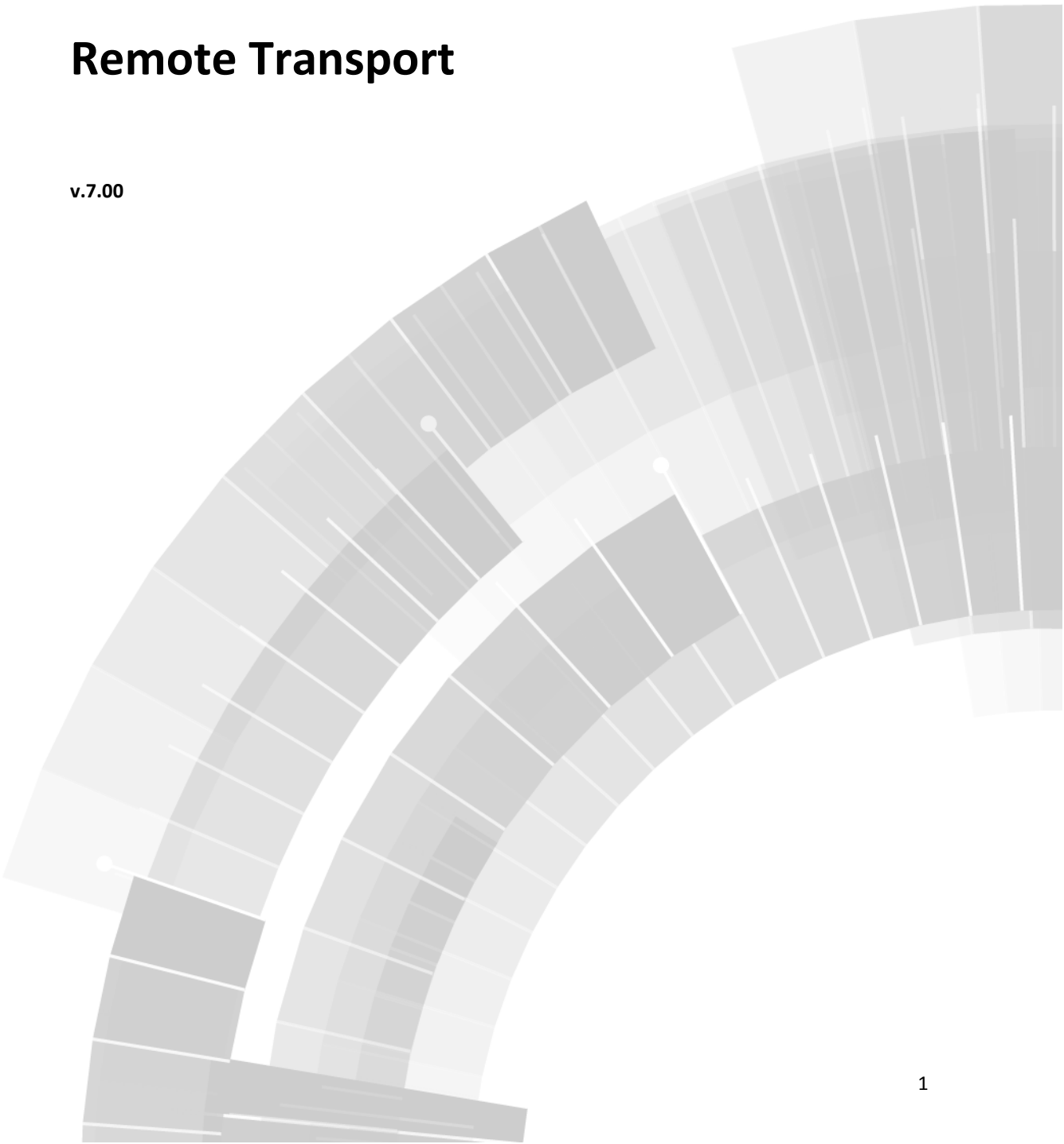
COPA-DATA
do it your way

zenon manual

Remote Transport

v.7.00



Contents

1. Welcome to COPA-DATA help

GENERAL HELP

If you miss any information in this help chapter or have any suggestions for additions, please feel free to contact us via e-mail: documentation@copadata.com (mailto:documentation@copadata.com).

PROJECT SUPPORT

If you have concrete questions relating to your project, please feel free to contact the support team via e-mail: support@copadata.com (mailto:support@copadata.com)

LICENSES AND MODULES

If you realize that you need additional licenses or modules, please feel free to contact the sales team via e-mail: sales@copadata.com (mailto:sales@copadata.com)

2. Remote Transport

The Remote Transport is used to transport Runtime files to a target system. Information about saving and reloading Editor files can be found in the chapter project backups.

If the Runtime and the Editor are on the same PC, the Runtime files now are directly available to the Runtime. If the Runtime is not on the same PC, there are two possibilities:

1. The according directory with the Runtime files is connected as a network drive.

2. The Runtime files are copied to the target system.

At connecting as network device the working of the Runtime depends on the performance of the network. If the files are available directly on the Runtime computer, it is better to assure execution and performance.

The transfer of the Runtime files to the Runtime computer can be carried out with the help of the Windows Explorer. You can do this easier, more systematic and safer with the zenon Remote Transport. The Remote Transport makes sure that always all necessary files are transported to the target system.

> **Attention**
>
> *Graphics files of type* ***PNG*** *cannot be overwritten when the Runtime is running.*
>
> *Background: The Runtime protects opened* ***.png*** *files against overwriting.*

Also any other files can be transported with the Remote Transport.

> **License information**
>
> *Part of the standard license of the Editor and Runtime.*

FUNCTIONALITIES

Additional to that pure copy function the Remote Transport offers other functionalities:

Parameters	Description
Incremental copy	The Editor automatically recognizes which files on the target system differs from the files which should be transferred and transfers only the changed files.
Setting the start project	With the Remote Transport the start project on the remote station can be set.
Starting and stopping the Runtime	The Runtime can be started and closed in the remote computer.
Transfer the system status	The current status of the remote PC (operating system, zenon version, existing drives etc.) can be found out.
PC reboot	A remote PC can be rebooted.
Online reload	Remote Runtime is updated online in the process
Start Remote desktop connection	Creates a Remote desktop connection
Copy back project data	An entire project can be copied back from the remote system.
Copy and register data	Files are not only copied, but also registered on the target system. Particularly interesting for fonts and ActiveX elements.
Copy and execute data	Executable files are copied and started.

3. Toolbar Remote Transport

A development computer can set up remote connections to other stations. The **Remote transport** toolbar provides functions for the transfer and request of data.

Symbol (from left to right)	**Function**
Remote Transport: Establishing a connection	Sets up a connection (on page 27) with the target computer.
Remote Transport: Connection settings	Opens dialog to configure the connection.
Remote: Transport changed Runtime files	Transports all Runtime files that were changed on the development computer to the target computer.
Remote: Restore all Runtime files	Loads all files that can be edited in the Runtime (like recipes or user administration) to the development computer.
Remote: Setting the start project	Set start project for target station.
Remote: Start Runtime	Starts the Runtime on the target station
Remote: Stop Runtime	Stops the Runtime on the target station.
Remote: Reload project	Executes the function **reload** on the target computer.
Remote: Start desktop connection	Starts a connection to operate the target computer using Remote Desktop.
Symbol bar options	Clicking on the arrow opens the submenu: Active: Toolbar is displayed. If the toolbar is not displayed, it can be activated using the Menu *Options -> Toolbar*.
Further symbols can be added using the toolbar options:	
Transport all Runtime files	Transfers all Runtime files to the target system.
Restart the operating system	Starts the operating system of the target computer after confirmation. Under Windows CE this option is not supported.
Determine system status	Determines system status of the target computer and writes data to the output window. The following are determined: ▸ Computer name

	▸ Operating system ▸ Runtime active/not active ▸ Start project ▸ Real memory ▸ Drives ▸ Remote serial number ▸ Remote activation number ▸ Remote zenon version
Change password and display licensing	Opens dialog for connection establishing (on page 27). Enables: ▸ Changing the password for the connection establishment ▸ Display and change of the licensing of the target computer ▸ Configuration of the encryption at the target computer ▸

Note: All commands for Remote Transport are available in the project's context menu (on page 8).

4. Context menu Remote Transport

You can reach the commands for the Remote Transport via the tool bar or the context menu of the project:

1. Right-click the project in the project manager
2. in the context menu select node Remote Transport
3. select the desired command from the drop-down list

Command	Function
Establishing a connection	Sets up a connection (on page 27) with the target computer.
Connection settings	Opens dialog to configure the connection (on page 27).
Transport changed Runtime files	Transports all Runtime files that were changed on the development computer to the target computer.
Transport all Runtime files	Transports all Runtime files from the development computer to the target computer.
Restore all Runtime files	Loads all files that can be edited in the Runtime (like recipes or user administration) to the development computer.
Define project as start project	Set start project for target station.
Start Runtime	Starts the Runtime on the target station
Stopping the Runtime	Stops the Runtime on the target station.
Reload project	Executes the function **reload** on the target computer.
Restart the operating system	Starts the operating system of the target computer after confirmation. Under Windows CE this option is not supported.
Determine system status	Determines system status of the target computer and writes data to the output window. The following are determined: ▸ Computer name ▸ Operating system ▸ Runtime active/not active ▸ Start project ▸ Real memory ▸ Drives ▸ Remote serial number ▸ Remote activation number ▸ Remote zenon version
Change password and display licensing	Opens dialog for connection establishing (on page 27). Enables:

	▸ Changing the password for the connection establishment ▸ Display and change of the licensing of the target computer ▸ Configuration of the encryption at the target computer
Remote: Start desktop connection	Starts a connection to operate the target computer using Remote Desktop.

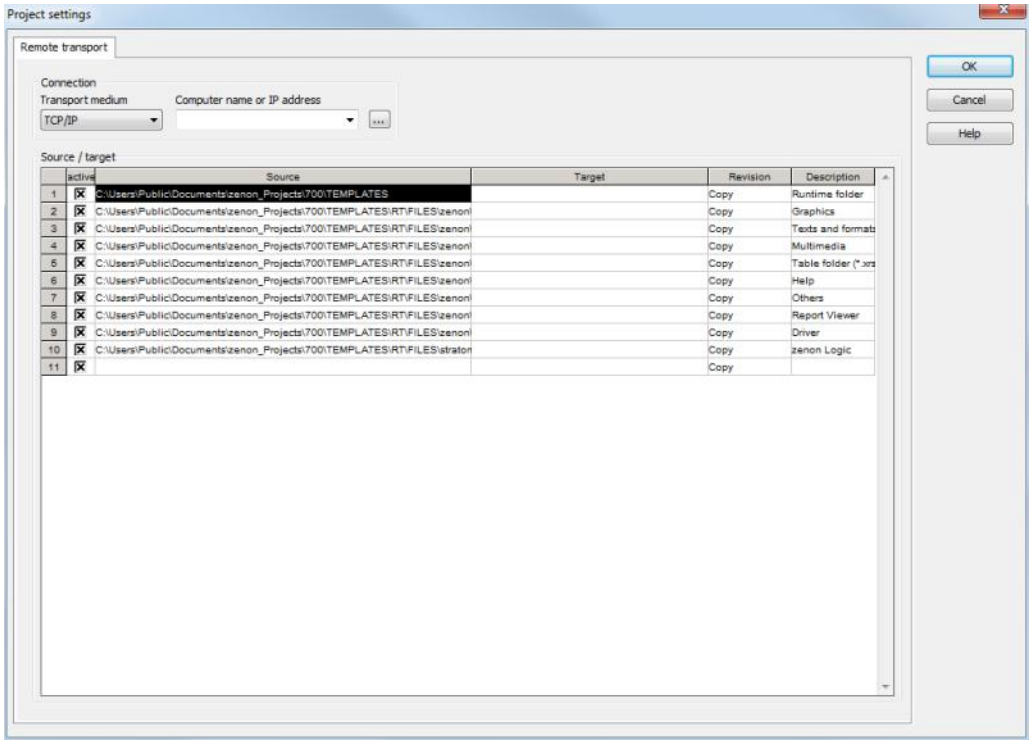
5. Engineering in the Editor

The Remote Transport is configured in the project properties under `General/Remote transport` and controlled via the tool bar Remote Transport (on page 6).

To configure the Remote Transport:

1. navigate to the `General` node in properties
2. Click on the `Remote transport` property

3. the dialog for the configuration of the connection properties and the files which should be transferred is opened



Parameters	Description
`Transport medium`	
`Serial` (on page 17)	Transfer via a serial connection, e.g. to a CE Terminal.
▸ `Port`	Selecting the COM ports for the serial connection.
`TCP/IP` (on page 15)	Transfer via TCP/IP in a network or via a modem.
▸ `Computer name or IP address`	The computer name or the TCP/IP address is entered as target: ▸ Enter the computer name manually or via clicking button `...` ▸ Enter the IP address manually The IP address must have conform the defined IP version (IPv4 or IPv6). **Note:** At the connection with name you can also use port numbers. For example: `Runtime1;PORT=1105`

Parameters	Description
Source/Target	List of connections. In the first line you can define a target for the top most folder of the structure. Right click in the cell in order to open the context menu for selection. **Attention:** This path must be permanently available on the target system. This means no integrated network device and no removable data device.
active	Defines files which should be transferred optionally. Project base path cannot be deselected.
Source	Folder for files which should be transferred.
Target	Target folder. Target for the top most folder and new entry can be defined. Sub-folders cannot be changed. This makes sure that all files are found on the target system in the Runtime. **Hint:** The default folder is the Runtime folder defined in the project properties. If the target folder is entered manually, take care that it ends with the project name. This is important for the multi-user administration. For example: C:\Users\Public\Documents\zenon_Projects\MY_PROJECT
Editing	Type of transfer. Can be defined freely for the top most fodler and new entries. Right click to open the drop-down list: ▸ **Copy**: copies files ▸ **Copy and register**: copies files and registerd them in the system. Helpful for ActiveX elements and for fonts (ttf files). ▸ **Copy and execute**: copies files and then executes them
Description	Optional text input for new entries for describing the files which should be transferred.

Attention

For redundant projects: If drivers are used which need a configuration file, you must deactivate entry `\zenon\custom\drivers` .

Distance embedded

REMOTE CONTROL IN THE NETWORK

In the context menu select projects -> *Remote Transport* -> <*Command*>:

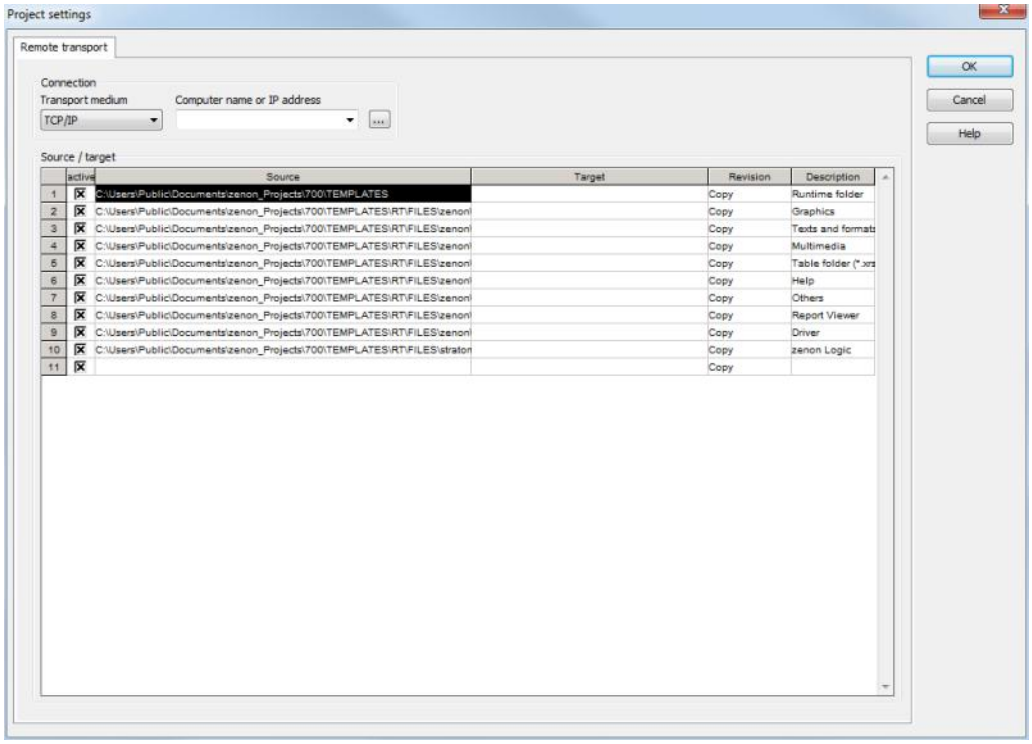
Parameters	Description
Establishing a connection	With the service zenSysSvr a connection to the target device is established. On both devices the service zenSysSvr.exe or on the CE device the service `SysSrvCE.exe` has to be started. The versions have to be identical.
Transport changed Runtime files	If this setting is selected, the Runtime changed since the last transport are transported. If no Runtime files exist on the target device, all Runtime files are transported.
Transport all Runtime files	If this entry is activated, all Runtime files are transported. The only exception are files like e.g. standard recipes or Message Control, which are defined in the setting: 'RT changeable data'.
Read all Runtime files	If this setting is selected, all Runtime files of the modules Recipes, Recipegroup Manager, Message Control , User administration and Production and Facility Scheduler (PFS) are transported from the target system to the local Runtime directory. Then the changes in the Runtime can be read to the Editor with the option 'Import Runtime files'.
Define project as start project	The selected project is defined as the start project. This project is loaded on each Runtime start.
Start Runtime	Starts the Runtime.
Stopping the Runtime	The Runtime is closed.
Reload project	The project is reloaded. Changes Runtime files are read.
Restart the operating system	The device with which the connection exists is restarted after a confirmation message. If necessary, it must be logged on to the operating system again. Under Windows CE this option is not supported.
Get system status	It is checked, if the Runtime is running on the target system and with which status. Also the installed zenon version is checked. The following are determined: ▸ Computer name ▸ Operating system ▸ Runtime active/not active ▸ Start project ▸ Real memory ▸ Drives

	▸ Remote serial number ▸ Remote activation number ▸ Remote zenon version
Change password and display licensing.	Opens dialog for connection establishing (on page 27). Enables: ▸ Changing of the password ▸ Display and change of the licensing ▸ Configuration of the encryption
Start remote desktop connection	Starts a connection to operate the target computer using Remote Desktop.

5.1 TCP/IP

In the Remote Transport configuration the `name` of the target system or the `IP address` is entered. The IP address must conform to the defined IP version, i.e. IPv4 compliant when using IPv4 and IPv6 when using IPv6.

When using the name, the names used recently are saved and can be selected via the drop-down list. Using port number is only possible together with names.



AUTOMATIC SETTING IN SERVER PROJECTS

If the project to be transported is a server project, the name of the remote PC may `not` be entered in the Remote Transport configuration under **`Configuration parameters`**. In this case the Remote Transport always uses the PC entered in the network configuration as **`Server`**. It is therefore guaranteed that the changes are always transferred to the server, which then automatically transfers them to all clients!

Attention

As a default the Remote Transport always uses the TCP port 1101. This port must not be blocked by other applications.

5.2 Serial

As default the communication in the Remote Transport is carried out via TCP/IP. You can however change it to serial communication. So you can connect for example to Windows CE devices. For this:

- change the communication type of the transport service at the remote device via `zenon6.ini`
- configure the Remote Transport in the Editor

> **Attention**
>
> *If the `zeno6.ini` is edited, the changes become effective after a restart of the transport service.*

ZENON6.INI ENTRIES

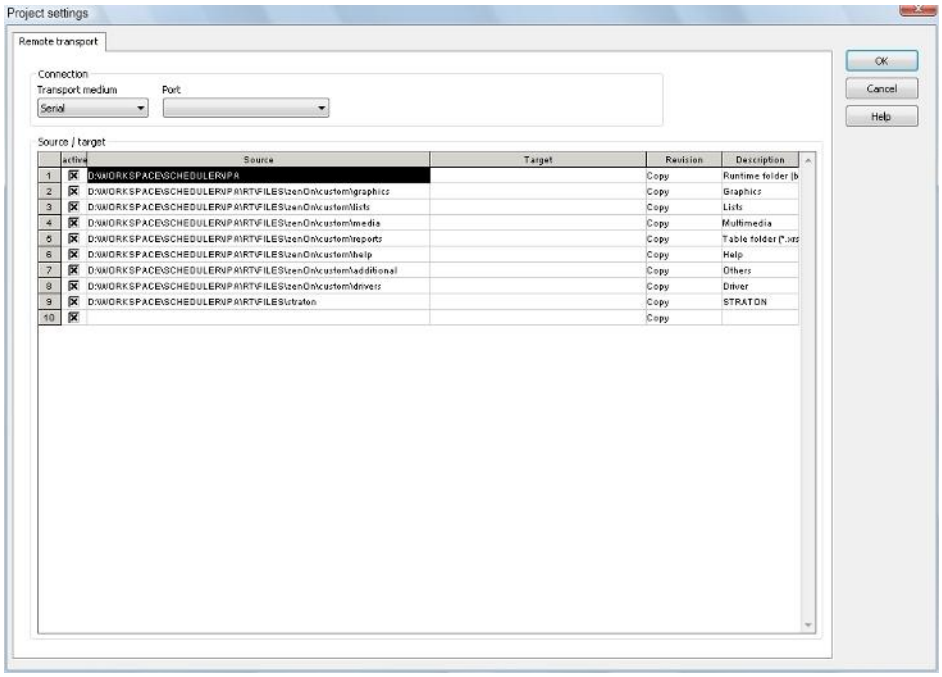
If the transport service should be used for serial transport, the following entries have to be made in the `zenon6.ini` on the target system by hand: **Note:** Under Windows CE these entries are automatically generated in the `zenon6.ini` with the help of the user interface of the transport service.

```
[SYS_REMOTE]

; SysService attached to the COM interface:

CONFIG=DEVICE=COM;

PORT=COM2;
```

> **Attention**
>
> *Do not forget the ; (semi-colon) at the end.*

With this setting the Remote Transport works with the baudrate 115200 bits/second. As a default the Editor is also set to this baudrate.

SETTINGS EDITOR



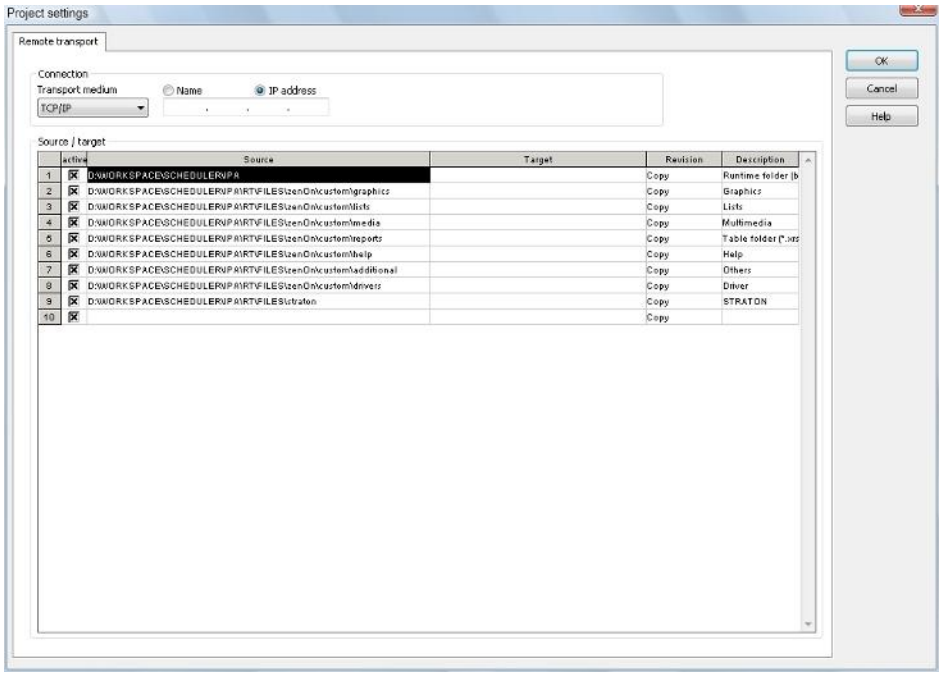
In the Editor select:

1. `Serial` as **`Transport medium`**
2. in the drop-down list the COM port of the source computer

5.3 Determine files

You define which files are transferred in the configuration dialog via the check box in column **`active`**. The line with the project base path cannot be deactivated. The project files always are transported.

Note: Source paths are always created relative to the project base path.



Attention

Note the effects of settings if the project is used in the network.

For example:

Transport of graphics is deactivated, because these are already on the server. Then a client is started. The client finds out that the graphics should not be transported and thus does not transport them to itself. No graphics are then displayed on the client.

Or vice-versa, files are transferred to the client and the files there are overwritten.

FILES FOR TRANSFER

With Remote Transport, the following files are transferred to the target system: In doing so, all files are always transferred to the folder:

1. Standard

   All files that are in the project's Runtime directory.
   These files determine the appearance and behavior of the project and are transferred as standard:

a) all screen files (screen name.zpp)
b) amlcel.cmp
c) archiv.cmp
d) fpm.cmp
e) functions.cmp
f) project.cmp
g) projekt.mdb (not CE)
h) remas.cmp
i) rezepturen.cmp
j) scripts.cmp
k) templates.cmp
l) variables.cmp
m) zuweisung.cmp
n) Plus: project.ini and projekt.vba, which are always in the project directory

> **Info**
>
> *Files with the following suffixes are not transferred by default:*
>
> - .hot
> - .ho
> - .ret
> - .re

1. Optional

In addition, all files that are embedded into the project must be transferred. They are selected using the **Active** checkbox of the Remote Transport settings. These files are in the following subdirectories of the project directory:

a) `\zenon\custom\graphics`: for graphics
b) `\zenon\custom\lists`: for language tables
c) `\zenon\custom\media`: for all media files
d) `\zenon\custom\reports`: For Report Generator tables
e) `\zenon\custom\help`: For help files
f) `\zenon\custom\additional`: For additional files

g) `\zenon\custom\drivers`: for drivers

h) `\straton`: For zenon Logic

Recommendation: Project basis path, graphics, language tables, report tables and media files are always transferred.
The following are transferred from the basis path by default: The files **`project.ini`**, **`Projekt.vba`**, **`Monitor.mon`** and the **`Projekt`** folder.

As a default zenon always uses relative paths and not absolute paths, so that the files can easily be found on the target system.

For the files that can be transferred optionally, the original paths should be used (empty field under target), so that zenon can find them on the target system.

2. Setting the start project

For Runtime, the start project must always be entered in `zenon6.ini`. To do this, click on the **`Set remote Runtime start project`** in the Remote Transport toolbar (on page 6). In doing so, the following entries are set:

```
[PATH]
VBF30=project path
[DEFAULT]
DEFANWENDUNG30=project name
```

GLOBAL PROJECT

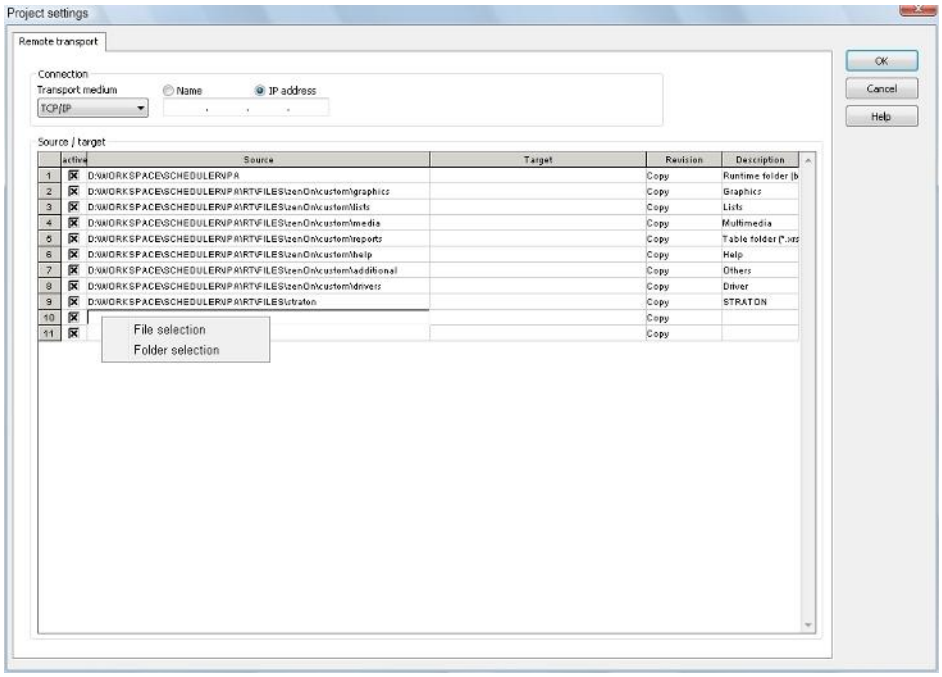
If there is a global project in the workspace, it will automatically be listed for the transport. No additional settings have to be entered. Always all files necessary for the global project will be transported.

SELECTING INDIVIDUAL FILES

To transfer own individual files:

1. right click in the first empty cell in column **`Source`**
2. in the context menu select **`File selection`** or **`Folder selection`**
3. the explorer is opened for selection
4. select the desired file or the desired folder

5. activate the checkbox in column **`active`**
6. right click in the cell in column **`Target`**
7. define the target folder
   If the target remains empty the files are transferred in the same directory structure as defined under source.



Attention

Specify paths relatively!

Enter the paths to your individual files relative to the project base path. With this the target system also has the correct directory structure.

Example:

Specification at ***`Source:`*** *enter /default.iso.*
The Remote Transport now automatically knows that the file is in the project basis path.
Directories are entered the same way.

WINDOWS CE:

If the target system is a Windows CE terminal and no explicit destination is entered for the project basis path, the destination **`/Storage Card/Data`** is used as a default.

ACTION AT TRANSFER

In newly added lines the entry of the column Revision defines, how to proceed with the according files during Remote Transport. Three possibilities are available here:

Action	Description
Copy	The file is copied to the remote system.
Copy&register	The file is copied to the remote system and entered in the registry. **Hint:** Helpful for ActiveX elements and for fonts (ttf files).
Copy&execute	The file is copied to the remote system and executed there.

5.4 Files that can be changed in Runtime

There are different data which can be changed in the zenon Editor as well as in the Runtime. These are files for:

- Recipegroup Manager
- Standard recipes
- User administration
- Scheduler

PROTECT RUNTIME FILES FROM OVERWRITING

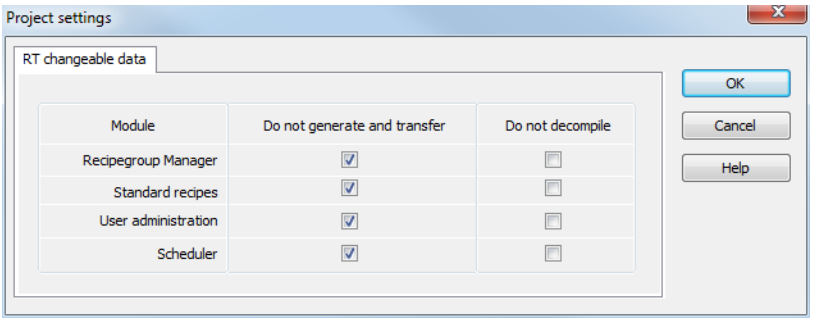
If all Runtime files are created or transported, the files meanwhile changed in the Runtime would be overwritten. In order to avoid unwanted overwriting the files, that should not be created or transported, can be selected here in the section **Do not generate and transfer**.

PROTECT EDITOR FILES FROM OVERWRITING

Data changed in the Runtime can be read back. In this case the corresponding Editor data are overwritten. In order to avoid unwanted overwriting the files, that should not be read beack, can be selected here in the section **Do not decompile**.

DIALOG RT CHANGEABLE FILES

You can reach the dialog for configuring the Runtime changeable files via project settings `General/RT changeable data`:



The following file types can be selected:

Parameters	Description
Recipegroup Manager	Recipe groups and recipes of the Recipegroup Manager. At the transfer new files are transferred and new sub-folders are created, deleted files and sub-folders are also deleted on the target system.
Standard recipes	Standard recipes.
User administration	User administration for login and rights administration in the Runtime.
Scheduler	Changes in the time models and schedules of the PFS.

Attention

At the project conversion take care that Runtime changeable files are also converted. For this Runtime files must be imported to the Editor and after the Update copied back to the Runtime. For details see chapter Recommended procedure for converting Runtime files in manual project conversion.

TRANSFERRING THE FILES

IN THE RUNTIME

To transfer files to the Runtime:

1. all files can be transferred

2. only changed files can be transferred

Both possibilities consider the files defined in property `RT changeable data`.

FROM THE RUNTIME

To read files from the Runtime, there are two processes available:

1. Restore all Runtime files:
   a) reads back all Runtime files in the folder which was defined in property `Runtime folder`
   b) regardless of the settings of property `RT changeable data`
2. Import Runtime files:
   a) imports the files defined in property `RT changeable data` and
   b) replaces the engineering in the Editor by these Runtime files
   c) is suitable for taking over data from a remote system in the Editor

CONNECTION ERROR

At the transfer existing files are overwritten depending the settings.

If errors occur at the transfer from or to the Runtime or if the connection fails, the files must be retransferred completely.

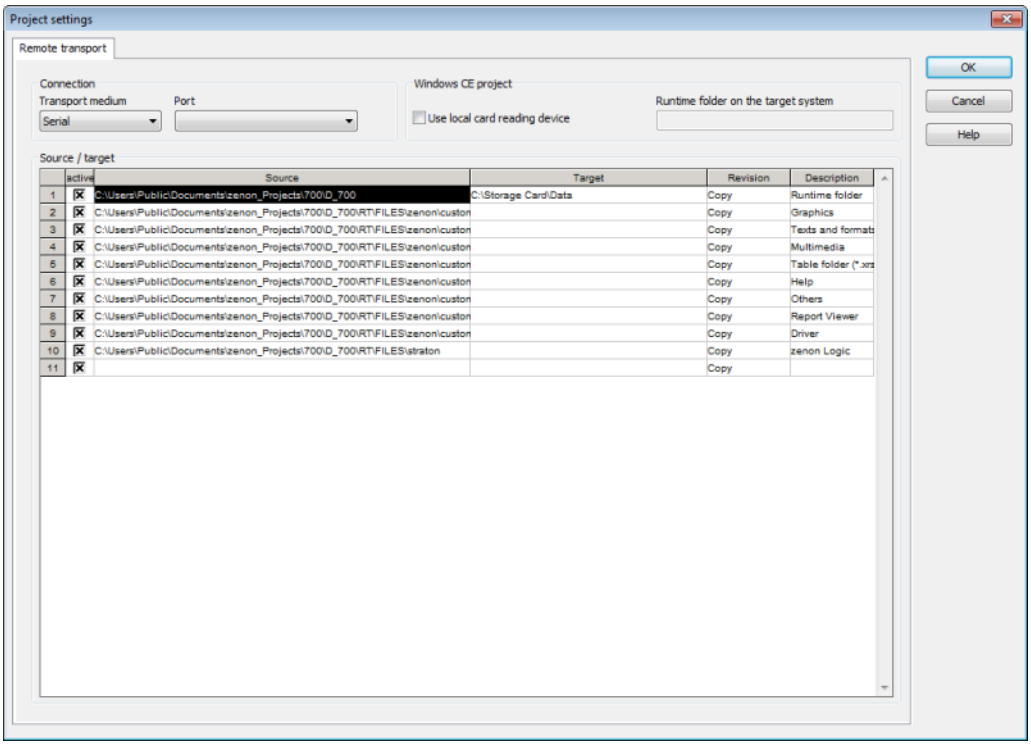
5.5 Windows CE

The transfer to Windows CE systems can be carried out directly or via memory card.

CONFIGURATION

1. Ensure that in the project properties the `General` property in node `Windows CE project` is activated.

2. The configuration dialog now contains new entries. `C:\Storage Card\Data` is preset as target directory.



TRANSFER VIA MEMORY CARD

The Remote Transport supports a special transport type, where the project is transported directly to a storage card instead of using a serial or TCP/IP connection. To do this a computer which can directly access a memory card (PCMCIA, ATA card, Compact Flash, etc.) is necessary.

Attention

It has to be guaranteed that the CE Runtime and the `zenon6.ini` are in the root of the card!

Insert the card in the according slot and check which drive letter is assigned to the card by the operating system. (D:, or E:, ...)

1. Activate check box `Use local card reading device`
2. Define the Runtime folder at the target device,.

Example: if the memory card is listed as `\Storage Card` under CE, the **`Runtime folder on the target system`** must be `C:/Storage Card/project path`! `C:\` will then automatically be removed by the Remote Transport!

3. Establish a connection to your own PC and transfer the files to the local memory card.
4. Write the Runtime folder at the target device with the help of function **`Set remote start project`** (Tool bar Remote Transport (on page 6)) in file `zenon6.ini` on the memory card.
5. Put the memory card in the CE terminal and start the Runtime.

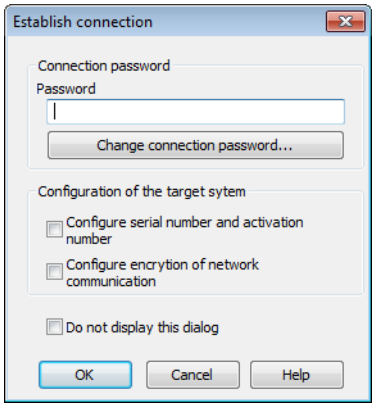
6. Establish connection

To establish a Remote connection:

1. Click on the corresponding button in the Remote Transport toolbar (on page 6)

or select, in the project's context menu: *Set up Remote Transport> connection*

2. the dialog for setting up the connection is opened



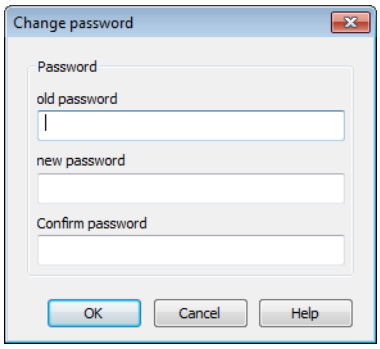
Parameters	Description
Connection password	Setting for the password for the remote connection.
Password	Enter the password for the connection establishment (optional).
Change connection password (on page 28)	Opens the dialog for changing the password.
Configuration of the target system	Settings for the target system.
Configure serial number and activation number	Active: The licensing of the remote computer is displayed after establishing the connection and can be changed.
Configure the encryption of the network communication (on page 29)	Active: After the connection has been established you can activate or deactivate the encryption of the network communication at the target system. **Note:** For this the connection of the Remote Transport must be protected by a password.
Do not show this dialog again	Active: This dialog is not opened at the establishing of the connection. **Note:** To display the dialog again, in the context menu of the project select *Remote Transport -> Change password and display license*
OK	Applies settings and establishes the connection.
Cancel	Discards changes and closes the dialog without establishing a connection.
Help	Opens online help.

6.1 Change connection password

To change the connection password:

1. in the context menu of the project select *Remote Transport -> Establish connections* or *Change password and display license*
2. in the dialog click button **Change connection password**

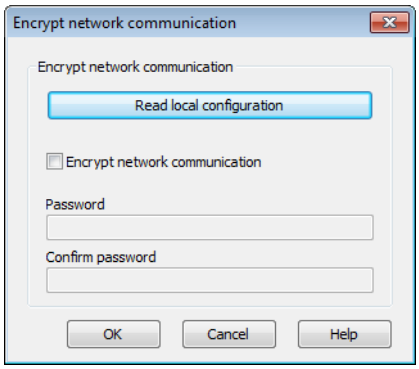
3. the dialog for changing the password is opened



Parameters	Description
Old password	Enter existing password.
New password	Enter new password.
Confirm password	Enter new password again and confirm it by doing so.

6.2 Configure encryption of the network connection

The network communication can be protected by serious encryption. The encryption is either activated locally via the zenon Startup Tool, directly at the zenon web client or via Remote Transport in dialog Establish connection (on page 27):



Parameters	Description
Read in local configuration	Reads in the encryption parameter of the local computer.
Encrypt network communication	Active: The encryption of the network is activated at the remote computer.
Password	Enter password. For the criteria, see the "**Network encryption password**" section in the **Strong encryption of network communication** chapter. The displayed length is always set at 20 characters, in order to hide the actual length.
Confirm password	Enter the password for verification again.
OK	Saves changes and closes dialog.
Cancel	Discards changes and closes dialog.
Help	Opens online help

The password defined here is stored encrypted in the **zenon6.ini** of the remote computer.

Info

You can find notes on error messages from strong encryption in:

Network handbook -> Strong encryption of network communication chapter -> Error messages section.