# zenon manual
## Installation and updates

v.10

**COPADATA**

# Contents

# 1 Welcome to COPA-DATA help

**ZENON VIDEO TUTORIALS**

You can find practical examples for project configuration with zenon in our YouTube channel (https://www.copadata.com/tutorial_menu). The tutorials are grouped according to topics and give an initial insight into working with different zenon modules. All tutorials are available in English.

**GENERAL HELP**

If you cannot find any information you require in this help chapter or can think of anything that you would like added, please send an email to documentation@copadata.com.

**PROJECT SUPPORT**

You can receive support for any real project you may have from our customer service team, which you can contact via email at support@copadata.com.

**LICENSES AND MODULES**

If you find that you need other modules or licenses, our staff will be happy to help you. Email sales@copadata.com.

# 2 Installation and updates

During the first installation of zenon, the installation routine automatically starts and leads you through the whole installation process. If the autoplay of media is disabled in the operating system of the computer, the installation routine will not start automatically. Start the installation by executing the **START.exe** file in the root folder of your zenon installation medium.

> 👍 **Hint**
>
> The autoplay of media can be enabled in the settings of your operating system.
>
> ‣ Press the **Windows button + I** to open the Windows settings dialog.
>
> ‣ Enter *Enable/Disable Auto Play* in the input field.
> This opens the system configuration dialog.
>
> ‣ Select the **Use AutoPlay for all media and devices** option.

## Notes for the installation:

‣ Before installing zenon:

  ‣ All current operating system updates must be installed
    **Note:** If you always use the latest version (Service Pack) of your operating system, you not only avoid compatibility issues but also security problems.

  ‣ There must not be a restart pending

‣ With Windows 7 Embedded Standard, zenon is installed using the normal installation routine. You can find the hardware requirements in the Service Engine under Windows Embedded Standard (on page 47) chapter.
Note: This version will no longer be supported for zenon version 10 and above.

‣ zenon for Windows CE is installed using the normal installation routine. The files for Windows CE version 7.20 are installed. You can find details in the Service Engine for Windows CE (on page 53) chapter.

‣ During the installation of zenon, the **COPA-DATA Multiple Network Protocol Driver (cdprotdrv.sys)** is installed. To start the driver, the operating system must be restarted after installation.

> ⚠ **Attention**
>
> From Version 7.10 on, zenon cannot be installed on systems on which the **Microsoft SQL Server Data Engine** (**MSDE**) is already installed. This affects all systems in which zenon 6.01 or 6.20 has been installed.

## ☀ Information

If you receive an error message during installation stating that a service cannot be started, then:

▸ first reboot the computer

▸ then start the zenon setup again

# 3  zenon Software Platform standard installation

zenon will automatically start its installation routine and guide you through the whole installation process when the zenon installation medium is connected. Alternatively, it is possible to start the installation by executing **START.exe** in the root folder of your zenon installation medium.

Administrator rights are required for the installation process on the computer!

## ⚠Attention

The computer is automatically restarted during installation if necessary. Close all other programs before installation.
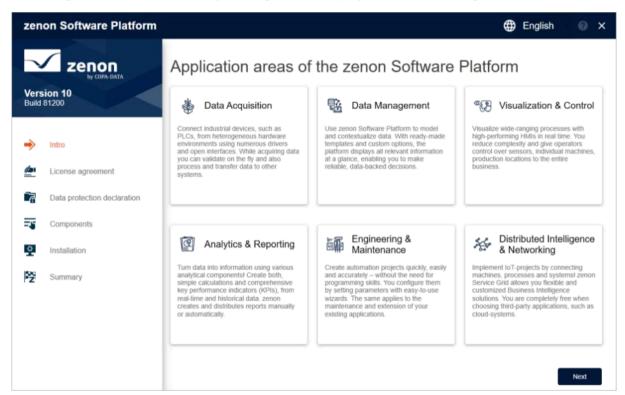
## 3.1  Start window

You are given general information about the zenon Software Platform in the start window.

The information in the left window shows you the current status of the installation process. You switch to the next respective window with the **Next** button.
You can get help on installation by clicking on the Help symbol at the top right.
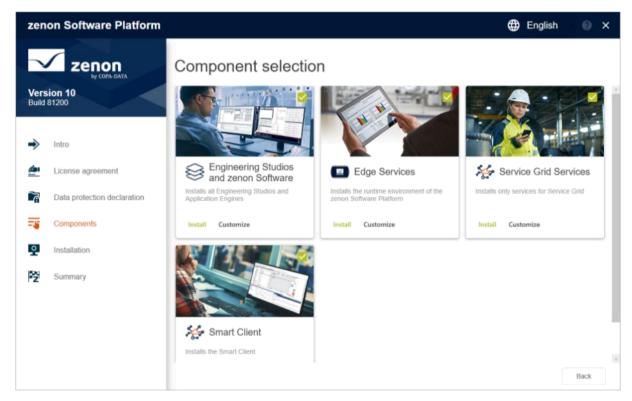


1. From the drop-down list at the top right, select the desired language for installation. The following languages are available:

    ▶ German

    ▶ English

    ▶ French

    ▶ Italian

    ▶ Japanese

    ▶ Korean

    ▶ Russian

    ▶ Spanish

    ▶ Czech

2. Clicking on the **Next** button opens the window with the license conditions.

3. Confirm the license conditions by activating the corresponding checkbox.
    If you do not accept the license conditions, you cannot install the product.

    You can also print the license conditions out by clicking on the **Print** button.

4. Clicking on the **Next** button opens the privacy policy.
   Read the privacy policy carefully.
   You can print out the privacy policy by clicking on the **Print** button.

5. Activate the checkbox for the privacy policy.
   This will confirm that you have read this. If you do not accept the privacy policy, the product cannot be installed.

6. Clicking on the **Next** button opens the window to select the desired product.
   **Note:** The **Next** button is only available if you have agreed to the license conditions by clicking on the option field.

## 3.2   zenon Standard installation

Select the desired components It is only possible to select components that have not already been installed. If you want to reinstall something, you must first uninstall the previously-installed component using the Control Panel.



## INSTALLATION PACKAGES

There are four collections of packages available for installation.
you can amend these individually before installation.

▶ **Engineering Studios and zenon Softwareplattform Services**

Installs all components of the software platform:

- ▶ Engineering Studio
- ▶ Report Engine
- ▶ Smart Server
- ▶ Service Hub
- ▶ License Manager
- ▶ Service Engine
- ▶ Reporting Studio
- ▶ Metadata Editor

▶ **Edge Services**

Installs all **Edge Services** of the Software Platform:

- ▶ Service Engine
- ▶ Report Engine
- ▶ Smart Server
- ▶ Service Hub
- ▶ License Manager
- ▶ Reporting Studio
- ▶ Metadata Editor

▶ **Service Grid Services**

Installs services for Service Grid for Windows native.

- ▶ Service Hub
- ▶ Additional Services
- ▶ License Manager

▶ **Smart Client**

Installs the **Smart Client** and the License Manager

## 3.3 Configuration and installation

All components can be installed with a click. You also have the possibility to amend the installation packages individually.

### COMPLETE INSTALLATION

**To install a component in full:**

1. Select the desired component.

2. Click on the **Install** button.

The installation is started. The computer may be restarted automatically during installation. Follow the instructions of the wizard

## AMENDED INSTALLATION
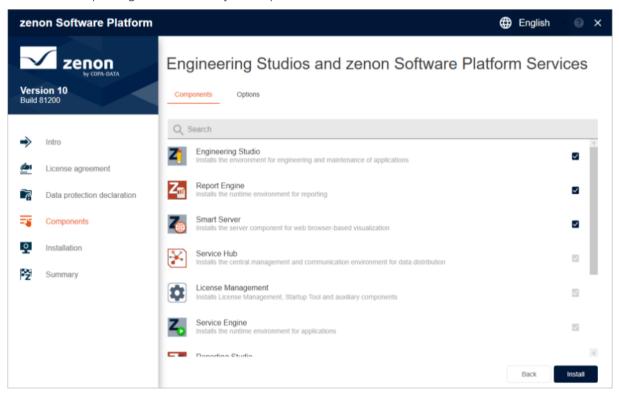
You can amend the packages for each component individually.

**To install a component in an amended installation:**

1. Select the desired component.

2. Click on the **Amend** button.

   The dialog to amend the installation is opened.
   The standard packages have already been pre-selected.



3. In the **Components** tab, select or deselect the desired packages.
   Packages can only be deselected if they are not required by another package.
   Already-installed packages cannot be deselected.

4. If necessary, configure the paths for installation in the **Options** tab.

5. Click on the **Install** button.

The installation is started.
The computer may be restarted automatically during installation. Follow the instructions of the wizard
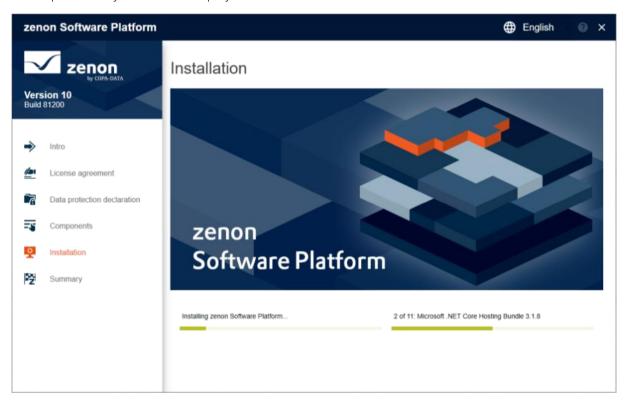
> **⚠Attention**
>
> If there is already a version of Service Grid on the system, it is strongly recommended that you back up this installation before an update. You can find information about this in the **Backup and Restore – Persistence Instance** (on page 14) section.

## 3.4   Terminator

During installation you are informed about the installation progress and the current installation stage in the progress bar.
If Service Grid components are installed, you now get the credentials. Note down all the credentials in a safe place. They cannot be displayed later.



The installation process may take some time. Do not turn your computer off in this time. Please also ensure that your computer is not automatically put into sleep mode.

### CANCEL INSTALLATION
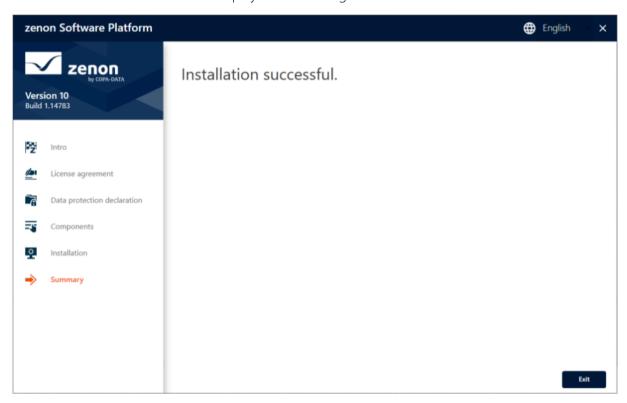
You can cancel the installation by clicking on the **Cancel** button.
Before canceling the installation there is a security query.
Possible actions:

▸ **Yes**: The installation is canceled.
The dialog for an invalid installation is shown.

▸ **No**: The installation is continued.

## INSTALLATION IS COMPLETED

The successful installation will be displayed via a dialog.



1. Copy the credentials to the Service Grid components.
Change these credentials as soon as possible.

2. Confirm the copy by activating the checkbox.

3. Click on the **Finish** button to complete installation.

4. Restart the setup to install further components.

## CANCELED OR INCORRECT INSTALLATION

If an error occurs during installation or the installation was canceled, this is shown in a dialog.

1. Click on the **Finish** button to finish the setup.

2. Check the log messages when canceling took place, if there are any.

3. Attempt the installation again.

**Note:** If installation of the SQL Server fails, the error message will provide a link to the log files. Click on the link to receive a detailed error report.

**POSSIBLE CAUSES OF THE ERROR:**

Important possible causes for a cancellation:

▶ A pending update to the Windows operating system.

▶ The SQL server required for Engineering Studio could not be installed.

## 3.5 Backup and Restore – Persistence Instance

**The following applies for the persistence:**

▶ The Persistence Instance should be backed up before every update of Service Grid. This is a precaution.

▶ A restore of the backup is only necessary in rare cases. This is the case, for instance, if a problem occurs during an update.

The Persistence Instance is based on MongoDB. The CLI tools mongodump and mongorestore of the database manufacturer can be used for backup and restore. Both tools are described in the following chapters.

You can find further information in the documentation on *www.mongodb.com*.

### 💡 Info: Host operating system and backup folder

**The following applies for all tutorials in this chapter:**

▸ You execute the CLI tools locally on the host operating system on which Service Grid is installed natively or in Docker.

▸ The backup is stored in the host operating system in the *backups* folder.

The backup commands described create the *backups* folder relative to the folder path in which you are located during the command processing in PowerShell.

### 3.5.1 CLI tools: mongodump and mongorestore

You can use the CLI tools mongodump and mongorestore to back up and restore the Persistence Instance via the command line.

**The installation option determines whether the tools are preinstalled:**

1. Service Grid (Windows native) installation option:
   The CLI tools are automatically installed by Service Grid setup in this path:
   *%ProgramFiles%\MongoDB\Server\<version>\bin*

2. Service Grid (Docker) installation option:
   You must download the tools yourself from *www.mongodb.com* and install them on the host operating system.

The installation of CLI tools is documented in detail on *www.mongodb.com*.

> ## 👍 Hint: Start CLI tools under Windows
>
> A corresponding environment variable is automatically saved in the host operating system when CLI tools are installed under Windows.
>
> **Thus the following applies:**
>
> ▸ You can basically start the CLI tools via PowerShell from any folder path. This requires that the environment variable is active.
>
> ▸ In some cases, the operating system must be restarted after installation for the environment variable to be active.
>
> You can start the CLI tools at any time – regardless of the environment variable – via the installation path.

## 3.5.2 Determine user credentials

**The commands contain the following placeholders:**

▸ *<username>*: The user name for MongoDB

▸ *<password>*: The password for MongoDB

You must replace the placeholders in the commands with the individual user credentials for your system. Where the user credentials can be found depends on your Service Grid installation option.

**See the comparison in the table below:**

| Placeholder | Service Grid (Windows native) | Service Grid (Docker) |
|---|---|---|
| <username> | *"AdminUser"* | *"SG_Persistence_Username"* |
| <password> | *"AdminUserPassword"* | *"SG_Persistence_Password"* |
| | **Path to the user credentials:**<br><br>*C:\ProgramData\COPA-DATA\Sy* | **Path to the user credentials:**<br>*.env* file in the installation directory |

| Placeholder | Service Grid (Windows native) | Service Grid (Docker) | |
|---|---|---|---|
| | stem\ServiceGrid\common.json | of Service Grid. | |

## 3.5.3 Perform backup

These instructions basically work for all installation options of Service Grid.

**Please note the following:**

▸ Information is provided at each configuration step on which installation of Service Grid it refers to.

▸ You can use the configuration steps for Service Grid (Docker on Windows) for Service Grid (Docker on Linux) too. However, you have to change the folder paths for linux and use a Linux Shell.

The tools and backup commands used are basically the same under Linux and Windows.

### PREPARATION (DOCKER ON WINDOWS)

In Docker you must open the database containers beforehand for access from the host operating system.

**Proceed as follows:**

1. Open an elevated PowerShell.

2. In PowerShell go to the installation directory of Service Grid.
   cd C:\servicegrid
   Note: You have created this folder path yourself for the installation of Service Grid. It contains all Service Grid configuration files such as *docker-compose.yml*.

3. Stop all containers:
   docker-compose down

4. Start all containers with an additional configuration file:
   docker-compose -f docker-compose.yml -f docker-compose.expose-db.yml up

Now you can access the database in the Docker containers via the Windows host system.

### PERFORM BACKUP (WINDOWS NATIVE, DOCKER ON WINDOWS)

**Back up Persistence Instance using mongodump as follows:**

1. Open an elevated PowerShell.

2. In PowerShell go to the directory path where the backup folder should be created.

3. Use the following command to create a backup folder in the selected directory path and back up the database there:
   *mongodump --username='<username>' --password='<password>' --host='localhost' --port=27017 --archive='backups\ServiceGridSystem.archive'*
   Note: You must replace the *<username>* and *<password>* placeholders with the appropriate user credentials.

You have thus backed up your Persistence Instance.

## POST-BACKUP ACTIVITIES (DOCKER ON WINDOWS)

**You must restart all containers in Docker:**

1. Stop all containers:
   docker-compose down

2. Restart the containers:
   docker-compose up

The database is thus protected again from access via the host operating system.

## 3.5.4  Apply restore

These instructions basically work for all installation options of Service Grid.

**Please note the following:**

▶ Information is provided at each configuration step on which installation of Service Grid it refers to.

▶ You can use the configuration steps for Service Grid (Docker on Windows) for Service Grid (Docker on Linux) too. However, you have to change the folder paths for linux and use a Linux Shell.

The tools and backup commands used are basically the same under Linux and Windows.

## PREPARATION (DOCKER ON WINDOWS)

In Docker you must open the database containers beforehand for access from the host operating system.

**Proceed as follows:**

1. Open an elevated PowerShell.

2. In PowerShell go to the installation directory of Service Grid.
   cd C:\servicegrid
   Note: You have created this folder path yourself for the installation of Service Grid. It contains all Service Grid configuration files such as *docker-compose.yml*.

3. Stop all containers:
   docker-compose down

4. Start all containers with an additional configuration file:
   docker-compose -f docker-compose.yml -f docker-compose.expose-db.yml up

Now you can access the database in the Docker containers via the Windows host system.

## APPLY RESTORE (WINDOWS NATIVE, DOCKER ON WINDOWS)

**You can restore your Persistence Instance from a backup using mongorestore:**

1. Open a PowerShell.

2. Go to the directory path of the backup folder.

3. Perform the restore of the database:
   *mongorestore --username='<username>' --password='<password>' --host='localhost' --port=27017 --archive='backups\ServiceGridSystem.archive' --drop*

You have thus restored the Persistence Instance from the backup.

> ⚠ **Attention**
>
> The *--drop* argument in the restore causes all existing data in Persistence Instance to be deleted and replaced with data from the backup.

> 👍 **Hint**
>
> With the *--dryRun* argument, it is possible to simulate the restore of the data. In doing so, existing data in Persistence Instance are not overwritten.

## POST-BACKUP ACTIVITIES (DOCKER ON WINDOWS)

**You must restart all containers in Docker:**

1. Stop all containers:
   docker-compose down

2. Restart the containers:
   docker-compose up

The database is thus protected again from access via the host operating system.

# 4 zenon Logic for Windows (standalone installation)

On the installation medium, in the *%AdditionalSoftware%\COPA-DATA* Logic Service directory, you will find the installation packages for a standalone installation for **Logic Service for Windows**.

**LOGIC SERVICE - CONTENTS OF THE INSTALLATION PACKAGE**

With the standalone setup for **Logic Service for Windows** all components for operating the 61131-3 compliant Logic Service are installed on the target system.This includes among other things, components for licensing and diagnostics.No configuration components are installed.

**INSTALLATION REQUIREMENTS**

Keep in mind the general system requirements for installing the product. Pre-installation of **zenon Operator/Supervisor** or **zenon Logic for Windows (Standalone)** is not permitted.

The product requires software already installed on the target system. You can also find them in the *%AdditionalSoftware%* directory of the installation medium. Therefore, if necessary, manually install the following packages:

- **Microsoft Visual Studio C++ Redistributables**
- **WIBU-SYSTEMS CodeMeter Runtime Kit**

After installation, execute the appropriate installation package (x86 or x64) for your target system.

> 🔆 **Information**
>
> The installation does not include a license for the product. Therefore Logic Service starts in test mode. Licensing can be done using the general licensing tools.

**UPDATE**

To update an already installed version, uninstall it and perform a new installation.

# 5 Silent installation and uninstallation

zenon can also be installed and uninstalled silently (Silent Installation) and (Silent Remove).

As part of Silent Installation, it is possible to exclude certain standard components from the installation specifically:

- Firewall rules: The **CDPROP_INSTALLFIREWALL** parameter decides whether rules for the firewall are set.

- ▸ **Codemeter** Software: Can be configured using the *PREREQUISITES_* argument for the **ISFeatureInstall** parameter. Codemeter is not installed if the argument is not used.
  **Attention:** This argument is applicable for all *Prerequisites*. Other Prerequisites are also not installed in this case!

> 💡 **Information**
>
> All zenon versions from 7.10 on support silent installation and uninstalling.

## PASSWORD CONVENTIONS FOR SA USERS

The random password created during a standard installation for the user *SA* on the SQL Server can be replaced with your own password. To do this, use an individual password for the argument **CDP_SQLADMINPW=** (Version 10 onwards) or **CDPROP_SQLADMINPASSWORD=** (before version 10).

Rules:

- ▸ Default length: 20 characters
- ▸ Permitted characters:
  - ▸ Letters: *A - Z, a - z*
  - ▸ Digits: *0 - 9*
  - ▸ Special characters: *!@$?#%&*\**
- ▸ Composition:
  - ▸ at least 1 lower case letter
  - ▸ at least 1 upper case letter
  - ▸ at least 1 number
  - ▸ at least 1 special character

> ⚠**Attention**
>
> A user-defined password is not validated.

## AS OF VERSION ZENON 10

Initiation of silent *silent* installation can be carried out with the following parameters:

- ▸ */silent -silent /s -s*
- ▸ **/quiet -quiet /q -q**

For example:

- ▸ **SoftwarePlatform.exe** *-s* **CDP_WORKLOAD="***WlSmartClient*"

▸ **SoftwarePlatform.exe** */quiet* **CDP_WORKLOAD=**"*WlFullSoftwarePlatform*"

▸ **SoftwarePlatform.exe** */silent* **CDP_WORKLOAD="**"*WlEdgeServices*"

**CDP_WORKLOAD** does not make sense for installations that are not *silent*. The argument is therefore also not supported and is ignored.

| Parameter | Arguments | Description |
|---|---|---|
| **softwareplatform.exe** | | Call-up of the installation. |
| */silent* | | Silent installation. |
| **CDP_WORKLOAD=** | Workload to be installed.<br><br>Must correspond to the ID from **WorkloadsSetup.config**.<br><br>Example: *WlSmartClient* for a SmartClient installation.<br><br>**Attention:** Workloads only, no features! Incorrect IDs or IDs that do not exist lead to the installation being aborted. | Entry is mandatory for *silent*. Is ignored with non-*silent*. |
| **CDP_INSTALLFIREWALL=** | ▸ *1*: is installed<br>▸ *0*: is not installed<br><br>Default:*1* | Whether firewall rules are installed. |
| **CDP_INSTALLDEMO=** | ▸ 1: is installed<br>▸ 0: is not installed<br><br>Default:*1* | Whether the demo project is also to be installed. Is only transferred to MSI. |
| **CDP_LANGUAGE=** | ▸ 1031: German<br>▸ 1033: English<br>▸ 1034: Spanish<br>▸ 1036: French<br>▸ 1040: Italian<br>▸ 1041: Japanese<br>▸ 1042: Korean<br>▸ 1049: Russian<br><br>Default:*1033* | Selection of the language. Is only transferred to MSI. |

| Parameter | Arguments | Description |
|---|---|---|
| CDP_SQLPATH= | Path to SQL.<br>*Empty*: Standard path<br><br>Default: *Empty* | Path for SQL installation, as in GUI. |
| CDP_INSTALLDIR= | Path to 64-bit zenon installation folder.<br><br>Default: default installation path | zenon software platform installation directory for 64-bit components |
| CDP_SQLADMINPW= | Any desired password.<br><br>Must comply with SQL guidelines | SQL administrator password. |
| CDP_POSTINSTALLEXE= | Whether **PostInstall.exe** is executed after installation:<br>  ▸  *1*: is executed<br>  ▸  *0*: is not executed<br>Default:*0* | |
| CDP_POSTINSTALLARGS = | Default:*empty* | Arguments for **PostInstall.exe**. |
| CDP_SERVICEHUB_PW= | Any desired password.<br><br>Default:*ServiceGrid* | Password for **Service Hub**. |
| CDP_SQLADMINPW= | Any desired password. | Password for SQL server instance of Service Engine. |
| CDP_SQLADMINPW_REP ORTING= | Any desired password. | Password for SQL server instance of Report Engine . |

### SILENT UNINSTALLATION

Uninstallation must be carried out using the same **SoftwarePlatform.exe** that was used for installation. Because this is saved in a folder with an execution-specific GUID, the following lines are also logged with each successful installation.

"For uninstalling of the currently installed producty via CommandLine use:"
"For silent uninstall C:\\ProgramData\\Package Cache\\{bundleProviderGuid}\\SoftwarePlatform.exe /silent /uninstall"

"For uninstall via UI C:\\ProgramData\\Package Cache\\{bundleProviderGuid}\\SoftwarePlatform.exe /uninstall"

In doing so, **{bundleProviderGuid}** is always replaced with the execution-specific GUID. The full path to the EXE is thus given in the LOG file.

In principle, all actions are documented in the log. Certain queries that are displayed as GUI feedback during normal installation are written here in the LOG file.

## ZENON 7.20

Instigation of silent installation for version 7.20.

Syntax: **scada.exe /silent /language:***[number]* **CDPROP_EDITION=***[edition]* **CDPROP_TYPE=***[type]* **ISFeatureInstall=***[features]*

**Examples:**

▸ Installation of Engineering Studio, German, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED ISFeatureInstall=PREREQUISITES_EDITOR,SCADA**

▸ Installation of Service Engine, English, Supervisor Edition:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT ISFeatureInstall=PREREQUISITES_RUNTIME,SCADA**

▸ Installation of Smart Server, German:
**scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBSERVER,WEBSERVER**

▸ Installation of Smart Client, German:
**scada.exe /silent /language:1031 ISFeatureInstall=PREREQUISITES_WEBCLIENT,WEBCLIENT**

## PARAMETER

| TAGs | Arguments | Description |
|------|-----------|-------------|
| **scada.exe** | | Call-up of the installation. |
| **/silent** | | Silent installation. |

| TAGs | Arguments | Description |
|------|-----------|-------------|
| /language: | ▸ *1031*: German<br>▸ *1033*: English<br>▸ *1034*: Spanish<br>▸ *1036*: French<br>▸ *1040*: Italian<br>▸ *1041*: Japanese<br>▸ *1042*: Korean<br>▸ *1049*: Russian | Selection of the language.<br><br>Example: English:<br>**language:** *1033* |
| CDPROP_EDITION= | ▸ *ENERGY*<br>▸ *SUPERVISOR*<br>▸ *OPERATOR*<br>▸ *PHARMA* | Selection of the edition.<br><br>Example: Energy Edition:<br>**CDPROP_EDITION=** *ENERGY*<br><br>Is not needed for Smart Server and Smart Client. |
| CDPROP_TYPE= | ▸ *ED*: Engineering Studio and Service Engine<br>▸ *RT*: Service Engine | Selection Engineering Studio or Service Engine.<br><br>Example Service Engine:<br>**CDPROP_TYPE=***RT*<br><br>Is not needed for Smart Server and Smart Client. |
| CDPROP_INSTALLFIREWALL | ▸ *0* or *1* | Denotes whether rules for the firewall have been created:<br>▸ *0*: Rules are not created<br>▸ *1*: Rules are created |
| CDPROP_SQLADMINPASSWORD= | User-defined password<br><br>You can find further information on passwords in the **Password conventions for SA users** chapter. | Password for the *SA* user in SQL Server. This password is created for the *SA* user and used during installation.<br><br>Example:<br>**CDPROP_SQLADMINPASSWORD=***H1342DFAhzgs§*464578* |

| TAGs | Arguments | Description |
|---|---|---|
| | | If no password is transferred, a random password is created during installation.<br><br>**Attention:** User-defined passwords are not validated for validity and compliance with password rules! |
| **ISFeatureInstall=** | ▸ *PREREQUISITES_EDITOR,SCADA*:<br>Engineering Studio<br><br>▸ *PREREQUISITES_RUNTIME,SCADA*:<br>Service Engine<br><br>▸ *PREREQUISITES_WEBSERVER, WEBSERVER*:<br>Web Server<br><br>▸ *PREREQUISITES_WEBCLIENT,WEBCLIENT*:<br>Web Client | Selection of features to be installed.<br><br>Arguments:<br><br>▸ *PREREQUISITES_*:<br>Decides whether Prerequisites are installed. The reasons why Prerequisites are installed is given after the underscore. E.g.: **EDITOR Codemeter** is not installed if the argument is left out.<br><br>▸ *SCADA*: Installs Engineering Studio and/or Service Engine, depending on the parameters for **CDPROP_TYPE=**.<br><br>▸ *WEBSERVER*: Installs the Web Server.<br><br>▸ *WEBCLIENT*: Installs the Web Client.<br><br>Examples:<br><br>▸ Service Engine with Prerequistes:<br>**ISFeatureInstall=***PREREQUISITES_RUNTIME,SC* |

| TAGs | Arguments | Description |
|------|-----------|-------------|
|      |           | *ADA* <br><br> ▸ Service Engine without Prerequistes: **ISFeatureInstall=***SCADA* |

## SILENT UNINSTALLATION AS OF ZENON 7.20.

The **GUID** is part of the path and depends on the version. The attendant version is visible in the file properties of a **GUID**.

### Without LOG file:

▸ Path: **%ProgramFiles(x86)%\InstallShield Installation Information\{GUID}**
Example: **C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}**

▸ Syntax: **SCADA.exe /remove /silent**

### With LOG file:

▸ Path: **%ProgramFiles(x86)%\InstallShield Installation Information\{GUID}**
Example: **C:\Program Files (x86)\InstallShield Installation Information\{9BE6EDFE-3465-486F-87EE-1C439DE5EA9A}**

▸ Syntax: **SCADA.exe /remove /silent /log"%TEMP%"**

## ZENON 7.10 AND 7.11

Syntax: **scada.exe /silent /language:[number] CDPROP_EDITION=[edition] CDPROP_TYPE=[type] ISFeatureInstall=[features]**

| Parameter | Arguments | Description |
|-----------|-----------|-------------|
| **scada.exe** |       | Call-up of the installation. |
| **/silent**   |       | Silent installation. |

| Parameter | Arguments | Description |
|---|---|---|
| /language: | ▸ **1031**: German<br>▸ **1033**: English<br>▸ **1034**: Spanish<br>▸ **1036**: French<br>▸ **1040**: Italian | Selection of the language.<br>Example: English:<br>**language:1033** |
| CDPROP_EDITION= | ▸ **ENERGY**<br>▸ **SUPERVISOR**<br>▸ **OPERATOR**<br>▸ **PHARMA** | Selection of the edition.<br>Example: Energy Edition:<br>**CDPROP_EDITION=ENERGY**<br>Is not required for Smart Server. |
| CDPROP_TYPE= | ▸ **ED**: Engineering Studio and Service Engine<br>▸ **RT**: Service Engine | Selection Engineering Studio or Service Engine.<br>Example Service Engine:<br>**CDPROP_TYPE=RT**<br>Is not required for Smart Server. |
| ISFeatureInstall= | ▸ **WIBU,SCADA,MS,MSALL,SQL,COMMON**:<br>Engineering Studio<br>▸ **WIBU,SCADA,MS,MSALL,COMMON**:<br>Service Engine<br>▸ **WIBU,WS,MSALL,COMMON**:<br>Web Server | Selection of features to be installed.<br>Example Engineering Studio:<br>**ISFeatureInstall=WIBU,SCADA, MS,MSALL,SQL,COMMON** |

**Examples:**

▸ Installation of Engineering Studio, German, Energy Edition:
**scada.exe /silent /language:1031 CDPROP_EDITION=ENERGY CDPROP_TYPE=ED ISFeatureInstall=WIBU,SCADA,MS,MSALL,SQL,COMMON**

▸ Installation of Service Engine, English, Supervisor Edition:
**scada.exe /silent /language:1033 CDPROP_EDITION=SUPERVISOR CDPROP_TYPE=RT ISFeatureInstall=WIBU,SCADA,MS,MSALL,COMMON**

▶ Installation of Smart Server, German:
**scada.exe /silent /language:1031 ISFeatureInstall=WIBU,WS,MSALL,COMMON**

**SILENT UNINSTALLATION IN ZENON VERSION 7.10 AND  7.11**

**ZENON 7.10**

Path: **C:\Program Files (x86)\InstallShield Installation Information\{860C41F0-6034-4822-BCF1-88D4849AE897}**

Syntax: **SCADA.exe /remove /silent**

**ZENON 7.11**

Path: **C:\Program Files (x86)\InstallShield Installation Information\{ED00D319-77B8-4C58-8D67-2DA2D48E90DB}**

Syntax: **SCADA.exe /remove /silent**

# 6 Error treatment

## CHECK BEFORE INSTALLATION:

The system requirements are checked before installation. If the requirements are not met, you are shown these on a separate page with notices on how to rectify this.

## ERROR DURING INSTALLATION

You will receive an error message if there are errors during installation.

If you need help from the Technical Consulting department of COPA-DATA:

1. If possible, create a screenshot of the error message

2. Navigate to the *%Temp%/SoftwarePlatform* folder.

3. Here you can find the log files of the installation.

4. Create a ZIP file with the content of the folder.

5. Forward the file and the screenshot to support@copadata.com

If you have already closed the error message window, you can find the log files with the installation information for the SQL Server in the folder:
*C:\Program Files\Microsoft SQL Server\150\Setup Bootstrap\LOG*

**Tip:** The file **summary.txt** provides information for troubleshooting.

> ### 💡 Information
>
> **Firewalls:** zenon automatically configures the firewall installed with Windows during installation. Firewalls from other providers must be properly configured by the user

### FREQUENT SOURCES OF ERROR DURING INSTALLATION:

▸ The virus scanner is active and blocks the installtion because the scanner thinks it´s a virus. Solution: Seperate the system from the network, disable the virus scanner, execute the installation again.

▸ The firewall was not configured correctly. Solution: Seperate the system from the network, disable the firewall, execute the installation again.

▸ Erroneous SQL-installation on the system. Solution: Create project backups; if possible, deinstall SQL server, rename the SQL folder, and restart installation.

# 7 Windows Updates

**Attention:** Automatic Windows updates influence the installation

If an update of the Windows operating system is carried out while the zenon setup is running, it can cause problems during the zenon installation.

To prevent this:

▸ Deactivate the automatic Windows update during the time of installation.

▸ carry out the Windows update before starting the zenon installation

# 8 Virus scan

Anti-virus software can slow down or even prevent the installation of zenon.

**Note:** If the anti-virus software you use leads to problems during installation, deactivate the anti-virus software for the duration of the installation. The computers concerned can be exposed to higher risks during this time. Activate your anti-virus software immediately after the installation of zenon.

# 9 File Structure

The special file structure is created or extended during the installation.

The zenon program files are copied to a folder which can be defined during the installation.

Additionally the installation asks for a folder for the SQL databases of the projects. The storage medium for project archiving (SQL, screens etc.) must have enough free space, because all current and future project data is stored there.

| Folder | Path |
| --- | --- |
| **Program folder** | 32-bit system:<br>   %ProgramFiles%\COPA-DATA\zenon Software Platform 10<br><br>64-bit system:<br><br>%ProgramFiles%\COPA-DATA\zenon Software Platform 10<br><br>%ProgramFiles (x86)%\COPA-DATA\zenon Software Platform 10 |
| **Program data folder, e.g. global symbols, print templates, log files etc.** | %ProgramData%\COPA-DATA\zenon1000 |
| **Database folder (SQL)** | %ProgramData%\COPA-DATA\SQL2019 |
| **System folder** | %ProgramData%\COPA-DATA\System |
| **Settings** Engineering Studio and profiles | %Users%\UserName\AppData\Local\COPA-DATA\zenon\Engineering Studio |
| **Setting for Diagnosis Viewer**. | %Users%\UserName\AppData\Local\COPA-DATA\zenon\DiagView |

## DEFINITION SERVICE ENGINE FOLDER AND DATA FOLDER

### SERVICE ENGINE FOLDER

Engineering Studio creates Service Engine files in the Service Engine folder, or they are transferred to this folder by means of Remote Transport. The Service Engine folder is created or updated when compiling a project in Engineering Studio. This folder can be parameterized in Engineering Studio with the **Service Engine folder** project property. With remote transfer, the Service Engine folder is defined in the Remote Transport settings.

**DATA FOLDER**

Service Engine saves all data files that were created in Service Engine such as alarm files, archive files etc. in the data folder. The data folder is created as a subfolder of the Service Engine folder by default. The folder is automatically assigned the name of the computer that Service Engine is running on. You can change this save location in the project properties (**General**/**Data folder**).

**Tip:** Never set the data folder to a removable device such as an USB stick or a network device. It is recommended that the data is recorded locally and backed up externally.

> ⚠**Attention**
>
> If the defined path does not exist or is not available, no more data is written from Service Engine. This means a complete loss of data. Service Engine can still be operated but must be restarted as soon as the path is available again. The availability of the folder can be checked via the system driver variable **[Systeminformation] Service Engine folder not available**.

# 10 Free ports

zenon and zenon Logic need certain communication ports for the communication in the network. If these ports are occupied by other programs like e.g. an already installed SQL server, communication from zenon can be disturbed. Many ports in zenon can be changed using the **Startup Tool** or properties in Engineering Studio.

This is how you check the port assignments:

1. Enter *netstat -a -n -o* in the command line.

    You can reach the command line in Windows:

    ▶ by pressing the Windows-key and R

    ▶ Enter *cmd* and confirm with **OK**.

    ▶ A DOS-window pops up

    ▶ enter the command *netstat*

2. A list of all currently used TCP and UDP ports will pop up.

3. Check the listening ports (status: *LISTEN*) if the process-ID (PID) of the ports needed by zenon and zenon Logic corresponds with the processes of zenon and zenon Logic.

    These PIDs can be read in the **Windows Task Manager**. To do this, open the **Windows Task Manager** and switch to the **Services** tab.

4. If another software uses these ports, reconfigure this software.
   You can see the ports that zenon and zenon Logic use in the **Port assignment by zenon and zenon Logic** table. Here you can also see if these ports can be amended in these programs.

## PORT SETTINGS BY ZENON AND ZENON LOGIC

| Application | Description | Ports | Transport log |
|---|---|---|---|
| stratonrt[k].exe | Logic Service polling communication and Logic Studio. | ▸ *1200-1210* | **TCP** |
| stratonrt[k].exe | | ▸ *4500-4510* | **TCP** |
| stratonrt[k].exe | zenon Logic redundancy. | ▸ *7000-7010* | **TCP** |
| stratonrt[k].exe | Logic Service - spontaneous communication | ▸ *9000-9010* | **TCP** |
| zennetsrv.exe | zenon network service. | ▸ *1100-1100* | **TCP** |
| zensyssrv.exe | zenon transport service. | ▸ *1101* | **TCP** |
| zendbsrv.exe | zenon database service. | ▸ *1103* | **TCP** |
| zenAdminsrv.exe | zenon administration service. | ▸ *50777* | **TCP** |
| zenLogSrv.exe | zenon logging service. | ▸ *50780* | **TCP** |
| CodeMeter.exe | Code Meter dongle service. | ▸ *22350* (changeable but must not be changed) | **TCP** |
| WkSvW32.exe | WibuKey Network service | ▸ *22347* (fixed) | **TCP** |
| Zenrt32.exe | **Message Control** with Voice over IP. | ▸ *5060*: SIP<br>▸ *4000*: RTP<br>▸ *4001*: RTCP (fixed)<br><br>SIP and RTP can be configured using Engineering Studio. RTCP is automatically set by the system. | **UDP** |

# 11 Installation of an older version after installation of zenon 10 (64-bit operating system)

If, on a 64-bit operating system, after installation of zenon 10, a version of zenon with version number lower than 7.10 is installed, the 64-bit services of version 7.10 must be re-registered afterwards using the command line. Registration can be carried out using a batch file or manually.

**Registration with a batch file:**

1. Copy the file named **Register.bat** from the zenon installation medium.

2. You can find this in the following folder: *…\AdditionalSoftware\Register Admin Service and Log Service (x64)\*

3. Execute the file on the respective computer as an administrator.

**manual registration:**

1. run the command line with administrative rights

2. Go to the folder *%ProgramFiles%\Common Files\COPA-DATA\zenAdminSrv*

3. Start the service **zenAdminSrv.exe** with the parameter **-service**

4. Go to the folder *%ProgramFiles%\Common Files\COPA-DATA\zenLogSrv*

5. Start the service **zenLogSrv.exe** with the parameter **-service**

> 📄 **Example**
>
> **zenAdminSrv:**
>
> ‣ Folder: *C:\Program Files\Common Files\COPA-DATA\zenAdminSrv*
>
> ‣ Command: **zenAdminSrv.exe -service**
>
> **zenLogSrv:**
>
> ‣ Folder: *C:\Program Files\Common Files\COPA-DATA\zenLogSrv*
>
> ‣ Command: **zenLogSrv.exe -service**

# 12 Installation of version 7.x and version 6.51 on the same computer

If a version 7.x is installed on a system that already has zenon 6.51 installed, the **Multiple Network Protocol Driver** must be reinstalled after a reboot.

### FOR X64 SYSTEMS

For new installation:

1.  Restart the system.

2.  On the installation medium, open the following path: *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*.

3.  Execute the file called **MNDPx64Setup.bat**.

This means that the driver is reinstalled and properly linked to the network adapters.

### FOR X86 SYSTEMS

For new installation:

1.  Restart the system.

2.  On the installation medium, open the following path: *AdditionalSoftware\COPA-DATA Multiple Network Protocol Driver*

3.  Execute the file called **MNDPx86Setup.bat**

This means that the driver is reinstalled and properly linked to the network adapters.

# 13 Licensing preview versions

The following time-limited licenses are available for zenon preview programs. They have a fixed expiry date.
If a preview version is installed, it needs an internet connection. The licensing will fail if this is not present.
In this case, the time stamp can be updated manually.
To do this:

1.  Open the command line.

2.  Enter: *%programfiles(x86)%\CodeMeter\Runtime\bin\cmu32.exe --time-update*

The time stamp is updated and the license is valid.

# 14 System requirements

You can find information on supported operating systems for zenon in the **Desktop operating systems** and **Server operating systems** sections

Changes due to Service Packs, Hotfixes or Patches from Microsoft can cause incompatibilities and affect the functionality of the software. In this case, COPA-DATA will provide an updated version of zenon as soon as possible. In this case you can get more information from COPA-DATA support: support@copadata.com.

> ⚠**Attention**
>
> Note when configuring the project:
>
> ▶ For the optimal display of zenon in the Runtime, the standard setting (corresponds to *100%*) is recommended for the Windows **display**. Higher values can lead to graphic elements, symbols, texts, etc. not being displayed correctly.
>
> ▶ Windows themes can overlay elements in Runtime. Ensure, when configuring a project, that there is an appropriate distance from the elements to the screen edge.

**Note:** According to Windows conventions, hostnames may not contain more than 15 characters.

## 14.1 Desktop operating systems

Supported desktop operating systems and minimum required Windows Service Pack/version:

| Operating system | zenon Engineering Studio | Service Engine | zenon Smart Server | zenon Smart Client | zenon HTML Web Engine | Logic Service | zenon Report Engine |
|---|---|---|---|---|---|---|---|
| **Windows 8 and 8.1**<br>(Standard, Professional, Enterprise version, x86 and x64 versions) | Cannot run | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | Cannot run |
| **Windows Embedded 8 Standard**<br> (if all necessary operating system components exist). | Cannot run | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | Cannot run |
| **Windows 10**<br>(Pro, Enterprise, Education, Pro Education, Enterprise LTSB, Enterprise LTSC, IoT Enterprise, Pro for Workstations) | Only x64 from 1507 | 1507 | 1507 | 1507 | 1507 | 1507 | Only Pro and Enterprise (each x64) from 1507 |

## 14.2 Server operating system

Supported server operating systems and minimum required Windows Service Pack/version:

| Server operating system | zenon Engineering Studio | Service Engine | zenon Smart Server | zenon Smart Client | zenon HTML Web Engine | Logic Service | zenon Report Engine |
|---|---|---|---|---|---|---|---|
| **Windows Server 2012 and 2012 R2** (All editions with the exception of Core) | Cannot run | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | Cannot run |
| **Windows Server 2016** (All editions with the exception of Core) | 10.0.14393 | 10.0.14393 | 10.0.14393 | 10.0.14393 | 10.0.14393 | 10.0.14393 | 10.0.14393 |
| **Windows Server 2019** (All editions with the exception of Core) | 10.0.17763 | 10.0.17763 | 10.0.17763 | 10.0.17763 | 10.0.17763 | 10.0.17763 | 10.0.17763 |

## 14.3 Server and desktop operating systems up to Windows 8.1

Overview of supported servers and desktop operating systems up to Windows 8.1

| | Windows Embedded 8 Standard | Windows Embedded 8.1 Pro/Industry | Windows 8 and 8.1/ Server 2008 (R2) SP1, 2012 and 2012 R2 | Windows CE |
|---|---|---|---|---|
| Engineering Studio | -- | -- | -- | -- |
| Service Engine | X | X | X | -- |
| Service Engine for Windows CE: | -- | -- | -- | X |
| **Smart Server** | X | X | X | X (only Web Server Pro Light) |
| **Smart Client** | X | X | X | -- |
| **HTML Web Engine** | X | X | X | -- |

**Key:**

- ▶ **X**: supported

- ▶ --: not supported

> **⚠ Attention**
>
> Windows CE is no longer supported from version 7.50. zenon CE version 7.20 is installed. To use this, Service Engine files for version 7.20 must be created.

## 14.4  Windows CE and Windows Embedded

Supported operating systems:

| Operating system | zenon Engineering Studio | zenon Service Engine | zenon Smart Server | zenon Smart Client | zenon HTML Web Engine | Logic Service | zenon Report Engine |
|---|---|---|---|---|---|---|---|
| **Windows CE 6.0** (ARM and x86)  **Attention:** Is only supported up to version 7.20. From version 7.50, Service Engine files for 7.20 must be created. | Cannot run | zenon Operator only | Pro Light only | Cannot run | Cannot run | executable | Cannot run |
| **Windows Embedded** Compact 7 (ARM and x86)  **Attention:** Is only supported up to version 7.20. | Cannot run | zenon Operator only | Pro Light only | Cannot run | Cannot run | executable | Cannot run |

| Operating system | zenon Engineering Studio | zenon Service Engine | zenon Smart Server | zenon Smart Client | zenon HTML Web Engine | Logic Service | zenon Report Engine |
|---|---|---|---|---|---|---|---|
| From version 7.50, Service Engine files for 7.20 must be created. | | | | | | | |

## 14.5 Windows 10

Overview of supported desktop operating systems for Windows 10

| Windows version | zenon | Logic Service |
|---|---|---|
| **Windows 10 Home** | -- | -- |
| **Windows 10 Mobile** | -- | -- |
| **Windows 10 Pro** | X | X |
| **Windows 10 Enterprise** | X | X |
| **Windows 10 Education** | X | X |
| **Windows 10 Mobile Enterprise** | -- | -- |
| **Windows 10 IoT Core** | -- | -- |
| **Windows 10 IoT Enterprise (Windows 10 Enterprise LTSB)** | X | X |
| **Windows 10 Enterprise LTSC** | X | X |

<u>Key:</u>

▶ **X**: available

▶ --: Cannot run

## 14.6 System requirements when using DirectX

The following minimum requirements must be met when using *DirectX hardware* or *DirectX software*:

**Note:** For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware. The minimum requirements can increase as a result of this.

| Parameters | Minimum requirements | Recommended |
|---|---|---|
| **CPU:** | Single core with SSE2 support. | Quad Core or more cores |
| **Graphics adapter:**<br><br>(DirectX hardware only) | DirectX 11 mainstream graphics card.<br><br>**Note:** When an integrated graphics chip is used in particular, it is possible, depending on the driver used, that there are impairments to the display | Dedicated DirectX 11 AMD or nVidia high-end graphics card |

| Parameters | Minimum requirements | Recommended |
|---|---|---|
| | quality. | |
| **Graphics memory**:<br><br>(DirectX hardware only) | 1 GB VRAM<br><br>**Note:** The size that is actually needed depends on the number of screens called up and the elements displayed. | 2 GB VRAM |
| **Graphics card driver:**<br><br>(DirectX hardware only) | The graphics card manufacturer's most recent driver. | |
| **Operating system:** | *DirectX Hardware* and *DirectX Software* only work on operating systems with *DirectX 11.1* support.<br>If the system does not support *DirectX 11.1*, it is automatically switched to *Windows based* .<br><br>The current *DirectX*-Service Engine must be installed. For zenon it is installed together with the setup. It must be manually installed for Smart Client. | |

You can check the DirectX hardware compatibility of the graphics card and the driver with the Windows operating system tool **dxdiag.exe**.
From Windows 8: All supported versions of DirectX are displayed in the **Display** tab under **Feature Levels**. For example, DirectX 11 is displayed as *11.0*.

## 14.7  Additional software

### SQL SERVER

Engineering Studio works with an SQL database. This is installed with Engineering Studio.

▸ Up to and including   6.20 SP4: **SQL Server 2000 (MSDE)**

▸ From version 6.21 SP0: **SQL Server 2005 Express**

▸ From version 7.00 SP0: **SQL Server 2008R2 SP1 Express**

▸ From version   7.10 SP0: **SQL Server 2012 SP1 Express**

▸ From version 7.20 SP0: **SQL Server 2012 SP2 Express**

▸ From version 7.50 SP0: **SQL Server 2012 SP3 Express**

▸ From version 7.60 SP0: **SQL Server 2012 SP3 Express**

▸ From version 8.00 SP0: **SQL Server 2012 SP3 Express**

▸ From version 8.10 SP0: **SQL Server 2017 Express**

▸ From version 10 SP0: **SQL Server 2019**

> ⚠**Attention**
>
> When changing the version or installing a service pack update, note the SQL Server: Projects must be backed up and exported in the original version and then imported back in the new version.
>
> **Note:** If a zenon version with the same SQL Server version but a different service pack is already present, this service pack is not updated by the new zenon installation. The service pack update can either be installed manually or by means of Windows Update.

**PASSWORDS FOR SA USER**

During installation, a random password is created for the user *SA* on the SQL Server and used. This can also be replaced with an individual password. To do this, an individual password must be created during silent installation (on page 19) with the argument **CDPROP_SQLADMINPASSWORD=**.

**DONGLE**

▸ The CodeMeter software required for dongle protection is always installed automatically too.

▸ The WibuKey software is available on the installation medium in the path: *...\AdditionalSoftware\WIBU-SYSTEMS CodeMeter Runtime Kit*

## 14.8  User authorization

Windows administrator rights are required for installation.

Standard Windows user rights are required for ongoing operation. The user account control (UAC) can be activated at the highest security level.

## 14.9  Hardware requirements

PC version and CE version of zenon have different requirements concerning the needed hardware. In this chapter, you can find the hardware requirements for the individual versions of Engineering Studio and Service Engine, as well as Smart Server and Smart Client.

Engineering Studio uses a Microsoft SQL Server as an SQL Server and has higher hardware requirements than Service Engine. If Engineering Studio and Service Engine are to be running on a system simultaneously, the requirements increase.

> **⚠Attention**
>
> Graphics cards with their own graphics memory and DirectX support are recommended. Shared-memory graphics cards may require too much working memory and may thus lead to performance impairments. Note the system requirements when using DirectX (on page 41) chapter. The recommended configuration from this chapter is to be noted for the use of Multi-Touch.

**PERFORMANCE OPTIMIZATION**

Note that all information stated only constitutes the minimum requirements for your system. Better hardware equipment improves the performance of zenon considerably.

▶ Equip your hardware - both clients and most of all the server - with sufficient memory (RAM).

▶ Optimize the hardware for data backup, for example with fast SSD data storage.

▶ Match the hardware of the clients and the network to one another. A system is only as powerful as its weakest component.

▶ Optimize your network architecture, for example with the use of cabling with a high data transfer rate and corresponding devices (switches and routers).

▶ When using a virtual environment, ensure that the virtual system is correspondingly configured with performance optimization.

## 14.9.1 Engineering Studio

The minimum requirements are based on a complete installation of Engineering Studio.For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware. The minimum requirements can increase as a result of this.

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| **CPU** | Single core with SSE2 support. | Quad Core |
| **Memory** | From 4 GB<br><br>**Note**: The more projects you have simultaneously available in memory, the more memory you need. | 8 GB |
| **Harddisk** | At least 13 GB free space for a complete installation plus additional space for the projects. | |

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| **Monitor resolution** | Extended VGA with 1024 x 768 pixels.<br><br>**Attention:** Some dialogs, e.g. the filter of the **AML**/**CEL** image, are difficult to operate or possibly non-operable at a height of less than 850 pixels. | Double monitor setup: 2 times *1920 x 1080*. |
| **Graphics adapter** | 64 MB dedicated memory. Cards with shared memory can lead to performance loss. Note the system requirements when using DirectX (on page 41) chapter. | |
| **Input devices** | Standard keyboard or standard mouse. | |
| **USB interface or DVD drive** | For the installation, regardless of installation medium.<br><br>The installation is also possible via network. Installation files can also be downloaded from the customer area of the COPA-DATA website. | |
| **Parallel or USB interface** | In case of dongle licensing required for dongle. For network dongle only required for the dongle server. | |
| **Network connection (optional)** | Recommended 10 MBit/s with TCP/IP protocol for Remote Transport, network dongle, project backups on central file server, multi-user capable Engineering Studio, etc. | 1000 MBit/s |

**Note:** When using comprehensive multi-user projects, note the information in the hardware requirements chapter.

## 14.9.2 Service Engine

The minimum requirements are based on a complete installation of Service Engine. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware. The minimum requirements can increase as a result of this.

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| **CPU** | Single core with SSE2 support. | Quad Core |
| **Memory** | From 512 MB. | 4096 MB |

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| | **Note:** Projects with big amounts of data, Network projects, multiple projects simultaneously and projects in redundance mode need more memory. | |
| **Harddisk** | 2 GB of free memory space for Service Engine installation plus additional space for the projects.<br><br>**Attention:** If you log historical data (e.g. Archive data or Alarm-/CEL-Data), you need sufficient harddrive space or you have to make sure during engineering that the historical data is evacuated or deleted. | |
| **Monitor resolution** | 1024 x 768.<br>Note also the information in the infobox under the table. | |
| **Graphics adapter** | 64 MB dedicated memory. Cards with shared memory can lead to performance loss. Note the System requirements when using DirectX (on page 41) chapter in relation to this. | |
| **Input devices** | Keyboard and/or mouse. Operation via touchscreen is also possible. Many individual, customizable softkeyboards for the touchscreen are available for you. In addition, there is the possibility of Multi-Touch operation. | |
| **USB interface**<br><br>**(optional)** | ▶  For installation.<br>Installation also possible via network or other storage media.<br><br>▶  For dongle. Network dongle also available. | |
| **Network connection (optional)** | 64 kBits/s for standard Client/Server projects.<br><br>100 Mbit/s full duplex for redundant operation. | 1000 kBits/s full duplex for standard Client/Server projects. |
| **Remote connection (optional)** | Minimum requirements: Dial-up modem with 9600 Bit/s. | 1 Mbit/s full duplex. |

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| **WAN connection (optional)** | Any desired connection via router, e.g. per ISDN or DSL Data transfer is slower in a WAN than in a local network for technical reasons. Be sure to check the possible data transfer rates of your WAN technology already at the time when you create the project. | |
| **Message Control (optional):** | Please refer to chapter Message Control for the requirements. | |
| **Interfaces (optional)** | The necessary interfaces depend on the requirements of the PLC and/or the bus connection, for example serial RS232 or RS422/485 interfaces, ISA/PCI slots, etc. | |

## ⚡ Information

The minimum recommended resolution in Service Engine is 1024 x 768 pixels. Smaller resolutions can also be configured. However it may then not be possible to operate some online dialogs. If these are not used, the resolution can be selected as lower.

## 14.9.3 Service Engine under Windows Embedded Standard

The minimum requirements relate to an installation of Service Engine adapted to the Windows Embedded Standard 7 SP1 operating system with platform update. The hardware must be accordingly more powerful for extensive projects.

This table only states the figures that are different to the standard installation. The other parameters correspond to the figures described in the Hardware requirements for Service Engine (on page 45) chapter.

| Hardware | Minimum requirement | Recommended |
|---|---|---|
| **Memory** | ▶   512 MB.<br><br>**Note:** Projects with big amounts of data, Network projects, multiple projects simultaneously and projects in redundance mode need more memory. | ▶   2048 MB |

| Hardware | Minimum requirement | Recommended |
|---|---|---|
| Storage medium | ‣ 2 GB of free memory on C:\ drive before the installation of .NET Framework.<br>800 MB of free memory after the installation of the .NET Framework<br><br>‣ Plus memory space for the projects, archives, etc. | ‣ 80 GB |

**Attention:** If you log historical data (e.g. Archive data or Alarm-/CEL-Data), you need sufficient harddrive space or you have to make sure during engineering that the historical data is evacuated or deleted.

## 14.9.4 Service Engine for Windows CE

The minimum requirements are based on a complete installation of Service Engine for Windows CE. The hardware must be accordingly more powerful for extensive projects.

| Hardware | Minimum requirement | Recommended |
|---|---|---|
| CPU | At least 400 MHz | 1 Ghz |
| Memory | 64 MB | 1024 MB for Windows CE 6.0. |
| Storage medium | 64 MB free harddrive space.<br><br>Permanent recordable remanent storage medium for project data | 256 MB free harddrive space or more. |
| Network connection | For standard Client/Server projects: 10 Mbit/s full duplex. | |

### ⚠ Attention

Windows CE is no longer supported from version 7.50. zenon CE version 7.20 is installed. To use this, Service Engine files for version 7.20 must be created.

## 14.9.5 Smart Server

The minimum requirements are based on a complete installation of Smart Servers. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware. The minimum requirements can increase as a result of this.

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| **CPU** | Single core with SSE2 support. | |
| **Memory** | From 1024 MB | |
| **Harddisk** | 256 MB free harddrive space. | 1 GB free harddrive space. |
| **Network connection** | 10 Mbit/s full duplex. | 1000 Mbit/s full duplex. |
| **Remote connection (optional)** | Minimum requirements: Dial-up modem with 9600 Bit/s. | 1 Mbit/s full duplex. |

## 14.9.6 Smart Client

The minimum requirements are based on a complete installation of Smart Client. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware. The minimum requirements can increase as a result of this.

| Hardware | Minimum requirements | Recommended |
|---|---|---|
| CPU | Single core with SSE2 support. | Quad Core |
| RAM memory | From 1024 MB | |
| Harddisk | 64 MB of free space for Smart Client plus space for the projects. | 80 GB free harddrive space. |
| Network connection | 10 Mbit/s full duplex. | 1000 Mbit/s full duplex. |
| Remote connection (optional) | Minimum requirements: Dial-up modem with 9600 Bit/s. | 1 Mbit/s full duplex. |
| Graphics adapter | 64 MB dedicated memory. Cards with shared memory can lead to performance loss. Note the | |

| Hardware | Minimum requirements | Recommended |
|---|---|---|
|  | System requirements when using DirectX (on page 41) chapter in relation to this. |  |

# 15 Paths for installation and operation

Paths for zenon:

▸ Installation

▸ Engineering Studio

▸ Service Engine

> ### ☀ Info
>
> You can display many default paths with the help of the **set** command:
>
> ▸ start the command line (enter **cmd** in the Windows start area)
>
> ▸ enter command **set**
>
> ▸ By pressing the **Enter** key, the default folder for Windows and zenon are displayed.

**Note:** As absolute paths differ in different operating system, the paths are displayed as Windows environment variable in this chapter. For example *%ProgramData%* instead of *C:\ProgramData*.

## INSTALLATION

During installation, paths are set for:

▸ Engineering Studio

▸ zenon SQL folder

Only the paths for Engineering Studioand zenon SQL folder can be customized.
The setup needs administrator rights. This is also true for changing the installation paths.

### REQUIREMENTS

The installation paths of the required third-party software match the standard paths of the respective manufacturer and cannot be changed during setup.

The additional software packages that need to be installed depend on the type of installation:

▸ Engineering Studio

▸ Service Engine

▸ Smart Client

▸ Logic Service

| Requirements | Engineering Studio | Service Engine | Smart Client | Logic Service |
|---|---|---|---|---|
| Microsoft .NET Framework 4.6.2 | + | + | + | -- |
| Microsoft .Net Core Service Engine 2.1.5 | -- | + | -- | -- |
| Microsoft SQL Server 2019 | + | -- | -- | -- |
| Microsoft Visual C++ 2010 Redistributable | + | + | + | + |
| Microsoft Visual C++ 2013 Redistributable | + | + | -- | -- |
| Microsoft Visual C++ 2017 Redistributable | + | + | + | + |
| Microsoft .NET Core Hosting Bundle 2.1.5 | -- | -- | -- | -- |
| CodeMeter Runtime Kit 6.80 | + | + | -- | + |
| Microsoft Visual Studio 2008 Remote Debugger | + | + | -- | -- |
| Microsoft Web Deploy 3.6 | -- | -- | -- | -- |
| Visual Basic for Applications \| VBA 7.1 | + | + | + | -- |
| Visual Basic for Applications Language Pack \| VBA 7.1 | + | + | + | -- |
| COPA-DATA Multiple Network Protocol Driver | + | + | -- | + |

**Note:** **Microsoft Visual Studio Tools for Applications** (VSTA 2.0) is not required and is not installed during setup. It can be installed separately using the **Startup Tool**. To do this, the **VSTA_AddOn.exe** file must be on the system.

**ZENON**

The installation of Engineering Studio sets two paths:

▸ Engineering Studio:

  ▸ 32 bit systems: %ProgramFiles(x86)%\COPA-DATA\zenon Software Platform [Version]

  ▸ 64 bit systems: %ProgramFiles%\COPA-DATA\zenon Software Platform [Version]

  These paths can be customized during the installation.

▸     zenon SQL folder:

       ▸     Version 10 and higher: %ProgramData%\COPA-DATA\SQL2019\

These paths can be customized manually via zenDB.ini.

## ENGINEERING STUDIO

In Engineering Studio, the following paths are used by default:

| Object | Path |
|---|---|
| Workspace | *%CD_USERDATA%*<br><br>For example: *C:\Users\Public\Documents\zenon_Projects* |
| Projects | *%CD_USERDATA%*<br><br>For example: *C:\Users\Public\Documents\zenon_Projects*<br><br>**Hint for short cuts:** highlight the project -> **Ctrl+Alt+D** |
| SQL folder of the project | *%ProgramData%\COPA-DATA\[SQL-Ordner]\[GUID]\FILES*<br><br>**Hint for short cuts:** highlight the project -> **Ctrl+Alt+E** |
| project.ini | *%ProgramData%\COPA-DATA\[SQL folder]\[GUID]\FILES\zenon\system* |
| zenon6.ini | *%ProgramData%\COPA-DATA\System*<br><br>For example: *C:\ProgramData\COPA-DATA\System* |
| Backup | *%ProgramData%\COPA-DATA\[SQL folder]\GUID]\BACKUP*<br><br>*%ProgramData%\COPA-DATA\[SQL folder\GUID]\FILES\[Projekte]* |
| Compiled files | *%CD_USERDATA%\[Workspace]\[Projekt]\RT* |
| External files | *%CD_USERDATA%\[Workspace]\[Projekt]\RT\FILES\...*<br><br>**Note:** Can be set in the project using the file storage property. |
| System files | Windows system folder. |

## SERVICE ENGINE

In Service Engine, the following paths are used by default:

| Object | Path |
|---|---|
| **Projects** | *%CD_USERDATA%\[Workspace]\[Projekt]\RT* |
| **External files** | *%CD_USERDATA%\[Workspace]\[Projekt]\RT\FILES\...* |
| **Exported archives, Chronological Event List and Alarm Message List** | *%CD_USERDATA%\[Workspace]\[Projekt]\Export*<br><br>**Note:** Is created at the first export. |
| **System files** | Windows system folder. |

## ZENON LOGIC

Paths for zenon Logic are created analogous to the zenon paths.

# 16 zenon    for Windows CE

## COMPONENTS

The CE version of zenon consists of the following components:

▸ zenon CE Service Engine

▸ Language DLLs

▸ Network DLL

▸ Driver DLLs

▸ zenon6.ini

▸ Transport service

> **⚠Attention**
>
> Windows CE is no longer supported from version 7.50. zenon CE version 7.20 is installed. To use this, Service Engine files for version 7.20 must be created.

## PREREQUISITE FOR THE INSTALLATION OF SERVICE ENGINE ON REMOTE SYSTEMS

▸ Either the transport service (**SysSrvCE.exe**) of zenon must be installed and started on the CE terminal or an ActiveSync-connection is needed. Tips for the manual installation via storage

media can be found in the Manual Installation and Service Engine-Update (on page 63) chapter.

▶ The CE terminal to which the data shall be transported has to have at least 8 megabytes free "Program Memory", so that we can guarantee correct transport. This parameter can be adapted via the Control Panel **System properties**.

**COURSE OF ACTIONS**

Details about compatibility. installation and update can be found in chapters:

▶ CE versions/supported processors (on page 54)

▶ Update Windows CE Service Engine (on page 56)

> ### 💡 Info
>
> If, when starting **zenonrce.exe**, the **syssrvce.exe** file is also executed, then it can be ensured that a TCP connection can always be established. Thus only one file is necessary for the autostart functionality. However a time delay between both starts must be configured.
>
> **Reason:** When starting **zenonRCE**, **zenLogSrvCE** also starts automatically. However when starting **syssrvce**, **zenLogSrvCE** is also started.
>
> If **zenonRCE** and **syssrvce** are started within a very short period of time, both attempt to start **zenLogSrvCE**. This leads to an error message.
>
> **Solution:** To avoid this, configure a time delay between the start of **zenonRCE** and **zenLogSrvCE**. To do this, you can set the **STARTDELAY=** entry in **zenon6.ini**. This starts Service Engine (**zenLogSrvCE**) later. A check is then made to see whether **zenLogSrvCE** is already running and this does not start again.

## 16.1  CE - versions and supported processors

In the zenon version 7.20, the following Windows CE versions and processors are supported:

Processors:

▶ x86

▶ ARM V4/V5

CE versions:

▶ CE 6.00

▶ Windows Embedded Compact 7

You can find information about the supported CE versions and processors for earlier zenon versions in the corresponding documentation or you can contact the COPA-DATA support.

> **⚠Attention**
>
> Windows CE is no longer supported from version 7.50. zenon CE version 7.20 is installed. To use this, Service Engine files for version 7.20 must be created.

## 16.2  System files

The Windows CE Service Engine requires the existence of certain system files. In case one of these files is missing, the operating system sends an error message when starting Service Engine, that one or various components have not been found. The following system files are required:

| File | Description |
| --- | --- |
| mfc90u.dll | Required for Service Engine. On startup, an error message pops up if this file does not exist. |
| msvcr90.dll | Required for Service Engine. On startup, an error message pops up if this file does not exist. |
| atl90.dll | Not necessary for starting Service Engine, but for the use of drivers with network connections or the use of zenon in a network. If this file does not exist, the device will not work as a client or TCP/IP driver connections will not work. |
| IMGDECMP.dll | Not necessary for starting Service Engine but necessary for displaying Transparency if Alpha Blending is not integrated in the operating system.<br>Animation of GIF files is not possible with Windows CE. |
| VBSCRIPT.dll + JSCRIPT.dll | Not necessary for starting Service Engine. This file is needed for the PCE (Process Control Engine). |

Some of these system files are installed together with the installation of zenon for CE and can be transferred to the CE device using the **UpdateCE** Tool. All these system files should be integrated in the operating system image of the CE device by the manufacturer.

> ⚠ **Attention**
>
> For manufactures of Windows CE OS-images:
> CE versions older than 6.0 need the file **toolhelp.dll**. Activate the following option in **Platform Manager** in order for the file to be available on the CE device and for Toolhelp to also be available in SDK:
>   **Core OS -> Display Based Device ->Core OS Services -> Debugging Tools ->** *Toolhelp API*. Thus the *Toolhelp.dll* is part of the image.
> **Hint:** Always use the most up-to-date Servicepack of the **Platform Builder**.
>
> **Note:** The **toolhelp.dll** is not required for Windows CE 6 and should not be used with CE 6.

## 16.3  Update Windows CE Service Engine

To perform an update of Windows CE Service Engine:

▶ Make sure that the zenon Transport Service (**SysSrvCE.exe**) runs in the CE device

▶ Make sure that you have not established a remote connection via Engineering Studio to the device

▶ In the zenon **Extras** menu, select the **Update Windows CE Service Engine** command.
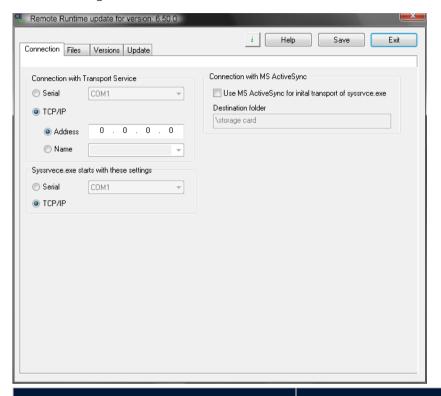
  The dialog for transferring Service Engine files opens.

▶ Configure the connection.

▶ Define the data you want to transfer.

▶ Select the appropriate version.

▶ Start the update.

**Note:** If you are transferring/installing Service Engine for the first time, note the information in the **Manual installation and Service Engine update** (on page 63) chapter.

## CONFIGURE CONNECTION

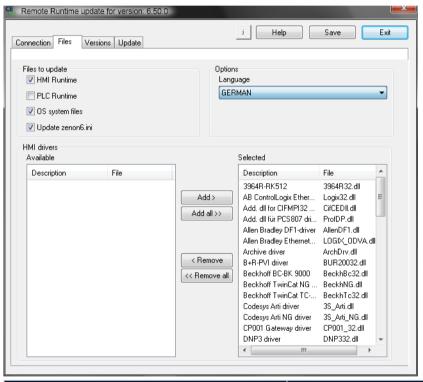You can configure the connections to the Windows CE device in the tab **Connection**.



| Parameter | Description |
|---|---|
| **Serial** | Settings for serial connection with Windows CE device, you have to select a port. |
| **TCP/IP** | Settings for TCP/IP-connection to the Windows CE device. |
| **Adress** | IP address. |
| **Name** | Computer name |
| **Syssrvce.exe starts with these settings** | Settings for starting **syssrvce.exe**. |
| **Serial** | *Active:*: serial connection selected, port must be selected. |
| **TCP/IP** | *Active*: TCP/IP-connection selected. |
| **Connection with MS ActiveSync** | Settings for connection via MS ActiveSync |
| **Use MS ActiveSync for initial transport of syssrvce.exe** | Active: syssrvce.exe is transferred during the first transport via MS ActiveSync. |
| **Destination folder** | Target folder. |

| Parameter | Description |
|---|---|
| Help | Opens online-help |
| Save | Saves all changes. |
| Exit | Closes the update CE-tool and reminds you before to save unsaved changes. |

## DEFINE FILES YOU WANT TO TRANSFER



| Parameter | Description |
|---|---|
| **Files to update** | Files to be transferred. |
| **HMI Service Engine** | *Active*: Transfers zenon files to the target device.

Default: *active* |
| **PLC Service Engine** | *Active*: Transfers zenon Logic files to the target device.

Default: *inactive* |
| **OS system files** | *Active*: Transfers necessary files for the OS.
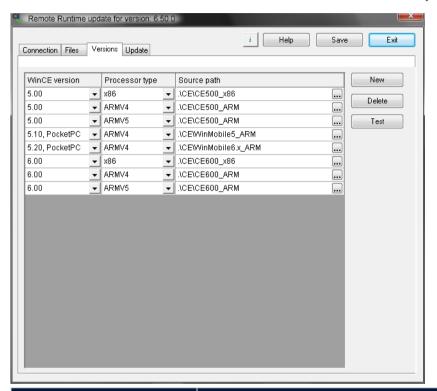
Default: *active* |

| Parameter | Description |
| --- | --- |
| Update zenon6.ini | Transfers zenon6.ini to the target device. This way, the license information of the target device is also changed. |
| Options | |
| Language | Desired target system language. Default:*English* |
| HMI drivers | Selection of HMI drivers for transfer. |
| Available | List of available drivers. |
| Selected | List of selected drivers. |
| Add | Adds chosen drivers to the list of selected drivers. |
| Add all | Adds all drivers to the list of selected drivers. |
| Remove | Removes chosen drivers from the list of selected drivers. |
| Remove all | Removes all drivers from the list of selected drivers. |
| Help | Opens online-help |
| Save | Saves all changes. |
| Exit | Closes the update CE-tool and reminds you before to save unsaved changes. |

# SELECT VERSION

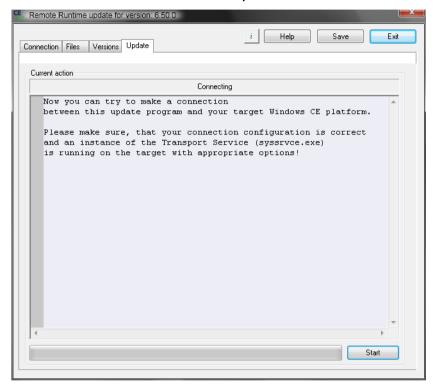Select the correct version in the tab **Versions** if it wasn't automatically recognized.



| Parameter | Description |
|-----------|-------------|
| **WinCE version** | Version of the target device Windows CE OS. Click the button to open a drop-down list for selection. |
| **Processor type** | Processor of the device. |
| **Source path** | Path to the folder that contains the files. Click the button ... and a dialog opens to select a folder. |
| **New** | Inserts a new, empty entry in the list. |
| **Delete** | Deletes the selected entry from the list |
| **Test** | Verifies settings. |
| **Help** | Opens online-help |
| **Save** | Saves all changes. |
| **Exit** | Closes the update CE-tool and reminds you before to save unsaved changes. |

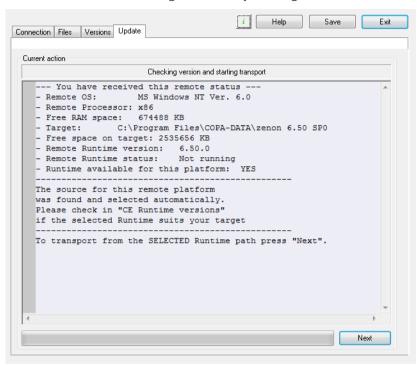## START UPDATE

To establish a connection:

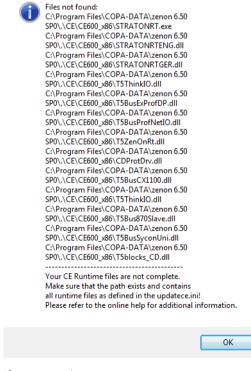1.  Click on the button **Start** on the tab **Update**.



The data that shall be transferred is verified and displayed in a window.

2.  Start the transfer to the target device by clicking on the button **Next**.



If the transfer cannot be initiated because files are missing, an error message with a list of missing files pops up:



If you get the error message **The current update was not completed**, the update was interrupted or not executed properly.

## 16.4  Manual installation and Service Engine update

Installation and update are also possible without remote transport and ActiveSync. You have to copy the needed files manually on a storage card for the CE device. You have to know CE version and processor type.

It is mandatory to copy the following files from the according folder for the correct platform to a storage card for the CE device:

- **zenonRCE.exe** (Service Engine)
- **LogCliLibCE.dll** (Diagnose-DLL)
- **zenon6.ini** (Configuration file)
- **Cd_tooCE.dll** (Help DLL)
- **ZenNetSrvCE.dll** (Network)
- **CDHelper.dll** (Help DLL)
- One of the following language DLLs:**RChineCE.dll, RCzechCE.dll, REngliCE.dll, RFrancCE.dll, RGermaCE.dll, RItaliCE.dll, RRussiCE.dll, RSpaniCE.dll**(The selected language is specified in the **zenon6.ini** file .)
- **syssrvce.exe** (Transport service and Diagnosis Server)
- **atl90.dll** (System file, possibly part of the operating system)
- **mfc90u.dll** (System file, possibly part of the operating system)
- **msvcr90.dll** (System file, possibly part of the operating system)

Further files, such as drivers, are optional.

## 16.5  Pocket PCs (PDA - Handheld PC)

Pocket PCs are no longer supported from version 7 on.

## 16.6  Error handling

**Possible errors:**

| Error | Possible solution |
|---|---|
| Connection error when updating via COM. | Windows Explorer being open delays the access time. Closing Explorer rectifies the problem. |
| Transport service does not work. | Check the version of the transport service. At least: Version 5.21 SP3 or higher or version 5.50 SP1 or higher. |

| Error | Possible solution |
|---|---|
| Service Engine update program cannot establish a connection. | Close open connections of   Engineering Studio to the CE transport service. |

# 17 Logic Service for Windows CE

The installation of Logic Service (PLC Service Engine) on a Windows CE system is similar to the installation of the Service Engine for Windows CE (on page 53).

Prerequisite: Executable transport service under CE

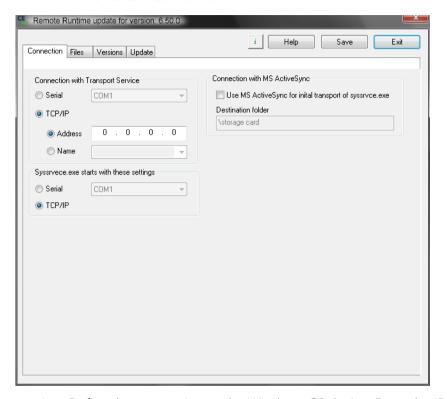The Windows CE version of Logic Serviceconsists of the following components:

- ▶ Logic Service
- ▶ Language DLLs
- ▶ zenon Logic IO driver
- ▶ zenon6.ini

## INSTALLATION

- ▶ In the zenon menu, select **Extras/Update Windows CE** Service Engine.

  The dialog for transferring Service Engine files opens.

- ▶ Activate the checkbox PLC Service Engine, in the Files window to copy the files required for zenon Logic to the CE execution directory.

▸    Switch to tab Connection.



▸    Define the connection to the Windows CE device. Enter the IP-address or the serial port.

▸    If zenon6.ini shall also be transferred, select update zenon6.ini. This way, the license information of the target device is also changed.

▸    Select the proper version in the window CE Service Engine versions, if it was not automatically detected.

**UPDATE**

Works as described in the Update Windows CE Service Engine (on page 56) chapter.

Attention: You have to activate the PLC Service Engine option in the Files tab.

💡   **Information**

The MFC files are always transferred using Windows CE 6.0.

# 18 Smart Server

To install Smart Serveror Smart Server Pro:

1. Activate the WWW services on the computer.

   Folder *C:\inetpub\wwwroot* must exist.

2. Start the zenon installation medium. The start screen is displayed

   If you have deactivated the autostart feature, execute **start.exe** from the installation medium.

3. Select Smart Server.
   The 32-bit or 64-bit version of Smart Server is installed automatically according to the version of the operating system.

4. Follow the installation routine.

5. Restart the computer.

The setup files for the web client can be found after installation in subdirectories of the Smart Server installation path.
For example: *C:/Programs (x86)/COPA-DATA/zenonWebserver/zenon/controlversion***/SmartClientStandalone.exe**
or

*C:/Inetpub/wwwroot/zenon/controlversion***/SmartClientStandalone.exe**

The example web pages (index*.htm und init*.htm) are also installed. They can be found in the zenon subdirectory of the Smart Server installation path.
For example: *C:/Programs/zenon Web Server/zenon/index.htm*
or
*C:/Inetpub/wwwroot/zenon/index.htm*

> ### 💡 Information
>
> The service for Smart Server is only started automatically in the licensed version.
> In demo mode, Smart Server must be started manually via the Smart Server console in the system properties.

### ADDITIONAL INFORMATION

You can find details on Smart Server in the Smart Server and Smart Server Pro manual, and details on licensing in the Licensing manual.

# 19 Smart Client

The Smart Client is mainly an ActiveX control displaying the information in a browser. The display is 1:1 like in Service Engine client. The connection to the Service Engine server is established via Smart Server using TCP/IP communication.

You can find the setup files for Smart Client after installation in subdirectories of the Smart Server installation path (xxx stands for the respective version of zenon), for example:
*%Programfiles%/COPA-DATA/Smart_Server/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ENGLISH.EXE*
or

*C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon_Webclient_Setup_ENGLISH.EXE*

All zenon Logic Web Client setups are digitally signed and can also be provided for download from the Internet without any problems.

The Smart Client Starter is also installed with Smart Client. This makes it possible to open Smart Client from any desired browser.

---

💡 **Info**

  <Smart Client sends error and LOG files. The application Diagnosis Server (necessary for the evaluation of these files) is included in the installation of Smart Client.

---

# 20 Version changes and updates (build setups)

In zenon, you can change to new versions for example, from 8.20 to 10. Or you can install updates within a version. These are also known as build setups. New versions can be installed in parallel with existing versions. They mainly offer new features. Updates modify a previously installed version. They mainly fix bugs.

With each setup for new build or new versions, a link will be received to the changes between the previous version and the newly installed one.

### UPDATE (BUILD SETUP)

An update only updates those files which are more current than the previously installed files. All projects and individual settings will remain unchanged. Build setups are never 100% quality assured. Only the bug fixes are tested. If unwanted side effects should occur because of a bug fix, it might be possible that these side effects will not be noticed during testing. COPA-DATA therefore always recommends using Service Packs. They always have to pass the whole quality-assurance process.

**Note:** Build setups can only be installed locally. Installation on network paths (UNC) is not possible.

## VERSION CHANGE

If you want to install a new version of zenon, start the installation routine. The new version is being installed parallel to the old one. All projects and individual settings will remain unchanged. Projects aren´t converted to the new version during installation. The respective project is converted when it´s being opened for the first time in Engineering Studio. A dialog box notifies you about this procedure. The old version is automatically backed up. If you want to use only the most up-to-date version, use the Windows control panel software deinstallation routine to remove the old version.

⚠**Attention**

If an installation involves changing the SQL server (for example, from zenon 8.00 to zenon 10 or higher), you must back up all projects or the workspace must be backed up before the installation. This backup is read back after the installation. For details see also section **Multi-user projects/Update with change of SQL servers**.

If you want to use multiple versions of zenon simultaneously, you have to manage them using the **Startup Tool**. You can start only one version at a time. You can select which version you want to run using the **Startup Tool** that automatically adjusts all necessary settings. You can find details in chapter **Startup Tool**.

💡 **Information**

New versions always bring about structural changes. Projects and settings remain untouched during installation. If you open Engineering Studio for the first time, projects are converted to the new version. Simultaneously, an automatic backup of the old version is created.

Converted projects cannot be edited in legacy versions. From version 6.2 on, Engineering Studio is able to create projects for different Service Engine versions.

Important tips for converting projects can be found in the revision text and in the **Project conversion** manual.

### MULTI-USER PROJECTS

To ensure a change to a new zenon version in multi-user projects without data loss:

1.  Check in all checked out elements on all Clients by clicking *Apply changes*.
    Nothing must be checked out. This is true for all projects.

2.  Install the new zenon version on the server computer.

3.  Convert all server projects to the new version.
    To do this, load each project on the server computer into Engineering Studio and accept the conversion.

4.  Install the new zenon version on the client computers.

5.  Load the projects to the clients.

**CHANGE THE SQL SERVER**

If an installation involves changing the SQL Server (e.g. from zenon 7.00 to zenon 10), additional steps are needed.
These steps are carried out:

▸   after all projects are checked in

▸   before the new version is installed

**Procedure when changing the SQL Server:**

1.  Check in all checked out elements on all Clients -> *Apply changes*.

2.  On the multi-user server, open Engineering Studio in the original version.

3.  Create backups of all projects which you want to edit or open with the new version:

    ▸   either as single project backups

    ▸   or as backup of the complete workspace

4.  Install the new version on the Server.

5.  Convert all Server projects to the new version by loading the previously created project backups one time in Engineering Studio.

6.  Install the update on every Client.

7.  Transfer the projects from the multi-user Server to the Clients
    Keep in mind the new name of the SQL instance.

The projects are converted, synchronized and ready for use

**Attention:** Make sure that the settings of the firewall allows the data traffic between the multi-user Server and the Clients.


# 20.1  Compatibility

Compatibility in zenon concerns:

▸   Service Engine: Cooperation of different Service Engine versions.

▸   Engineering Studio: Up-converting existing projects to new Engineering Studio versions.

▸   Engineering Studio: Creating Service Engine files for different Service Engine versions in Engineering Studio.

## SERVICE ENGINE

Service Engine online compatibility enables Service Engine systems to work together in the zenon network, as well as via Smart Clients.

The following applies: The version of the client Service Engine must be the same or higher than the version of the server Service Engine.
For example:

▶  An 8.20 client can work together with an 8.10 server.

▶  An 8.00 client does not work together with an 8.10 server. In this case, the client Service Engine must be updated to version 8.10 or higher.

**The current** Service Engine can load projects of the following versions:

▶  *6.20 SP4*

▶  *6.21 SP0*

▶  *6.21 SP1*

▶  *6.22 SP0*

▶  *6.22 SP1*

▶  *6.50 SP0*

▶  *6.51 SP0*

▶  *7.00 SP0*

▶  *7.10 SP0*

▶  *7.11 SP0*

▶  *7.20 SP0*

▶  *7.20 SP0[current Build-No.]*

▶  *7.50 SP0*

▶  *7.60 SP0*

▶  *8.00 SP0*

▶  *8.10 SP0*

▶  *8.20 SP0*

Due to the multi-project administration, projects from different versions can be loaded. For example, the integration project can have version 8.20, a sub project version 8.10 and another sub project from version 7.60.

## ENGINEERING STUDIO

Engineering Studio can open projects from the previous versions in each new version. These can be edited further in the new version. If adjustments are required by the user, information can be found in the current revision text and in the **Project conversion** manual. When opening a project with a lower version number in a higher Engineering Studio version:

▶ the project is automatically converted

▶ a backup of the project is automatically created

> ### ⚠Attention
>
> There is no backward compatibility between Engineering Studio versions. Backward compatibility is only ensured between Engineering Studio and Service Engine
>
> That means:
>
> ▶ Converted projects can no longer be opened in a Engineering Studio with a lower version number.
>
> ▶ The project backup created during conversion can still be opened and edited.
>
> **Recommendation:** Avoid opening a project in a Engineering Studio whose build number is lower than that of Engineering Studio with which the project was created.
>
> Also avoid transferring projects via XML import from newer to older versions. This can lead to undesirable results. Drivers in particular can perform differently than expected.

## COMPATIBILITY BETWEEN ENGINEERING STUDIO AND SERVICE ENGINE

With Engineering Studio, Service Engine files can be created for different versions of Service Engine. The Service Engine version therefore does not need to correspond to the Engineering Studio version. This backward compatibility is particularly suited for use of mixed systems.

**For example:** A project that has been configured with Engineering Studio for version 8.00 can also be started with Service Engine 6.20 SP4.

> ### ⚠Attention
>
> If possible, the same version of Engineering Studio and Service Engine should always be used. Configurations of properties that are not available in older versions can lead to unwanted results in older versions of Service Engine.

**CREATE SERVICE ENGINE FILES**

To create Service Engine files for earlier versions in Engineering Studio:

1. Select the project in the project tree.

2. Navigate to the **General** section in project properties.

3. Open the **Create Service Engine files for** property drop-down list.

4. Select the desired version from the drop-down list

**Attention:** In order to ensure consistency of the Service Engine files, all Service Engine files must be newly created each time this property is changed. The configurations for all drivers are converted. Settings that do not exist in the configured version are set to the default setting.

**ERROR CREATING SERVICE ENGINE FILES AND MICROSOFT OFFICE 365**

In certain configurations, an error may occur when creating Service Engine files:

▸ You can create Service Engine files on a computer with:

  ▸ Windows 10
    operating system and

  ▸ Office 365.

▸ The creation of Service Engine files has failed and is ended with an error message.

This is caused when an incorrect version of a program library by VBA is loaded.

**Solution:**

1. Go to the folder: *%AppData%\Microsoft\FORMS*.

2. Delete the file **zenone32.box**.

3. This file is created new automatically by the zenon.

The creation of Service Engine files is possible again.

## XML

Data exported in XML is then available for import into later Engineering Studio versions.

**Exception:** If data from the RGM is saved in Service Engine directly as an XML file using the export function, this cannot be reimported.

**Recommendation:** Avoid transferring projects via XML import from newer to older versions. This can lead to undesired events in Engineering Studio and Service Engine.

# 21 FAQ

Errors during the installation mostly occur when the replacement or creation of files is prevented by a virus scanner or by existing installations. Here you can find the most frequent reasons for installation errors and their solution.

## ZENON

| Problem | Solution |
|---|---|
| Installation is terminated.<br><br>Typical error message: **Error 1304. Error writing to file...** | Deactivate the virus scanner. Close unnecessary programs. |
| Demo projects were installed but are not displayed. New projects cannot be created. | Check the computer name. The computer:<br>▸ must not consist of more than 15 characters<br>▸ must be in accordance with the convention of the NetBIOS computer name |
| Error message that a service cannot be started. | ▸ first reboot the computer<br>▸ then start the zenon setup again |

## SQL SERVER

### GENERAL

| Problem | Solution |
|---|---|
| The installation is unsuccessful because the password does not meet the requirements. | If the minimum password length is changed from a default *8* to a value *greater than 10* via the local Windows security guideline, then the installation of the SQL Server will be unsuccessful because the zenon SQL password consists of 10 characters. |

# 22 Technical support

## BASIC SUPPORT

If you need support for the installation, our employees in Technical Consulting would be happy to help you.

User with basic support can reach the hotline at the following e-mail address: support@copadata.com.

## ADVANCED AND PREMIUM SUPPORT

If you have an Advanced or Premium service agreement, please use the telephone number or email address provided in that. Our sales employees (sales@copadata.com) will gladly assist you, if you want to upgrade your free basic service agreement to an Advanced or Premium service agreement.