COPA-DATA
do it your way

zenon manual

Tools

v.7.10

Contents

1. Welcome to COPA-DATA help

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 (mailto:documentation@copadata.com).

PROJECT SUPPORT

You can receive support for any real project you may have from our Support Team, who you can contact via email at support@copadata.com (mailto: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 (mailto:sales@copadata.com).

2. Tools

A range of tools support you for the management, analysis and configuration of zenon:

- Diagnosis Viewer (on page 6): Allows zenon LOG files to be read and configured.
- Keyblock Runtime Start (on page 52): Starts zenon Runtime and at the same time blocks all Windows system keys.
- Online updating of the zenon Help (on page 55): Allows online updating of zenon Help.

- Project Translation Interface: (on page 58) Tool for the translation of zenon language files. Opens or saves data for the zenon Language Translation Wizard. With this, projects can be imported into or exported out of zenon.
- Startup Tool (on page 64): Makes it possible to start the Editor and Runtime with certain parameters, to administer different zenon versions on one computer, to administer SQL instances and to define languages for Editor and Runtime.
- System Information Collector (on page 88): Reads system information and zenon information, displays it in an output window and saves it as a ZIP file.

The following are available for zenon Logic:

- zenon Logic Runtime Manager: Administer all stand-alone/manual-start zenon Logic Runtime projects on your computer.
  The documentation for this tool is part of the zenon Logic documentation.

2.1 Diagnosis Viewer

All zenon modules such as Editor, Runtime, drivers, etc. write messages to a joint log file. You can read and configure them with the Diagnosis Viewer which is installed together with zenon. It allows the reading of existing log files, online logging, saving of the current view, parameterizing the Diagnosis Clients and the Diagnosis Server. You can find it under *Start/All programs/zenon/Tools 7.10 -> Diagnosis Viewer.*

The Diagnosis Viewer is only available in English.

License information

Part of the standard license of the Editor and Runtime.

USING IPV6

The Diagnosis Server also works with Diagnosis Clients which addresses via IPv6 addresses. For this the format of the log file has been adapted. The Diagnosis Viewer only reads the new format of the log files. If files from older zenon versions are opened (or vice versa), the IP address of the Diagnosis Client is not displayed correctly.

DRIVER ANALYSIS

zenon driver log all errors in the log files. The default folder for the log files is subfolder **LOG** in directory ProgramData, example: C:\ProgramData\zenon\zenon7.10\LOG for zenon Version 7.10. Log files are text files with a special structure.

Attention: With the default settings, a driver only logs error information. With the **Diagnosis Viewer** you can enhance the diagnosis level for most of the drivers to "Debug" and "Deep Debug". With this the driver also logs all other important tasks and events.

In the Diagnosis Viewer you can also:

- follow currently created entries live
- customize the logging settings
- change the folder in which the log files are saved

Hints:

1. In Windows CE even errors are not logged per default due to performance reasons.
2. The Diagnosis Viewer displays all entries in UTC (coordinated world time) and not in local time.
3. The Diagnosis Viewer does not display all columns of a log file per default. To display more columns activate property **Add all columns with entry** in the context menu of the column header.
4. If you only use **Error logging**, the problem description is in column **Error text**. For other diagnosis level the description is in column **General text**.
5. For communication problems many drivers also log error numbers which the PLC assigns to them. They are displayed in **Error text** and/or **Error code** and/or **Driver error parameter(1** and **2)**. Hints on the meaning of error codes can be found in the driver documentation and the protocol/PLC description.
6. At the end of your test set back the diagnosis level from **Debug** or **Deep Debug**. At **Debug** and **Deep Debug** there are a great deal of data for logging which are saved to the hard drive and which can influence your system performance. They are still logged even after you close the **Diagnosis Viewer**.

2.1.1 General

The zenon diagnosis system consists of three parts:

- Diagnosis Server (on page 22): local or or defined in zenon6.ini defined **LogSrv**
- Diagnosis Clients (on page 27): all modules, drivers, services, etc. which write messages
- Diagnosis Viewer (on page 31): Analysis program

VERSIONS

From version 7.00 on the service **zenLogSrv** is used instead of the **zenSysSrv** for the diagnosis system. That means:

- Diagnosis systems up to version 6.51 and from version 7.00 are each compatible among themselves.
- The diagnosis mechanism of zenon 6.51 SP0 and zenon 7.00 SP0 are not compatible.

Compatibility	Diagnosis Server 6.51 SP0 and earlier	Diagnosis Server 7.00 SP0 and higher
Diagnosis Client 6.51 SP0 and earlier	compatible	**incompatible**
Diagnosis Viewer 6.51 SP0 and earlier	compatible	**incompatible**
Diagnosis Client 7.00 SP0 and higher	**incompatible**	compatible
Diagnosis Viewer 7.00 SP0 and higher	**incompatible**	compatible

With the Diagnosis Viewer version 7.00 SP0 and higher you can open log files which were created by Diagnosis Server version 6.51 SP0 (or earlier). It does not work the other way round.

DEFAULT PORTS

- Version 7 and higher: 50780 (port of service zenLogSrv)
- up to 6.51: 1101 (port of service zenSysSrv)

If the port cannot be opened, the service closes itself.

> **Attention**
>
> *If the port to which the Diagnosis Viewer should connect is closes, then it is tried to start the local Diagnosis Server. This makes sure that local logging is carried out if no Diagnosis Server is available in the network.*

MEMORY OCCUPANCY

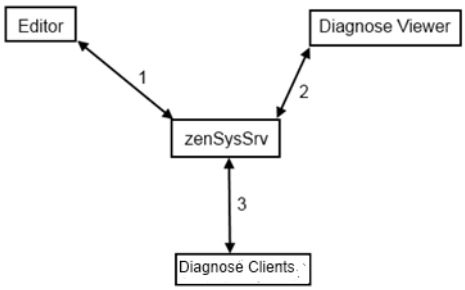
Service **zenLogSrv** buffers log entries until they can be written in the log file. If the memory consumptions increases continuously by **zenLogSrv**, it is an indicator that the log file cannot be written.

2.1.2 Topology of the diagnosis system

The topology of the diagnosis system differs for versions up to 6.51 SP0 and from 7.00 SP0 on.

TOPOLOGY BEFORE ZENON 7.00 SP0

The diagram displays all possible connections for which **zenSysSrv** is responsible. Each arrow represents a network connection between the applications. All applications connect to the **zenSysSrv** on port 1101 regardless of whether Client and Server are on the same computer or communicate with each other via a network.



1. The Editor sends log entries, commands and data of the Remote Transport to **zenSysSrv**. **zenSysSrv** sends the configuration of the Diagnosis Clients (Editor, Runtime, driver, web server, web client, etc.) and the Remote Transport data to the Editor.
2. The Diagnosis Viewer sends diagnosis commands, diagnosis configurations and log entries to **zenSysSrv**. **zenSysSrv** sends diagnosis data and the Diagnosis Client configuration to the Diagnosis Viewer.

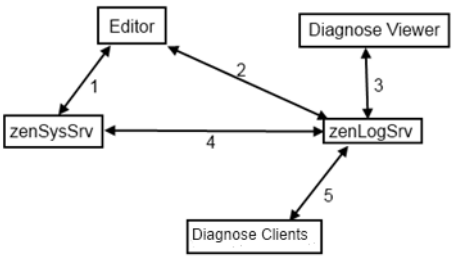
3. **zenSysSrv** sends the Diagnosis Client configuration to the Diagnosis Clients. The Diagnosis Clients send log entries to **zenSysSrv**.

zenSysSrv reacts correspondingly to each incoming message:

- Log entries are written in log files.
- Remote Transport commands (start Runtime, write/read back data, etc.) are executed.
- Diagnosis commands (set Server/Client configuration, start online logging, etc.) are executed.

TOPOLOGY AS OF ZENON 7.00 SP0

The diagram displays all possible connections for which **zenSysSrv** and **zenLogSrv** (as of version 7.00 SP0) are responsible. Each arrow represents a network connection between the applications. All applications connect to **zenLogSrv** on port 50780. The editor connects to **zenSysSrv** on port 1101. It is regardless of whether Client and Server are on the same computer or communicate with each other via a network.



1. The Editor sends commands and data of the Remote Transport to **zenSysSrv**. **zenSysSrv** sends data of the Remote Transport to the Editor.
2. The Editors send log entries to **zenLogSrv**. **zenLogSrv** sends the Diagnosis Client configuration to the Editor.
3. The Diagnosis Viewer sends diagnosis commands, diagnosis configurations and log entries to **zenSysSrv**. **zenSysSrv** sends diagnosis data and the Diagnosis Client configuration to the Diagnosis Viewer.
4. The **zenSysSrv** sends log entries to the **zenLogSrv**. **zenLogSrv** sends the Diagnosis Client configuration to **zenSysSrv**.
5. **zenLogSrv** sends the Diagnosis Client configuration to the Diagnosis Clients. The Diagnosis Clients send log entries to **zenLogSrv**.

zenSysSrv reacts to: incoming Remote Transport commands.
zenLogSrv reacts to incoming diagnosis commands and log entries

EXAMPLE

IN an environment with a central Diagnosis Server the Runtime is started on a device. Based on the Runtime version the configuration is read from **zenon6.ini**. Versions before 7.00 SP0 read entry LOG_CONFIG from **[SYS_REMOTE]**, later versions read this entry from **[LOGGING_SYSTEM]**. This configuration is used to establish a diagnosis connection. (For details see Standard procedure (on page 11).) Each additional component loaded by the Runtime (driver, **zenNetSrv**, etc.) also establish a diagnosis connection.

2.1.3 Standard process

As default only error messages (errors) are sent from the Clients to the Diagnosis Server.

The Diagnosis Server saves the received messages in TXT files with a special structure (on page 48). The default folder for the log files is subfolder **LOG** in directory ProgramData. For example: %ProgramData%\COPA-DATA \LOG.
For more information see manual Installation and Updates chapter File structure.

Note: Under Windows CE error messages are also not created per default due to resource issues.

In order to report not only error messages to the Diagnosis Server but also other information important for the diagnosis, the according settings have to be defined for the Client (on page 27).

You can also configure the behavior of the Server (on page 22).

CONFIGURATION

The configuration of the connection is done in zenon6.inI (on page 13) divided in:

- Diagnosis Clients
- Diagnosis Server
- Versions to make sure that the configuration of the versions does not affect each other

The configuration of the Diagnosis Viewer (on page 31) also enables you to configure settings for the connection:

- Settings of the server (on page 24)
- Connection settings Diagnosis Server connection (on page 33)
- Diagnosis Client (on page 27)
- Diagnosis Viewer - Analysis Program (on page 31)

We recommend to do the configuration of the connection for Server and Client via zenon6.ini.

PROCEDURE

The Diagnosis Server is:

- a service at the PC.
  The service starts automatically when the operating system boots. The local service can only be started once.
- an application under CE.
  Under CE only one process can use the port. Additionally started processes terminate themselves as the port cannot be opened. If the local configuration of the Diagnosis Server is set under CE in such a way that only the user interface is displayed (INIT=2), several processes could emerge by the Diagnosis Clients trying to start the local Diagnosis Server.

As soon as a Diagnosis Client gets active, the following steps are carried out:

1. The Diagnosis Client reads and uses the configuration from **zenon6.ini**. If no configuration is available in **zenon6.ini**, the default configuration (`Diagnose Server=localhost:50780`) is used.
2. The Diagnosis Client tries to establish a connection to the Diagnosis Server:

   Establishing successful:

   a) The diagnosis connection has been established and the log entries are sent.

   Establishing failed:

   b) The Diagnosis Client tries to start and use the local Diagnosis Server.
   On a PC it tries to start the service.
   Under CE it tries to create the process.

   c) The Diagnosis Client tries to establish a connection to the local Diagnosis Server. If it succeeds, the diagnosis connection is established and the log entries are sent.

   If it fails, no log entries are created.

Entries in zenon6.ini

The configuration of zenSysSrv and zenLogSrv is carried out via zenon6.ini. At this it is differentiated between version 7.00 and up and versions 6.51 and earlier. With this you can configure old and new Diagnosis Clients and Diagnosis Servers independent of each other on one device. For example, the LOG entries of old Diagnosis Clients are diverted, without the LOG entries of new clients being affected.

DIAGNOSIS SERVER BEFORE VERSION 7.00 SP0

INI entry	Description
[SYS_REMOTE]	Section in zenon6.ini. Contains parameters for zenSysSrv (Remote Transport and Diagnosis Server).
LOGDirectory=	Defines folder for the LOG files. If there is no entry, the LOG folder in the ProgramData folder is used as a default value. Example: LOGDirectory=%ProgramData%\COPA-DATA\zenon651\LOG
CONFIG=	Configuration string for the Diagnosis Server and **zenSysSrv**. Remote Transport and the diagnosis system use the same server configuration up to and including version 6.51 SP0. The string consists of the following parts: DEVICE=[Device];HOST=[Hostname];PORT=[Port];TIMEOUT=[Timeout] ▸ DEVICE: Sets the communication type used. TCP/IP and serial are available. ▸ HOST: Is set to the computer name of the Diagnosis Server. ▸ PORT: states the port to be used. ▸ TIMEOUT: Provides the time-out time for the connection is seconds. ▸ BAUD: Provides the connection speed of a serial connection. PC configuration: ▸ DEVICE=TCP/IP ▸ HOST=localhost ▸ PORT=1101 ▸ TIMEOUT=10 CE configuration: ▸ DEVICE=COM1 ▸ BAUD=115200
LOGMinFreeDiskSpace=	Defines minimum memory (in MB) that must be available on the hard drive. LOG files are deleted before this value is gone below.

	Default: 1024
LOGMaxUsedDiskSpace=	Defines the maximum memory on the hard drive in MB used for LOG files. LOG files are deleted if this value is exceeded. Default: 1024
LOGMinUsedDiskSpace=	Defines memory on the hard drive (in MB) that is used even if there are no LOG files. Default: 5
LOGLogLifeTime=	Defines the lifecycle of the LOG files in seconds. Older LOG files are deleted. Default: 1209600 (corresponds to 14 days)
LOGImageCnt=	Defines the number of LOG entries, after which all incremental LOG files are written. Default: 0
LOGLogUpdateTime=	Number of milliseconds, after which the LOG entries received are written to a LOG file. Default: 2000
LOGMaxBufferedRecs=	Defines the number of LOG entries that are buffered if they cannot be written to files. Default: 10240
LOGMaxLogFileSize=	Maximal size of a log file in bytes. If a log file reaches this size, it is closed and a new log file is created. Default: 5242880 (corresponds to 5 MB)
LOGCheckDiskTime=	Defines the interval in seconds, in which the memory occupied by LOG files is checked. Default: 60
INIT=	Action when starting the application with Windows CE: ▸ 0: end immediately ▸ 1 (or other value greater than 2): Open listening port in minimize to system tray ▸ 2: only display surface Default: 1 **Note:** As part of the separation of zenSysServ and zenLogServ for zenon 7.00,

	this default value was also changed for other versions. The default value was previously 2.

DIAGNOSIS SERVER FROM VERSION 7.00 SP0

INI entry	Description
[LOGGING_SYSTEM]	Section in zenon6.ini. Contains parameters for the Diagnosis Server. Only affects **zenLogSrv** and has no effect on **zenSysSrv**.
LOGDirectory=	Defines folder for the LOG files. If there is no entry, the following is used as a standard value: The path extracted from the Registry, for example: %ProgramData%\COPA-DATA\LOG the LOG folder in the ProgramData folder of the zenLogSrv, if no path is defined in the registry, e. g. %ProgramData%\COPA-DATA\zenon700\LOG
CONFIG=	Configuration string for the Diagnosis Server. The string consists of the following parts: DEVICE=TCP/IP;HOST=[Hostname];PORT=[Port];TIMEOUT=[Timeout] ▸ DEVICE: Sets the communication type used and must always be set to TCP/IP ▸ HOST: Is set to the computer name of the Diagnosis Server. ▸ PORT: states the port to be used. ▸ TIMEOUT: Provides the time-out time for the connection is seconds. Configuration: ▸ DEVICE=TCP/IP ▸ HOST=localhost ▸ PORT=50780 ▸ TIMEOUT=10
LOGMinFreeDiskSpace=	Defines minimum memory (in MB) that must be available on the hard drive. LOG files are deleted before this value is gone below. Default: 1024

LOGMaxUsedDiskSpace=	Defines the maximum memory on the hard drive in MB used for LOG files. LOG files are deleted if this value is exceeded. Default: 1024
LOGMinUsedDiskSpace=	Defines memory on the hard drive (in MB) that is used even if there are no LOG files. Default: 5
LOGLogLifeTime=	Defines the lifecycle of the LOG files in seconds. Older LOG files are deleted. Default: 1209600 (corresponds to 14 days)
LOGImageCnt=	Defines the number of LOG entries, after which all incremental LOG files are written. Default: 0
LOGLogUpdateTime=	Number of milliseconds, after which the LOG entries received are written to a LOG file. Default: 2000
LOGMaxBufferedRecs=	Defines the number of LOG entries that are buffered if they cannot be written to files. Default: 10240
LOGMaxLogFileSize=	Maximal size of a log file in bytes. If a log file reaches this size, it is closed and a new log file is created. Default: 5242880 (corresponds to 5 MB)
LOGCheckDiskTime=	Defines the interval in seconds, in which the memory occupied by LOG files is checked. Default: 60
INIT=	Action when starting the application with Windows CE: ▸ 0: end immediately ▸ 1 (or other value greater than 2): Open listening port in minimize to system tray ▸ 2: only display surface Default: 1

DIAGNOSIS CLIENT BEFORE VERSION 7.00 SP0:

INI entry	Description
[SYS_REMOTE]	Section in zenon6.ini. Contains parameters for the Diagnosis Client.
LOG_CONFIG=	A configuration string for the Diagnosis Client is stored here. The string consists of the following parts: DEVICE=TCP/IP;HOST=[Hostname];PORT=[Port];TIMEOUT=[Timeout] ▸ DEVICE: Sets the communication type used and must always be set to TCP/IP ▸ HOST: Is set to the computer name of the Diagnosis Server. ▸ PORT: states the port to be used. ▸ TIMEOUT: Provides the time-out time for the connection is seconds. Configuration: ▸ DEVICE=TCP/IP ▸ HOST=localhost ▸ PORT=1101 ▸ TIMEOUT=10

DIAGNOSIS CLIENT FROM VERSION 7.00 SP0

INI entry	Description
[LOGGING_SYSTEM]	Section in zenon6.ini. Contains parameters for the Diagnosis Client.
LOG_CONFIG=	A configuration string for the Diagnosis Client is stored here. The string consists of the following parts: DEVICE=TCP/IP;HOST=[Hostname];PORT=[Port];TIMEOUT=[Timeout] ▸ DEVICE: Sets the communication type used and must always be set to TCP/IP ▸ HOST: Is set to the computer name of the Diagnosis Server. ▸ PORT: states the port to be used. ▸ TIMEOUT: Provides the time-out time for the connection is seconds.

	Configuration: ▸ DEVICE=TCP/IP ▸ HOST=localhost ▸ PORT=50780 ▸ TIMEOUT=10

HINTS

INIT UNDER CE

Under Windows CE we urgently recommend to not set entry `INIT=` (in section [LOGGING_SYSTEM] or [SYS_REMOTE]) to value `2`.

Reason: The value `2` means that both the **SysSrvCE** and the **LogSrvCE** only display the user interface and not open the listening port.
If now a Diagnosis Client wants to establish a connection, it will fail. As in this case the Diagnosis Clients start process **LogSrvCE** and the process does not open the port, each Diagnosis Client starts such a process. This leads to several parallel LogSrvCE processes and to a delay in starting the Diagnosis Clients as it waits for the timeout of the connection while establishing the diagnosis connection.

ZENLOGSRV ON A SYSTEM WITH DIFFERENT VERSIONS

If **zenLogSrv** is used on a system with different versions as a central local diagnosis server, the entry `LOG_CONFIG` in the **[SYS_REMOTE]** such must be as follows:
`DEVICE=TCP/IP;HOST=localhost;PORT=5780;TIMEOUT=10`

Reason: Older clients then use **zenLogSrv** as the Diagnosis Server. New clients do this automatically. This service is switched on automatically on the PC when the system is started; it must be started manually with CE.

Attention: If the port cannot be reached, older clients start **zenSysSrv** and retry connecting to it.

Windows CE

Under Windows CE the Diagnosis Server is started as an application.

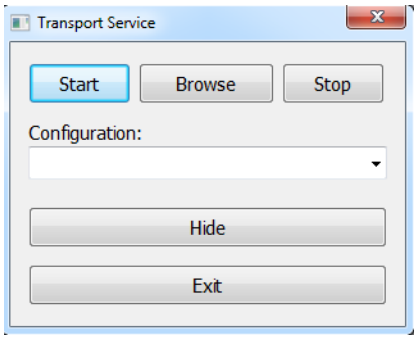
At the configuration (on page 13) of the connection consider the recommendation for parameter `INIT`:

Under Windows CE we urgently recommend to not set entry `INIT=` (in section [LOGGING_SYSTEM] or [SYS_REMOTE]) to value `2`.

Reason: The value `2` means that both the **SysSrvCE** and the **LogSrvCE** only display the user interface and not open the listening port.
If now a Diagnosis Client wants to establish a connection, it will fail. As in this case the Diagnosis Clients start process **LogSrvCE** and the process does not open the port, each Diagnosis Client starts such a process. This leads to several parallel LogSrvCE processes and to a delay in starting the Diagnosis Clients as it waits for the timeout of the connection while establishing the diagnosis connection.

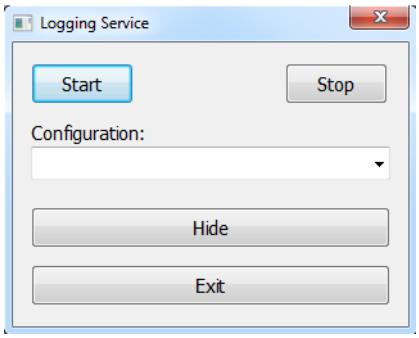
USER INTERFACE UNDER CE

TRANSPORT SERVICE (ZENSYSSRV)



Parameters	Description
Start	Opens the Listening port and enables **zenSysSrv** to receive Remote Transport commands.
Browse	Opens the dialog for browsing the file system.
Stop	Terminates the receiving of Remote Transport commands and closes the Listening port.
Configuration	Selection of an existing server configuration from drop-down list. New connections cannot be configured. See section Entries in zenon6.ini (on page 13) for the configuration of the connection. Available are: ▸ Configuration from zenon6.ini ▸ Standard configuration for TCP/IP ▸ Standard configuration for COM1 to COM4
Hide	Minimizes the user interface to the system tray.
Exit	Terminates the application and closes the Listening port if necessary.
X (button top right)	Minimizes the user interface to the system tray.

LOGGING SERVICE (ZENLOGSRV)



Parameters	Description
Start	Opens the Listening port and enables **zenLogSrv** to receive log entries.
Stop	Terminates the receiving of log entries and closes the Listening port.
Configuration	Selection of an existing configuration from drop-down list. New connections cannot be configured. See section Entries in zenon6.ini (on page 13) for the configuration of the connection. Available are: ▸ Configuration from zenon6.ini ▸ Standard configuration for TCP/IP
Hide	Minimizes the user interface to the system tray.
Exit	Terminates the application and closes the Listening port if necessary.
X (button top right)	Minimizes the user interface to the system tray.

2.1.4 Diagnosis Server

The Diagnosis Server:

- Creates and manages log files.
- The Server is:
  - implemented from zenon 7.00 on as zenLogSrv
  - up until zenon 6.51 integrated in the zenSysSrv.
- The configuration of the server is read from the zenon6.ini (on page 13).
- The server writes the received log data into the log file.
- The saving location for the files has to be configured. Standard: `%ProgramData%\COPA-DATA\LOG\`

- Log files are named after the following fashion `LOG<YYMMTThhmmss>.txt`.
- The server is multi client able. Several evaluations can connect to the server simultaneously.
- It is possible to connect to the server online, to see the current logging messages.
- It is possible to connect to diagnosis servers other than the local and to execute the same tasks (configuring server, configuring clients, online logging) as on the local server.
- The parameters of the current server (with which the Diagnosis Viewer is connected) can be modified. If a modification of another diagnosis server is needed, the server connection can be changed in the menu under *File – Connect to…*.
- The menu entry **`Settings – Server configuration`** is only available, if online logging is not used at the moment.

System integrity monitoring

At the start of the Runtime a monitoring thread with high priority is also started. The monitoring thread checks critical parameters every ten seconds and writes corresponding warnings or errors in module Supervisor of the Diagnosis Server.

The following parameters are monitored.

Parameters	Limit
Warning threshold for used handles	> 5000
Error threshold for used handles	> 9000
Warning threshold for used GDI objects	> 5000
Error threshold for used GDI objects	> 9000
Warning threshold for CPU use for the main thread	> 70 %
Error threshold for CPU use for the main thread	> 90 %
Warning threshold for total CPU use	> 70 %
Warning threshold for total CPU use	> 90 %
Warning threshold for free main memory	< 30 %
Error threshold for free main memory	< 10 %
Warning threshold for OnTimer in the main frame	> 1000 ms
Error threshold for OnTimer in the main frame	> 5000 ms

Settings of the server

The Diagnosis Server can be configured via entries in file zenon6.ini or via dialog **Server configuration** in the Diagnosis Client. We recommend to do the settings in file zenon6.ini.

CONFIGURATION VIA ZENON6.INI

See section Entries in zenon6.ini (on page 13).

CONFIGURATION VIA DIALOG

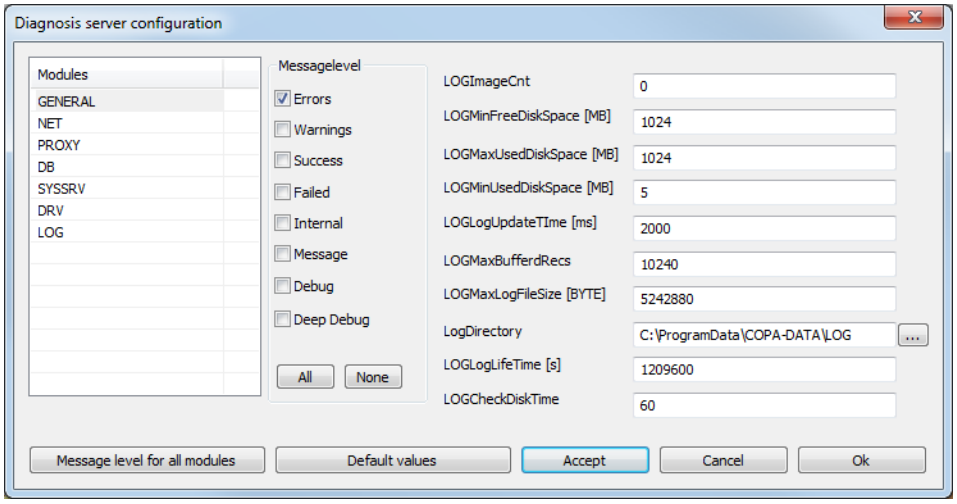
To configure the Diagnosis Server via the dialog:

1. start the Diagnosis Viewer
2. open entry *File Connect to... (on page 33).*

3. configure the desired Server
   (Take care of the correct port selection depending on the version!)
4. open entry *Settings -> Server configuration*
5. configure the events which should be logged
6. Close the dialog by clicking on **OK**

Note: All changes are written to **`zenon6.ini`** when the dialog is confirmed.

Configuration of the events which should be logged by the Diagnosis Viewer:



Parameter	Description
Modules	Selection of the modules which you want to configure.
Message level	Selection of the events which should be logged. Default: Errors
LOGImageCnt	Number of records, after which all incremental fields will be written. Default: 0 (not active)
LOGMinFreeDiskSpace	It is continuously checked, if less than the configured minimal free disk space is available. The oldest log files are deleted. Minimal free disk space in MB, before log files are deleted. Default: 1024 MB
LOGMaxUsedDiskSpace	Maximal used disk space for the log in MB. Default: 1024 MB
LOGMinUsedDiskSpace	Minimal used disk space in MB independent whether LOGMinFreeDiskSpace is under-run. Default: 5 MB
LOGLogUpdateTime	Time in ms, after which the received entries are saved. Default: 2000 ms
LOGMaxBufferedRecs	The server buffers the contents of all incremental log fields for diverse applications, in order to be able to write images of them into the log file. With the start of a log file and after configurable number of log entries a complete image for all addresses is written into the log file. Received data are written to the log files. The entry is done via temporary buffer. It can be configured whether the data should be written immediately or delayed. Number of buffered entries if they cannot be saved. Default: 10240
LOGMaxLogFileSize	The server writes the received log data into the log file. If this log file reaches the configured size, a new file is started. Maximal size of a single log file in bytes. Default: 5 MB
LOGDirectory	Folder in which the log files are written. Default: %ProgramData%\COPA-DATA\LOG\
LOGLogLifeTime	It is continuously cheked, if the lifetime of the log files is exceeded. The oldest log files are deleted. Number of seconds to keep the log files. Default: 14 days
LOGCheckDiskTime	Time in sec, in which the used disk space id checked.

	Default: 60 s
Message level for all modules	Settings are taken over for all modules.
Default values	Restore default settings.
Accept	Take over settings for this module.
Cancel	Discards changes and closes dialog.
OK	Applies changes and closes dialog.

2.1.5 Diagnosis Client

All programs which create log entries are Diagnosis Clients. These log entries are sent to the Diagnosis Server via TCP/IP. Server computer and port are read - dependent on the used version - from the local zenon6.ini (on page 13) and contacted. If the connection fails the following procedure is carried out cyclically:

- If the Diagnosis Server cannot be reach, a reconnect is carried out every 500ms.
- If no connection could be established after half the timeout, the system tries to start the service zenSysSrv or zenLogSrv.

The settings are configured via entry LOG_CONFIG= in section [SYS_REMOTE] (up to 6.51) or **[LOGGING_SYSTEM]** (from 7.00).

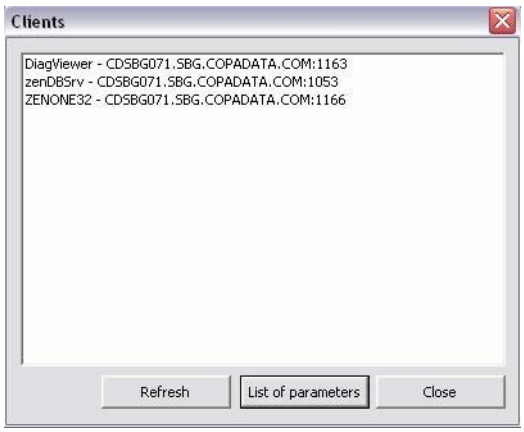
CONFIGURATION DIAGNOSIS CLIENT

To configure the Diagnosis Client via the dialog:

1. start the Diagnosis Viewer
2. open entry *Settings -> Client configuration*
   (only available if logging is inactive)
3. highlight a Client
4. click on **List of parameters**
5. The dialog for configuration is opened

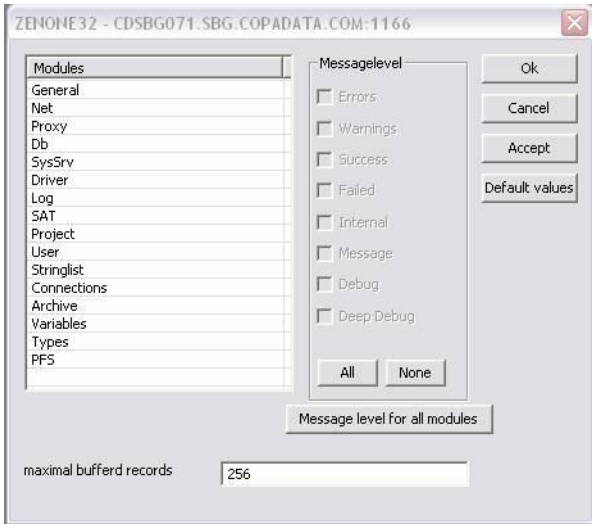
6. configure the Client
7. Close the dialog by clicking on ok
8. repeat the procedure for other Clients if necessary

CLIENT LIST



Parameter	Description
Clients	Lists all available Clients.
Refresh	Updates the list of the Clients.
List of parameters	Opens the dialog for configuring the selected Client.
Close	Closes the dialog.

CONFIGURE CLIENT



The available standard modules:

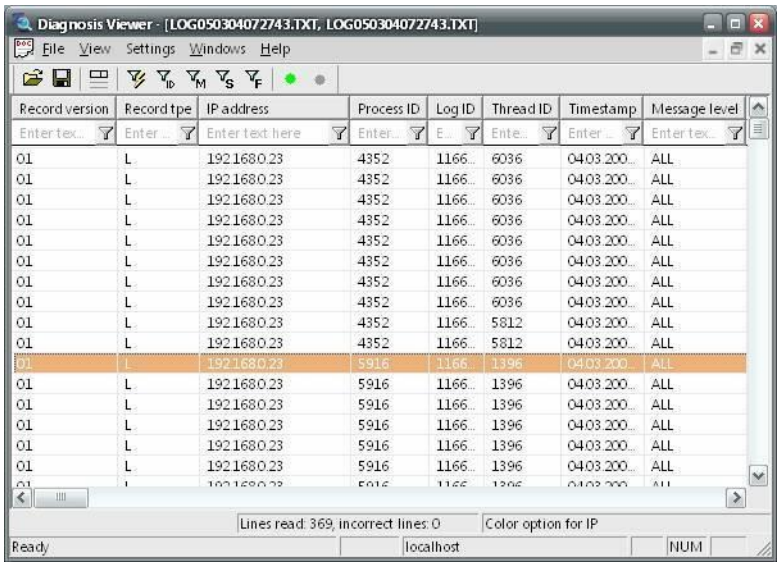
Parameter	Description
Modules	Selection of the modules which you want to configure. The list is made up of standard modules and modules dependent on the respective client. ▸ **General**: General messages ▸ **Net**: Network messages ▸ **Proxy**: Messages of the zenon Proxy ▸ **Db**: Messages of ZenDbSrv ▸ **SysSrv**: Messages of ZenSysSrv ▸ **Driver**: Messages from a driver ▸ **Log**: Messages from logging ▸ **SAT**: SICAM 230 specific messages
Message level	Type of information which should be logged.
All	Selects all.
None	Deselects all.
Message level for all modules	Assigns highlighted message levels to all modules.
Max buffered records	Number of records to be buffered if no connection to the server is established. Default: 256
OK	Applies all changes and closes dialog.
Cancel	Discards all changes and closes the dialog.
Accept	Applies all changes. The dialog remains open.
Default values	Enters the default values.

2.1.6 Diagnosis Viewer - Analysis Program

The Diagnosis Viewer is used to display the log data. It connects to the Diagnosis Server in order to display data online or read back historic log files. Log files contain not only the log data, additional information which is important for the analysis such as column headings are also saved in them.

To display a log file:

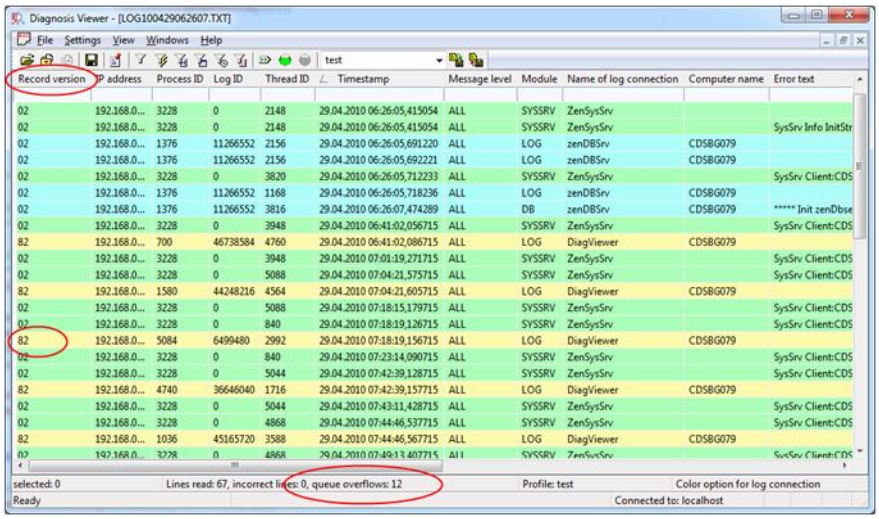
1. select File -> Open
2. the dialog for selecting a log file is opened with focus on the configured default folder
3. select the desired file
4. the log file is displayed



5. Double click an entry to open the detail view

RECOGNIZING QUEUE OVERFLOW AT DRIVER

If messages of a driver are deleted because of queue overflow, the Diagnosis Client and the Diagnosis Server set a marker in the new entry when writing a new entry for all activated modules (on page 40) that older entries were deleted from the queue. The overflow recognitions contained in the opened log files are counted:



Parameter	Description
Column **Record version**	This column must be part of the column selection. It shows the version of the data record. Version 8x tags overflows.
Counter 82	8 refers to overflow, 2 refers to the concerned version of the data record.
Status bar: **queue overflows**	If status bar is active, the number of overflows is displayed there.

Note: Not all entries written in the log file are displayed. If a not displayed log data record is tagged with an overflow, it will be displayed at the next visualized data record of this client. If several not displayed entries in a row are tagged with an overflow, the counter in the status bar can deviate from the number of data records with overflow tags.

Global settings

The entries are in the English language.

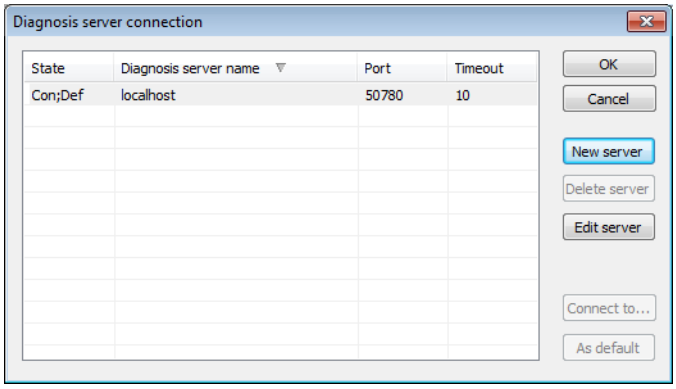
Parameters	Description
File	Commands in menu File.
Open	Opens dialog for selecting a log file saved in TXT format. Each newly opened log file is displayed in its own window.
Open to active document	Each new log file is added to the active window.
Close	Closes the active window.
Save	Saves the log files of the active window.
Save as	Saves the current view of the active window (e.g. filter settings) to a file to be selected.
Remote Download	Only available, if a connection to a Remote Diagnosis Server exists. Enables the download of logging files of the Remote Server to the local log folder. A subdirectory with the name of the PC is created. Only file, which have changed or which are new, are available.
Connect to	Opens the dialog for the Connection selection (on page 24).
Online	Activates the online error view. If online logging is started, all incoming entries are displayed. The same filter dialog as for reading files can also be set here. Difference: If no log connection is selected, all incoming log entries will be displayed, otherwise only the ones from the selected clients. If the filter of the log connection is modified, all entries not fulfilling the filter criteria will be lost. (Logging file nevertheless is created and all entries are saved.) Displayed entries can be saved.
Offline	Deactivates the online error view. (Default)
Exit	Closes the Diagnosis Viewer.

Connection settings Diagnosis Server connection

The Diagnosis Viewer automatically connects to a selected standard Server at the start. If no standard server is defined, **localhost** is used as standard server. The Server configuration can also be done via zenon6.ini (on page 13) (recommended).

SELECT DIAGNOSIS SERVER

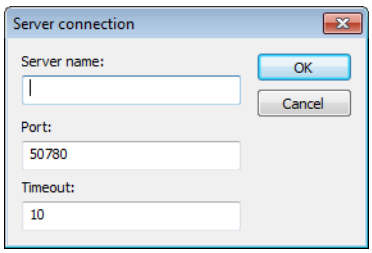
Click on *File -> Connect to...* to open the dialog for selecting a Server:



Parameter	Description
List Server	Lists all configured Servers and displays them: ▸ Status ▸ Name ▸ Port ▸ Timeout
OK	Applies settings and closes dialog.
Cancel	Discards settings and closes the dialog.
New Server	Opens the dialog for configuring a new Server.
Delete Server	Selected Server entry is deleted from the list.
Edit Server	Opens the dialog for configuring the selected Server.
Connect to	Establishes a connection to the selected Server.
As default	Selected server becomes the standard server.

CREATE AND EDIT DIAGNOSIS SERVER

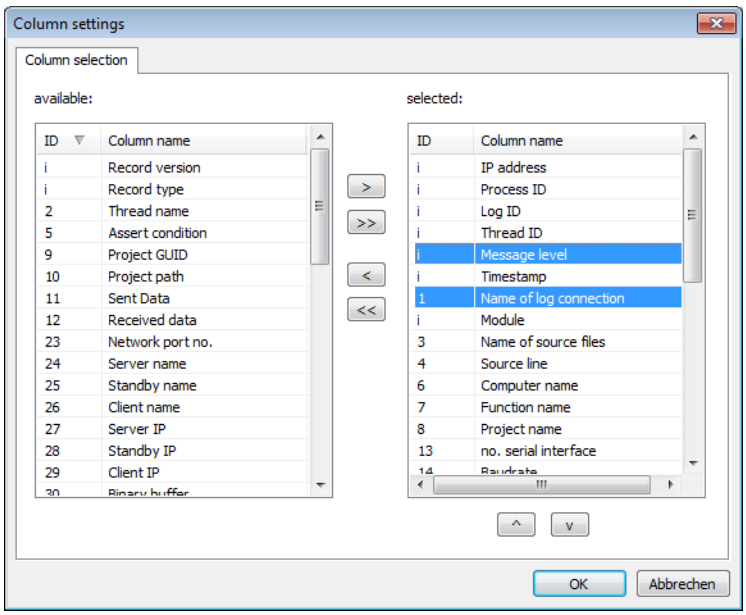
Click on **New Server** or **Edit Server** in dialog Diagnosis Server connection to open the dialog for configuring the Server:



Parameter	Description
Server name	Name of the PC to which to connect. The following must run on the PC: up to version 6.51: **zenSysSrv** from version 7.00: **zenLogSrv**
Port	Port of the service on the target computer: up to version 6.51: 1101 from version 7.00 on: 50780
Timeout	Time in seconds to wait for a response from the **Sysservice**. Default: 10 s
OK	Applies settings and closes dialog.
Cancel	Discards settings and closes the dialog.

Column settings

A number of pre-defined columns can be selected in the menu under *Settings -> Column settings*. These columns and their entries are automatically displayed on opening a new file. Also the sorting and the column width of the selection are regarded. On opening the column width has to be set to **`Autosize`**.



Parameters	Description
`available`	available columns
`selected`	Columns which are displayed
`>`	adds columns selected at "available" to "selected"
`>>`	adds all available columns at "available" to "selected"
`<`	removes selected columns from "selected"
`<<`	removes all available columns from "selected"
`^`	sorts selected entries one level higher (multi-select is possible)
`v`	sorts selected entries one level lower (multi-select is possible)
`OK`	Applies settings and closes dialog.
`Cancel`	Discards settings and closes the dialog.

Columns can also be configured via the context menu:

Parameters	Description
Add all columns with entry	Adds all columns which contain entries.
Remove Column	Hides the selected column.
Remove all empty columns	Hides all columns which do not contain entries.
Column width automatic	The width of the selected column is automatically adjusted to the longest entry
All columns widths automatic	The width of all columns is automatically adjusted to the longest entry

2.1.7 Possibilities of Filtering

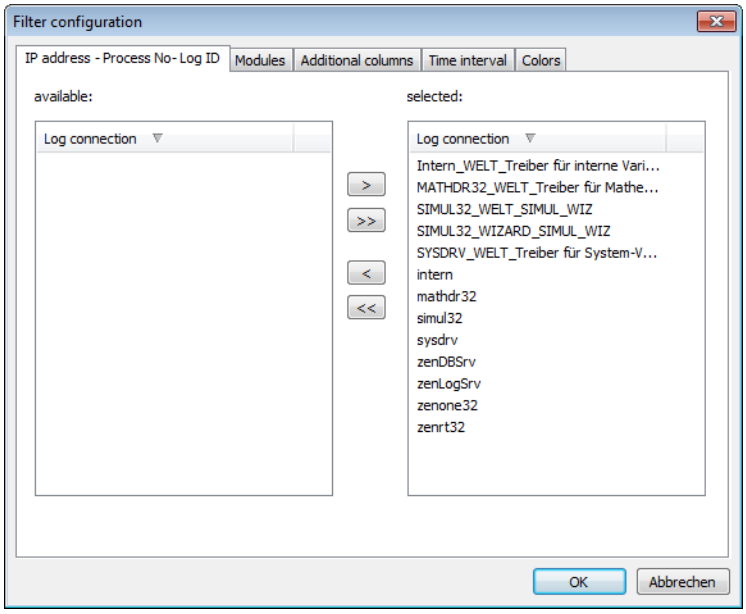
To define filters open the corresponding filter dialog via the corresponding symbol or the tab of the filter.

SYMBOL BAR FILTER

To use the symbol bar, you must activate it in menu **View** via menu item **Icon bar**.

Symbol	Tool tip	Description
1	**Change pre-filter settings**	Opens dialog with five tabs for defining filters.
2	**Change pre-filter for IP-ProcessID-LogID**	Opens tab **IP address - Process No - Log ID (on page 39)**.
3	**Change pre-filter for modules**	Opens tab **Modules** (on page 40).
4	**Change pre-filter for additional columns**	Opens tab **Additional columns** (on page 41).
5	**Change pre-filter for time interval**	Opens tab **Time interval** (on page 42).
6	**Change pre-filter for coloring**	Opens tab Colors (on page 43).

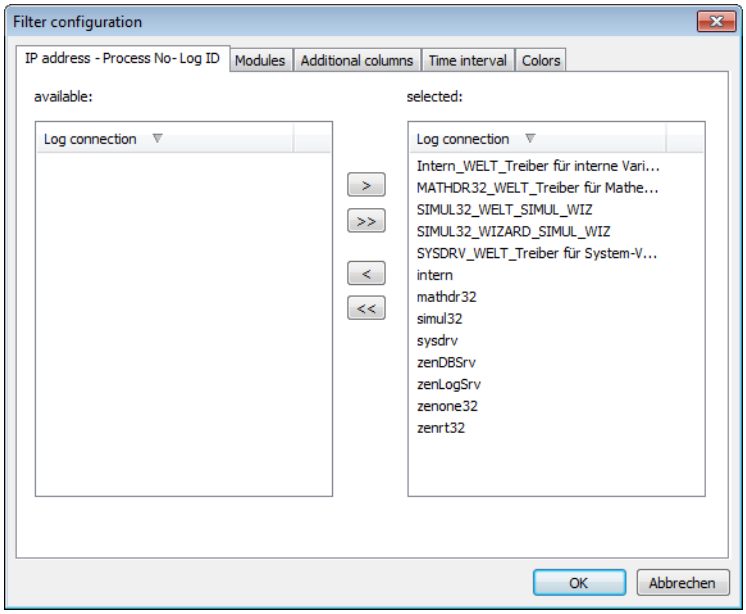
FILTER DIALOG



Tabs	Description
IP-ProcessID-LogID	Opens tab **IP address - Process No - Log ID** (on page 39) for configuring the connection which should be logged.
Modules	Opens tab **Modules** (on page 40) for the modules which should be logged.
Additional columns	Opens tab **Additional columns** (on page 41) for selecting additional columns which should be displayed.
Time interval	Opens tab **Time interval** (on page 42) for defining time filter.
Colors	Opens tab Colors (on page 43) for selecting the color-coding of information.

IP address - Process No - Log ID

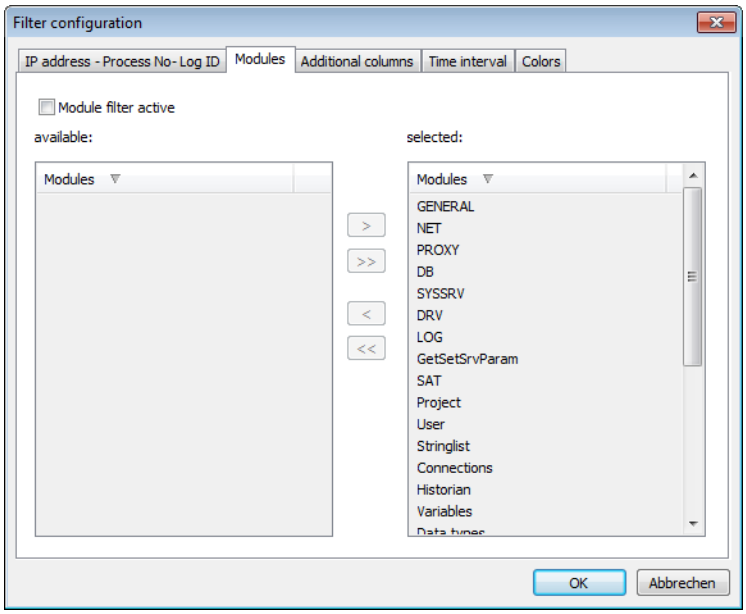
Configuration of the connections and processes which should be displayed.



Parameter	Description
available	List of available connections.
selected	List of selected connections.
Cursor keys	Add selected (>) or all (>>) connections to list **selected** or removes them from the list (< or <<).
OK	Applies all changes from all tabs and closes dialog.
Cancel	Discards all changes from all tabs and closes dialog.

Modules

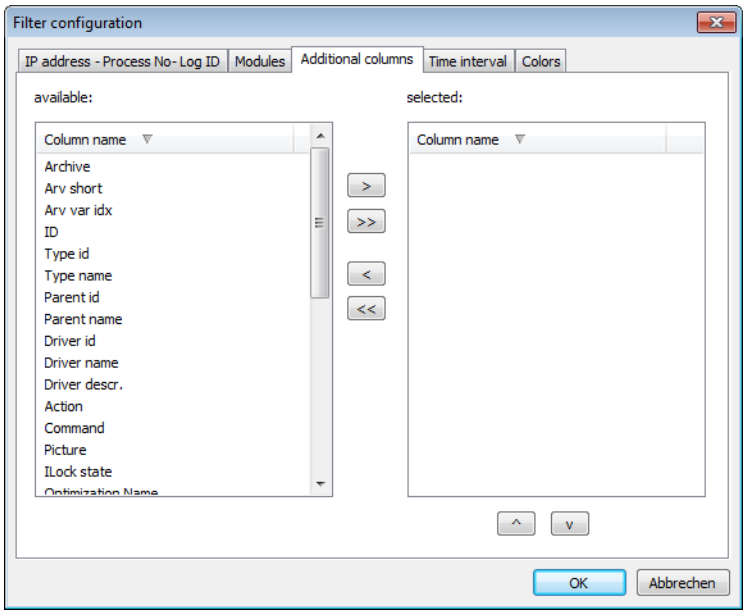
Selection of the modules which should be displayed.



Parameter	Description
Module filter active	`Active:` It is filtered on modules. With this only log data records are displayed which are assigned to a selected module.
available	Available modules.
selected	Selected modules.
Cursor keys	Add selected (>) or all (>>) connections to list **selected** or removes them from the list (< or <<).
OK	Applies all changes from all tabs and closes dialog.
Cancel	Discards all changes from all tabs and closes dialog.

Additional columns

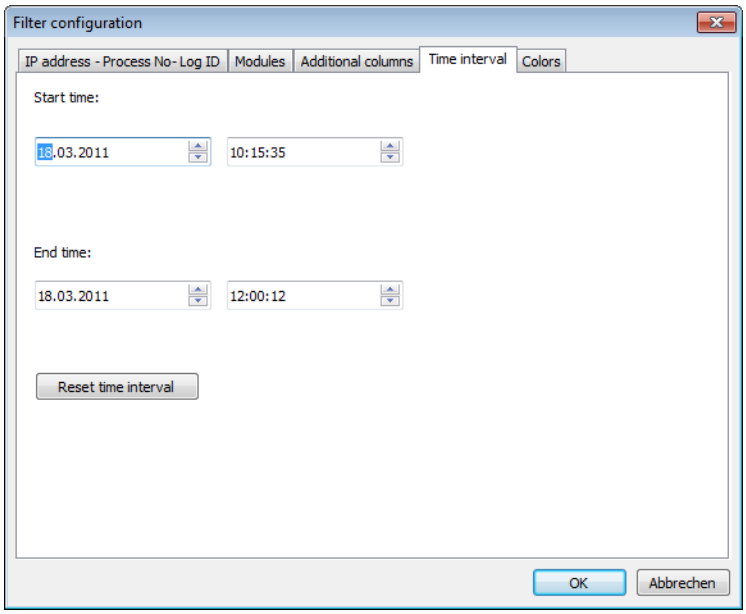
Selection of the columns which should be displayed additionally.



Parameter	Description
available	List of the available columns. All field definitions existing in the file are displayed.
selected	List of the selected columns.
Cursor keys	Add selected (>) or all (>>) connections to list **selected** or removes them from the list (< or <<).
OK	Applies all changes from all tabs and closes dialog.
Cancel	Discards all changes from all tabs and closes dialog.

Time interval

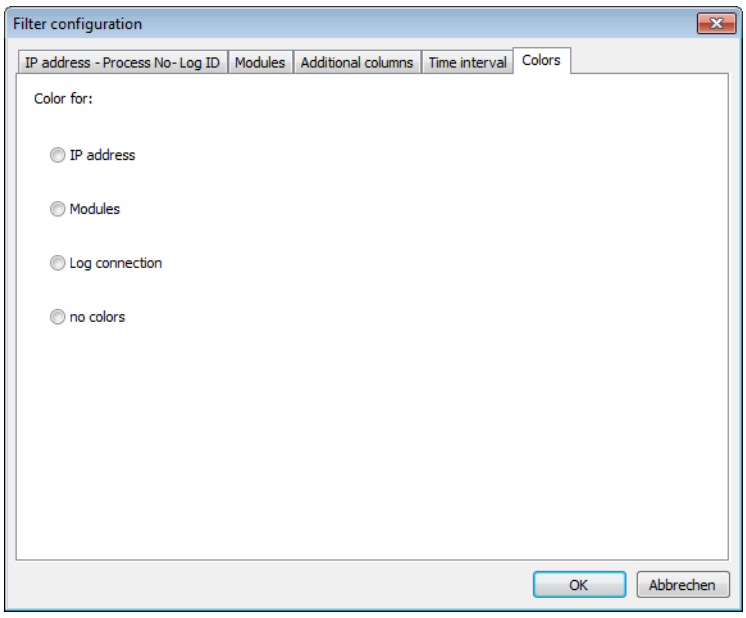
Configuration of the time filter for displaying the entries.



Parameters	Description
Start time:	Selection of the date and point in time from which entries should be displayed. Default: Current date
End time:	Selection of the date and point in time up to which entries should be displayed. Default: Current date
Reset time interval	Sets filter back to default value.
OK	Applies all changes from all tabs and closes dialog.
Cancel	Discards all changes from all tabs and closes dialog.

Colors

Selection of the color-coding of the information.



Parameters	Description
Colors for:	Selection of the color
IP address	Active: Different IP addresses are colored differently.
Modules	Active: Different modules are colored differently.
Log connection	Active: Different names of the log connection are colored differently.
no colors	Active: Entries are not colored.
OK	Applies all changes from all tabs and closes dialog.
Cancel	Discards all changes from all tabs and closes dialog.

2.1.8 Reading the log files

One or more log files can be opened in an analysis at the same time.

A pre-filter has to be set to limit the display.

This is possible with five property pages. This filter can be modifies later on. If the filter is set, only the entries fulfilling these filter criteria are displayed. The entries are listed chronologically.

Another filter possibility is available with the filter columns. Filter criteria can be entered for each column below the column header. The fields support regular expressions, so that also complex filter criteria can be defined.

The list can be sorted ascending or descending by clicking the column headers.

Displayed entries can be saved.

Fields in the log file:

Parameter	Description
IP address/Process ID/Log ID	These fields identify the clients and allow the message to be assigned.
Name of log connection	Shows the connection name.
Thread ID	ID of the thread, from which the message was entered.
Timestamp	Time of the message in UTC.
Message Level	Shows the name of the message level, which entered the message.
Modules	Name of the module, which entered the message.

Optional fields with fix ID.

ID	Constant	Description
1	**logid_logname**	Name of logging connection
2	**logid_threadname**	Thread name
3	**logid_sourcefile**	Source file name
4	**logid_sourceline**	Source line
5	**logid_assertcond**	Assert condition
6	**logid_compname**	Computer name
7	**logid_funcname**	Function name
8	**logid_prjname**	Project name
9	**logid_prjguid**	Project GUID
A	**logid_prjpath**	Project path
B	**logid_tx**	Sent data
C	**logid_rx**	Received data
D	**logid_serialport**	Number of the serial interface
E	**logid_baud**	Baud rate
F	**logid_dtr**	Dtr setting
10	**logid_rts**	Rts setting
11	**logid_bytesize**	Serial character length
12	**logid_parity**	Parity
13	**logid_stopbit**	Number of stop bits
14	**logid_ctsflow**	CTS
15	**logid_dsrflow**	Dsr
16	**logid_dsrsens**	Dsr sensitivity
17	**logid_port**	Network port number
18	**logid_srvname**	Server name
19	**logid_sbname**	Standby name
1A	**logid_cliname**	Client name

1B	**logid_srvIP**	Server IP address
1C	**logid_sbIP**	Standby IP address
1D	**logid_cliIP**	Client IP address
1E	**logid_bindump**	Binary buffer
1F	**logid_ptr**	Pointer
20	**logid_classname**	Class name
21	**logid_errcode**	Error code
22	**logid_dllinstance**	DLL instance handle
23	**logid_dllname**	DLL name
24	**logid_errpar1**	Driver error parameter 1
25	**logid_errpar2**	Driver error parameter 2
26	**logid_trace**	Trace message
27	**logid_errortxt**	Error text
28	**logid_errorfile**	Error file name
29	**logid_succeedcond**	Condition for success
2A	**logid_succeedvalue**	Value when successful
2B	**logid_net**	Net address
2C	**logid_db**	Data block
2D	**logid_ofs**	Offset
2E	**logid_bit**	Bit number
2F	**logid_area**	Area in PLC
30	**logid_dir**	Shows the direction of the communication in a string.
31	**logid_txt**	General text
32	**logid_mainvers**	Main version number
33	**logid_minorvers**	Minor version number
34	**logid_buildvers**	Build number
35	**logid_sp**	Service pack

36	**logid_hotfix**	Hotfix number
37	**logid_clisrc**	Client, which sent the command
38	**logid_clidst**	Client, which is the target for the command
39	**logid_pvid**	Datapoint number (channel number)
3A	**logid_pvname**	Datapoint name
3B	**logid_pvvalue**	Value of datapoint
3C	**logid_pvstatus**	Status of datapoint
3D	**logid_pvtime**	Time stamp of datapoint in sec
3E	**logid_duration**	Time duration in ms
3F	**logid_cnt**	Number, counter

2.1.9 Structure of the log file

Log files are ANSI text files. The single fields are separated by tabs. The final character is CR+LF. So, the Notepad can be opened to display the files.

Log files contain information sequentially, not chronologically sorted.

Message levels

Eight groups exist for the subdivision of log messages. They are bit coded and therefore can be combined.

1	Error messages
2	Warnings
4	Success message
8	TRACE
16	ASSERT
32	Log messages
64	Debug
128	Extended debug

Search function

With **View/Find** the current window can be searched. All hits are marked.

Profile

Column settings can be saved as profiles.

To save profiles:

1. enter a name into the filed in the tool bar
2. click on the disk symbol on the right-hand side

To load profiles:

1. select a saved profile from the combo box
2. click on the second symbol on the right-hand side with the disk

The profiles are saved a *.lvs files.

2.1.10 Error handling and messages

ERROR

Error	Possible causes
The port cannot be opened.	▸ Another application uses the port. Check via "netstat". ▸ The ports for entries **[SYS_REMOTE]** CONFIG and **[LOGGING_SYSTEM]** CONFIG are identical. **zenLogSrv** and **zenSysSrv** then try to open the same port.
Diagnosis Clients do not start the zenLogSrv	▸ **zenAdminSrv** was terminated. Without it the service cannot be started. ▸ **zenLogSrv** is not registered as a service at the PC. In this case enter the following in the command line: **zenLogSrv.exe –Service** ▸ Diagnosis Clients are not of version 7.00 SP0 or higher. The **zenLogSrv** is only supported from this version on. ▸ Under Windows CE: The individual components (Runtime, SysSrvCE, LogSrvCE) are located in different folders. They must be located in the same folder. Otherwise the components do not find one another.
Under CE many processes are created by SysSrvCE.exe or LogSrvCE.exe.	▸ One of the two entries in zenon6.ini **[SYS_REMOTE]** INIT or **[LOGGING_SYSTEM]** INIT has the value 2. As a result the application only displays the user interface and does not open the Listening port. Each Diagnosis Client then tries to start the process as it cannot connect to the Diagnosis Server.
Several processes crash. (Unhandled Exceptions of the Diagnosis Server at receiving log messages or configuration commands or of the Diagnosis Client and Diagnosis Viewer during booting or during receiving the configuration)	▸ The versions do not match. Diagnosis Clients, Diagnosis Server and Diagnosis Viewer must either all have version 7.00 SP0 or higher or all version 6.51 SP0 or earlier (see Compatibility (on page 8)).

LOG ENTRIES

Entry	Description
SysSrv received not supported network message!	**zenSysSrv** received a network telegram which is not supported. Example: Log entries.
LogSrv received not supported network message!	**zenLogSrv** received a network telegram which is not supported. Example: Remote Transport commands
Could not open listening port. Server will be stopped.	The **zenLogSrv** or the **zenSysSrv** could not open its Listening port. The error message is logged as follows: ▸ zenLogSrv and zenSysSrv at PC: Entry in the Windows event display. ▸ zenSysSrv under CE: Message box for the user and log entry to the Diagnosis Server. ▸ zenLogSrv under CE: Message box for the user.

The following log entries are assigned to different systems. The first part of the messages states whether service or Client are effected:

- SysSrv: zenSysSrv
- SysCli: Client to the zenSysSrv
- LogSrv: zenLogSrv
- LogCli: Diagnosis Client

Entry	Description
[SysSrv/LogSrv/SysCli/LogCli] Info InitString [String]	A network connection has been initialized with the displayed configuration string. Server opens ports and Clients connect to the Server.
[SysSrv/LogSrv/SysCli/LogCli] WINSOCK ERROR	An exception occurred during a network operation. The details are also displayed.
[SysSrv/LogSrv] Accept Failed!	An incoming connection from a Client could not be accepted.
[SysSrv/LogSrv/SysCli/ LogCli] Write Faild	Not all data which should be sent could be sent. The number of the sent bytes and the number of the bytes which should be sent is displayed.
[SysSrv/LogSrv] Client [String] in List Delete!	The Client log off from the Server.
[SysSrv/LogSrv] Client [String] in List Insert	The Client log on to the Server.

2.2 Keyblock Runtime Start

Keyblock Runtime Start is a program with which both the zenon Runtime is started and the Windows system keys are locked. Shortcuts such as `Windows` key or `Ctrl+Alt+Del` no longer have an effect.

This functionality is necessary when the zenon Runtime should run as "Shell". User can no longer access the operating system but only work on the zenon user interface.
The precondition for this is that the project properties are set `Runtime title` to `No title (full screen)`. Then zenon runs in full screen mode and the Runtime cannot be minimized.

License information

Part of the standard license of the Editor and Runtime.

2.2.1 Use

To use **Keyblock Runtime Start**:

1. in the Windows start folder under COPA-DATA open the zenon tools
2. select **Keyblock Runtime Start**
3. the program starts and automatically starts the Runtime
4. The program locks allaccess to the operating system:
   - locked shortcuts:

   `Ctrl+Alt+Del`

   `Ctrl+Esc`

   `Alt+Tab`

   `Alt+Esc`

   `Alt+F4`

   `Windows key`

   When locking the system keys, the normal operation of the scroll bars with the mouse in the Runtime is also blocked. You can work around the blocking with the help of the context menu.

   - Hiding the Control Panel in the start menu
   - Locking the tool bar for operation
   - Prevents

   Changing passwords

   Closing Windows

   Log out

   Locking the computer

   User change

   - Hiding all element in the task manager

> **Info**
>
> *If* ***Keyblock Runtime Start*** *is started using the auto start mechanism of the operating system:*
>
> - take care that the auto start folder is user-specific: If an other user is logged in, the program is not executed.
> - processing the auto start programs can be prevented by pressing `Shift` during the booting of the operating system.

This locking cannot be bypassed during Runtime. When the Runtime is closed normally, the system restrictions are canceled. If the Runtime should be operable without these limitations, the Runtime must be started instead of **`Keyblock Runtime Start`**.

> **Attention**
>
> *Take care that you engineer a possibility to close the Runtime in your project. There is no possibility to end the Runtime regularly.*
>
> - if it can only be ended by turning off the computer
> - all system keys are still locked after a restart
>
> *To make systems keys available after an irregular ending (e.g. black out):*
>
> - start the Runtime again with the help of **`Keyblock Runtime Start`**
> - end the Runtime regularly via a close button

2.2.2 Protect Runtime files

The access to the Runtime files can be strongly restricted and therefore well protected. At this only a single Windows user has read and write rights for the Runtime folder. All other Windows user do not have any rights in the Runtime folder including read rights. Operators in the Runtime log on as zenon user.

In order to limit access to the file system:

1. Only create a single Windows user (for instance: **`zenon_ADMIN)`** who is authorized to start zenon as well as to read and write in the zenon Runtime folder.

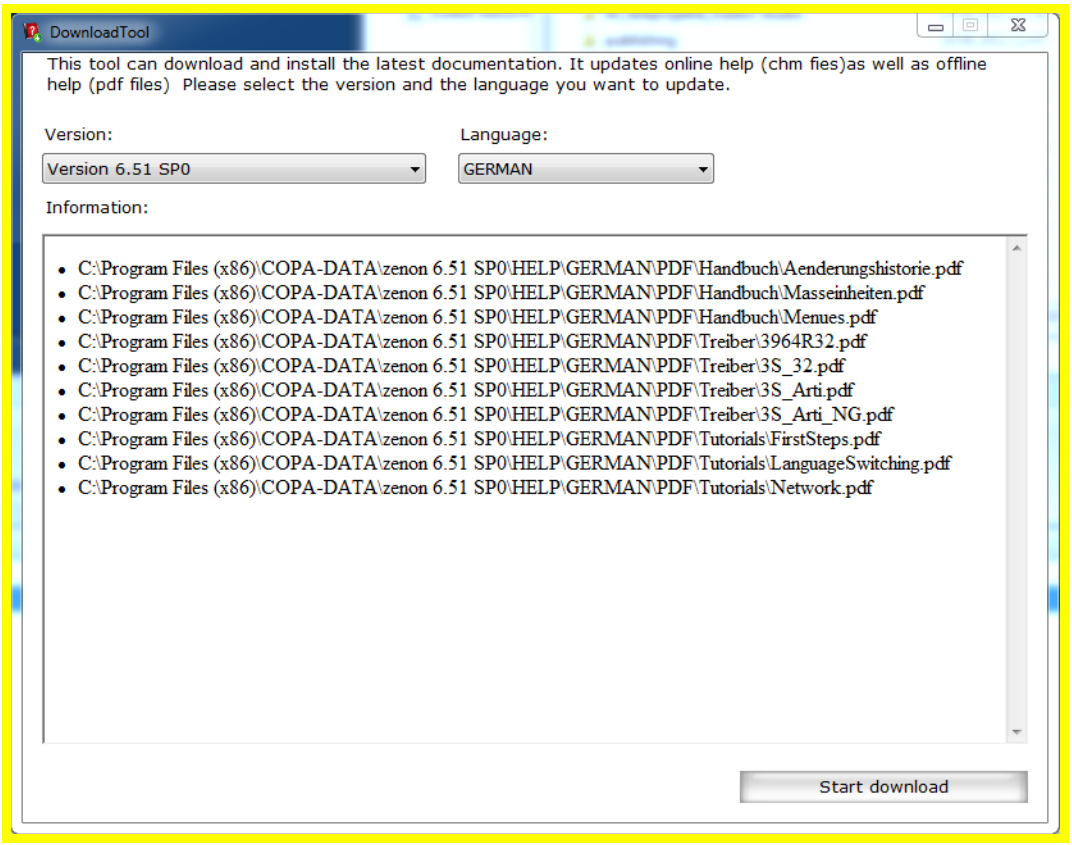
2. Disable access to the zenon Runtime folder for all other Windows users – including read authorizations!
3. Disable any remote access to the user **zenon_ADMIN**.
4. Block any software for remote maintenance or remote access such as zenon Remote Desktop.
5. Make sure that zenon can only be started if this user (**zenon_ADMIN)** is logged in.
   Since other Windows users do not have read authorization Runtime will only start in the context of this user (**zenon_ADMIN)**.
6. Make sure that zenon runs as shell:
   a) For this purpose, create a zenon autostart with **Keyblock Runtime Start** (on page 52)
   b) activate the property `Lock system keys` in the group `Runtime settings` of project properties
   c) start zenon in full-screen mode: Set property `Runtime title` to `No title`
   d) also bear multi-screen systems in mind in the configuration
   e) disable Explorer start
   f) do not offer file selection dialogues
      (in this case no functions may be projected which require the user to select files in Runtime)

The access to the zenon file system is then protected.

2.3 Online updating of the zenon Help:

The help PDFs and online help are updated online.

For this, you can find, in the zenon program folder, in the `Documentation 7.10` subfolder, the **`Documentation Download Tool`** program. This works in a similar manner to the Windows **`Check for updates`** control function.



Parameters	Description
`Version:`	Selects the version (available from zenon 6.51).
`Language:`	Name of the language of the desired download. The following languages are currently available: ▸ German ▸ English ▸ French ▸ Italian
`Information:`	Displays the available files after the version and language have been selected.
`Start download`	Starts the recipe process.

After selecting the version and the language, the available files are displayed in the main window of the Download Tools.
A click on the **`Start download`** button updates your help.

The following content is available, as a PDF and embedded help respectively:

- Manual
- Driver
- Tutorials
- Glossary

Info

Admin rights are necessary to execute the **Documentation Download Tool** program.

To define the start with administrator rights:

- Right-click on the **Documentation Download Tool** program icon
- In the **Properties** menu, select:
- Change to the **Compatibility** tab in the following window
- Highlight the Run program as administrator option and
- confirm the setting by clicking on **OK**

2.4 Project Translation Interface

The tool is an aid for the translation of zenon projects:

- Translatable texts can be broken down according to their use, for example screens, units and other texts.
- The following screen is displayed for the translation.
- The positioning of the text in the screen can be accentuated graphically (using Expose).
- These are also displayed when using a text in several screens.
- The individual screen display can be selected from several screens.
- Text lengths are shown graphically (using highlighting).
- This can be visualized if the length of text is exceeded.
- In addition, font lists can be used for the graphic display.

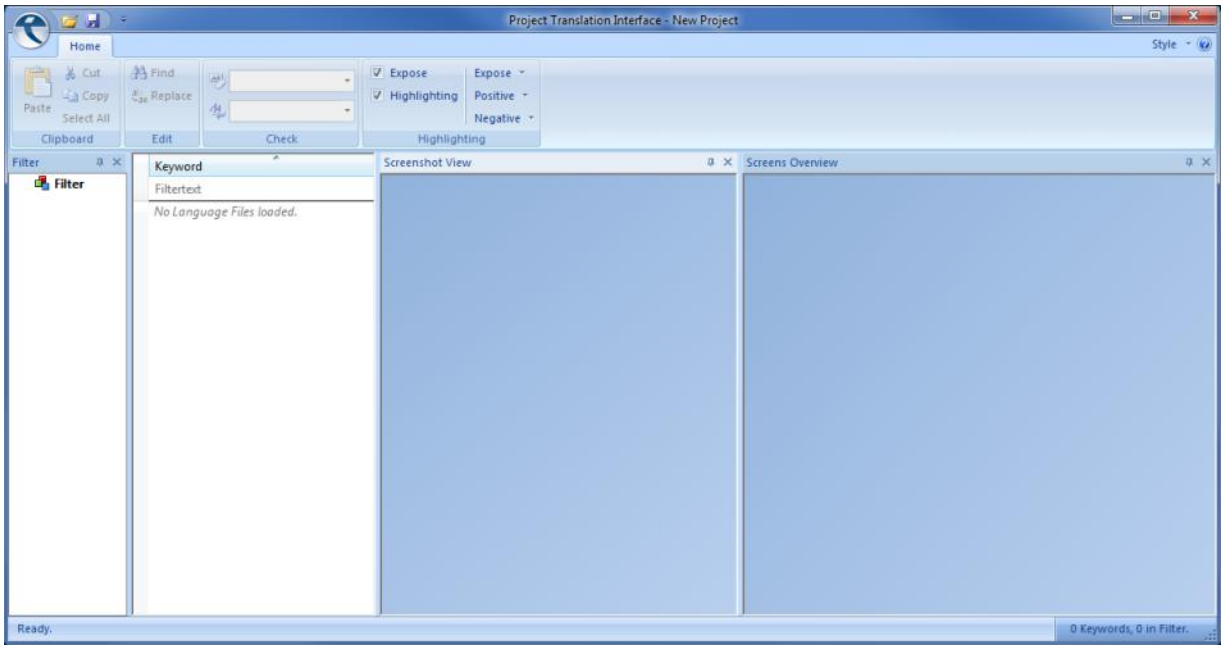
License information

Part of the standard license of the Editor and Runtime.

2.4.1 Starting the translation tool

To start Project Translation Interface:

1. In the Windows Start Menu, navigate to *All Programs -> COPA-DATA*
2. Click on Project Translation Interface
3. Project Translation Interface starts



Note: The tool is only available in English

2.4.2 Technical background

The Project Translation Interface and the zenon Language Translation Wizard work together closely.

THE WIZARD

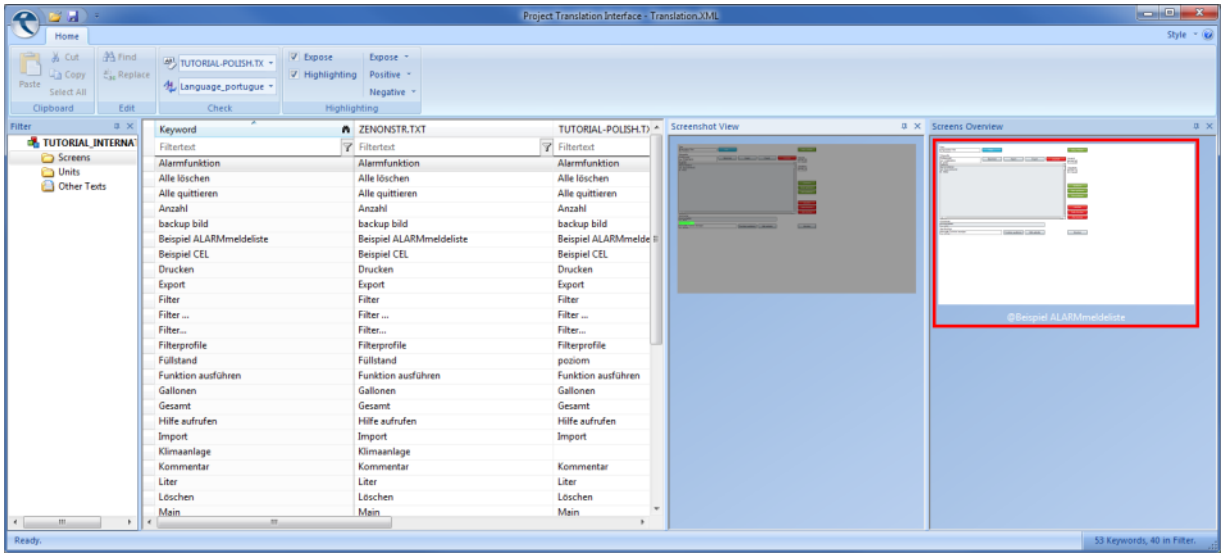
- searches through COPA-DATA projects, for translated text
- packs these into an XML file
- creates screenshots of the screens with translatable texts

- compresses the XML file together with the screenshots, the files for the language translation and the font lists of the projects into a ZIP file.
- After translation in the Project Translation Interface, imports the translated texts back to zenon.

THE INTERFACE

- opens the ZIP file created by the Wizard
- supports the translator with file structuring, word length check and and graphical display
- exports the finished translation into a ZIP file

2.4.3 Overview of graphical user interface



Window title	Description
Filter	Use of text in the grouped display. **Note:** The branch contains only groups that also actually contain text.
Main window	List of the text to be translated. Each column represents a language file in zenon.

Screenshot View	Screenshot of the screen selected in the **Screens Overview**.
Screens Overview	List with screenshots of the screens in which the text from the main window is used. Note: Graphics used are not displayed independently of language.

2.4.4 Main menu

Button	Description
New	Creates a new, empty translation project. The active project is closed and saved.
Open...	Opens translation project.
Import from Zip...	Opens the zenon project data exported by the Language Translation Wizard.
Save	Saves the current translation project.
Export as Zip...	Exports the translation project as a ZIP file. This can be re-imported into zenon with the help of the Language Translation Wizard.
Recent Documents	List of the projects last worked on. Clicking on the name opens the translation project.
X Exit	Ends Project Translation Interface.

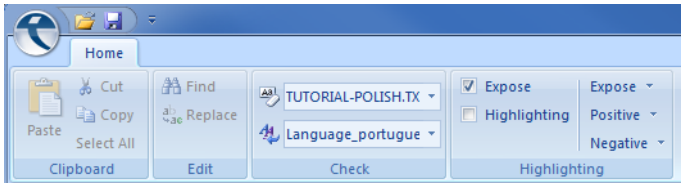
General features

The Project Translation Interface offers the following options:

- All windows (except the text list) can be dragged from the main window of the tool (for example to a second monitor).

- When selecting a group in the node, all texts used - in the selected group - are displayed in the main window. The top group (with the name of the zenon project) contains all texts used in the project.
- When selecting a text in the text list, screenshots of the screens in which the text is used are displayed in the **Screenshot View** and **Screens Overview** displays.
- When selecting a screen in the **Screens Overview** window, a screenshot of this is shown in the **Screenshot View** window.
- Expose and Highlighting are displayed according to the settings in the **Highlighting** menu bar.
- The colors can be set via the drop-down lists in the **Highlighting** menu bar.
- The text file and the font list for checking the text length (Highlighting), can be set in the **Check** menu bar.

2.4.5 Menu bar



EDIT

Button	Description
Find	Carries out a search in the column highlighted in the text list. **Note:** Click in a column to highlight it. This is also marked with a binocular symbol.
Replace	Carries out a search and replace in the column highlighted in the text list. **Note:** It is not possible to replace text in the key word column.

CHECK

Selection of the language file and font list for display in the **Screenshot View** and **Screens Overview** windows.

HIGHLIGHTING

Defines how the elements are displayed in the screenshot.

- Expose:
  - Emphasizes the text in the **Screenshot View** window if activated.
- Highlighting:
  - Changes the display in the **Screenshot View** window, depending on the text length. Positive = Text fits into the element Negative = Text is too long and can be properly displayed in the configured element.

Button	Description
Expose checkbox	Activates or deactivates the Expose function for the **Screenshot View** preview window.
Highlighting checkbox	Activates or deactivates the Highlighting function for the **Screenshot View** preview window.
Expose drop-down list	Dialog to select the colors for the Expose function.
Positive drop-down list	Dialog to select the color for positive.
Negative drop-down list	Dialog to select the color for negative.

> **Info**
>
> *The elements from the **Clipboard** menu bar are not used.*

2.5 Startup Tool

The Startup Tool makes it possible:

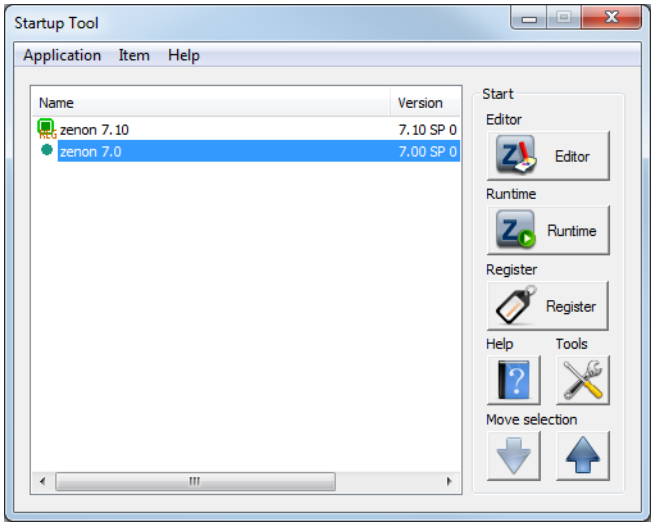
- to start Editor and Runtime with certain parameters
- to run different zenon versions on one computer in parallel
  (already installed zenon versions are automatically created in the Startup Tool)
- to administrate different SQL instances for the same zenon version
- to administrate the settings for different versions
- to define the language of the Editor and the Runtime before the start

> **License information**
>
> *Part of the standard license of the Editor and Runtime.*
>
> **Attention**
>
> *The Startup Tool does not start when the service `zenAdminSrv` is not running. If it is not active, you can start it manually in the Windows* ***`Control Panel`*** *under* ***`Administrative tools/Services`****.*

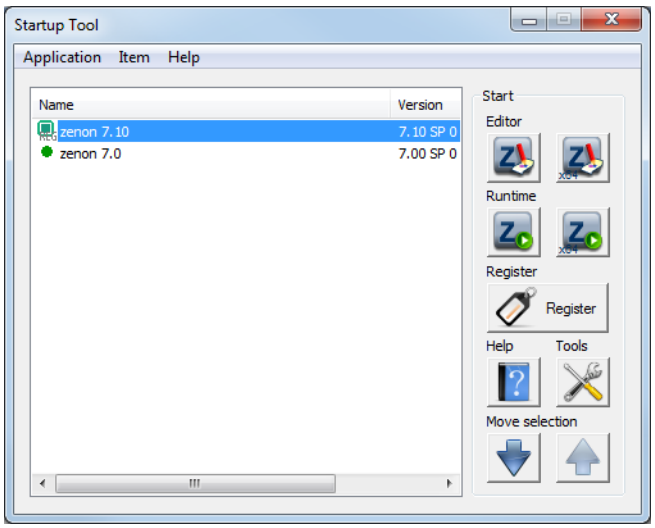
2.5.1 Start dialog

You administrate the currently installed zenon versions in the start dialog. From version 7.10, you have the possibility to choose whether to start Editor and Runtime as a 32-bit application or as a 64-bit application.

If only a 32-bit version of zenon 7.10 was specified or an older version was detected, only one button is shown for the Editor and Runtime respectively:



If both versions are specified, separate buttons for 32-bit and for 64-bit are displayed.



Button	Function
Editor	Starts the Editor of the selected zenon version Two separate buttons are available for 64-bit versions. The button for 64-bit contains a corresponding indication in the bottom left corner.
Runtime	Starts the Runtime of the selected zenon version Two separate buttons are available for 64-bit versions. The button for 64-bit contains a corresponding indication in the bottom left corner.
Register	Registers all services of the selected zenon version
Help	Opens zenon help.
Tools	Opens a dialog for starting additional applications of the selected zenon version If the tools for a valid 64-bit version are opened, then the tools are displayed in two lists for 32-bit tools and 64-bit tools.

PROCESSES DURING STARTING

When starting the Editor or the Runtime, data from the start settings are written to the `zenon6.ini` file. Existing settings in the INI file are overwritten.

Since version 5 the network communication is handled with two services (`zenNetSrv.exe` and `zenSysSrv.exe`). Both files must exist in the zenon folder. As these services are version dependent, they must be registered for the appropriate version.

Attention

After conversion of a project into a later zenon version, this can no longer be edited with the previous version and will no longer run on it. However, the backup version created during the conversion can still be used in the original editor.

For network projects, the same zenon Editor versions must be started on the server and clients.

Application

Entry	Function
Options	Opens the dialog for configuring the settings.
Exit	Closes the Startup Tool.

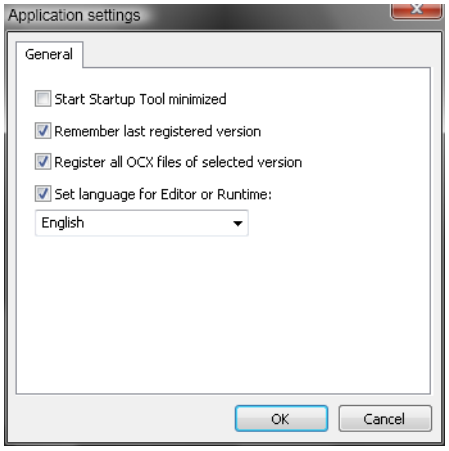
OPTIONS

Entry options in menu application opens the settings for the Startup Tool.

- General (on page 67): general settings
- Encrypt network communication (on page 68): Configuration of the strong encryption of the network communication

General

General settings:



Parameter	active	inactive
Start Startup Tool mimimized	Starts the Startup Tool minimized. You can reach the tool with the help of its icon in the task bar. The context menu offers all possible actions from the Start dialog (on page 64) for the active zenon.	Opens the tool on the desktop (default).
Remember last registered version	Sets the chosen version as standard and selects it automatically at the next start. Then the version is not registered again (default).	Offers the first version in the list when starting the Startup Tool. When the Editor or the Runtime are started, the respective version is always registered again.
Register all OCX files of selected version	registers all OCX files (ActiveX controls) which exist in the program folder. This option makes sure that there are always appropriate ActiveX controls for each version (default). Attention: It has no influence on the registration of ActiveX controls and COM servers which are listed in the individual settings (on page 80) of the respective version.	registers only the pre-set components. This option accelerates the registration process and is appropriate for all projects which do not use ActiveX.
Set Language for Editor or Runtime	Starts Editor or Runtime with the language selected in the selection list. Makes sure that zenon always uses the defined language when started from the Startup Tool. This does not influence the direct start of zenon.exe.	Starts Editor or Runtime with the language defined in zenon6.ini. There the set language is the language which has lastly been used in zenon or defined there under Options -> Settings -> Editor and Runtime selected language (default).

Network configuration

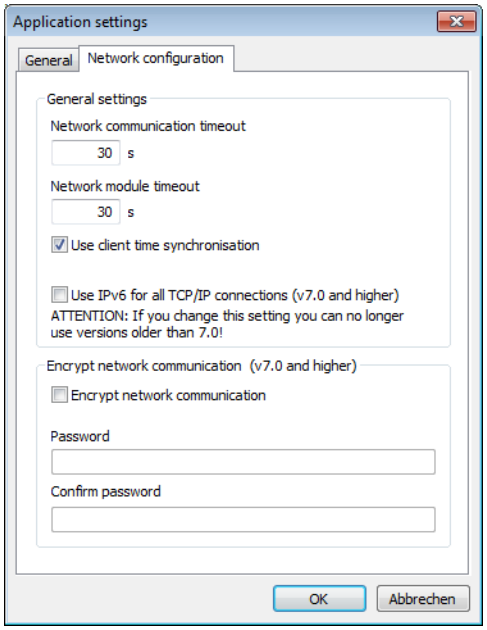
The following applies for zenon from version 7 onwards:

- you can use IPv6

- you can encrypt the transfer in the network.

This dialog configures:

- Time-outs
- the use of TCP/IP via IPv4 or IPv6
- the serious encryption of the network communication at the local computer



Parameter	Description
General settings	General settings. Changes of these settings are written to the registry in files **zenon6.ini** or **zenon.ini** and overwrite possibly varying manual configuration. Changed settings must be carried out for all Runtime computers or all connected stations. At changes of the IPv6 settings, the computer must be restarted. Changes are carried out after leaving the dialog only after the confirmation of a warning message with click on button **Yes**.
Network communication time-out	Time-out for network communication in seconds. Default = 30 Equals entry NET_TIMEOUT_MSEC= in file **zenon6.ini**.
Network module time-out	Time-out for module communication in seconds. Default = 30 Equals entry NET_NETMODULE_TIMEOUT_MSEC= in file **zenon6.ini**.
Time synchronisation with server project	Active: Time is compared with a server project (default). Inactive: Time is not compared (for circular redundancy, for example) Equals entry TIMESYNCH in file **zenon6.ini**.
Use IPv6 for all TCP/IP connections	Active: All TCP connections are only established via IPv6. Inactive: All TCP connections are only established via IPv4. Dual operation is not possible. Equals entry USEIPV6= in file **zenon6.ini**. **Note:** If this option is changed, the computer must be rebooted. The change must also be carried out on all connected stations. The following components are not affected by the setting: ▸ Driver communication with the PLCs

	▸ Protocol communication in the Process Gateway plug-ins ▸ Workbench and Runtime communication in zenon Logic **Attention:** Only works with version 7 onwards. No versions prior to version 7 can be started if this is active.
`Encrypt network communication`	Settings for serious encryption in the network
`Encrypt network communication`	`Active`: Communication in the network is encrypted.
`Password`	Enter password. For the criteria, see the "**`Network encryption password`**" section in the Strong encryption of network communication chapter. The displayed length is always set at 20 characters, in order to hide the actual length. The password defined here is stored encrypted in the **`zenon6.ini`**.
`Verify password`	Enter the password for verification again.

Attention

If entries were changed manually in the local **`zenon6.ini`**, they are overwritten as soon as the confirmation message is answered with **`"Yes"`** at the registration.

MESSAGES

For explanations about system messages and error messages see chapter Message at registration (on page 82).

Info

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

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

Item

The menu **Item** has the following entries:

Entry	Function
New	Creates a new entry in the list and opens dialog **Properties (on page 72).**
Delete	Deletes the selected entry after confirming a confirmation message.
Properties	Opens dialog **Properties** (on page 72) **for the** selected entry.

Help

In menu help the following entries exist:

- Help: opens the online help
- Info about: shows version information.

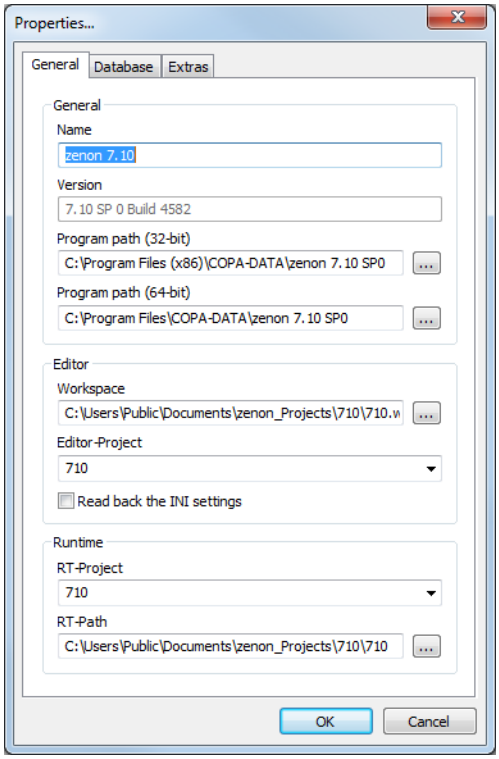
2.5.2 Properties

In dialog **Properties** the parameters for each entry are defined:

Entry	Function
General	General settings
Database	Settings for the database connection
Extras	Settings for registering ActiveX controls (OCX) and COM servers (DLL) and for starting additional programs or batch files.

General

In this part, details about the zenon versions are entered. The path to the 32-bit version of zenon is absolutely necessary. If the Startup Tool detects a 64-bit version, the path to the 64-bit version is also unlocked for input.



The following properties are available for a selected entry:

GENERAL

Parameters	Description
Name	Distinct name as it should be displayed in the list. This entry is absolutely essential.
Version	Startup Tool automatically enters the version number of zenon. For this you must first select the program path under **Path**.
Program path (32-bit)	Program path in which the executable 32-bit version of the zenon file (Zenrt32.exe) is located. If a 64-bit version of zenon is detected here, the Program path (64-bit) property is also unlocked for input.
Program path (64-bit)	Program path in which the executable 64-bit version of the zenon file (Zenrt32.exe) is located. Input only possible if the path to the 32-bit version was stated and a 64-bit version was detected by zenon. As soon as both paths have been entered correctly, the buttons for starting Editor and Runtime are divided into two buttons, one for 32-bit and one for 64-bit.

EDITOR

Parameters	Description
Workspace	The desired workspace when the Editor is started. As soon as this is entered all projects which are in this workspace are displayed automatically in the drop-down list under Editor project.
Editor-Project	Select the project which should be active after the Editor started.
Read back the INI settings	Active: All changed settings are read automatically after the Editor is closed. These settings are used for the next start of the Editor. (This affects **Workspace**, **Editor-Project**, **RT-Project** and **RT-Path**). Inactive: The settings of this dialog are always used when the Editor is started. Changes made while working with the Editor are discarded.

RUNTIME

Parameters	Description
RT-Project	Project that is set as the start project for Runtime.

RT-Path	Path of the project. If the Runtime project is part of the workspace, the path is entered automatically.

Info

UNKNOWN PARAMETERS?

If the settings for the workspace are unknown, use the following approach.

1. Enter **Name**, **Path** and **Workspace**
2. Leave **Editor-Project**, **RT-Project** and **RT-Path** empty
3. Activate **Read back the INI settings**
4. Leave dialog by clicking **OK**.

After the Editor has been started and closed once, the start settings are automatically taken from the INI file.

Database

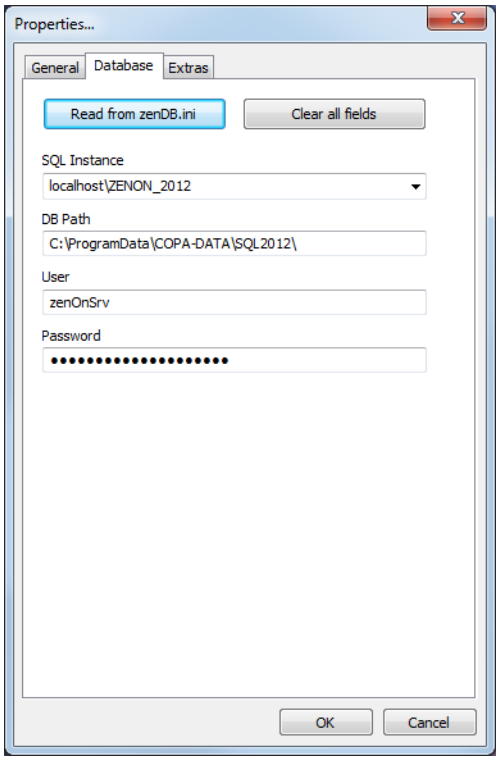
Define the database properties. It is possible to use different SQL instances for the different entries (zenon versions).

Attention

As of version 6.51 the SQL instance can be defined and the password is saved in an encrypted form. New entries have a higher priority than existing entries.

Compatibility: *If nothing is changed, the existing entries remain valid. If you change an entry for version 6.51 or higher, the new entries are valid. Older versions must be maintained separately. You can find the settings for version previous to 6.51 in chapter Database previous version 6.51 (on page 78).*

Display dialog: *The display of the dialog is automatically adopted to the selected version (previous 6.51 (on page 78), as of 6.51).*

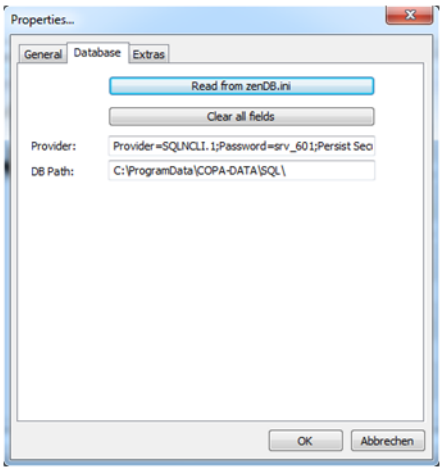

Properties...
General
Database
Extras
Read from zenDB.ini
Clear all fields
SQL Instance
localhost\ZENON_2012
DB Path
C:\ProgramData\COPA-DATA\SQL2012\
User
zenOnSrv
Password
OK
Cancel

Entry	Function
Read from zenDB.ini	Clicking on the button reads off the settings from the zenDB.ini file and the following fields are automatically filled: ▸ SQL instance ▸ DB Path ▸ User ▸ Password
Clear all fields	All input field are cleared. Empty entries are not written to zenDB.ini at registering.
SQL instance	Name of the SQL server instance which should be used. The name can be entered directly in the input field or can be selected from the drop-down list. **Note:** By clicking on the drop-down list the local computer is searched for instances which are then listed. The search may take some time.
DB Path	Path for the SQL database of the zenon projects. For example: C:\ProgramData\COPA-DATA\SQL\ **Attention:** Different SQL Servers (for example 2008R2 and 2012) must use separate paths. Background: When converting projects the GUID stays the same. If the same folders are used, both instances overwrite each others database files.
User	User name for the database. **Necessary rights** In the SQL Server the user must have the following Server roles: ▸ public ▸ sysadmin
Password	Password of the user. It is stored encrypted. The entry length is always displayed with 20 characters regardless of the actual length. **Attention:** The encryption is done via the Startup Tool. Therefore you must carry out the database setting via the Startup Tool.

These settings are saved in the **zenDB.ini** file.

Database after version 6.51

Setting of the database property before zenon 6.51:



Entry	Function
`Read from zenDB.ini`	After a click on the button, the settings from file **`zenDB.ini`** are read and the fields `Provider`, `DB Path` are filled automatically.
`Clear all fields`	All input field are cleared. Empty entries are not written to zenDB.ini at registering.
`Provider`	Connection to the SQL instance. Important information: ▸ Instance name ▸ Used provider ▸ User name ▸ User password **For example:** Provider=SQLNCLI.1; Password=srv_000; Persist Security Info=False; User ID=zenOnSrv; Initial Catalog=%s; Data Source=localhost\ZENON_DEV;
`DB Path`	Path for the SQL database of the zenon projects. For example: `C:\ProgramData\COPA-DATA\SQL\` **Attention:** It is necessary that SQL Server 2005 and SQL Server 2008 R2 use different folders. Background: When converting projects the GUID stays the same. If the same folders are used, both instances overwrite each others database files.

Attention

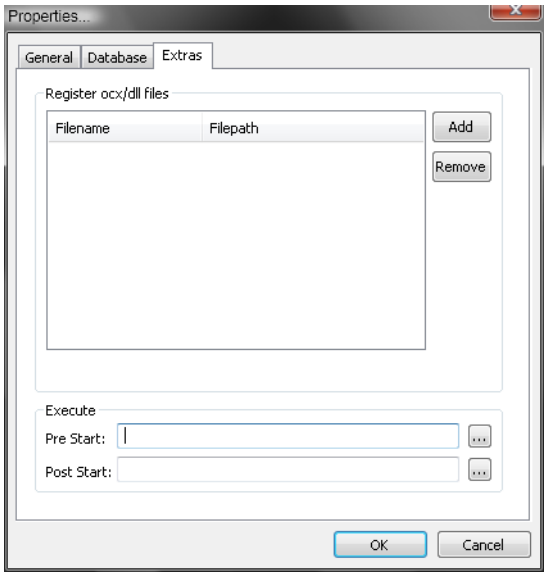
The entry for Provider differs in this dialog from the entry in the zenDB.ini.

`Dialog`**: String starts with **`Provider=...`

`zenDB.ini`**: String starts with **`Provider=Provider=...`

Extras

Here, you create ActiveX controls (*.ocx) or COM servers (*.dll) which should be registered together with the respective zenon version. The OSX and DLL can originate from any sources, i.e. they can me written by yourself or by other manufacturers. Additionally you can define programs which are carried out before the starting or after the closing the Editor or the Runtime.



REGISTRATION ACTIVEX CONTROLS - COM SERVER

All files listed here are automatically registered together with the respective zenon version - independent of the central setting (on page 64) **register**.

Parameter	Description
Filename/Filepath	List of all files to be registered
Add	opens the Windows dialog for selecting a file to be registered. There you can select OCX or DLL files individually and add them to the list. First select the wanted file type (OCX or DLL). All files are saved with path information. If the path changes, remove the link with **Remove** and create a new one.
Remove	Removes all selected entries from the selection list of the files to be registered.

PRE-START AND POST-START PROGRAMS

With Pre Start and Post Start, you can define programs and batch files which should be executed before starting or after closing zenon.

Parameter	Description
Pre Start	External program that should be started, before the Editor or Runtime is started.
Post Start	External program that should be started, after the Editor or Runtime is closed. **Attention:** Post Start is only executed if the Read back the INI settings (*Item->Properties->General*) option was activated.

2.5.3 Message at registering

POP-UP AT REGISTERING

Message	Meaning
You have changed the IPv6 setting. All internal TCP/IP connections will be switched to IPv6/IPv4. **To ensure that all affected components are properly switched you have to restart the computer! You will also have to change this setting on all connected station!** **Do you really want to apply the change?**	You change the settings for the IP protocol from IPv4 to IPv6 or vice versa. After the changes you must restart the computer for all services to be adapted accordingly. The change must also be carried out on all connected stations. These changes are written to **zenon6.ini** or **zenon.ini** together with the registration and overwrite any manual configurations.
General network configuration settings will be changed. **You have to restart the runtime to apply the changes!** **Attention: Do not forget to adept the settings on other stations as well.** **Apply settings.** **Are you sure this is your intent?**	You change general settings (on page 68) in the same ways as time outs. These changes are written to **zenon6.ini** or **zenon.ini** together with the registration and overwrite any manual configurations. You must adapted changed settings for all Runtimes.

MESSAGE AT REGISTERING

When registering the services, all steps are displayed in their own window which automatically closes after 4 seconds. When an error occurs, an warning message informs you about the cause. After confirming the message the procedure is canceled. zenon is not started. Possible error messages:

Message	Reason	Hint
Couldn´t find zenNetSrv Service!	File zenNetSrv.exe is missing from the zenon program folder or a wrong version is available.	Most of the time the fastest an safest solution is a new installation of zenon.
zenNetSrv.exe still running!	The service zenNetSrv.exe could not be stopped.	It is possible that a security tool is running on the computer which prevents the access.
Couldn´t find zenNetSrv Service!	File zenNetSrv.exe is missing from the zenon program folder or a wrong version is available.	Most of the time the fastest an safest solution is a new installation of zenon.
zenNetSrv.exe still running!	The service zenSysSrv.exe could not be stopped.	It is possible that a security tool is running on the computer which prevents the access.

2.5.4 Command line

You can also operate the Startup Tool using the command line. For this file zenon_Startup.exe must be present in the system path. You can find the file

- with Vista/7/8 in the C:\Program Files\Common Files\COPA-DATA\STARTUP folder

In the commando line you can:

- create new entries (on page 84)
- reorganize (on page 87) existing entries (e.g. after older versions have been deleted)
- register (on page 87) entries

Parameter

The input is started with **zenon_Startup.exe** followed by a Parameter and possible field names.

Parameter:

Parameter	Function	Field name	Return value
-new	creates a new entry.	yes, list see also new (on page 84)	0 or 1
-reorg	checks and reorganizes existing entries	not available	None
-reg	registers services	Name of the entry	None

USING SEVERAL PARAMETERS AT ONCE:

It is possible to use several parameters at once. If several **-new** parameters are used at once, the return value cannot be evaluated unambiguously.

In general when several parameters are used, it is proceeded in the following order:

1. **-new**: Create new entries.
2. **-reg**: Register the stated entry.
3. **-reorg**: Remove all invalid entries for deleted zenon versions.

new - Creating new entries

Parameter **-new** is used for creating new entries. It needs at least two field names:

- NAME as unique name for the entry

If the name of the entry is already available, no entry is created.

- PATH as path in which zenon is stored.

SYNTAX

The syntax is constructed as follows: *zenon_Startup.exe -> Parameter > Field name="TEXT"*

1. **zenon_Startup.exe**
2. Space
3. TAG
4. Space

5. Field name
6. = character
7. opening quotation marks
8. Text
9. closing quotation marks

> **Example**
>
> *zenon_Startup.exe -new NAME="New entry" PATH="C:\Example Directory\zenon"*

FIELD NAME

The following field names can be used:

Field name	Mandatory field	Description
NAME	X	Unique name of the entry. For example: NAME="**Test**"
PATH	X	The user path in which zenon is saved. For example: PATH="C:\Program Files (x86)\COPA-DATA\zenon 7.10 SP0"
PATH64	-	The application path, in which the 64-bit version of zenon is located. For example: PATH="**C:\Program Files\COPA-DATA\zenon 7.10 SP0**"
PROJECT_RT	-	Name of the Runtime project which should be started. For example: PROJECT_RT="**Test project**"
PROJECT_RT_PATH	-	The Runtime folder of the project (see **PROJECT_RT**). For example: PROJECT_RT_PATH="C:\Users\Public\Documents\zenon_projects\test projekt"
PROJECT_ED	-	The project which should be activated in the Editor. For example: PROJECT_ED="**Test project**"
WSP	-	The workspace with which the Editor should be loaded. For example: WSP="C:\Users\Public\Documents\zenon_projects\DEMO622.WSP6"
SQLSRV	-	Name of the SQL Server which should be used by the Editor. For example: SQLSRV="MSSQL$ZENON_DEV"
PROVIDER	-	Provider string for the initialization of the SQL connection. For example: PROVIDER="Provider=SQLNCLI.1;Password=000;Persist Security Info=False;User ID=zenOnSrv;Initial Catalog=%s;Data Source=localhost\ZENON_DEV;"
DBPATH	-	Path for the SQL database which should be used For example: DBPATH="C:\ProgramData\COPA-DATA\SQL\"

PRESTART	-	Program call which is executed before the start of the Editor or the Runtime or the registering of this version. For example: PRESTART="C:\zenon versions\zenon 6.50\Dlls\zenVNCCli.exe"
POSTSTART	-	Program call which is executed after the Editor is closed. For example: POSTSTART="C:\zenon versions\zenon 6.50\Dlls\zenVNCCli.exe" **Attention:** Post Start is only executed when in the Startup Tool or in Startup.ini option `Read back the INI settings` (*Item -> Properties -> General*) is activated.

The field names are separated by spaces.

> **Info**
>
> *Paths with spaces must always be put between parentheses.*

RETURN VALUES

0 - execution faultless

1 - entry could not be created

reorg - reorganizing of entries

Parameter **-reorg** checks all entries whether the linked zenon version is still available in the file system. If the application files are no longer found, the entry is finally deleted from the Startup Tool.

The command does not provide a return value. After execution the Startup Tool is started.

Example: `zenon_Startup.exe -reorg`

reg - register entries

The **-reg** parameter registers all necessary services in the folder of the stated entry. It is called up via:

- **-reg** `"Name of the entry"`

If the Startup Tool has already been started, nothing is registered but the Startup Tool is moved to the foreground.

The command does not provide a return value.

Example

zenon_Startup.exe -reg "Version 6.50"

registers version 6.50.

Prerequisite: there is an entry with this name in the Startup Tool.

2.6 System Information Collector

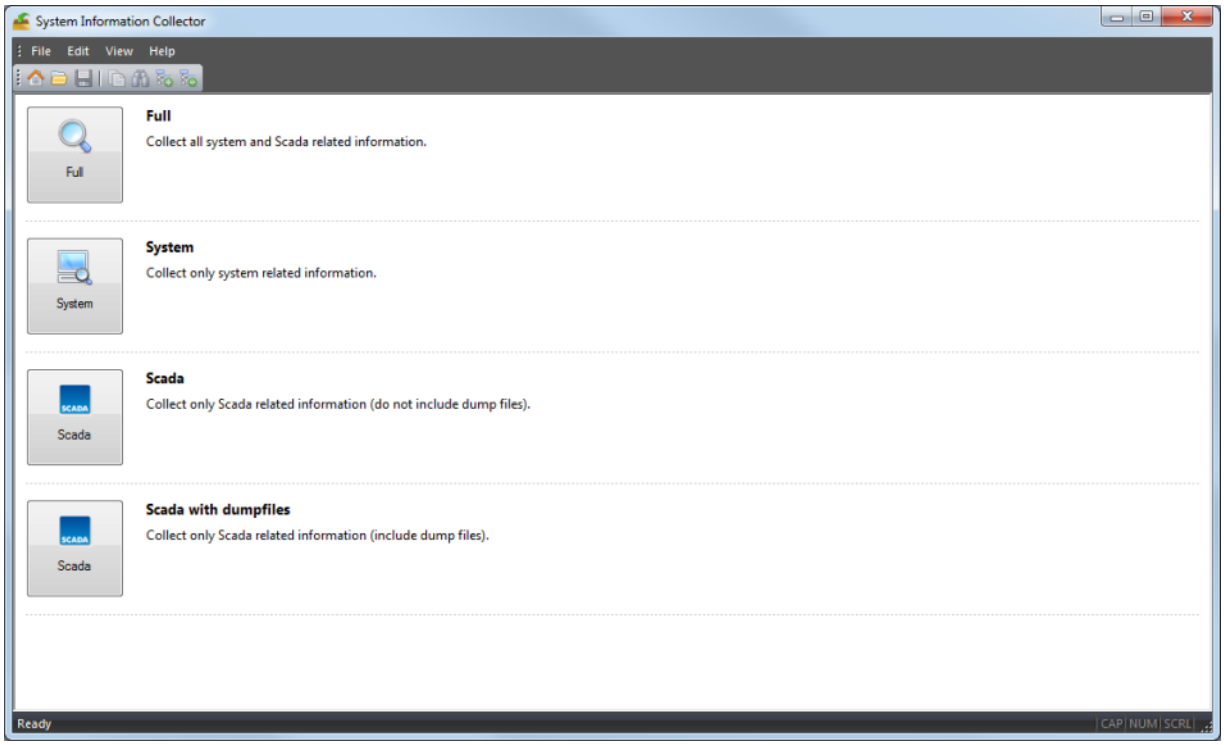
When solving problems, COPA-DATA Support may ask for the relevant data about your operating system and zenon. The easiest way for you to create this data is in an automated manner with the System Information Collector and then sending this to Support.

2.6.1 Starting the System Information Collector

To start the **`System Information Collector`**:

1. In the Windows Start Menu, navigate to *All Programs-> COPA-DATA*
2. Click on **`System Information Collector`**

3. The **System Information Collector** starts



MENU AND TOOL BAR

MENU

The following options are available to you in the menu:

- **File**
  - **Home**: Opens the Start window.
  - **Open**: opens a saved report
  - **Save**: saves the currently-displayed report as a ZIP file
  - **Exit**: closes the **System Information Collector**
- **Edit**
  - **Copy**: copies highlighted text to the clipboard
  - **Find**: opens a dialog to search the current report
- **View**
  - **Expand**: expands all nodes

- **Collapse**: closes all nodes

- **Help**
  - **About**: Information on the program version

With the exception of **Exit** and **About**, all options are available via the tool bar.

TOOL BAR

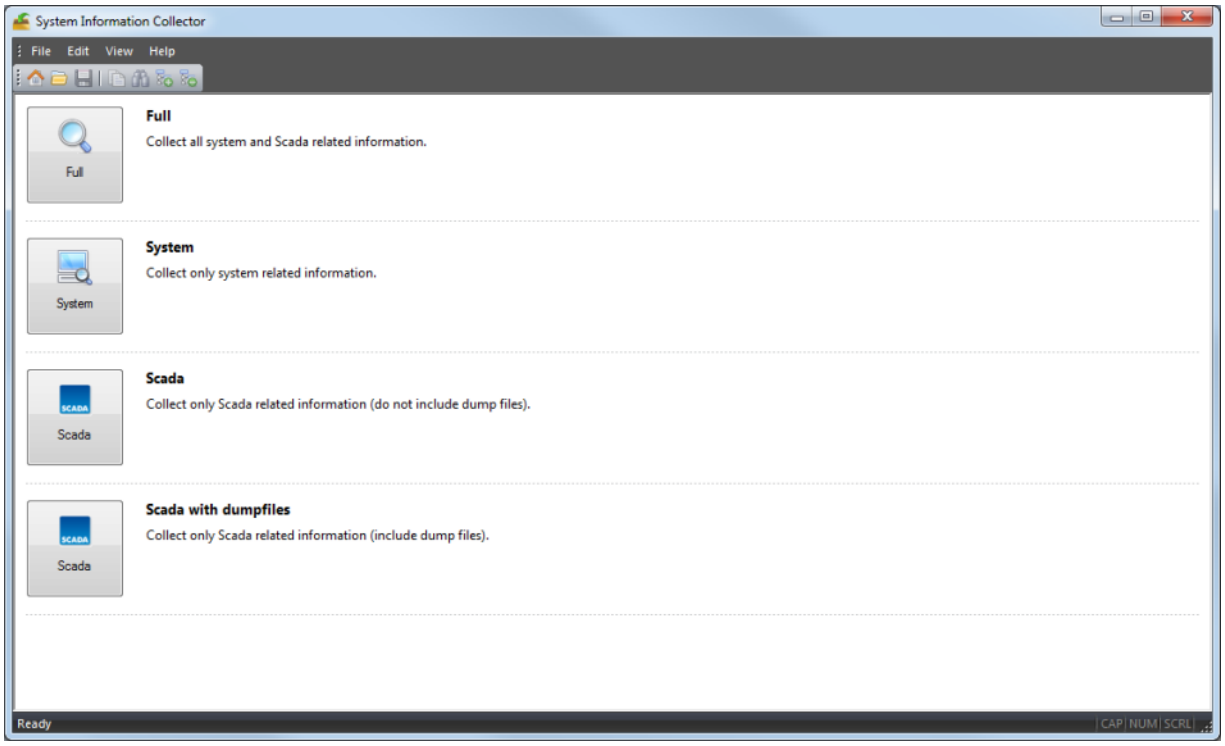
Symbol	Description
Home	Opens the Start window.
Open	Opens a saved report.
Save	Saves the currently-displayed report as a ZIP file.
Copy	Copies highlighted text to the clipboard.
Find	Opens a dialog to search the current report
Expand	Expands all nodes.
Collapse	Closes all nodes.

2.6.2 Collecting information

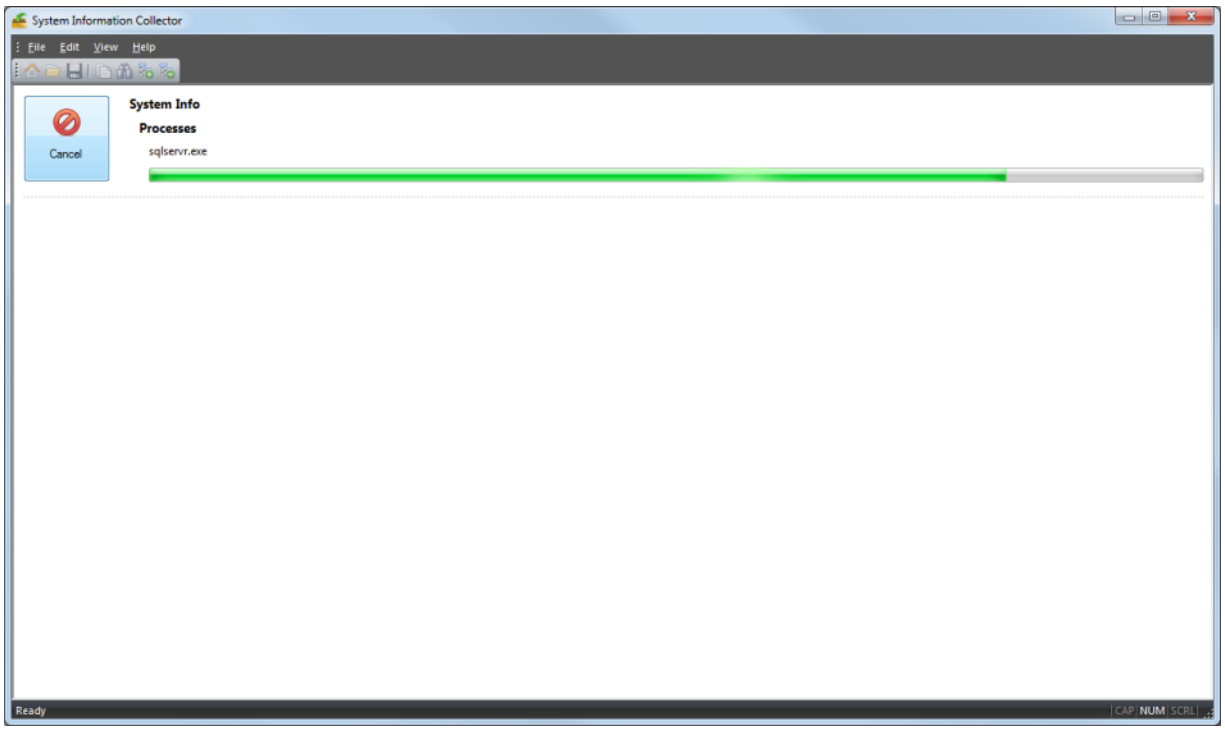
To collect information in an automated manner:

1. Start (on page 88) the **System Information Collector**
2. Select one of the four options by clicking on the corresponding button
   - **Full**: collects information about the system and zenon and includes dump files
   - **System**: collects information about the system only
   - **Scada**: collects information about zenon, without dump files

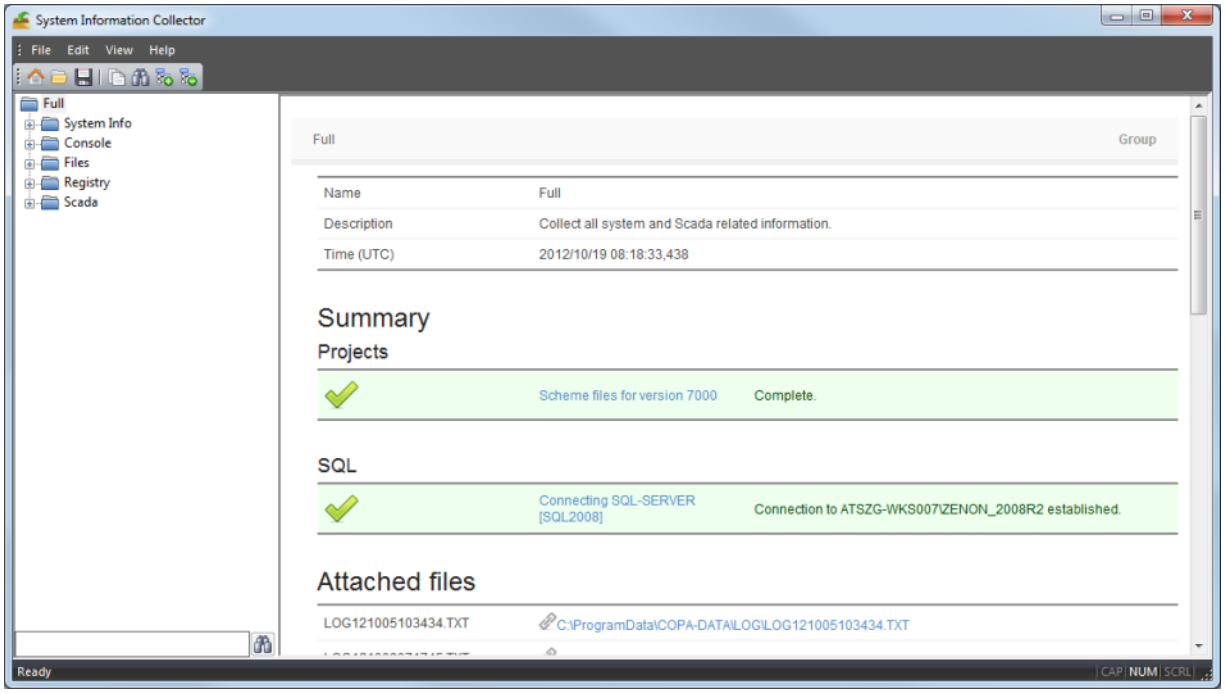
- **`Scada with dumpfiles`**: collects information about zenon and includes dump files



3. The **`System Information Collector`** creates a report with the desired information



4. The completed report is displayed in the main window

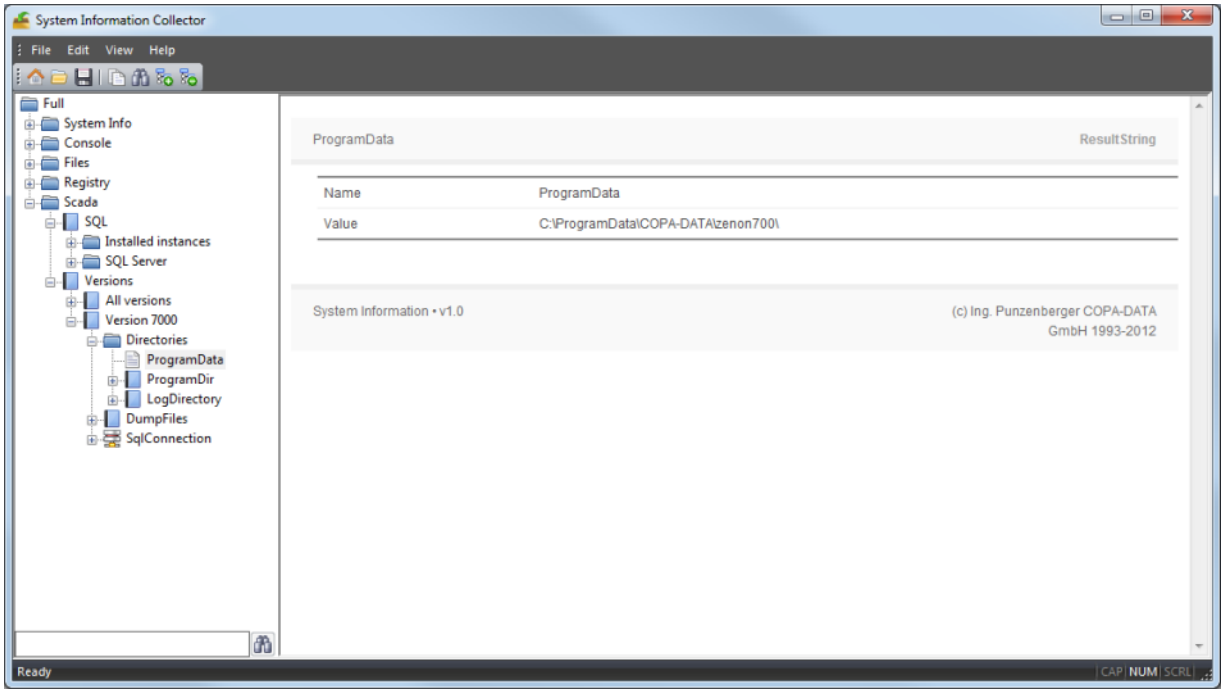


2.6.3 Using the information

All information collected is displayed in the **`System Information Collector`**. You can:

- Save the report
- Navigate through the report and search for certain information

- Highlight selected information and copy it to the clipboard



SAVING A REPORT

To save a report:

1. Click on the **Save** symbol or the **Save** command in the **File** menu
2. the dialog for selecting a folder and file name is opened
3. The report is saved as a ZIP file

SAVING SELECTED INFORMATION

To saved selected information only:

1. highlight the relevant information.
2. Click on the **Copy** symbol or the **Copy** command in the **Edit** menu
3. The selection is saved to the clipboard
4. Insert the content into a text file and save this
5. Repeat this process for further selected information

2.6.4 Forward report to COPA-DATA

The report can, depending on its size, be forwarded as an e--mail or uploaded to a defined save location to COPA-DATA. You can find out details on how you forward the report and which online save location you can use for this from your COPA-DATA Support contact.