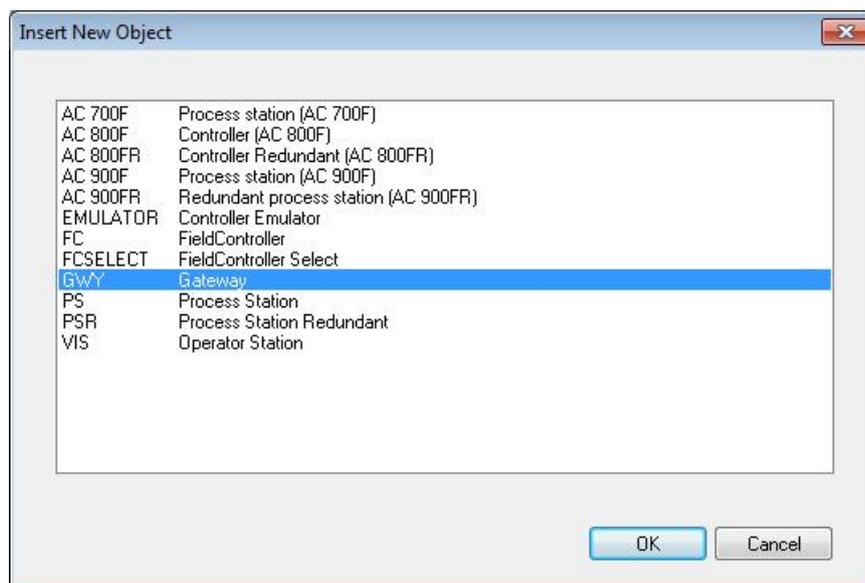
Allocate the resource to the respective station. After that, you have to configure your network structure. Check your whole project and load all resources. Finally, export the whole project (.csv-file).

> If there is more than one active network card in the PC, always enter the address which can be accessed by all PCs as the IP address in the network structure. This is normally the address of the **control system network** (HIS network) and not the address of the controller network.

4. Run the OPC-Server and load in CBF

Run the *"OPC-Server"* on the *"Connectivity Server"*.

Start → All Programs → ABB Industrial IT → Freelance 2013 → Freelance OPC-Server XX

Switch to *"Commissioning Mode"* and load the *"OPC-Server"* in *"Control Builder F"*.
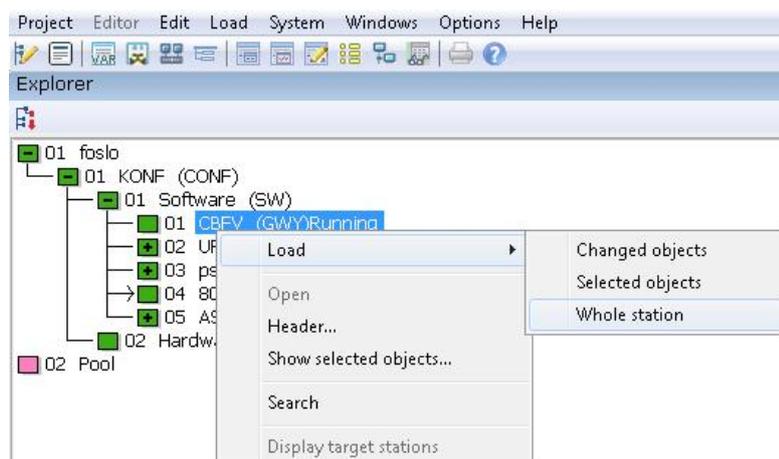
5.   Export Project

Export the whole project in the *"Project manager"*. Save the .csv-file in folder "C:\Program Files (x86)\ABB Industrial IT\Freelance\export".
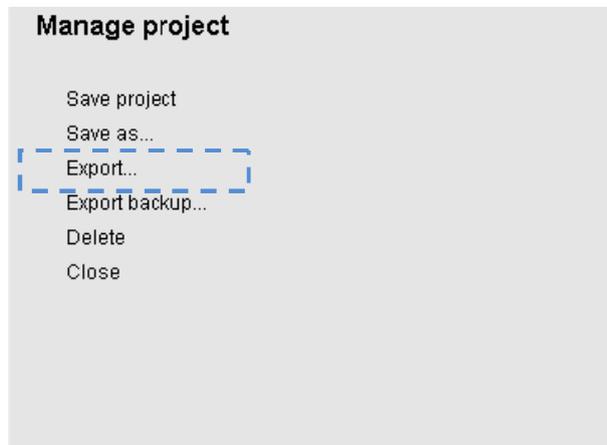

For the next chapter you need access to the export folder on the CBF Machine. Therefore you have to check the folder share permissions of the *"export"* folder, which is located in the directory "C:\Program Files (x86)\ABB Industrial IT\Freelance".

Right click on the folder "export" → *Properties* → *Sharing* → *Advanced Sharing*

Select the *"Share name"* CBFExport and press the "*Permissions"* Button.
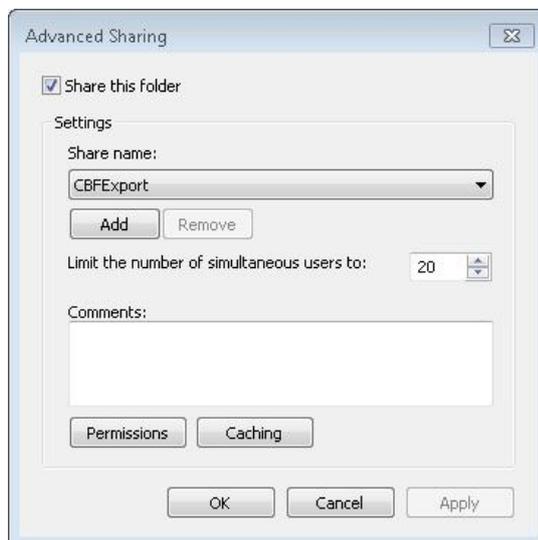
At least the permission *"Read"* needs to be allowed for everyone in order to read the .csv file on this machine, accessed from other nodes.
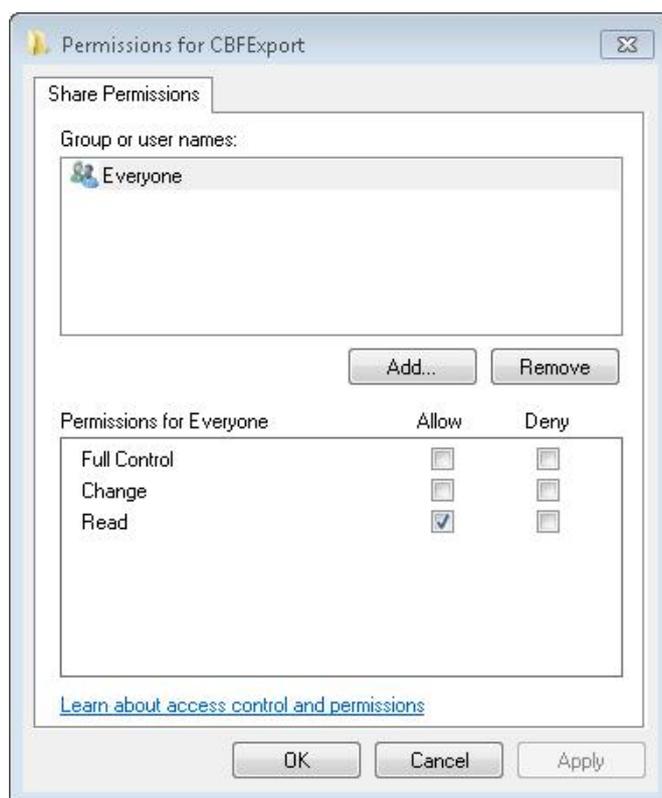
Confirm you change with *"OK".*

6. CBF Viewer Configuration Wizard

> ℹ️ The CBF Viewer Configuration Wizard needs to be run **on every node of your system!**

The Configuration Wizard helps to achieve all important settings of the CBF Viewer. It leads step by step through the configuration data and enables the user to test the CBF Viewer and its settings.

6.1 Starting of the Wizard:

"Start" → "All Programs" → "ABB Industrial IT" → "CBF Viewer" → "Configuration Wizard"

Indicate the network path to the Freelance Export files, located on the CBF Machine, as well as the filter for the files or select an Export file of the Control Builder F. In this context, you have to enter for the path the UNC name and the folder (e.g. \\<ControlBuilderF_PC>\CBFExport). The „*Project filter"* can either contain wild cards or one single file name

In the edit box „*Licence"*, you have to enter the license string which can be found on the Hw-dongle or you can create it with the button "Read" if the dongle is connected to the PC. Without a valid license string, it is not possible to represent current values.

> ℹ️ As to the project folder, you should always enter the folder of the PC that contains the export files since, by doing so, you do not have to copy the export files to all PCs with the CBF Viewer.

With the „*Next"* button, you get to the next dialogue.

6.2 Loading .csv-Files
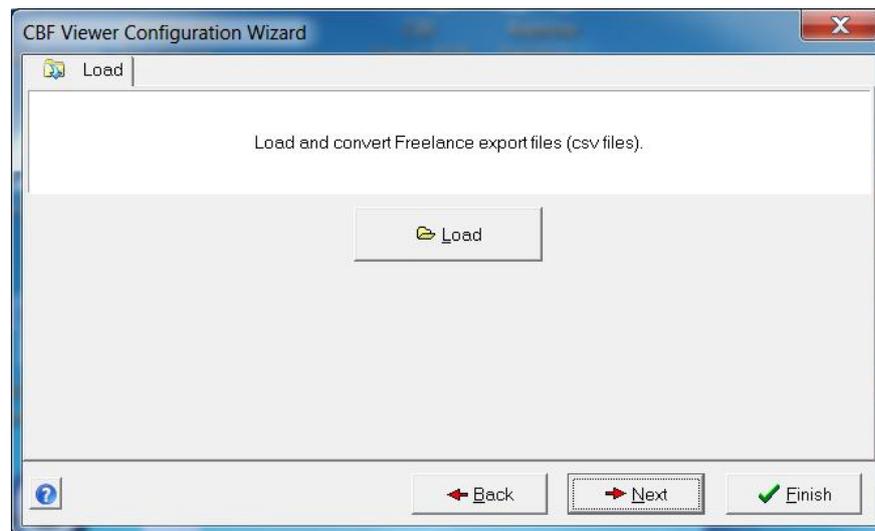
Press the „*Load*" button in order to convert and load the Freelance Export files.

With the „*Next*" button, you get to the next dialogue.

6.3 OPC-Server-Settings
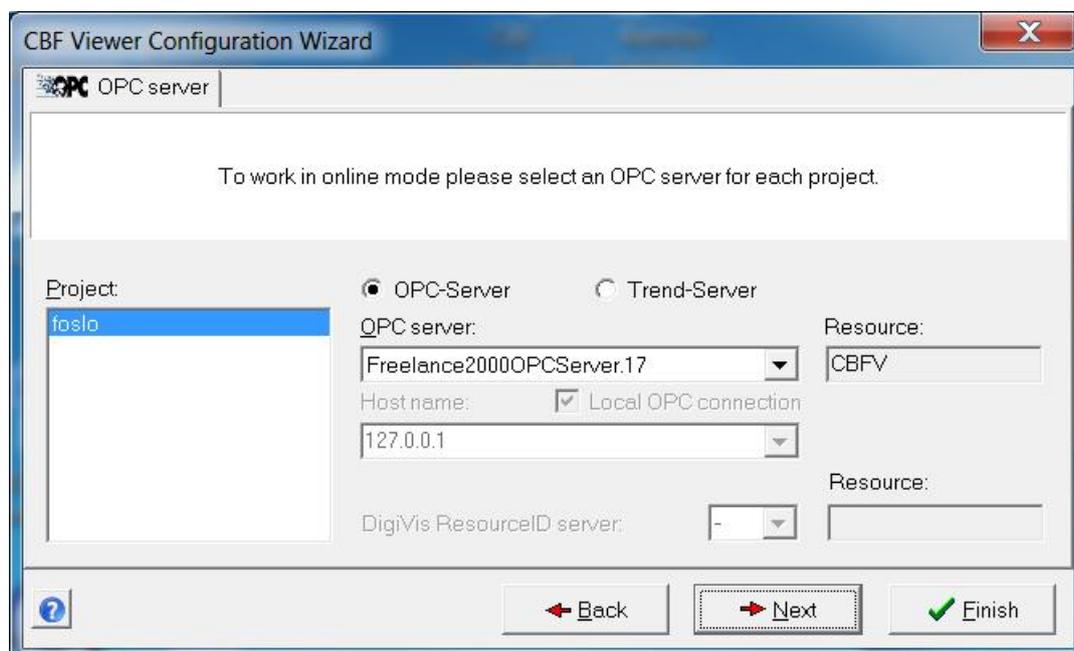
In this dialogue, you have to enter for each project the OPC Server for the online mode. In this context, you first have to select the corresponding project in the „*Project*" list before selecting an available „*OPC-Server*" from the list of OPC Servers (Select the configured OPC-Server for the CBFViewer in the Freelance project).

> In case several Freelance Export files are found, every Freelance project has to have a unique project name. This is, at the same time, also a prerequisite for the coupling of several Freelance systems with 800xA.

With the „*Next*" button, you get to the next dialogue.

6.4 Additional Settings and User Rights
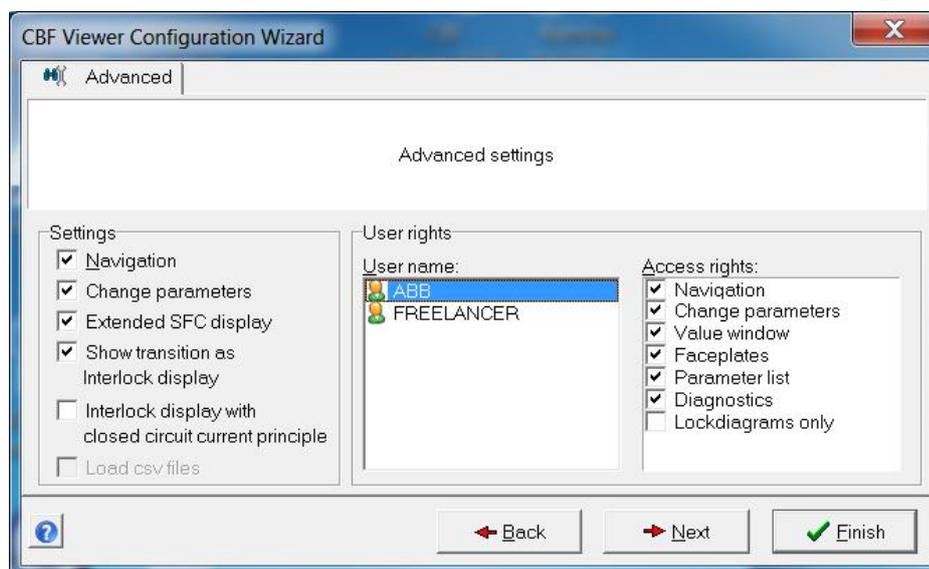
You can skip this point of the setup. User rights and additional settings are configured in the System 800xA Plant Explorer Workplace.

With the „*Next*" button, you can get to the next dialogue.

6.5 Loading the aspects for system 800xA
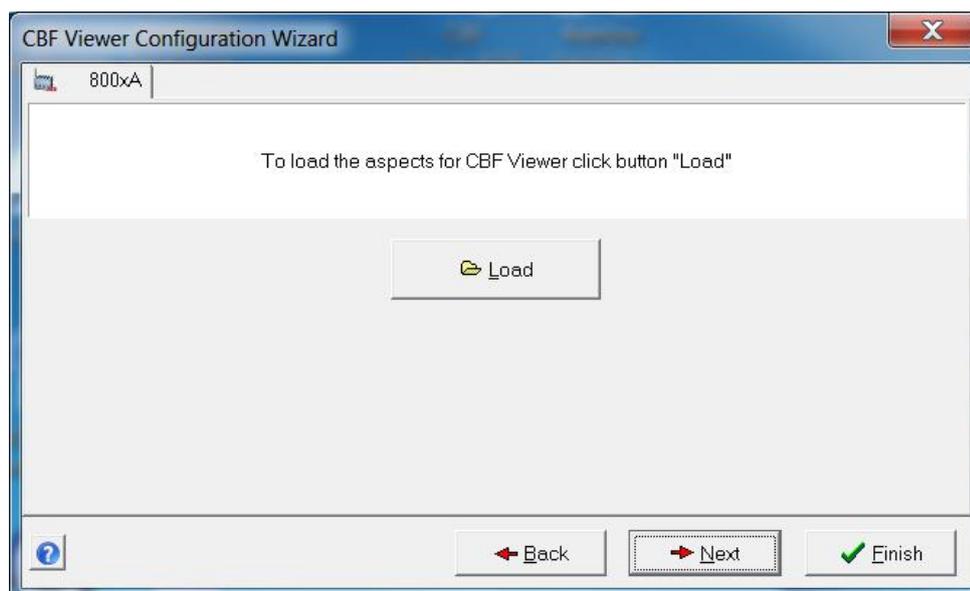
With the button "*Load"*, the aspects are added to the Freelance tag types.

If the loading procedure was not successful restart the wizard and push the load button again.

6.6 Finishing the setup
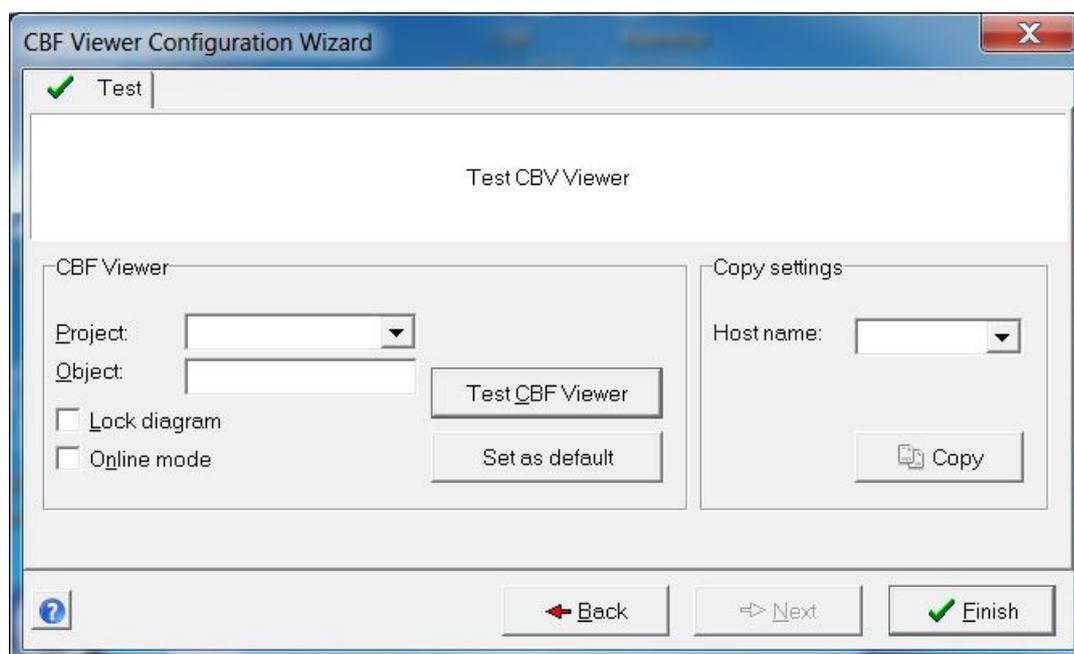
You can skip this point of the setup.

You can leave the Wizard by pressing the „*Finish*" button.

> **i** The above guide for the CBF Viewer Configuration Wizard needs to be run **on every node of your system!**

7. Optimization of the loading procedure for CSV files

In order to simplify the loading procedure of the Freelance export file into the CBF Viewer database the application *"CbfViewerLoader.exe "* distributes the .csv export file from the Control Builder F Machine to other nodes. Therefore the following folder share settings have to be made on every node.

7.1 Network File and Folder Sharing with Windows 7

> **ℹ** Execute the following task **on every node of your system!**

Open the windows explorer and navigate to "C:\Program Files (x86)\ABB Industrial IT". By right clicking the program folder (CBF Viewer) you can select *"properties"*. Navigate to the tab *"sharing"* and click on *"advanced sharing"*.

By clicking on *"permissions"* you now can select advanced sharing options. In order to have read/write access, select *"Allow change"*.
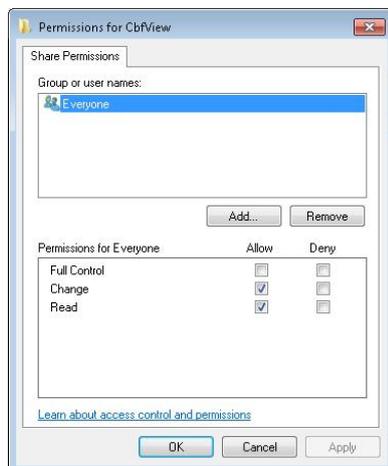
Afterwards you close all windows by clicking *"ok"*. The new sharing options are now set.

7.2   CBF Viewer Loader

Start the application "*CbfViewerLoader.exe* ". This program is located in the installation folder of the CBF Viewer.

Create a shortcut of the "*CbfViewerLoader.exe* " on the desktop. Right click on the shortcut, select *"Properties".* Add the parameter *"-800xA"* behind the Target description.
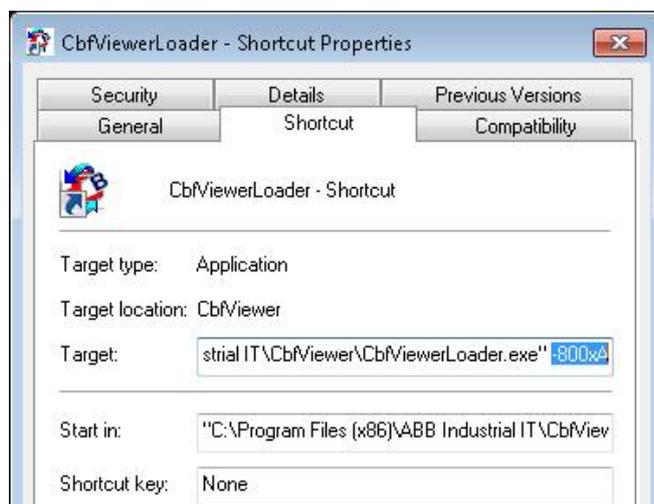
Run this Application only from the shortcut.

This program is loading the new .csv-file into the local CBF Viewer database and after that the database will be copied to all other nodes. During this process the CBF Viewer icon will be displayed in the windows notification area.

This activity can take dependent on the size of the .csv-file between 10 and 30 minutes or even longer.
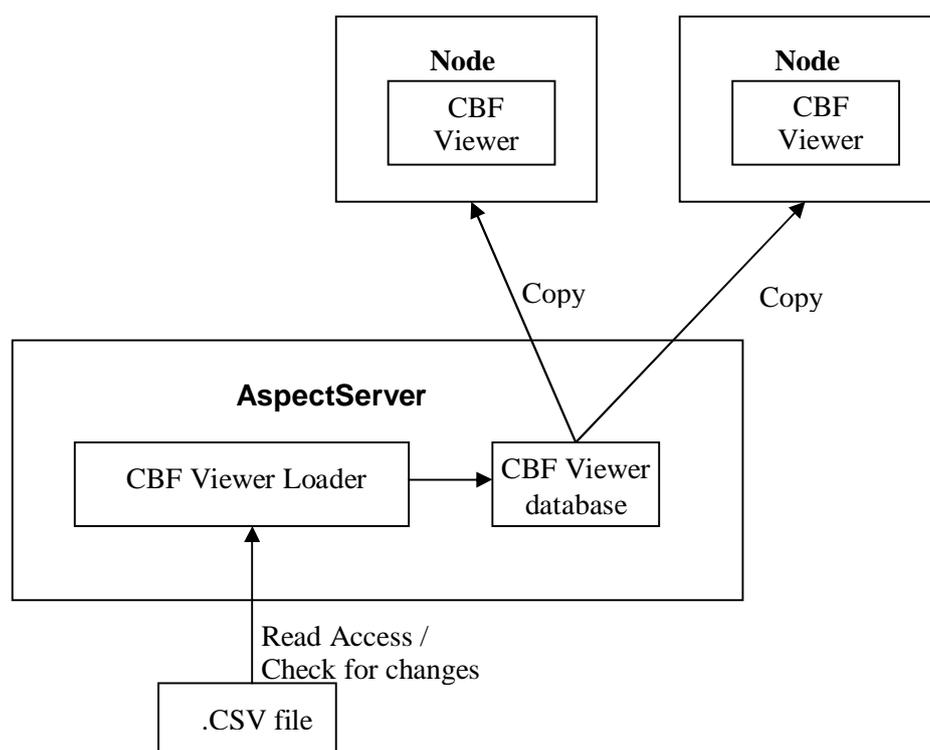
8. Insert OPC-DA-Object in System 800xA Service Structure

In this chapter a new service will be configured in order to reduce the startup time of the CBF Viewer.

Therefore a new object has to be insert in the *"Service Structure"* under the object *"OpcDA_Connector"*. The Name of the new service group is *"SG_CBFViewer"*.

In the next level you have to insert another object named *"SP_CBFViewer"* as a service provider.
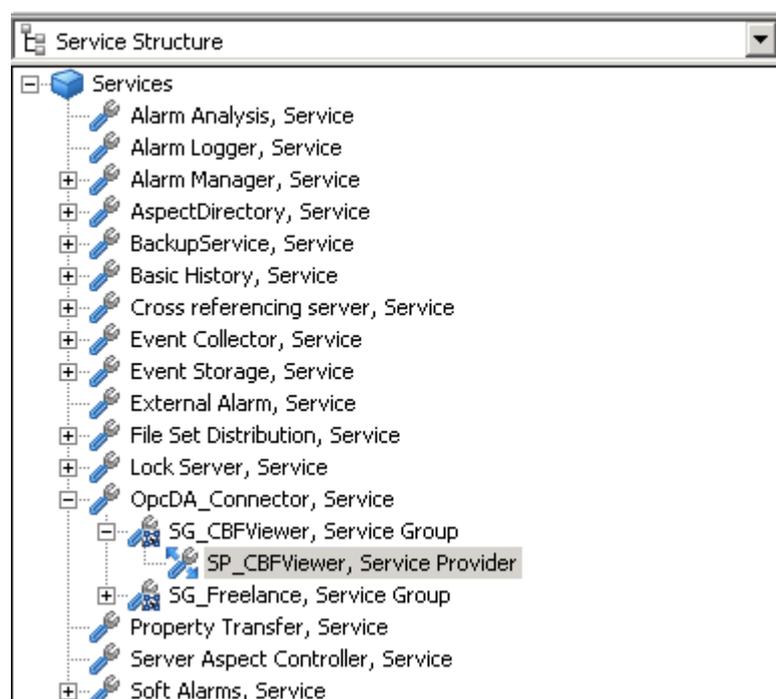
You have to insert the adapter identity *"ABB.AdvDsOPCServerAdapter.1"* in the settings of the service group in the *"Special Configuration"* tab.
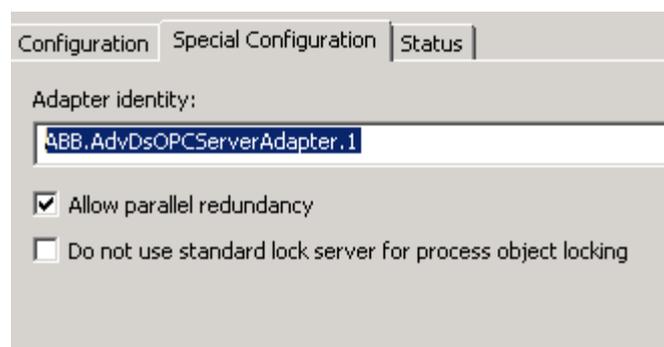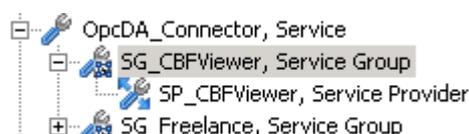
Within the object „*SP_CBFViewer*" the OPC Server idendity has to be insert. In the tab *"Configuration"* you have to select the node hosting the OPC-Server. For System 800xA this by default the primary connectivity server.
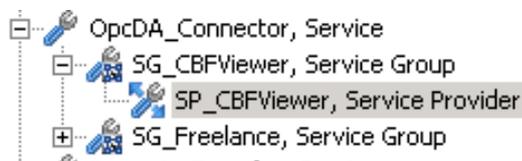
In the next tab "Special Configuration" you have to press the "Refresh" button and afterwards choose the OPC Server that was configured for the CBF Viewer (compare chapter 2 Freelance configuration on Primary Connectivity Server).

To ensure that the new created service is running, you have to switch back to the "Configuration" tab and unselect the checkbox "Enabled" and apply the settings. After that you have to reselect the checkbox "Enabled" and apply the settings again.

„Current" shows the recent status of the service.
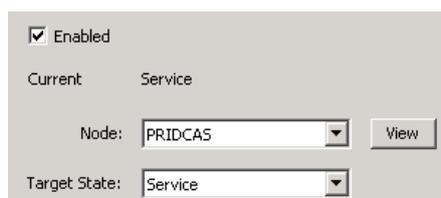
8.1 OPC server status check

Additionally you can check the status of the OPC Server in the "Windows Task Manager".
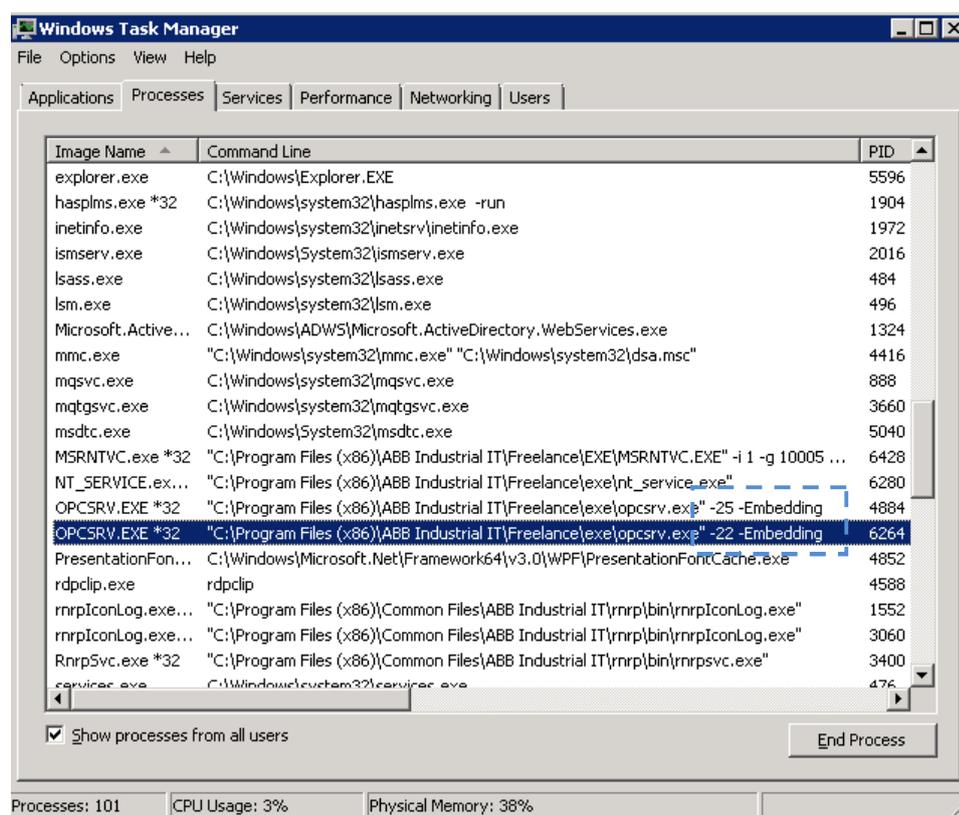
9. Assign User Rights in System 800xA

The CBF Viewer creates a new Object within the "Object Type Structure" in the "Plant Explorer Workplace". The object "CBF Viewer" owns the two aspects *"Security Definition"* and *"CBF Viewer Settings"*.
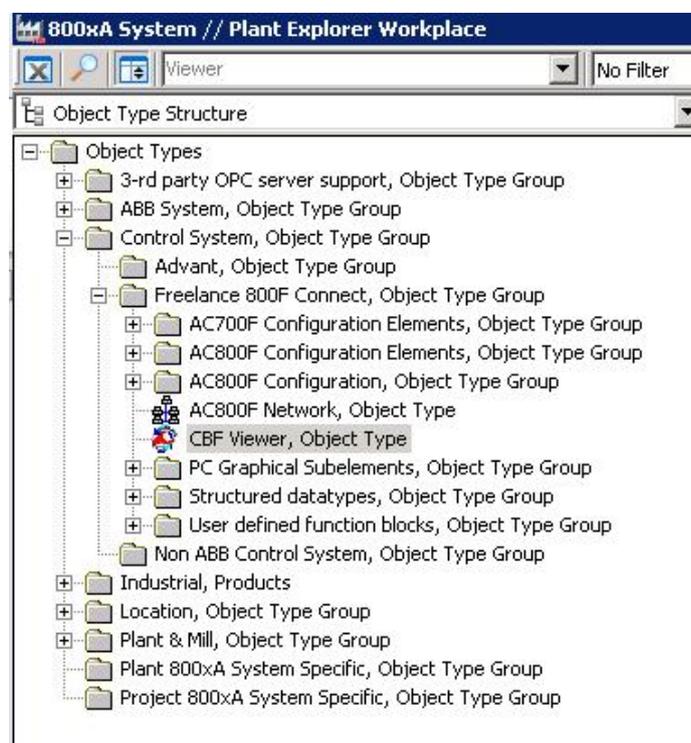
Allocating permissions to users / user groups needs to be done in the *"Security Definition"* aspect.

Allocating permissions to program features of the CBF Viewer is done in the *"CBF Viewer Settings"* aspect.

First you need to select the *"CBF Viewer Settings"* aspect and switch into *"Config View"*.
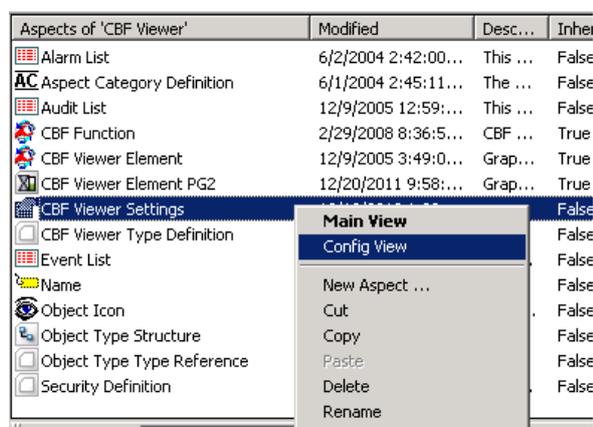
In the next window navigate to *"DefaultAccessRight"* and find the corresponding properties. Every property represents a function of the CBF Viewer. By selecting a property you can change the permission on the right side of the window.

This determines which permission a user / user group needs to have in order to access the function.
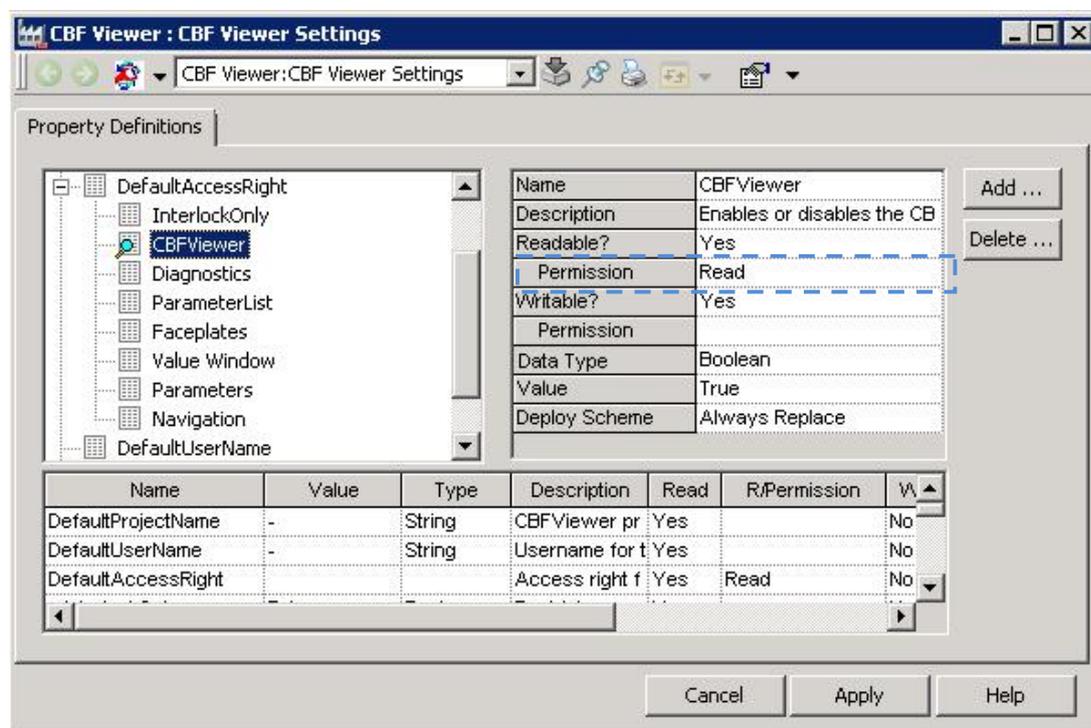
After applying you can check all settings in the *"CBF Viewer Settings"* aspect.
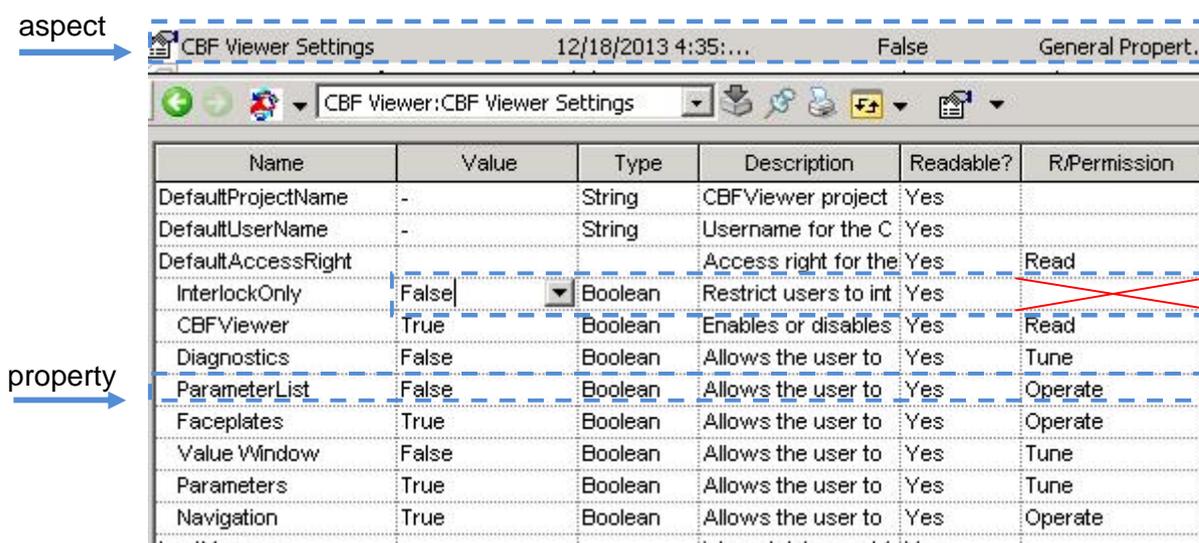
You can only use „*InterlockOnly*" global for all users – Activate *"True"* deactivate *"False".* You **must not fill in** the field Permission!

In order to assign the permissions to a user / user group, switch to the *"Security Definition"* aspect. Press the *"Add"* button to achieve the *"Permission Configuration"*.
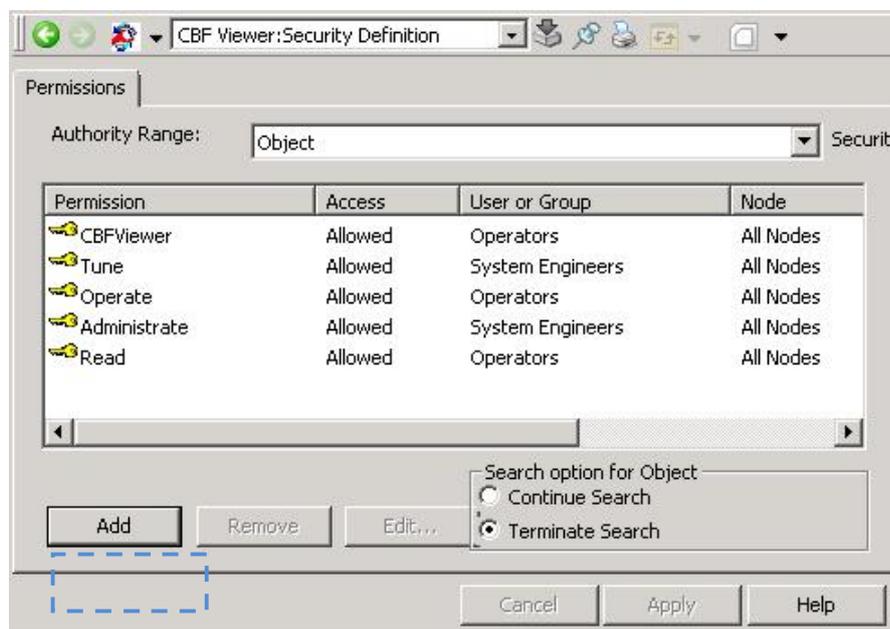
Within the *"Permission Configuration"* you can assign permissions to users / user groups.

First select the respective permission and activate the point *"Allowed"*.

Second press the *"Add"* button next to the *"Users and Groups"* input field and add the users / user groups you want to give the above selected permission.

Third apply with *"OK"*.
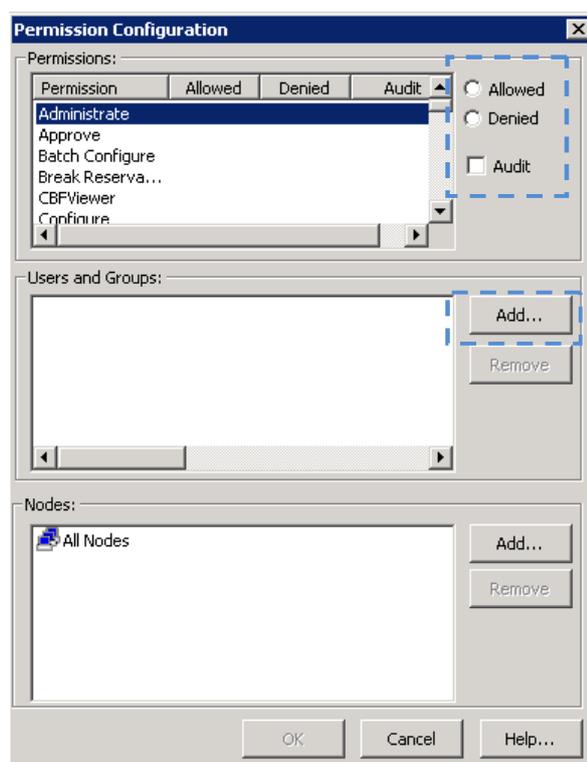
10. FAQs – Frequently Asked Questions

10.1 Why is „CBF Function" missing in the context menu when trying to open the CBF Viewer?
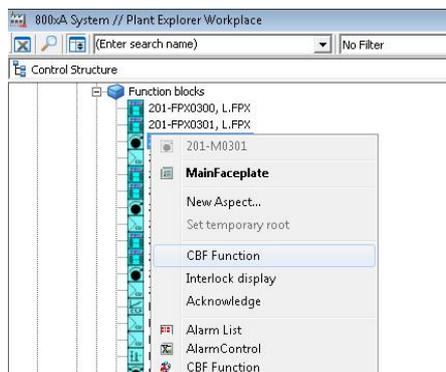
The access rights may not be configured correctly. Ensure that the user has the permission to open the CBF Viewer and CBF Viewer is generally enabled.

See chapter 9 Assign User Rights in System 800xA

10.2 Some live data is missing in CBF Viewer – some is shown. How is this possible?

This issue occurs when the wrong OPC Server is selected. You may rerun the CBF Viewer Configuration Wizard and choose the OPC Server that was created exspecially for the CBF Viewer. See chapter 6.3 OPC-Server-Settings
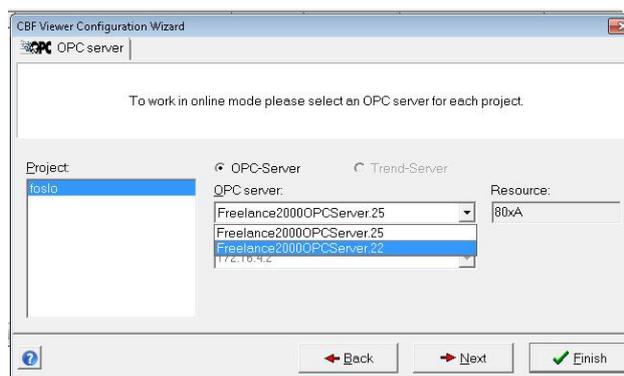
10.3 After opening the CBF Viewer no live values are shown at all.

In this case, it is very likely that the CBF Viewer has no OPC connection at all.

1. To solve this problem you may check on the primary connectivity server if the OPC server is running (compare chapter 8.1 OPC server status check)

2. If the process is not running you may check if the OPC server is loaded in Control Builder F (compare chapter 3 + 4 CBF Gateway configuration + Run the OPC-Server and load in CBF).

3. Start CBF Viewer, switch to *"commisioning mode"* and try again point 1.

If the above description does not help, follow these steps to ensure, that the correct IP adresses are configured.

1. If there is more than one active network card in the PC, always enter the address which can be accessed by all PCs as the IP address in the network structure. This is normally the address of the **control system network** and not the address of the controller network.

If the above two descriptions do not help, check the DCOM settings **on all nodes**:

1. Run the DCOM settings by opening the start menu → run → „dcomcnfg" → *„OK"*
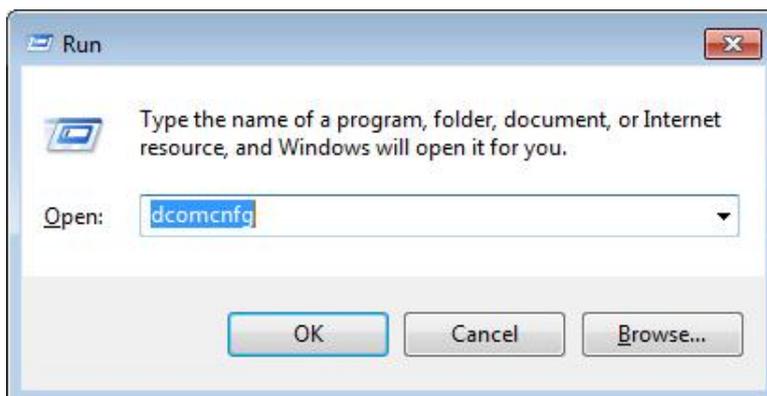
2. Navigate on the left side to *"DCOM Config"* on the component tree.
   Console Root → Component Services → Computers → My Computer → DCOM Config
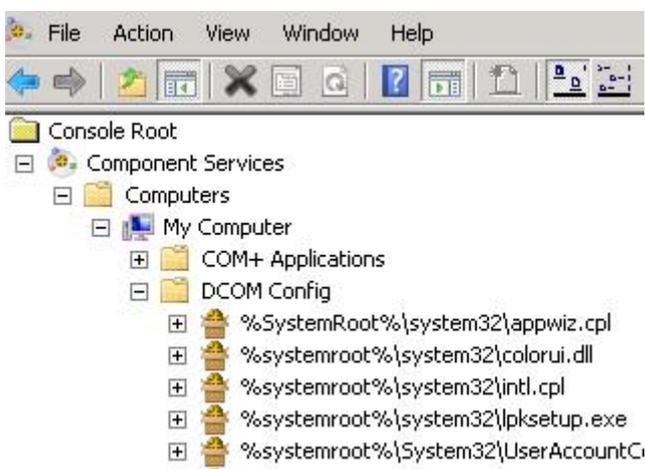
3. Look for the entries *"Freelance 2000 OPCAEServer 0xx"* and *"Freelance 2000 OPCServer 0xx"*. The *"xx"* represents the Freelance Source ID. Take the ID of the OPC Server, that was created for the CBF Viewer.
   The following settings have to be made for the OPCAEServer as well as for the OPCServer entry! The content is the same.

   Select successively the entries for the OPC Server, right click them and select *"Properties"*.
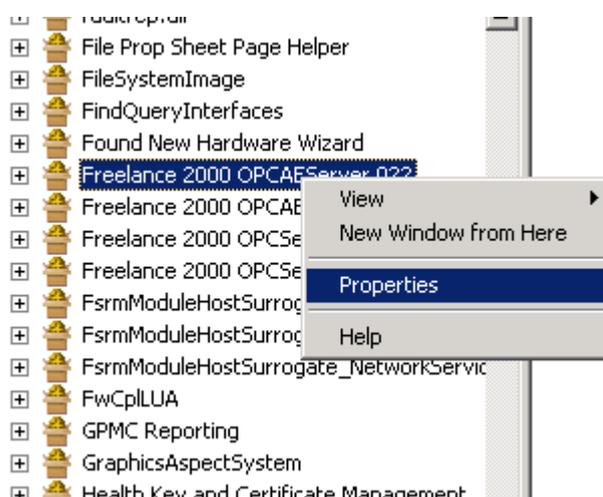
4. The configuration has to be checked in the following window.
   In the tab „*Identity*" select „*This user*" (if not already selected) , enter the service
   account and it's password. This entry is the same for every node.
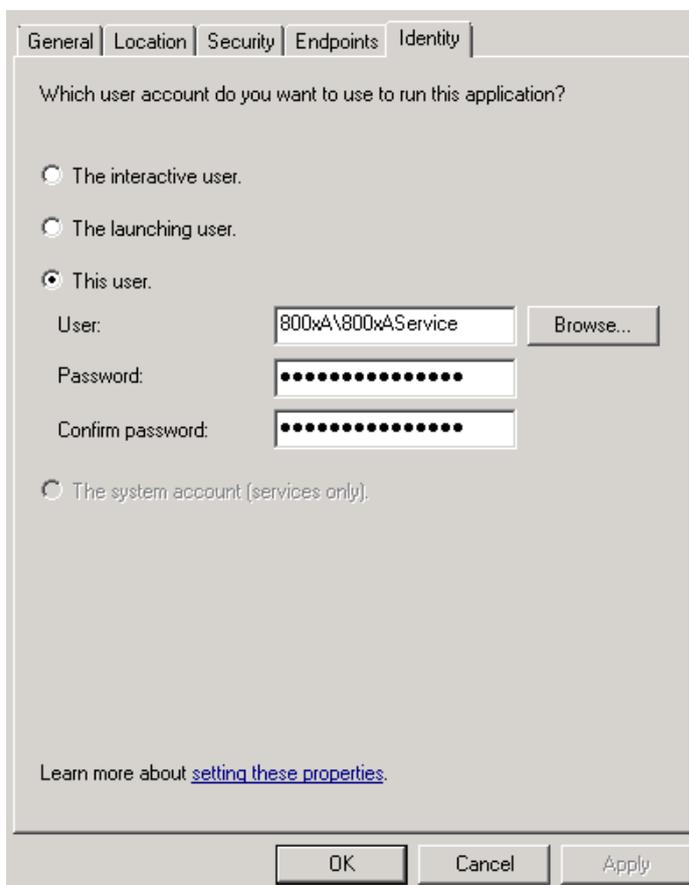
5. Now switch to *"Location"* and set the entries according to the following scheme:

	CS	**AS**	**PC4 Client**	**PC5 Client**
Run application on the computer where the data is located	0	0	0	0
Run application on this computer	0	0	0	0
Run application on the following computer	0	✓ IP of CS	✓ IP of CS	✓ IP of CS

For example:
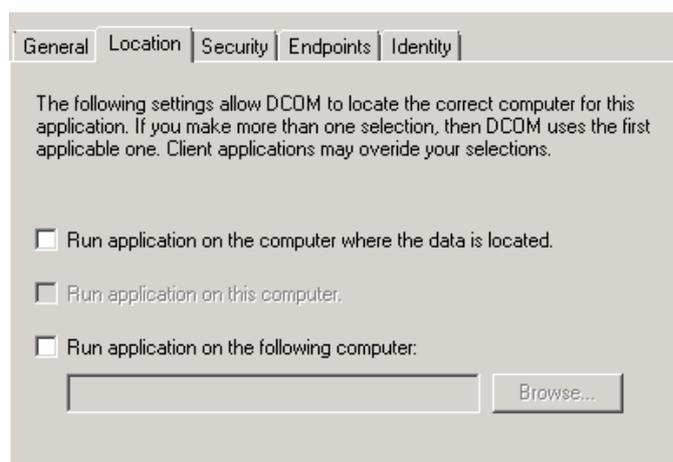
Settings on the connectivity server
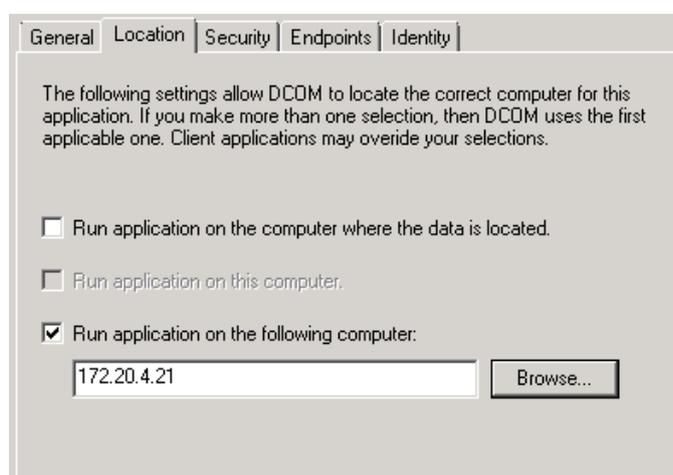
Settings on the aspect server and other nodes

Make sure to use the correct IP-Address of the connectivity server. In generally this means the IP of the Control System Network (HSI)!

6. Save the settings and leave the DCOM settings. Check again if you made this settings for the **OPCAEServer** als well as for the **OPCServer**.

10.4 While creating a backup in system 800xA an error occurs

If the backup is cancelled by an error of the CBF Viewer, ensure that CBF Viewer is installed on **all nodes!**

ABB

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BU Chemical and Pharmaceutical

Frankfurt, Germany

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