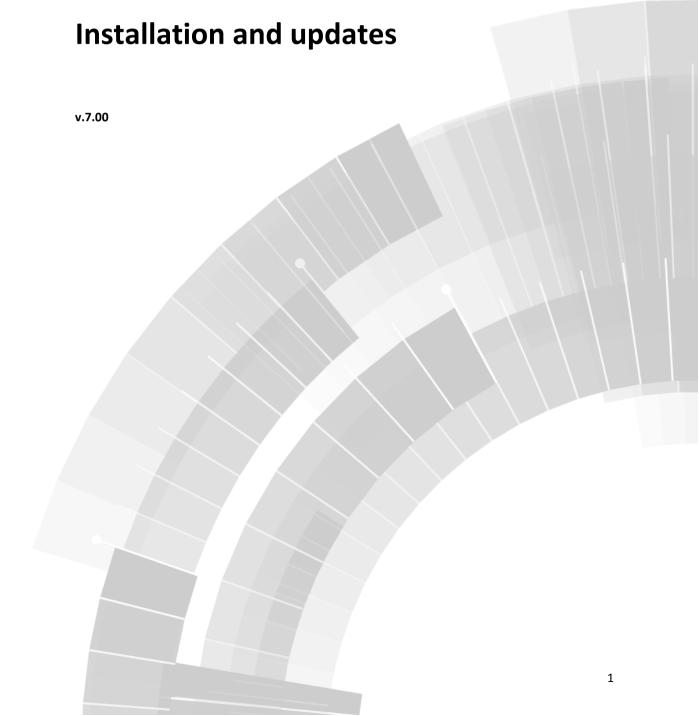


# zenon manual





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# 1. Welcome to COPA-DATA help

#### **GENERAL HELP**

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

#### **PROJECT SUPPORT**

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

#### LICENSES AND MODULES

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

# 2. Installation and updates

During the first installation of zenon and during execution of Service Packs and upgrades, the installation routine automatically starts and leads you through the whole installation process. If the autostart feature from DVDs is deactivated, start the installation by executing start.exe in the root directory of your zenon DVD.

Please mind the instructions for administrative installation in chapter Runtime for Windows XP Embedded (on page 27)for installation of zenon Runtime on systems running Windows XP Embedded. The installation of zenon for Windows CE is described in chapter Runtime for Windows CE (on page 30).





If at an installtion you receive an error message that a service cannot be started, then:

- first reboot the computer
- then start the zenon setup again

# 3. System requirements

zenon 7.00 can be used on all current Microsoft operating systems. The hardware being used is not important. The operating system abstracts hardware functions so far that zenon can normally be used without restrictions on any hardware.

zenon is always tested with the most up-to-date version of the operating systems with the newest available Servicepacks and Hotfixes. So you can assume that usually zenon can be used with the newest Servicepacks and Hotfixes.

However, it is possible that Microsoft's Servicepacks and Hotfixes or patches cause incompatibilities and affect the software's functionality.

In that case COPA-DATA always tries to provide an updated version that bypasses these problems. In case of problems, please contact our Support: support@copadata.com.

# 3.1 Operating system

#### SUPPORTED PC OPERATING SYSTEMS

- Windows XP Professional
  - Runtime: from Service Pack 2 on
     Note: serious encryption is supported from Service Pack 3 on
  - Development environment (x86 and x64 version): from Service Pack 3 on



- Windows XP Embedded Service Pack 2 or higher only for the Runtime.
   Note: Technical limitiations in Windows XP Embedded require a manual (on page 27) installation.
- ► Windows Embedded Standard 2009 (if all necessary operating system components exist) only Runtime
- Windows Embedded Standard 7 (if all necessary operating system components exist) only Runtime.
- ▶ Windows Vista (Business, Enterprise and Ultimate version, x86 and x64 versions).
- Windows 7 (Professional, Enterprise and Ultimate version, x86 and x64 versions).
- ▶ Windows Server 2003 Service Pack 1 or higher (all editions, x86 and x64 versions)
- ▶ Windows Server 2008 (All editions)
- ▶ Windows Server 2008 R2 (All editions)

#### Hint:

- ▶ All operating systems are supported in the multi-lingual version.
- ▶ Itanium processors are not supported for any operating system.

# 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

#### **MICROSOFT .NET FRAMEWORK**

zenon needs the Microsoft .NET Framework 3.5 or higher for VSTA and WPF. If the framework is not installed, it is installed automatically under Windows XP, Vista, Server 2003 and Server 2008.



Under Windows 7 and Windows Server 2008 R2 the .NET framework is an operating system component and cannot be installed automatically. The setup displays an error message and terminates. The .NET framework must be activated manually for these operating systems: *Control panel - >Programs and functions - >Activate or deactivate Windows functions*.

#### SUPPORTED WINDOWS CE-OPERATING SYSTEMS:

- ▶ Windows CE 5.0
- ▶ Windows CE 6.0
- ▶ Windows Mobile 5.0
- ▶ Windows Mobile 6.0
- ▶ Windows Mobile 6.1

Processors supported in the different Windows CE operating systems are listed in chapter CE versions/supported processors (on page 32). You can find installation instruction for Runtime under Windows CE in chapter Runtime.

#### **OVERVIEW**

	Windows XP Embedded	Windows XP/ Server 2003	Windows Vista/Windows 7/ Server 2008 (R2)	Windows CE
Editor		X	X	
Runtime	х	х	Х	
Runtime for Windows CE				X
Web server	X	X	Х	X
Web client	X	X	Х	





If you always use the latest version (Service Pack) of your operating system, you not only avoid compatibility issues but also security problems.

# 3.2 Additional software

# **SQL SERVER**

zenon Editor works with an SQL database. This is also installed when zenon is installed.

- ▶ Up to version 6.20 SP4: SQL-Server 2000 (MSDE)
- ► From version 6.21 SPO on: SQL Server 2005 Express
- ► From version 7.00 SP0 on: SQL Server 2008R2 SP1 Express



Regard when changing the version of the SQL Server: Projects must be backed up and exported in the original version and then read back in the new version.

### **DONGLE**

► Software required for dongle protection (Wibu-Key or CodeMeter) is automatically installed and updated.

# 3.3 User authorization

For the installation you need Windows administrator rights.

For the running operation standard Windows user rights are necessary. The user account control (UAC) can be activated on the highest security level.



#### **Hardware requirements** 3.4

PC version and CE version of zenon have different requirements concerning the needed hardware. In this chapter you find hardware requirements for the unique versions of Editor and Runtime as well as Webserver and Web client.

The Editor uses a Microsoft SQL Server as database server and has higher hardware requirements than the Runtime. If Editor and Runtime shall be running on a system simultaneously, the requirements add up.



# Attention

We recommend graphics cards with dedicated memory. Shared memory graphics cards could use too much RAM and therefore cause poor performance.

#### 3.4.1 Editor

The minimum requirements are based on a complete installation of the Editor. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware.



Hardware	Minimum requirement	Recommended
CPU	Pentium IV.	Dual Core.
RAM memory	Windows XP: from 512 MB. Windows Vista/7: from 1024 MB.  Note: The more projects you have simultaneously available in memory, the more memory you need.	Windows XP: 1024 MB. Windows Vista/7: 4096 MB.
Harddisk	At least 2 GB free space for a complete installation plus additional space for the projects.	
Screen resolution	Extended VGA with 1024 x 768 pixels.	Double monitor setup: 2 times 1680 x 1050.
Graphics adapter	64 MB dedicated memory. Cards with shared memory can lead to performance loss.	
Input devices	Standard keyboard or standard mouse.	
DVD drive	Recommended for the installation. The installation is also possible via network.	
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 Editor, etc.	100 Mbit/s.

# 3.4.2 Runtime

The minimum requirements are based on a complete installation of the Runtime. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware.



Hardware	Minimum requirement	Recommended
CPU	Pentium system with 400 MHz	Dual Core.
RAM memory	Windows XP: from 256 MB. Windows Vista/7: from 512 MB.  Note: Projects with big amounts of data, Network projects, multiple projects simultaneously and projects in redundance mode need more memory.	Windows XP: 2048 MB. Windows Vista/7: 4096 MB.
Harddisk	1 GB free space for the Runtime-installation plus additional space for the projects.  Attention:If you log historical data (e.g. Archive dataorAlarm-/CEL-Data), you need sufficient harddisk space or you have to make sure during project planning that the historical data is evacuated or deleted.	80 GB free harddisk space.
Screen resolution	VGA with 640 x 480 pixels.	
Graphics adapter	64 MB dedicated memory. Cards with shared memory can lead to performance loss.	
Input devices	Keyboard and/or mouse. Operation via touchscreen is also possible. Many individual, customizable softkeyboards for the touchscreen are available for you.	
DVD drive (optional)	Recommended for the installation. Installation also possible via network or other storage media.	
Parallel or USB interface (optional)	Recommended for dongle. Network dongle also available.	
Network connection (optional)	64 kBits/s for standard Client/Server projects.  100 Mbit/s full duplex for redundant operation.	100 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.
WAN connection	Any desired conncetion via router, e.g. per ISDN or	



(optional)	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 needed interfaces depend on the SPS requirements and/or bus connection, e.g.: serial RS232 or RS422/485 interfaces, ISA/PCI slots, etc.	

### 3.4.3 Runtime on Windows XP Embedded

The minimum requirements are valid for a Runtime installation adapted to the operating system Windows XP Embedded. The hardware must be accordingly more powerful for extensive projects.

Windows XP Embedded mostly provides less space on the storage medium, therefore it is possible to install the zenon Runtime without VSTA and other additional software that is not absolutely necessary. You can find instructions for the reduced installation in chapter Runtime for Windows XP Embedded (on page 27).

This table reproduces only the changed requirements compared with the standard installation. The remaining parameters are described in Hardware requirements for the Runtime (on page 11).



Hardware	Minimum requirement	Recommended
RAM memory	256 MB.	2048 MB.
	<b>Note:</b> Projects with big amounts of data, Network projects, multiple projects simultaneously and projects in redundance mode need more memory.	
Storage medium	The target system needs at least 512 MB free space for the Runtime plus 256 MB on -partition C available as well as space for the projects.  Installation:Please mind the instructions in chapter Runtime in Windows XP Embedded. (on page 27)  Attention:If you log historical data (e.g. Archive dataorAlarm-/CEL-Data), you need sufficient harddisk space or you have to make sure during project planning that the historical data is evacuated or deleted.	80 GB.

# 3.4.4 Runtime for Windows CE

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



Hardware	Minimum requirement	Recommended
CPU	At least 400 MHz	1 GHz.
RAM memory	64 MB.	256 MB for Windows CE 5.0. 1024 MB for Windows CE 6.0.
Storage medium	64 MB free harddisk space.  Permanent recordable remanent storage medium for project data	256 MB free harddisk space or more.
Network connection	For standard Client/Server projects: 10 Mbit/s full duplex.	

# 3.4.5 Web server

The minimum requirements are based on a complete installation of the Web server. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware.

Hardware	Minimum requirement	Recommended
CPU	Pentium IV.	
RAM memory	Windows XP: from 512 MB. Windows Vista/7: from 1024 MB.	
Harddisk	256 MB free harddisk space.	1 GB free harddisk space.
Network connection	10 Mbit/s full duplex.	100 Mbit/s full duplex.
Remote connection (optional)	Minimum requirements: Dial-up modem with 9600 Bit/s.	1 Mbit/s full duplex.



#### 3.4.6 Web client

The minimum requirements are based on a complete installation of the Web client. For extensive projects or several projects loaded at the same time you will need accordingly faster/stronger hardware.

Hardware	Minimum requirement	Recommended
СРИ	Pentium IV.	Dual Core.
RAM memory	Windows XP: from 512 MB. Windows Vista/7: from 1024 MB.	
Harddisk	64 MB free space for the Web client plus additional space for the projects.	80 GB free harddisk space.
Network connection	10 Mbit/s full duplex.	100 Mbit/s full duplex.
Remote connection (optional)	Minimum requirements: Dial-up modem with 9600 Bit/s.	1 Mbit/s full duplex.

# Attention

The Web client needs ActiveX and officially supports only Internet Explorer. Thus it is not available for Mozilla/Firefox.

Possible workaround: You can embed Internet Explorer in a tab of Mozilla/Firefox. (Plugin: IE Tab). You can find related information on the according websites of Mozilla/Firefox.

#### File structure 3.5

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 provide enough free space, because all current and future project data is stored there.

Folder	Windows XP	Windows Vista/7
Program folder	C:\Program Files\COPA- DATA\zenon6xxx	C:\Program Files\COPA- DATA\zenon6xxx
Program data folder, e.g. global symbols, print templates, log files etc.	C:\Documents and Settings\All Users\Application Data\COPA-DATA\zenon6xxx	C:\ProgramData\COPA-DATA\zenon6xxx
Database folder (SQL)	C:\Documents and Settings\All Users\Application Data\COPA-DATA\SQL	C:\ProgramData\COPA-DATA\SQL
System folder	C:\Documents and Settings\All Users\Application Data\COPA-DATA\System	C:\ProgramData\COPA-DATA\System
Settings Editor and profiles	C:\Documents and settings\UserName\local settings\application data\COPA-DATA\zenon\Editor	C:\Users\UserName\Ap pData\Local\COPA- DATA\zenon\Editor
Settings Diagnosis Viewer	C:\Documents and settings\UserName\local settings\application dataCOPA-DATA\zenon\DiagView	C:\Users\UserName\Ap pData\Local\COPA- DATA\zenon\DiagView

#### **DEFINITION RUNTIME FOLDER AND DATA FOLDER**

### **RUNTIME FOLDER**

The Editor creates Runtime files in the Runtime folder or they are transferd there with the help of the Remote Transport. When creating a project, you must define the Runtime folder. Later it can be changed in the project properties. With Remote Transport, the Runtime folder is defined in Remote Transport settings.



#### **DATA FOLDER**

The Runtime saves all data files that were created at runtime like alarm files, archive files etc. in the data folder. The data folder is per default a subfolder of the runtime folder. The folder is automatically assigned the name of the computer the Runtime is running on. You can change this save location in the project properties (General/Data folder).

**Hint:** Never set the data folder to a removable device such as an USB stick or a network device. It is best to record data locally and save them externally

Attention: If the defined path does not exist or cannot be reached, no more data are written from the Runtime. That means: 100% data loss. The Runtime 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 system driver variable Runtime data folder not available SYSDRV.chm::/25965.htm .

# 3.6 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, the communication of zenon can be disturbed.

You can check the port settings:

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 found in the window Processes of the Windows Task Manager; for this purpose activate the column PID in the menu Select view/columns.

4. If other software uses these ports, reconfigure this software. The zenon ports cannot be modified.



The zenon ports can be freely defined.

# PORT SETTINGS BY ZENON ANDZENON LOGIC

Application	Description	Port
stratonrt[k].exe	zenon Logic Runtime	1200-1210 (changeable)
		4500-4510 (changeable)
		7000-7010 (changeable)
		9000-9010 (changeable)
zennetsrv.exe	Network service	1100-1100 (fix)
zensyssrv.exe	Transport service	1101-1101 (fix)
zendbsrv.exe	Database service	1103-1103 (fix)
zenAdminsrv.exe	Administration service	50777-50777 (fix)
zenvnc.exe	Remote Desktop service	5600-5600 (fix)
	·	5610-5610 (fix)
CodeMeter.exe	Code Meter dongel service	22350 (changeable but must not be
		changed)
WkSvW32.exe	WibuKey network service	22347 (fixed)

# 4. Paths for setup and operation

Paths for zenon:

- ▶ Setup
- ▶ Editor
- ▶ Runtime



💡 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
- with click in button Enter standard folders 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.

#### **SETUP**

At setup paths are set for:

- Prerequisits
- zenon Editor
- zenon SQL folder

Only the paths for zenon Editor and zenon SQL folder can be customized.

The setup needs administrator rights . This is also true for changing the installtion paths.

# **PREREQUISITS**

The installation paths of the Prerequisits match the standard paths of the respective manufacturer and cannot be changed at the setup.

Which Prerequisits are installed depends on the type of installation:

- zenon Editor
- ▶ zenon Runtime
- zenon Web client
- ▶ zenon Logic Runtime



Prerequisit	Editor	Runtime	Web client	zenon Logic Runtime
Microsoft .NET Framework 3.5 SP1	+	+	-	-
Microsoft .NET Framework 4.0	+	+	-	-
Microsoft Visual C++ 2005 Redistributables	+	+	-	+
Microsoft Visual C++ 2008 Redistributables	+	+	+	+
Microsoft SQL Server 2005 Express (up to 6.51)	+	-	-	-
Microsoft SQL-Server 2008R2 SP1 Express (from 7.00 on)	+	-	-	-
VSTA	+	+	-	-
OPC-Core Components (up to 6.22 SP1)	+	+	-	-
Wibu key Dongle Software 6.0 x86/x64	+	+	-	-
COPA-DATA Multiple Network Protocol Driver x86/x64	+	+	-	+
CodeMeter dongle software x86/x64	+	+	-	-
DirectX redistributables (ab 7.00)	+	+	-	-
Report Viewer 10.0 (from 7.00 on)	+	+	+	-

### **ZENON**

The installation of zenon Editor requires two paths:

- ▶ zenon Editor:
  - 32 bit systems: %ProgramFiles%\COPA-DATA\zenon [Version]
  - 64 bit systems: %ProgramFiles(x86)%\COPA-DATA\zenon [Version]

These paths can be customized during the installation.

- zenon SQL folder:
  - up to 6.51: %ProgramData%\COPA-DATA\SQL\
  - from version 7.00 on: %ProgramData%\COPA-DATA\SQL2008R2\

These paths can be customized manually via zenDB.ini.



# **ZENON EDITOR**

In the zenon Editor teh following paths are used as default:

Object	Path
Workspace	%CD_USERDATA%
	For example: C:\Users\Public\Documents\zenon_Projects
Projects	%CD_USERDATA%
	For example: C:\Users\Public\Documents\ <cd_zenon_projects< td=""></cd_zenon_projects<>
	Hint for short cuts: highlight the project -> Ctrl+Alt+D
SQL folder of the project	%ProgramData%\COPA-DATA\[SQL-Ordner]\[UID]\FILES
	Hint for short cuts: highlight the project -> Ctrl+Alt+E
project.ini	%ProgramData%\COPA-DATA\[SQL-
	Ordner]\[UID]\FILES\zenon\system
zenon6.ini	%ProgramData%\COPA-DATA\System
	For example: C:\ProgramData\COPA-DATA\System
Backup	%ProgramData%\COPA-DATA\[SQL-Ordner]\UID]\BACKUP
	%ProgramData%\COPA-DATA\[SQL-
	Ordner\UID]\FILES\[Projekte]
Compiled files	%CD_USERDATA%\[Workspace]\[Project]\RT
External files	%CD_USERDATA%\[Workspace]\[Project]\RT\FILES\
	Note: In the project adjustable via property File storage.
System files	Windows system folder.

# **ZENON RUNTIME**

In the zenon Editor teh following paths are used as default:



Object	Path
Projects	%CD_USERDATA%\[Workspace]\[Project]\RT
External files	%CD_USERDATA%\[Workspace]\[Project]\RT\FILES\
Exported archives, Chronological Event List and Alarm Message List	%CD_USERDATA%\[Workspace]\[Project]\Export  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.



# 5. zenon Standard installation

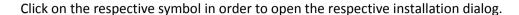
zenon will automatically start the setup program, leading you all the way through the installation process. Alternatively it is possible to start the installation by executing start.exe in the root directory of your zenon DVD.



Select the desired licensed version:

- zenon Supervisor
- zenon Energy Edition
- ▶ zenon Pharma Edition
- zenon Operator







Here you find options for:

### <u>zenon Development environment:</u>

Installs the zenon Development environment (Editor and Runtime) on your system.

### zenon Runtime:

Installs just the zenon Runtime on systems that don't need an Editor.

### ▶ <u>zenon XPembedded:</u>

Opens a manual for installing the Runtime manually under Windows XP embedded

### zenon web server:

Installs the current zenon web server and web client

# Documentation:

The complete zenon manual in PDF format.

You can open the help file on the DVD or copy it to your system. You can copy all documents that you selected with the checkbox in the directory tree with the button copy sel.. Individual files can't be copied or opened using Multiselect.



#### ► Tools:

Here you will find PDF-readers, third-party drivers, XML editing programs, an HTML help workshop and other tools, e.g. for database administration.

#### ► Info:

Shows zenon highlights, updates of your zenon version, a COPA-DATA company presentation, COPA-DATA distribution network, information concerning zenon Logic and a licence overview.

Note: The information is available as a Powerpoint-presentation and is shown via a viewer on the DVD. You have to accept the terms and conditions on the first start. Please confirm them, no software is being installed on your system.

#### 5.1 Error treatment

If the installation doesn't proceed properly, you'll get an error message. For help by COPA-DATA Technical Consulting:

- create a zip-file by clicking the appropriate button
- if possible, create a screenshot of the error message
- ▶ and 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 all installation information:

#### ▶ for 7.00:

Vista/Windows 7: C:\Users\User.COPA-DATA\AppData\Local\Temp

XP: C:\Documents and Settings\Admin\Local Settings\Temp

#### ► for SQL-Server:

Vista/Windows 7: C:\Program Files\Microsoft SQL Server\90\Setup
Bootstrap\LOG

xp: C:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG

Hint: The file summary.txt provides information for troubleshooting.





**Firewalls:** during the installation, zenon configures the Windows software-firewall automatically. Other firewalls must be properly configured before the installation.

#### 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 software-firewall is not properly configured. 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 directory, and restart installation.

# 6. zenon Runtime for Windows XP Embedded

For the Installation of zenon Runtime on a system with Windows XP Embedded you have to mind the limitations of Windows XP Embedded. Above all, the .NET Framework and thus also VSTA cannot be installed on Windows XP Embedded because it is not supported by Microsoft. The storage medium often doesn't provide enogh space in C:\ for a standard installation; the Microsoft installer always unpacks the files to drive C.

Therefore zenon must be installed as a so-called administrative installation.

To do so, you have to create a directory with the required installation files and copy it to a storage medium that can read by the target system, e.g. a linked network drive, CD, USB stick, flash drive etc.

### PREPARATION OF ADMINISTRATIVE INSTALLATION

You can find all needed programs on the zenon DVD:

- ▶ DVD ROOT\Setup\Setup RT.exe
- ► DVD\_ROOT\Additional\_Software\Visual C++ 2005 Redistributables\vcredist x86.exe



- ► DVD\_ROOT\Additional\_Software\Visual C++ 2008 Redistributables\vcredist x86.exe
- ► DVD\_ROOT\Additional\_Software\Wibu Key Dongle Software x86\WkRt-Int.exe

To prepare the installation media:

► Execute the setup file of the Runtime in the command line with the parameter /a.

The file is located in directory  $DVD_ROOT\Setup$ . You can start the command line in Windows with the keyboard shortcut Windows-key + R.

The command is:  $DVD_ROOT\Setup\Setup_DEV.exe /a$ 

Example: G:\Setup\Setup DEV.exe /a

- An assistant leads you through the necessary settings. You can choose the language for creation of the setup. The later installation in Windows XP Embedded is only available in English.
- ▶ During setup creation, you have to enter a target directory.
- ▶ All installation files needed for the zenon Runtime are unpacked to that directory.
- ▶ Copy the created directory to a storage medium that can be read by the target system.
- ► Also copy the files vcredist\_x86.exe and WkRt-Int.exe from the according DVD directories to the storage medium for the installation.
- ► The target system needs at least 512 MB free space for the Runtime plus 256 MB on partition C-available as well as space for the projects.

#### ADMINISTRATIVE INSTALLATION ON WINDOWS XP EMBEDDED

Install the files in the following order on the target system

- 1. Microsoft Visual C++ 2005 Redistributables
- 2. Microsoft Visual C++ 2008 Redistributables
- 3. WIBU-KEY dongle software or Code Meter dongle software
- 4. 7.00 Runtime



### INSTALLATION OF MICROSOFT VISUAL C++ REDISTRIBUTABLES

Execute the file  $vcredist_x86$ . exe from the self-created installation medium and follow the assistant's instructions. If the Microsoft Visual C++ Redistributables should already exist on the system, you are asked if you want to either repair or delete the existing installation.

#### INSTALLATION OF 'WIBU-KEY' DONGLE SOFTWARE

Execute the file WkRt-Int. exe from the self-created installation medium and follow the assistant's instructions.

**Note:** For a pure soft-license it is not necessary to install the dongle software.

#### INSTALLATION OF THE ZENON RUNTIME

To installzenon, call up the installation file SCADA\_xxx.msi from the command line with the according parameters for source and target (xxx stands for the according version of zenon):

%SOURCEPATH%\SCADA\_xxx.msi SETUPEXEDIR="%SOURCEPATH%" LZ ="1"
TYPE="RT" /1\*v "%TEMP%\scada.log"

Parameters	Description
%SOURCEPATH%	Source for installation files like e.g. a connected network drive, a USB-stick and so on.
SETUPEXEDIR	Folder which contains the setup file; corresponds to %SOURCEPATH%
1*v	Activates logging of the installation. Important for troubleshooting after after an incomplete installation.
%TEMP%	Temporary directory where the log file is stored. This directory is mandatory.
rz=	Activates license tool
	0 = without license tool
	1 = with license tool
	If the entry is missing. the installationm is started without the license tool.
TYPE=	RT = Runtime Installation
	ED = Editor Installation (default)





 $X:\Setup\_RT\SCADA\_xxx.msi\ SETUPEXEDIR="X:\Setup\_DEV"\ /l*v\ "c:\temp\scada.log"$ 

Parameters	Description
X:\Setup_DEV	Network path with installation files
scada.log	Name of the log-file
c:\temp	File path of the log-file



# Info

If you're asked for the file cdprotdrv.sys during installation, you can find it on the data medium with the installation files in the same path as SCADA xxx.msi in directory \program files\COPA-DATA\zenonxxx\Profinet\DRV. This file is also available on the Windows XP Embedded system in the same path \program files\COPA-DATA\zenonxxx\Profinet\DRV.

# 7. zenon for Windows CE

The PC version for Windows CE is automatically installed with the zenon Runtime.

#### **COMPONENTS**

The CE version of zenon consists of the following components:

- zenon CE Runtime
- ▶ Language DLLs
- Network DLL
- **Driver DLLs**



- zenon6.ini
- Transport service

### PREREQUISITE FOR THE INSTALLATION OF THE RUNTIME ON REMOTE SYSTEMS

- ▶ PC version and CE version of zenon have to match (same version, same Service Pack). CE must already be installed on the PC.
- 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 chapter Manual Installation and Runtime-Update (on page 41).
- 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 32)
- Update of the Windows CE Runtime (on page 33)



The Runtime for Windows CE can be licensed with the Remote Transport. When you establish the connection to the target system, you can enter the serial number and the license number for the CE version. The serial number is saved on the CE device in the **zenon6.** ini file. The activation number is saved in the registry.



When starting zenonrce.exe, the file syssrvce.exe is also executed. Thus it is guaranteed that a TCP-connection can always be established. Long delays are avoided and only one file is necessary for the autostart functionality.



#### 7.1 **CE** - versions and process support

In the current zenon version 7.00 the following Windows CE versions and processors are supported:

- CE 5.00 for x86
- CE 5.00 for ARMV4/V5
- CE 6.00 for x86
- CE 6.00 for ARMV4/V5



# Info

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.

#### 7.2 **System files**

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



File	Description
mfc90u.dll	Necessary for the Runtime. On startup, an error message pops up if this file does not exist.
msvcr90.dll	Necessary for the Runtime. On startup, an error message pops up if this file does not exist.
at190.dll	Not necessary for starting the Runtime 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; TCP/IP driver connections will not work.
IMGDECMP.dll	Not necessary for starting the Runtime but necessary for displaying Transparency if Alpha Blending is not integrated in the operating system. Animation of GIF files is not possible with Windows CE.
VBSCRIPT.dll + JSCRIPT.dll	Not necessary for starting the Runtime. 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 that the file is available on the CE device and Toolhelp.h is 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: File toolhelp. dll is not used for Windows CE 6 and should not be used with CE 6.

#### **Update Windows CE Runtime** 7.3

To perform an update of Windows CE Runtime:

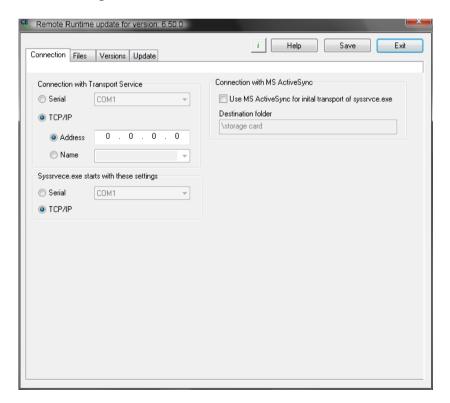
make sure that the zenon Transport Service (SysSrvCE.exe) runs in the CE device



- make sure that you do not have established a remote connection via the zenon Editor to the device
- ▶ In the zenon Menu, select Options and then Update Windows CE Runtime.
- ► The dialog for transfer of Runtime files opens
- configure the link
- define the data you want to transfer
- ► choose the appropriate version
- start the update

### **CONFIGURE CONNECTION**

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

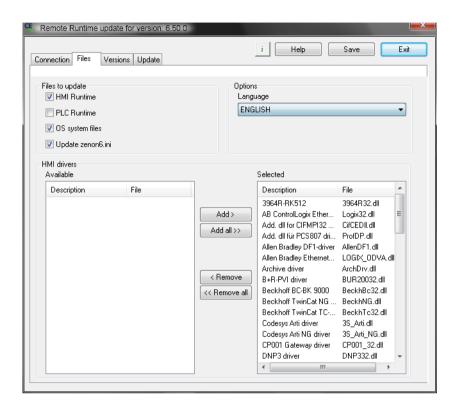




Parameters	Description
Serial	Settings for serial connection with Windows CE device, you have to select a port.
TCP/IP	Settings for TCP/IP-connection to the Windows CE device.
Adress	IP adress.
Name	Name.
Syssrvce.exe starts with these settings	Settings for starting syssrvce.exe.
Serial	Active: serial 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.
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**





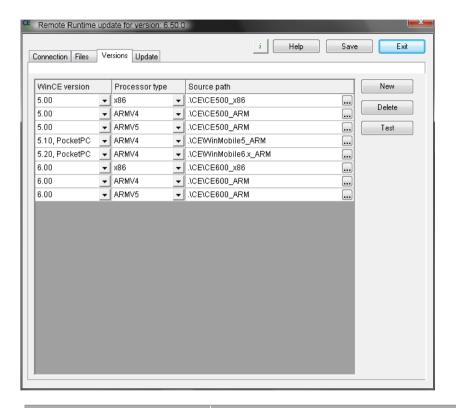


Parameters	Description
Files to update	Files to be transferred.
HMI Runtime	Active: Transfers zenon files to the target device.
	Default: active
PLC Runtime	Active: Transfers zenon Logic files to the target device.
	Default: inactive
OS system files	Active: Transfers necessary files for the OS.
	Default: active
Update zenon6.ini	Transfers zenon 6.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 dirves.
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  ${\tt versions}$  if it wasn't automatically recognized.





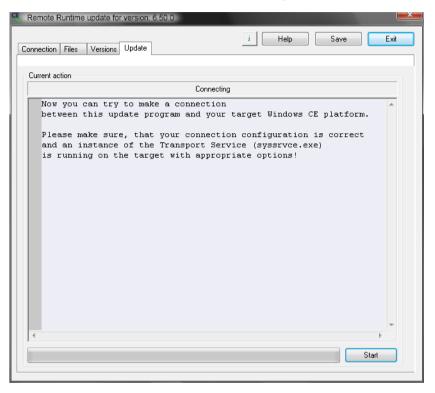
Parameters	Description
WinCE version	Version of the target device Windows CE OS. Click the button to open a drop-down list for selection.
Processor type	Processor of the device.
Source path	Path to the folder that contains the files. Click the button and a dialog opens to select a folder.
New	Inserts 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**

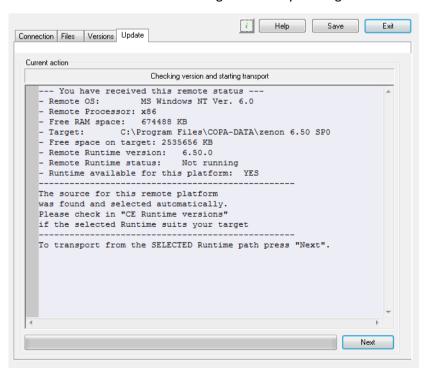
To establish a connection:



click on the button Start on the tab Update.

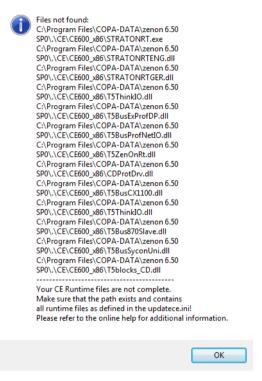


- ► The data that shall be transferred is verified and displayed in a window.
- ▶ Start the transfer to the target device by clicking on the button Next.

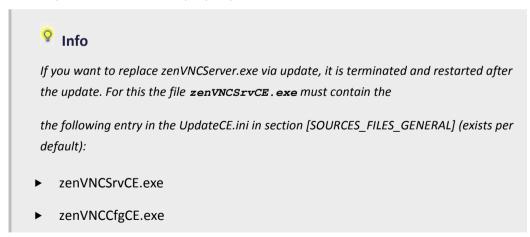




If the transfer cannot be initiated because files are missing, an error message with a list of missing files pops up:



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





# 7.4 Manual installation and Runtime-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 directory for the correct platform to a storage card for the CE device:

- ▶ zenonRCE.exe (Runtime)
- ► LogCliLibCE.dll (Diagnosis dll)
- ▶ zenon6.ini (Configuration file)
- ► Cd tooCE.dll (Helpdll)
- ► ZenNetSrvCE.dll (Network)
- ► 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 stored in the file zenon6.ini.)
- ▶ syssrvce.exe (Transport service and diagnosis server)
- ▶ at190.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 like for example the drivers or the remote desktop software (zenVNCCfgCE.exe) are optional.

# 7.5 Pocket PCs (PDA - Handheld PC)

Pocket PCs are no longer supported from version 7 on.



# 7.6 Troubleshooting

#### Possible errors:

Error	Possible solution
Connection error during update via COM.	Open Windows Explorer delays access time. The problem is solved by closing the Explorer.
Transport service doesn't work.	Check transport service version. Minimum: Version 5.21 SP3 or higher or version 5.50 SP1 or higher.
Runtime update program not able to establish a connection.	Terminate open connections of the Editor to the CE transport service.

# 8. zenon Logic Runtime for Windows CE

The installation of the zenon Logic Runtime (PLC Runtime) on a CE system is similar to the installation of the Runtime for Windows CE (on page 30).

Requirement: Executable transport service under CE

The CE version of the zenon Logic Runtime consists of the following components:

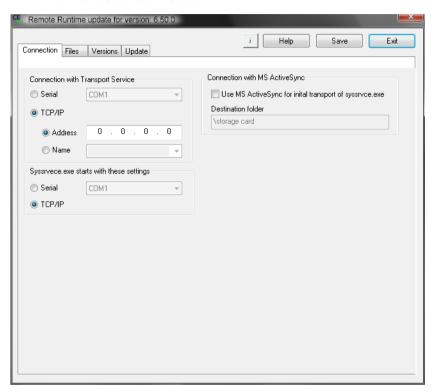
- zenon Logic Runtime
- Language DLLs
- zenon Logic IO Driver
- ▶ zenon6.ini

### **INSTALLATION**

- ▶ In the zenon Menu, select Options/Update Windows CE Runtime.
- The dialog for transfer of Runtime files opens.
- ► Activate the Checkbox PLC Runtime in the Files window to copy the files zenon Logic needs 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 Runtime versions, if it wasn't automatically recognized.

### **UPDATE**

Works as described in chapter Update of Windows CE Runtime (on page 33).

Attention: You have to activate the option PLC Runtime in the tab "Files"!





# 9. zenon web server

To install the zenon Webserver Or Webserver Pro:

1. Activate the WWW services on the computer.

Folder C:\inetpub\wwwroot must exist.

2. Insert the zenon DVD in the drive, the splash screen is displayed.

If you have deactivated the autostart-feature from CD/DVD, execute start.exe from the CD.

- 3. Select the zenon web server.
- 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 webserver installation path (xxx stands for the version of zenon), e.g.: C:/Program Files/COPA-DATA/zenonWebServer/zenon/controlversions/Versionxxx/zenon WEB Client Setup GERMAN.EXE

C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon WEB Client S etup GERMAN.EXE

The website examples (index\*.html and init\*.html) are also installed. They can be found in the subdirectory zenon of the webserver installation path, e.g.:

C:/Program Files/zenonWebServer/zenon/index.htm

C:/Inetpub/wwwroot/zenon/index.html



### Info

The zenon webserver service is started automatically only in the licensed version. In demo mode, you have to start the webserver manually via webserver console in the Control Panel.

#### **ADDITIONAL INFORMATION**

You can find details about the web server in manual Web server and web server pro, about the licensing in manual Licensing.



# 10. zenon web client

The zenon web client is mainly an ActiveX control displaying the information in a browser. The display is just as on a normal client. The connection to the Runtime server is implemented via the zenon web server using TCP/IP communication.

The setup files for the web client can be found after installation in subdirectories of the webserver installation path (xxx stands for the version of zenon), e.g.: C:/Programme/COPA-DATA/zenonWebServer/zenon/controlversions/Versionxxx/zenon\_WEB\_Client\_Setup\_GERMAN.EXE or

C:/Inetpub/wwwroot/zenon/controlversions/Versionxxx/zenon\_WEB\_Client\_S
etup GERMAN.EXE

All web client setups are digitally signed and can be provided for download via internet, too, without any problems. You can find further web client setups on the zenon web server CD in directory Web Client Versions. There are according language versions for each version.



The WEB client sends error files and log files. With the installation of the WEB client, the diagnosis server is also installed.

# 11. Updates (Build Setups), Service Packs and Upgrades

### **UPDATE (BUILD SETUP)**

An update is installed over the existing installation; it replaces only changed files with the new version. All projects and individual settings will remain unchanged. Note that 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.

### **SERVICE PACKS**

Service Packs always contain a complete version of zenon. The installation routine doesn't replace some files. Instead, it removes the old version and installs the new one. If you install a Service Pack, all your projects and individual settings remain intact. 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 the Editor. A dialog box notifies you about this procedure. The old version is automatically backed up.

A service pack always contains all bug fixes of previous builds.

#### **UPGRADE**

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 the Editor. 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 upgrade involves changing the SQL server (e.g. update from zenon 6.51 to zenon<CD\_PRODUCTVESION>), you must backup all projects or the workspace 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.



# 💡 Info

New versions (Service Pack, Upgrade) always bring about structural changes. Projects and settings remain untouched during installation. If you open the Editor 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, the Editor is able to create projects for different Runtime versions.

Important tips for converting projects can be found in the revision text. The revision text is provided with the Service Pack/Update on the installation DVD under item Information. It is also available online.

### **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 -> Accept changes. Nothing must be checked out. This is true for all projects.
- 2. Install the new zenon version on the Server.
- 3. Convert all Server projects to the new version: For this load all projects in the Editor on the Server computer.
- 4. Install the new zenon version on the Client computers.
- 5. Load projects on the Clients and check them out again.

### UPDATE WITH CHANGE OF THE SQL SERVER

If an upgrade involves changing the SQL server (e.g. update from zenon 6.51 to zenon 7.00), 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 -> Accept changes.



- 2. at the multi-user Server open the Editor in the starting 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 project backups which you have created before once in the Editor
- 6. install the update on every Client
- 7. transfer the projects from the multi-user Server to the Clients (regard the new name of the SQL instance)
- 8. the projects are converted, synchronized and ready for action

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

# **12. 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.	Deactivate the virus scanner. Close unnecessary programs.
Typical error message: Error 1304. Error writing to file	
Roll back after OPCenum.exe - error.	It is possible that parts of the OPC server which already
	exist on the system cannot be overwritten.
	Delete the following files:
	- C:\Windows\System32\OPC*.dll
	- C:\Windows\System32\OPCenum.exe
	▶ Delete folder:
	C:\Program Files\Common Files\OPC Foundation
	Delete all registry entries which contain opcenum.
Demo projects were installed but are not displayed. New projects cannot be created.	Check the computer name. The computer:
	must not consist of more than 15 characters
	must be in accordance with the convention of the NetBIOS
	computer name
Error message that a service cannot be started.	first reboot the computer
	then start the zenon setup again



### **SQL SERVER 2008**

Problem	Solution
The zenDBSrv cannot establish a connection to the data base.	Possible reasons:  Instance of the SQL Server is not correct or does not run.  Entries in the zenDB.ini are not correct.  Wrong password.  zenDBCli.dll or zenDBSrv were not registered correctly.
Log entry:  Invalid Connection Configuration: No SQL Server Instance!	In the zenDB.ini no SQL Server instance is configured for the database connection. Without an instance the zenDBSrv cannot connect and therefore closes itself.

## **SQL SERVER 2005**

Problem	Solution
SQL server cannot be installed.	At the installation of the SQL server the following components are also installed:
	Microsoft SQL Server 2005
	<ul> <li>Microsoft SQL Server Native Client</li> </ul>
	<ul> <li>Microsoft SQL Server VSS Writer</li> </ul>
	<ul> <li>Microsoft SQL Server Setup Suport Files (English)</li> </ul>
	MSXML 6.0 Parser
	If one of these components already exists on the system, the installation can fail.
	Check whether the components to be installed already exist on the system and uninstall them.
	The log file of the SQL server may help you when searching for the cause of errors: You can find it as summary.txt in folderC:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG.
Error message: The sa password must meet SQL Server	Deactivate the HP ProtectTool Credential Manager.
password policy requirements. For strong password quidelines, see	

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Authentication Mode, in SQL Server Books Online.	
Error message: The installation of the Microsoft SQL-Servers 2005 Express Edition + .Net Framework 2.0 has failed. The setup is terminated.	Check the requirements for the SQL server:  Memory  Processor
Web client 6.22 IPA cannot find the XSL files.	Create the following entries in the registry.  HKLM\SOFTWARE\COPA-DATA\DataDir  UserData  System  ProgramData_6220  ProgramDir_6220  Note: Fix as of 6.22 SP1
SQL server cannot be installed.	If zenon was uninstalled, a new installation may fail if the uninstall folder is not deleted.  Solution: Deleting or renaming subfolders  Data  Template Data  in folder %program files%\Microsoft SQL Server\MSSQL.x\MSSQL.

### **SQL SERVER 2005 ON TOSHIBA COMPUTERS**

Problem	Solution
In the SQL log file (e.g. SQLSetup0006_AUTOTRONIC031_SQL.log) which was created during the installation, the following errors can be found:	Reason for this error is mostly a missing key in the Windows registry. In this case:
<pre>Error Code: 1067 MSI (s) (48!3C) [09:25:30:515]: Product: Microsoft SQL Server 2005 Express Edition</pre>	<ul> <li>Deinstall all SQL-relevant software such as         Microsoft SQL Server 2005, Microsoft SQL Server Native         Client, Microsoft SQL Server Setup Support Files, Microsoft         SQL Server Server VSS Writer,</li> </ul>
Error 29503. The SQL Server	▶ open <b>regedit</b>

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service failed to start. For more information, see the SQL Server Books Online topics, "How to:
View SQL Server 2005 Setup Log
Files" and "Starting SQL Server
Manually."

The error is (1067) The process terminated unexpectedly.

Error 29503. The SQL Server
service failed to start. For more
information, see the SQL Server
Books Online topics, "How to:
View SQL Server 2005 Setup Log
Files" and "Starting SQL Server
Manually."

The error is (1067) The process terminated unexpectedly.

b go to key:

HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControl
Set\Servi ces\Tcpip\Parameters

- right click on Parameters
- select new New -> Character string
- type Domain as new value
- press key Return and close regedit
- execute the separate installation of the SQL Servers 2005 on zenon DVD -> Additional\_Software\SQL Server 2005 Express Edition
- for this execute file Install.bat
- after SQL Server 2005 was installed correctly, install zenon again

# 13. Technical Support

### **BASIC SUPPORT**

If you need assistance during the installation, our Technical Consulting department is 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 there. 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.