



**zenon**  
by COPA-DATA

# zenon manual

## Release notes zenon 8.20

v.8.20



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# 1 Welcome to COPA-DATA help

## ZENON VIDEO TUTORIALS

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

## GENERAL HELP

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

## PROJECT SUPPORT

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

### 2.1 zenon Help Navigator

The zenon online manual is now displayed in the new zenon Help Navigator. This provides you with additional search and navigation options.

There are several ways to open the online manual:

- ▶ Press the F1 key in the zenon Editor.  
Or:
- ▶ Click on the link in the online manual in the embedded help.  
Or:
- ▶ Click on the **Help** button in the **Startup Tool**.

### 2.2 zenon Remote Desktop is no longer available (F 203712)

The zenon Remote Desktop has been removed from the product because the service is no longer supported by the manufacturer.

### 2.3 Export: AML/CEL (F 181236)

Additions have been made to the columns exported during the export of AML and CEL. All available columns are now exported for dBASE and SQL.

### 2.4 Context menu for list administration extended (F 127717)

The context menu for lists has been extended in the detail view in the Editor. An existing sorting is canceled via the **Unsort** entry. When the list is shown again, it will be displayed in its original sort order.

If the list is sorted by multiple columns, all the sorting settings will be reset. In this case, it is not possible to reset the sorting of just one column.

**Note:** Available from Version 8.10 on.

### 2.5 Microsoft .Net Core Runtime 2.1.5 (F 176366)

When installing the zenon Runtime, Microsoft .Net Core Runtime version 2.1.5 is also installed. This is also contained in the Docker image.

## 2.6 NET 3.5 replaced by version 4.6.2 (F 138307)

.NET 3.5 has been replaced by .NET 4.6.2. This is installed automatically when zenon is installed.

**Attention:** .Net controls which were created and embedded using .NET 3.5 require .NET 3.5. This must be installed manually. This also applies for components which are embedded via the **CDAX\_DotNetControlContainer**.

## 2.7 OpenSSL - updated to version 1.1.1 (F 66623)

OpenSSL version 1.1.1 is supported for encrypted communication.

This also means it will work better with TLS Version 1.3.

Improved communication:

- ▶ When using TLS 1.3.
  - ▶ When TLS 1.3 is used, the TLS client does not initiate a new *session renegotiation* during the *session renegotiation interval*.
  - ▶ The TLS Server does not create a LOG message when the *session renegotiation interval* has expired unless the client has initiated a new *session renegotitaion*.
- ▶ The resumption of a session (*session resumption*) functions when TLS 1.3 and OpenSSL 1.1.1 are used.
- ▶ The resumption of a TLS session (*session resumption*) is executed with the smaller interval *session resumption* or *session renegotiation*.

**Note:** Available from Version 8.10 on.

# 3 Runtime

## 3.1 Driver watchdog in the zenon Runtime (F 189860)

For the monitoring of communication in the Runtime, the connection to the driver is checked in a fixed, prescribed time period of 60 seconds. This process is repeated several times. If, within 5 attempts (= within 5 minutes), no valid connection to the driver is detected, the *INVALID* bit is set for the checked-in (*advised*) variables. In addition, the *INVALID* bit is also set when new variables are advised. The *INVALID* bit will no longer be reset.

Corresponding LOG entries are created for this.

## 4 Installation and updates

### 4.1 Silent installation: Exclude components from installation (F 146344)

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

- ▶ Firewall rules: The **CDPROP\_INSTALLFIREWALL** parameter decides whether rules for the firewall are set.  
Possible values:
  - ▶ 1: The rules are applied. (Default)
  - ▶ 0: Rules are not applied.
- ▶ **Codemeter** Software: Can be configured using the *PREREQUISITES\_* argument for the **ISFeatureInstall** parameter. Codemeter is not installed if the argument is not used.  
**Attention:** This argument is applicable for all *Prerequisites*. Other *Prerequisites* are also not installed in this case!

**Note:** Available from Version 8.10 on.

### 4.2 Password for SA user (F 66266)

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

**Note:** Available from Version 8.10 on.

## 5 Licensing

### 5.1 Display privacy policy (F 181167)

The collection of user data can be deactivated and activated in the **License Manager** dialog in the **Settings** tab.

When this option is activated, a dialog with the privacy policy opens up. This must be confirmed by clicking on **Accept**. The privacy policy is thus made known and binding. If the dialog is canceled, recording of user data cannot be carried out.

**Note:** Available from Version 8.10 on.

## 5.2 LicenseManagerAutomation.exe command line interface tool: New argument AllValid (F 206936)

The **LicenseManagerAutomation.exe** command line interface tool now has a new **--AllValid** argument for the **WriteIniTop** action.

This is used with the **WriteIniTop** action. It activates all valid serial numbers that have been found on the computer and puts them in the first place of the valid licenses. If more than one valid license is found, the following sequence applies:

- ▶ Hardware dongles before software dongles
- ▶ More recent product versions before older ones

**Attention:** Demo licenses are ignored.

## 5.3 New system driver variable: Remaining period of validity (F 197260)

The remaining validity can now be displayed in Runtime with the system driver variable **[System information] Remaining time until license expires**.

The hours remaining are displayed for:

- ▶ Demo license
- ▶ License with expiration date
- ▶ Borrowed license with expiration date
- ▶ No valid license found:  
If no valid alternative license is found, the variable **[System information] License protection present** will be set to 0 and the remaining time will be displayed with this variable 0.

In all other cases, the value 4294967295 will be displayed.

**Note:** The information displayed always relates to the currently valid license. If you change to a different license, for example, due to a network failure, the remaining period of validity will also change.

## 6 Docker (F 171761)

Docker is the brand name of a free software for the isolation of applications using container virtualization. COPA-DATA enables zenon Runtimes to be used in a Docker Container.

## 7 Modules

### 7.1 Alarms administration

#### 7.1.1 AML: New column "Time last update" (F 160886)

The new column **Time last update** is now available for the AML.

This column contains the value of the most recent time stamp from the columns **Time Received**, **Time Cleared** or **Reactivated Time**. With the same value for received/cleared and reactivated, the **Reactivated Time** column takes precedence. The display of the column corresponds to the column from which the value is taken.

This column is also available in the Report Viewer when defining AML datasets.

#### 7.1.2 Hide deactivated alarm groups/classes (F 182960)

You can now prevent deactivated alarm groups/classes from being displayed.

Relevant options for doing this have been implemented in the screen switch for *AML*, *AML Filter*, *CEL* and *CEL filter*. Relevant controls are also available for screens of type *AML Filter* and *CEL Filter*.

### 7.2 Historian

#### 7.2.1 Archives: Register variables when starting runtime (B 199964)

If the option "**User-defined (e.g. via functions)**" is selected for starting and stopping an archive, all variables will be immediately registered when starting Runtime. This can result in the driver transferring variable values in the Runtime that have not been recorded in the archives yet.

- ▶ Advantage: The archive starts faster.
- ▶ Disadvantage: In the case of a project with many variables, all of these must be registered immediately. This can lead to increased data exchange and thus delay the start of Runtime.

**Note:** This behavior applies from Version 8.10 on. Up to and including Version 8.00, registration was first carried out when the function was run for the first time.

#### 7.2.2 Exporting: compress data (F 199231)

When editing archives, it is now possible to compress data for evacuation into the internal database. The new **Export in compressed form** option has been installed for this purpose.

If this option is activated, the user data contained in the archive file will be compressed during evacuation. The compression takes place for numerical data (ARX file) and for string data (ARS file).

**Attention:** Compressed archives cause increased demands on memory requirements and CPU utilization when evacuating and reading.

### 7.2.3 Evacuation for the Service Grid (F 190985)

Archive data can now be evacuated for use in the Service Grid 2.0. For this, the option **Data Storage** has been implemented in the **Edit archive** dialog in the **Save** tab for the **Evacuation** area. Thus, archives are saved for the Service Grid and passed on to the **Service Node**.

To do this, the following requirements must be fulfilled:

- ▶ Evacuation of archives in zenon is possible and licensed.
- ▶ zenon **Service Grid Gateway** is licensed.
- ▶ The **Execute Service Grid Gateway** property has been activated in the zenon project properties.
- ▶ Variables in the archive must have access authorization for Service Grid. Data from variables with no access authorization are lost during evacuation.

If a requirement is no longer met after configuration, the configuration switches to **Do not evacuate** the next time the dialog is opened.

### 7.2.4 Enhancement of the export function (F 146764)

The zenon **Export archives** function has been enhanced. The **General** tab has now been renamed to **Export settings**.

#### 7.2.4.1 Content can be selected for XML export

When exporting archive data, the fields to be exported can also be configured in the **Export settings** tab.

The options of the **Exported columns** group are now available if **Export format XML** is selected.

#### 7.2.4.2 Query of export status via variable (S 146789)

A zenon variable can be linked to the archive using the new **Export status** property in the **Export settings** tab.

The variable contains the export status.

**Note:** Available from Version 8.10 on.

### 7.2.4.3 Export in pivot format (S 149543, S 146780, S 154414)

SQL and CSV exports can now be saved in pivot format using the new **Export as pivot format** property.

In pivot format, identical timestamps are grouped and displayed in one single row for different variables.

**Note:** Available from Version 8.10 on.

## 7.3 Batch Control

### 7.3.1 Change formula in operation instance (F 201792)

Formulas for transitions can now be edited in the operation instance. This is possible as long as the master recipe of the instance is in editing mode.

## 7.4 User Administration

### 7.4.1 Active Directory in the Runtime: Non-blocking retrieval of data (F 181231)

The Runtime is no longer blocked when loading domain data. Only the control elements on the screen remain locked until the data is fully loaded. However, the screen can also be closed during the loading process. In this case, the loading process is canceled.

### 7.4.2 AD: Authorizations read in structured form (F 191978)

It is now possible to configure how the authorization levels are read and applied for AD users:

- ▶ Direct: Only groups that have been assigned to the user directly and their authorizations are applied.
- ▶ Structured: All user groups to which the user belongs directly or to which one of their groups belong to are read in structured form and their authorizations are transferred.

The new **Consider groups of all hierarchy levels** property in the **User Administration/Active Directory/AD LDS** properties group is used for configuration.

In addition to the authorizations, settings for **Group-specific automatic logout** are also applied from the groups.

### 7.4.3 Automatic logout has been extended to groups (F 197214)

Users can be logged out automatically if there is no operation for a certain period of time. This automatic logout can now also be configured for user groups.

To do this, the general automatic logout must be activated in the project properties. After that, the automatic logout for users of a particular user group can be configured in the user settings.

The settings for the general logout and those for the user group-defined logout are analyzed in the Runtime. The logout uses the shorter of the two times.

In the Runtime, the automatic logout for groups can be administered in the User groups list screen. To do this, use the new **Time for active automatic logout** and **Time for automatic logout** control elements.

### 7.4.4 Runtime operation with Active Directory (F 181231)

The following applies for the login and password changes of Active Directory users:

- ▶ Login:  
The Runtime user interface is blocked for operation during the login of Active Directory users. The Runtime continues to function without interruption. Only inputs from the keyboard or mouse are not processed.
- ▶ Password change:  
The Runtime user interface is blocked for operation during the password change of Active Directory users.
- ▶ Display a screen of **Active Directory user administration** type:  
The screen elements remain blocked during loading. The screen can also be closed during the loading process. In this case, the process is canceled.

When the Runtime is blocked for operation, a progress bar indicates the status of the process. The maximum waiting time is 3 minutes. If the login or password change has not been completed in this time, the process is canceled and the Runtime is completely unblocked again.

### 7.4.5 Everywhere Server: Configuration of authorization level moved (F 181225)

Up to now, user authorizations were assigned in the zenon Editor using the **Authorization level** property in the **Everywhere Server** group. This property has been moved from the workspace to the project properties. You can now find the property in the **User Administration** node.

Therefore, the corresponding **EVWH\_ACCESS** entry has also been moved from **zenon6.ini** to **project.ini**. You can find the entry there in the **[PASSWORD]** section.

### 7.4.6 Passwords: Change password on first login (F 181225)

Users can now be forced to change their password on the first login. The new **Change password at first login** project property has been activated for this purpose. This can be found in the **User Administration/Login rules** group.

### 7.4.7 Passwords: Period of validity (F 181225)

A minimum period of use can now also be specified for passwords. The new **Minimum duration in days** property was implemented for this. This defines the minimum period of time a password must be used before it can be changed again.

### 7.4.8 Passwords: Rules (F 181225)

Passwords in zenon can now be provided with rules for their creation and use.

The following rules are available:

- ▶ **Complexity:** Configuration of how complex a password must be in terms of length and the characters to be included.
- ▶ **Process:** Definition of the number of changes a password is blocked for before it can be reused again.
- ▶ **Period of validity:** Configuration of the time period in which a password may or must be changed.

These rules are checked every time a password is created or changed. Passwords are only accepted if they fulfill all the rules. They apply only for zenon users and do not apply for Active Directory users.

### 7.4.9 Runtime messages during interlocking (F 181245)

It is now possible to display notifications in the Runtime concerning elements that cannot be operated due to interlocking.

The details of the description can be configured:

- ▶ *No message:* No information is displayed.
- ▶ *Simple:* There is a notification that an element is interlocked.
- ▶ *With interlocking text:* There is a notification that an element is interlocked. In addition, the value for the **Interlocking text** property is displayed for the first locking interlocking found.
- ▶ *With linked interlocking text:* There is a notification that an element is interlocked. In addition, the values for the **Interlocking text** property are displayed for all locking interlockings.

The message is configured using the new **Interlocked elements** property in the project properties in the **Runtime settings/Runtime messages for** node.

### 7.4.10 Runtime messages on user authorizations (F 181245)

Users who cannot execute actions due to an insufficient authorization level receive detailed messages. The radio buttons used up to now have been replaced by a drop-down list for the **Insufficient authorization** property.

Thus, detailed messages can be displayed in the Editor:

- ▶ *No message*: No message is shown in the event of access being refused due to insufficient authorizations.
- ▶ *Simple*: A message with notification of insufficient authorization is shown.
- ▶ *With level number*: A message with notification of insufficient authorization is shown. The number of the required authorization level is shown.
- ▶ *With level name*: A message with notification of insufficient authorization is shown. The name of the required authorization level is shown.
- ▶ *With level number and level name*: A message with notification of insufficient authorization is shown. Number and name of the required authorization level are shown.

### 7.4.11 System driver variables: Passwords and AD (F 181225)

There are two new system driver variables available for user administration:

- ▶ **[User Administration] Error in changing password**:  
Informs the user when a password failure occurs during the validation of the complexity. Both input errors via the user interface and the API are reported.
- ▶ **[User Administration] Error in requesting information from Active Directory**:  
Informs the user when an error occurs during the request for information from Active Directory.

### 7.4.12 Access authorization: Expiration date (F 181226)

An Expiration date for the access authorization can now be configured for users. If this limit is reached, it is no longer possible to log in.

Users can be informed during login of when their access authorization will expire using the system driver variable **[User Administration] Expiration date of the logged in user**.

## 7.5 Screens

### 7.5.1 Dynamic elements: The "Signature required" option has been enhanced (F 197303)

The **Signature necessary** property has been enhanced. It now offers the option of a signature without password.

The selection is now made from a drop-down list.

- ▶ *None*: No signature is required.
- ▶ *Signature with password*: A signature and a password are required for operation of the element.  
For security reasons, a password is requested here again even for a user who is already logged in. The signature text is logged in the Chronological Event List (CEL) after it has been used successfully.  
**Caution:** Only users who are logged in can sign an action. Signing actions with temporary login is no longer possible.
- ▶ *Signature without password*: A signature is necessary to operate the element. This can be entered without entering a password. The signature text is logged in the Chronological Event List (CEL) after the successful use of the element.

When converting from earlier versions, the default will be *None* or *Signature with password*, depending on the setting.

### 7.5.2 Color can be configured for communication errors (F 181244)

If communication with the PLC is interrupted, the value of the variable concerned is visualized in Runtime with a colored square. You can now configure the colors used.

Default color coding of screen items for errors:

- ▶ **Communication failure to PLC**: *red square* (hex value: #FF0000)
- ▶ **Communication failure to server**: *blue square* (hex value: #0000FF)
- ▶ **Unknown value in Process Recorder**: *yellow square* (hex value: #FFC000)

These colors can be adjusted in the project properties in the **Graphical design/Status of variable** node.

### 7.5.3 Filter: Display in the Runtime (F 192462 )

The filter criteria in use can be displayed in the Runtime in reduced form as usual or now in detailed form too:

- ▶ Reduced: Displayed in a filter row with abridged information on the filter criteria. You can configure the **Set filter** control element on the screen.
- ▶ Detailed: Displayed in a text window with detailed information on the filter currently in use. You can configure the **Set filter (detail list)** control element on the screen.

Detailed display is available for the following screen types and filters.

Screen type	Time filter	Equipment filter
AML	X	X
Archive revision	X	--
CEL	X	X
ETM	X	--
Report Viewer	X	X

#### 7.5.4 Changes to property groups administration in the symbol editor (F 173205)

Released properties of the same data type can be gathered together into property groups in the symbol editor. Changes can be made centrally without having to configure the individual items.

Properties of the same data type can be moved from the properties window to a property group by means of drag&drop.

It is also possible to use drag&drop to move properties that are already on the list of released properties of the symbol editor.

**Note:** In the case of properties originating from the combo boxes in the zenon Editor, only the contents of identically configured combo boxes can be grouped.

## 7.6 Extended Trend

### 7.6.1 Print diagram: Regional date and time formats (F 181243)

When printing diagrams in the ETM, the date (%Date%) and the time (%Time%) are now output based on the regional settings configured in the operating system.

## 7.6.2 Handling of differences in how data are displayed in the Runtime (B 171349)

In the case of non-consecutive archive files, the different archive files are only linked with each other under certain conditions:

- ▶ the archive files follow immediately upon each other.  
The end time of the first archive file is the start time of the second file.
- ▶ The interval between the last two items in the first archive file is greater than the interval between the end time of the first file and the start time of the second file.

## 7.7 Functions

### 7.7.1 Enhancements to the function for exporting archives (F 146764)

The dialog of the **Export archives** function has been enhanced:

- ▶ Support for export as pivot table for SQL and CSV.
- ▶ Link a variable with export status.
- ▶ Select the columns to be exported for XML and SQL.

## 7.8 GIS Integration

The scope of services of GIS integration has been enhanced.

### 7.8.1 New property for displaying the line length in the GIS Editor (F 188305)

The new **Length [km]** property in the **Statistics** property group shows the current length of the respective line in the **GIS Editor**.

### 7.8.2 GIS markers: Display of limit value colors (F 187739)

Up to now, it was only possible to link graphics for the visualization of makers in zenon. GIS markers can now also display limit value colors of linked variables without a link to a graphics file.

For this purpose, two new properties have been added to the GIS Editor for the configuration of markers. Thanks to these new configuration options, the following new functions are available for displaying markers in the Runtime:

- ▶ Markers can be linked with variables.
- ▶ The limit value configuration for the linked variable is taken into account for visualization in the Runtime.
- ▶ Markers can be linked with a zenon function
- ▶ Markers can also be visualized without a link to a graphics file.

## 7.9 Categorization (F 173222)

Categories now make it possible to filter CEL entries for certain events in the Runtime. To do this, categories are created in the local project and/or global project in the zenon Editor.

Every entry possible in the CEL can be linked to one or more categories. These categories can be used to filter the entries. For instance, for a screen switch, an export or in faceplates. The CEL provides a separate column for the categories in the Runtime. Thus, the CEL can be filtered by categories. The filtering also allows entries to be displayed that are not linked to a category as well as entries that are linked to any given category.

Categories are available in local projects and in the global project.

Only CEL entries for licensed zenon modules are displayed. Also, if the **Windows CE project** property is activated, only CEL entries that can be used in Windows CE are shown.

Categories can also be used in CEL filter screen types. Relevant screen items are now available for configuration.

### 7.9.1 Administration of categories and CEL entries in the Editor (F 173871)

Categories make it possible to filter CEL entries for certain events in the Runtime. To do this, categories are created in the local project and/or global project in the zenon Editor.

Every entry possible in the CEL can be linked to one or more categories. In addition, user-defined CEL entries can be defined and linked. When a project is created, categories and CEL entries are already created as default values for all modules. The default categories are linked to the respective CEL entries.

The following categories can be configured for the filtering of entries:

- ▶ Screen switch to an *CEL* screen
- ▶ Screen switch to an *CEL Filter* screen
- ▶ Screen switch to a faceplate with an *CEL* screen or an *CEL Filter* screen in a container
- ▶ Screen switch to a *Report Viewer* screen in the **CEL** data set.
- ▶ Function **Export CEL**
- ▶ Function **Print AML or CEL**

The CEL provides a separate column for the categories in the Runtime. Thus, the CEL can be filtered by categories.

Categories from a local project can only be used in the respective local project. Categories from the global project can be linked with CEL entries in all local projects of the workspace.

Categories must each be unique within the project. If there are categories in the local project with the same ID as in the global project, the Runtime uses the categories from the local project.

User-defined CEL entries can be created and linked for entries you have created via the API.

All categories and CEL entries can be exported as an XML file and imported back from it.

## 7.10 Menus

### 7.10.1 The "Signature required" option has been enhanced (F 197303)

The **Signature necessary** property has been enhanced. It now offers the option of a signature without password.

The selection is now made from a drop-down list.

- ▶ *None*: No signature is required.
- ▶ *Signature with password*: A signature and a password are required for operation of the element.  
For security reasons, a password is requested here again even for a user who is already logged in. The signature text is logged in the Chronological Event List (CEL) after it has been used successfully.  
**Caution:** Only users who are logged in can sign an action. Signing actions with temporary login is no longer possible.
- ▶ *Signature without password*: A signature is necessary to operate the element. This can be entered without entering a password. The signature text is logged in the Chronological Event List (CEL) after the successful use of the element.

When converting from earlier versions, the default will be *None* or *Signature with password*, depending on the setting.

## 7.11 Message Control

### 7.11.1 SMTP sending selection field for recipients (F 198498)

When sending via SMTP, you can now select whether the recipient is written in the **To** field or in the **Bcc** field.

The new **Add Email recipient as** property was implemented for this:

- ▶ *To*: All recipients are entered in the **To** field.
- ▶ *BCC*: All recipients are entered in the **Bcc** field.  
This way each recipient receives an individualized message. The recipient cannot see the other recipients of the message.

## 7.12 Process Gateway

### 7.12.1 AccessDNP3\_SG

#### 7.12.1.1 The connection for the DNP3 master in a redundant network has been optimized (F 172516)

The new option **Remove confirmed events from event buffer on other server** has been added in the configuration dialog in the **Outstation** tab. If this option is selected, events that have already been received and verified by the server are also deleted from the event buffer on the standby server.

This is intended to prevent events from being received twice by the DNP3 master - both from the server as well as the standby server.

#### 7.12.1.2 Support of several master IP addresses (F 149799)

The **AccessDNP3\_SG Process Gateway** can communicate as a DNP3 Master with two different IP addresses.

For this purpose, the **Master IP Address** input field has been enhanced for the configuration in the datalink node.

#### 7.12.1.3 Secure Authentication SAV2 and Sav5 (F 146870)

The **AccessDNP3\_SG** supports secured communication via TLS authentication, including *Aggressive Mode* and *Optional critical functions*.

#### 7.12.1.4 Support for secure authentication (F 146870)

Support for *Secure Authentication v5* according to IEEE Standard 1815-2012 and compatibility mode for *Secure Authentication v2* according to IEEE Standard 1815-2010:

- ▶ Only single users (*single Master-Outstation Association*)
- ▶ Support for the modes: *challenge/response* and *aggressive*
- ▶ Use and secure storage of pre-installed update key (*Pre-Shared Update Key*)

- ▶ Configuration for optional critical functions

### 7.12.2 AccessSyslog - New Process Gateway module for Syslog log (F 32512)

The new **AccessSyslog** module sends alarms and CEL entries of the zenon Runtime to a Syslog server. The current version supports the communication syslog format according to RFC 3164 via UDP transport.

### 7.12.3 AccessICCP - domain-specific addressing for ICCP clients (F 183667)

The ICCP Process Gateway now also supports domain-specific addressing for ICCP clients. A checkbox has been added to the **General** configuration dialog for this purpose.

### TRANSPORT SELECTOR (TSEL) CAN BE CONFIGURED IN THE GUI (S 172269)

Configurations that used to be available only in the .INI file can now be configured in the new **Advanced Settings** tab.

### 7.12.4 Support for secure authentication (F 146870)

Support for *Secure Authentication v5* according to IEEE Standard 1815-2012 and compatibility mode for *Secure Authentication v2* according to IEEE Standard 1815-2010:

- ▶ single user (Master-Outstation association) only
- ▶ single user (Master-Outstation association) only
- ▶ *challenge/response* mode and *Aggressive* mode
- ▶ pre-shared update key
- ▶ Support for secure authentication (F 146870)
- ▶ Configuration for *optional critical functions*

## 7.13 Process Recorder

### 7.13.1 Licensing in multi-project administration (F 198401)

The following is applicable for the licensing in multi-project administration:

If the Process Recorder is licensed in a subproject, this license is also applicable for the integration project running on the client.

## 7.14 Report Viewer

### 7.14.1 Maximum number of entries has been increased (F 155402)

In the Report Viewer, the maximum number of lines in the report has been increased from 5000 to 65535. This applies to the display of AML data, CEL data and archive values.

**Note:** For the compilation of versions lower than zenon 8.00, the maximum possible value is still 5000.

**Note:** Available from Version 8.10 on.

## 7.15 Recipe Group Manager

### 7.15.1 Define user name for logging (F 181232)

When changing and writing recipes, the name of the user is logged and used for information in the recipe group manager screen.

The following options can now be selected for displaying the user name:

- ▶ *Complete name:* The entry defined in the user administration in the **Complete name** property.
  - ▶ Advantage: Easy assignment to individuals.
  - ▶ Disadvantage: If the name changes, due to marriage for example, the entries are no longer consistent.
- ▶ *User name:* The entry defined in the user administration in the **User name** property. This is also used for logging in.
  - ▶ Advantage:  
Is the same as the login name and is usually not changed.  
Remains consistent even if the complete name changes.

**Attention:** In order for a name change in the Editor to be taken into account in the Runtime, the screen must be reopened after reloading.

Default:

- ▶ New in version 8.20: *User name*
- ▶ Project converted from earlier version: *Complete name*

### 7.15.2 Signature without entering a password (F 197303)

You can now enter a signature without entering a password.

The **Signature necessary** property now offers the following options as a drop-down list:

- ▶ *None*: No signature is required.
- ▶ *Signature with password*: A signature and a password are required for operation of the element.  
For security reasons, a password is requested here again even for a user who is already logged in. The signature text is logged in the Chronological Event List (CEL) after it has been used successfully.  
**Caution:** Only users who are logged in can sign an action. Signing actions with temporary login is no longer possible.
- ▶ *Signature without password*: A signature is necessary to operate the element. This can be entered without entering a password.  
The signature text is logged in the Chronological Event List (CEL) after successful operation.

### 7.15.3 CEL Entry on value change with signature (B 210883)

If a value with signature is changed, this change is now logged in the Chronological Event List (CEL).

The CEL entry of the signature has been amended and includes the information: **Recipe group**, **recipe name** with version, **recipe parameter** and **signature text**.

## 7.16 Smart Objects

The concept of the new **Smart Objects** module is based on the idea of providing configuration contents for not so tech-savvy users in pre-configured objects known as smart objects. All the configuration options available in zenon are combined in small units. This offers the advantage that several encapsulated and separate objects within the zenon Editor can be maintained easily. They are completely reusable and make a zenon project scalable.

- ▶ Creating of smart object templates  
The creator of smart object templates is usually an experienced zenon user. He or she merges complex configurations in one package. In addition to the configurations performed such as the creation of symbols, the setting of interlocking conditions or the parameterization of variables and drivers, the complexity can be reduced for less experienced users. The creator of a smart object template can pre-select the properties available to the user of smart objects.
- ▶ Using smart objects  
Smart objects are based on a smart object template. The user can integrate the configurations merged in a smart object template into a zenon project quite easily. This therefore reduces the complexity because the zenon properties that need to be parameterized have already been pre-selected and restricted in the template.

## 7.17 Language switch

### 7.17.1 Language switch function enhanced for export (F 197857)

The language for export can now be defined in the **Language switch** function independently from the language for the workspace in the Runtime. For this purpose, two new options have been implemented in the dialog of the function:

- ▶ **Export language**: defines the language for the export.
- ▶ **User interface language**: defines the language for the user interface.

## 7.18 Variables

### 7.18.1 Rema: New status variables (F 197207)

The multi-binary and multi-numeric reaction matrices now also support the status bits:

- ▶ **GI** (Bit 16)
- ▶ **T\_UNSYNC** (Bit 53)
- ▶ **T\_DEV** (Bit 53)

## 7.19 Interlocking - changes to the automatic interlocking (F 172715)

An interlocking is by default activated (=locked) and is now unlocked if all the conditions are met. In addition, an interlocking is active if the *INVALID* bit has been set for the variable or the variable does not contain a valid value.

## 7.20 Worldview: Support for 1,000,000 pixels (F 198777)

Worldviews now support coordinates up to  $1000000 \times 1000000$ . Previously, the maximum size was  $32000 \times 32000$ .

**Note:** This only applies for newly created screens. Existing screens continue to support only  $32000 \times 32000$ .

In this context, the input limits for the coordinates of the centerpoint have been increased from  $32000$  to  $1000000$  for the **Screen: Move center** function.

## 8 HTML Web Engine

### 8.1 Alarm causes (F 187959)

Alarm causes as well as comments are now supported for alarms and CEL.

**Note:** The *Context list* screen type is not supported.

### 8.2 Formulas for statuses in combined elements (F 193750)

Combined elements now support the use of formulas for statuses in the HTML Web Engine. All value and status bits for several source variables are supported, as well as the operators available in the zenon Runtime.

**Exception:** The *unacknowledged* status bit is not supported. It is always treated as 0 in the HTML Web Engine.

### 8.3 Service Grid Connector (F 171760)

The HTML Web Engine can now communicate with the Service Grid 2.0 infrastructure via the **Service Grid Connector**. The HTML Web Engine can thus run outside of a SCADA network.

The HTML web engine uses the **Service Grid Connector** to detect if the connection to zenon has been disconnected. In the event of a redundancy (server/standby), a maintenance dialog is displayed and the HTML Web Engine attempts to connect to the standby server, which now becomes the primary server. An error message appears if this is not successful.

The active HTML Web Engine users are automatically logged out if the connection is lost.

### 8.4 Reconnect (F 187770)

If the connection between web engine and Runtime or Service Grid is lost, an attempt is made to establish the connection again.

After successfully reconnecting, login is automatic if so configured. If the currently-active user session is also disconnected, an attempt is made to reestablish this too.

Automatic reconnection is carried out in the following situations:

- ▶ Interruption of the connection between web engine frontend and backend.  
For example: disconnection with mobile connection or IIS restart.
- ▶ Loss of connection between web engine backend and connector/data hub.
- ▶ Loss of connection by reloading zenon Runtime.

**Note on service grid connector:** For this connection, you need Service Grid 2.0. With network projects for the web engine, the addresses of the server must be entered with their fully-qualified domain name (FQDN). This is because the IDs of the clients are derived from the computer's FQDN. If the configured network names and the computer's FQDNs are different, the service grid connector cannot correctly detect the status of zenon Runtime.

## 8.5 Restart session (F 187770)

A dialog will display when it is necessary to restart the Web Engine session. By default the dialog now restarts the session after 30 seconds. The time remaining to restart will be displayed.

This time period can be configured individually.

## 8.6 Symbols: Global project (B 199622)

Symbols can now also be used from the global project. When these are compiled for the Web, they are given the prefix **(g)**.

If there is a symbol in the local project that has the same name during export as a symbol in the global project, the symbol from the local project will be used.

## 8.7 Symbols: Substitution (F 201473)

The identification now also supports the substitution of links for variables in symbols. To use the identification, the **Via variable name** property must be deactivated in the **Linking rule** group.

## 8.8 Symbols: Grouping of released properties (F 173205)

The Grouping of released symbol properties is now supported. Groups are adopted and the properties contained within are applied.

# 9 Network

## 9.1 Service Grid Gateway (F 190985)

In the Runtime and in the HTML Web Engine, a connection can now be established to **Service Grid Gateway** for Version 8.20 or higher. For this, you need Service Grid 2.0.

The new **Execute Service Grid Gateway** project property is configured in the zenon Editor.

The **Service Grid Gateway** performs several tasks:

- ▶ For HTML Web Engine and Service GridAPI:

- ▶ Alarms and events can be published.
- ▶ Alarms can be acknowledged.
- ▶ Comments and alarm causes can be set.
- ▶ Archive data can be made available.
- ▶ Text lists and their changes can be published  
Entries marked as deleted are ignored.
- ▶ For Data Storage:
  - ▶ Archive data can be evacuated.

In order for elements to be published or changes to be made (set cause/comment, acknowledgment), one of these conditions must be applicable:

- ▶ The variable to which they refer is visible for the Service Grid
- ▶ It is a system event

**Note:** Do not use the **Service Grid Gateway** at the same time as the **Runtime Add-In**.

The **Runtime Add-In** is available for all versions from Version 8.10 on. It is recommended to use **Service Grid Gateway** from 8.20 on.

## 9.2 Operating authorization: Automatically decline transfer (F 201409)

Up to now, when a request was made to apply the operating authorization in the network, this was automatically granted after the configured timeout if the requested station did not respond. This behavior can now be configured. The **Action for prompt timeout** property was implemented for this.

This defines the action that is carried out automatically if the time period defined in the **Timeout for request [s]** property has expired without action.

- ▶ *Approve operating authorization:* The operating authorization is passed over to the querying computer.
- ▶ *Refuse operating authorization:* The operating authorization is refused.

Default: *Approve operating authorization*

## 10 Remote Transport

### 10.1 Optimization of transfer (F 181239)

When transferring files to several target systems via the **Network topology** view in the Editor, all the required files are now created collectively and then transferred to the selected target systems. Up to now Runtime files had to be created separately for each target system.

## 11 Driver

### 11.1 Driver watchdog in the zenon Runtime (F 189860)

For the monitoring of communication in the Runtime, the connection to the driver is checked in a fixed, prescribed time period of 60 seconds. This process is repeated several times. If, within 5 attempts (= within 5 minutes), no valid connection to the driver is detected, the *INVALID* bit is set for the checked-in (*advised*) variables. In addition, the *INVALID* bit is also set when new variables are advised. The *INVALID* bit will no longer be reset.

Corresponding LOG entries are created for this.

### 11.2 New drivers

#### 11.2.1 EUROMAP63

The **EUROMAP63 driver** communicates with injection molding machines using the EUROMAP63 protocol.

- ▶ The driver supports communication to several machines using configurable connections. Alternatively, several instances of the **EUROMAP63 driver** can be configured. In this case, a separate **EUROMAP63 driver** is configured for each machine.
- ▶ Communication is carried out by means of a file-based interface.
- ▶ A folder for the communication can be configured for each connection. There is the choice to have the driver use relative paths or absolute paths for the files.
- ▶ A timeout can be configured for each connection. Due to the slower communication, it is recommended that this timeout is configured as somewhat longer.
- ▶ Variables can be taken directly from the machine via online import into the zenon Editor configuration.

### 11.2.2 TOYOPUC

The **TOYOPUC driver** communicates with JTEKT TOYODA controllers using the Ethernet Computer Linking Method and supports direct communication via Ethernet and TCP/IP.

In addition to direct communication, the driver also supports communication to lower-level controllers that are connected via FL-net, using Relay Commands. Up to four levels are possible here.

For application in a redundant configuration, the driver permits the configuration of different ports for the primary server and for the secondary server. The controllers only support one active TCP/IP connection per configured port.

The driver enables communication to the general standard address areas as well as to the program-specific standard address ranges. Communication to the PC3J-specific and PC10-specific address ranges is also supported.

For numerical address ranges, there is the possibility to interpret the data coded as decimal or as BCD for each variable.

In addition, the driver supports commands for reading and writing the time, for access to Timer Set Value and Timer recent Value, as well as for Data Fill.

### 11.2.3 SERVICEGRID - Service Grid Egress Connector (F 191714)

The **SERVICEGRID driver** communicates with the **Service Hub** and supports reading and writing of online values. Variables are addressed using the **Symbolic address** property.

One or more Runtime instances act as a data source. These instances communicate via the **Service Grid Gateway** or the **Service Grid Ingress Connector**, also with the same **Service Hub**.

The driver needs a respective *Certificate Bundle* for configuration in zenon Editor and for operation in the Runtime. This bundle is provided for Editor computers and Runtime computers with the **Service Node Configuration Tool**.

### 11.2.4 S7TCPFA (F 201442)

The **S7TCPFA driver** supports the S7TCP protocol and uses file-based addressing of the variables (*File Addressing*). The number of the **Data block**, the **Offset** and the **Bit number** are stored in a text-based file.

The assignment of the variable to the key in the file with the addressing information can be done either via **Name** , **Identification** or **Symbolic address** of the variable.

The options of the driver configuration dialog are also available via API.

## 11.3 Additions to existing drivers

### 11.3.1 New 230400 baud rate available for serial drivers (S 139299)

The value *230400* has been added to the drop-down list for baud rates for serial drivers.

### 11.3.2 3S\_V3 - Addressing via IP address and host name (F 181442)

The 3S\_V3 driver can now also establish connections to controllers via IP address or host name. To do this, a new option field has been added in the **Connection** dialog of the configuration dialog of the driver. The names of the existing options have been adapted accordingly.

New option field:

- ▶ *Use IP address/host name*  
IP address of controller in the network with which communication takes place.  
New as of Version 8.10.
- ▶ *Use node address/node name*  
Host name of controller in the network with which communication takes place.  
Existing functionality.

### 11.3.3 BACnet\_NG

#### 11.3.3.1 Addressing with object ID (S 125561)

The addressing of variables has been enhanced. To do this, a new **Addressing mode** option has been added in the **Settings** tab of the configuration dialog of the driver.

The addressing mode can be selected from a new drop-down list:

- ▶ *Net address, Object name, Property ID*  
Object assignment using the **BACnetObjectType** variable property and **BACnetObjectInstanceID**.
- ▶ *Net address, Object ID, Property ID*  
Assignment to the connection using the **Net address** variable properties.

- ▶ *Symbolic, Property ID*  
Corresponds to the behavior when the **Do not read property/event state from address string** option, which was used up to Version 8.00, has been activated.
- ▶ *Symbolic*  
Corresponds to the behavior when the **Do not read property/event state from address string** option, which was used up to Version 8.00, has been deactivated.

In addition, the online import of variables has been enhanced:

- ▶ **Net address**, **BACnetObjectType**, **BACnetObjectInstanceID** and **BACnetObjectName** are always filled
- ▶ **Symbolic address** and **Identification** are only filled if symbolic addressing has been configured.

**Note:** Available from Version 8.10 on.

### 11.3.3.2 COV subscription is deleted on unadvise (F 69051)

The behavior of COV subscriptions (**Change of value** advising) has been adapted:

- ▶ COV subscriptions are unadvised if variables are inactive (e.g. screen switch) and when the driver is closed.
- ▶ After a variable is written, the variable will not be advised (subscribed) again.
- ▶ A shadow value is saved in the variable for COV subscriptions. Thus, the variable does not need to be advised (subscribed) and read again if the variable is switched, for example, from a substitute value to a spontaneous value.
- ▶ If a variable is configured as COV but is not contained in the notification, the I bit is set for the variable and a corresponding LOG message is created.
- ▶ If no notification is received after a subscription, the I bit is set for the variable and a corresponding LOG message is created. (configured **APDU Timeout** \* (configured **APDU Retries** + 1))

### 11.3.3.3 Support of the UTF-8 character set (F 69051)

The **BACnet\_NG driver** now supports Unicode for string variables. For this purpose, the previous selection *ANSI X3.4* has been replaced by *UTF-8* in the driver dialog in the **Devices** tab in the drop-down list of the **Character encoding** option.

### 11.3.4 BeckhNG - support of WSTRING data type (F 130459)

The **BeckhNG** driver supports variables with the *WSTRING* data type for online import and for write and read access to the PLC.

**Note:** Available from Version 8.10 on.

### 11.3.5 File driver (F 136312)

The following enhancements have been implemented for the **File Driver**.

#### SUPPORT OF UNICODE

The **Special marker V2** driver object type now supports the *WSTRING* data type.

#### NEW SPECIAL MARKER V2 DRIVER OBJECT TYPE

The new **Special marker V2** driver object type has been added for transferring data in binary V2 format.

#### BLOCK-WISE WRITING OF SET VALUES

When writing (only binary V2), the set values are collected and written in blocks in a file. The writing is deleted if one of the following conditions is met:

- ▶ 500 values are reached
- ▶ File size > 10 MB
- ▶ Time since the last writing >= update time

**Note:** it was already possible previously to read several variables per file.

#### DOCUMENTATION REVISED

In addition, the driver documentation has been revised.

**Note:** Available from Version 8.10 on.

### 11.3.6 IEC850 - TLS communication and MMS authentication (F 181242)

The **IEC850 driver** supports now TLS communication in accordance with *IEC 62351-3* and *IEC 62351-4* standards. Also supported are MMS authentication with certificates (in accordance with *IEC TS 62351-4:2007* standard) and *compatibility mode* (in accordance with *IEC 62351-4:2018* standard).

This configurations are set in the configuration file of the IEC850 driver.

### 11.3.7 KIEBACK - extension of the possible serial connections (S 153427)

The **KIEBACK driver** now supports connection with up to 256 serial connections.

**Note:** Available from Version 8.10 on.

### 11.3.8 MITSUBISHI\_FX32 - value of STRING variables filled up with zeros (S 142227)

The behavior when writing variables to the PLC has been adapted to the standard: When STRING variables of the driver object type **PLC data register** are written, the empty spaces up to the configured variable length are filled with zeros (0).

**Note:** Available from Version 8.10 on.

### 11.3.9 OPC UA

**Note:** Available from Version 8.10 on.

#### 11.3.9.1 Import variables from a file - read from PLC and save in a XML file (F 146865)

The new driver action **Read PLC variables in background** imports variables from a PLC and saves these in a file. If such a file is available on the engineering computer, the content of this file is read when variables are created by online import using the action **Import variables from driver**. Thus, the often time-consuming step of reading the variable from the PLC must only be performed once. Configuration extensions in the zenon Editor can be imported more efficiently from the file. Additionally, in the case of distributed engineering, a previously performed import can be used by several different engineering computers.

**Note:** Available from Version 8.10 on.

### 11.3.10 Modbus Energy

#### 11.3.10.1 Connection to PLC via host name (S 181124)

The connection to a PLC can also be configured with a host name in the **MODBUS\_Energy driver**. To do this, the **Host name** option field has been added in the configuration dialog of the driver in the **Connections** tab.

### 11.3.10.2 Block size can be configured for coils and discrete inputs (F 190227)

Improved communication with certain Modbus slaves that reveal gaps in the address range and can return an error when communicating if a request to the slave contains a gap.

The new **Maximum number of bits** option has been added in the **Settings** tab in the configuration dialog for the **Modbus Energy driver**. This option enables you to configure the maximum number of requests for bit-based areas of a Modbus slave for *Coils* and *Discrete Inputs*.

In this way, only the *INVALID* status bit is set for a variable if the request for the entire configured area fails. This prevents the *INVALID* status bit from being set for all variables. Otherwise, due to block building, valid variables would also receive the *INVALID* status bit even if the block created contained only one unreachable address.

By reducing the block size, this new option can help minimize this error. This ensures that the *INVALID* bit is not set incorrectly for all variables of the area.

### 11.3.11 SNMP\_NG32 - Display content of SNMP agents in tabular form in STRING variable (F 70002)

The content of SNMP agents can be read by the SNMP\_NG32 driver and be displayed in tabular form in a STRING variable.

The new **SNMP table** driver object type has been implemented for this purpose.

### 11.3.12 stratonNG - password protection for access to zenon Logic projects (B 106951)

In the **stratonNG** driver, the password of the zenon Logic project can now be entered in the **Connections** tab.

This allows access of zenon to the Runtime of a zenon Logic project which is protected by a password.

## 11.4 LS\_XGT - support of new areas (S 174107)

The **LS Industrial Systems-XGT driver** (**LS\_XGT32.exe**) supports new areas for communicating with the PLC. Thus, a new driver object type is available in the driver for each area:

- ▶ Area F  
Driver object type: **Direct F variable**
- ▶ Area K

- Driver object type: **Direct K variable**
- ▶ Area L  
Driver object type: **Direct L variable**
- ▶ Area N  
Driver object type: **Direct N variable**
- ▶ Area P  
Driver object type: **Direct P variable**
- ▶ Area U  
Driver object type: **Direct U variable**
- ▶ Area Z  
Driver object type: **Direct Z variable**

## 12 Wizards

### 12.1 System Text Wizard: New languages (F 171557)

The System Text Wizard now supports *Japanese* and *Korean*.

**Note:** Available from Version 8.10 on.

## 13 WPF controls

### 13.1 COMTRADE viewer - new language and display properties available (F 157130)

New properties now allow you to configure

- ▶ whether the standard or a user-defined dialog is to be used to open Windows files
- ▶ whether the user interface is to be displayed in Polish
- ▶ whether the **CSV Export** button is to be displayed in the Runtime

## 14 Programming Interfaces

### 14.1 Macro list/VBA: Add-in recommendation (F 188704)

It is recommended to use the **Add-In** interface instead of a macro list (**VBA**). This allows you to use the current **.NET** functionalities to the full extent.

A corresponding note is displayed when opening the VBA Editor.

### 14.2 VSTA: Not available by default (F 138307, 138302)

VSTA is no longer installed by default. If it is already present, it will not be activated.

In order to use VSTA, you must install or activate it using the **Startup Tool**.

## 15 zenon Logic

### 15.1 T5Bus870Slave - dedicated start of communication (F 187597)

The zenon Logic **T5Bus870Slave** fieldbus driver enables controlled start of the communication with the **870** master in a control center. Use cases are applications which use the slave as a data gateway. In this case, the slave should delay the start of communication until other fieldbus drivers (e.g. **IEC61850 Client**) have made the initial values of the variables available.

If there is a variable of **T00** with **IOA 9**, the slave does not open the TCP socket as long as the value is **FALSE**. If the value changes to **TRUE**, the socket is opened and remains open, even if the variable value changes back to **FALSE**.

If this variable does not exist in the application, the slave opens the TCP socket right from the start.

## 16 Important information

### 16.1 ActiveX Controls

If special ActiveX controls are developed, the following has to be considered:

If the **DISPATCH** – which is passed in the **zenonInit** event of zenon – is saved in the ActiveX control, an **AddRef** has to be carried out because this **DISPATCH** is only valid within the **zenonInit** event. If

"AddRef" is not called, a crash of the entire Runtime will be the result. Additionally, a release has to be performed in the "zenonExit" event.

## 16.2 Buttons and screen elements with screen-type specific functions

Buttons and elements with screen type-specific functions may only be used once on a screen. If there are identical elements on a screen, all duplicates are removed during compilation.

**Example:** If a button is copied and pasted in the same screen, the copy is removed during compilation.

**Exception:** Several containers can be created in a *Faceplate* screen.

## 16.3 Integration of VBA wizards and VSTA wizards

All VBA wizards are saved in the file called *ZenWorkspace.vba* by the zenon Editor. All VSTA wizards are saved in *Workspace AddIn*.

When performing a new installation, these files will only be copied to your computer if they do not already exist in the installation folder. Existing VBA/VSTA files are not overwritten, because all your changes would be deleted in this case.

If you still want to use our new wizards or modified ones, you can import them manually via the menu item **Extras** and **Update Editor VBA/VSTA Wizards...** in the Editor.

At this you can decide yourself which wizards you want to overwrite.

## 16.4 Complex vector graphics

Please note when configuring process screens. When using many or complex vector graphics, loading screens in the Runtime can take a long time.

## 16.5 Converting projects

Before you convert a project, please read back all Runtime changeable files (User Administration, Standard Recipes, Recipe Group Manager, Scheduler/PFS) into the Editor. This ensures a complete data conversion and makes sure that none of the changes made in the Runtime are lost. After converting to the new version, create all Runtime files once including Runtime changeable data.

**Note:** You can find important information for the conversion of certain versions in the zenon help in the Project conversion manual.

## CONVERTING MULTI-USER PROJECTS

Multi-user projects can only be converted if no elements are checked out. This means that all people configuring projects have to **accept** their changes first.

If this is not possible for some reason, you have to create a project backup of the project on the project database server (central project database) and then immediately restore it. This resets all the **Under construction** information.

**Attention:** All changes in the local project versions are lost!

The conversion can only be done on the PC, on which the central project database resides. If there is no Editor on the PC (standalone database server – no longer supported), you must install the Editor first. Only after that can the conversion be done on this PC.

## CONVERTING PROJECTS WITH A VERSION PRIOR TO 5.50

When a project that has been created using a version prior to 5.50 is activated, the profiles contained in the structure schedules are converted. The profiles are no longer supported in version 5.50 or later versions. For each profile, a structure schedule is created, containing the linked schedules. The linked schedules contain all the times which fall within the profile's activation/deactivation times.

The day information contained in the profile schedule is input into the calendar.

The configuration process can be viewed in the Editor's output window.

## CONVERTING PROJECTS IN VERSION 6.01 AND 6.20

zenon projects in version 6.01 and 6.20 can no longer be directly read back in zenon 7.10 or higher.

**Background:** Versions that are based on the MSDE (SQL Server 2000) are not compatible with the SQL Server 2012 used in zenon 7.10.

**Solution:** First convert the project in zenon 7.0 and then in 7.10 or higher.

## CONVERTING PROJECTS FOR 7.20

For compatibility with version 7.20, another option - "*Most recent version*" - is available for the Create Runtime files property. This can be selected by clicking the entry *7.20 SP0 + [most recent build no.]* in the drop-down list.

Selecting this option makes the Runtime files available for the current build of version 7.20. Functionality that has since been incorporated into version 7.20 after the official release of 7.20 is thus supported. This is applicable most of all for enhancements to drivers that are now supported with this option. Please note that to use the most recent build, you must have zenon 7.20 installed on your computer.

**Note:** Selecting 7.20 SP0 compiles the Runtime files - as before - to the default settings of 7.20 SP0.

## 16.6 MS-ActiveX element DBGrid32.ocx does not work

There are several problems known in context with the use of Microsoft ActiveX element **DBGrid32.ocx** in the Runtime. Therefore please use other ActiveX elements such as **MSDATGRD.ocx**.

## 16.7 Reload of projects with Simulator driver variables

Simulator driver variables, not projected as HD variables, are reset to the value 0 with the function **"Reload"**. Only HD simulator driver variables keep their value after reloading.

## 16.8 Network access - Firewalls

Different components of zenon try to access the network and can cause an alarm by firewalls or personal firewalls. If you want to use the network or the zenon Remote Transport, you have to unlock the according TCP/IP ports.

The following zenon components result in network access:

- ▶ Administration service (*zenAdminSrv.exe*)
- ▶ Editor (*zenone32.exe*)
- ▶ Database server (*zendbsrv.exe*)
- ▶ Diagnosis Server (*zenLogSrv.exe*)
- ▶ OPC Server (*zenOPCSrv.exe*)
- ▶ Process Gateway (*zenProcGateway.exe*)
- ▶ Network server (*zennetsrv.exe*)
- ▶ Transport service (*zensyssrv.exe*)
- ▶ Drivers with TCP/IP connections
- ▶ zenon Web Server (*zenWEBsrv.exe*)
- ▶ zenon Logic Workbench
- ▶ zenon Logic Runtime

## 16.9 Process Desk – killing tasks

The **zenon Process Desk** allows you to end frozen tasks.

**Attention:** Some drivers need a certain follow-up time, because they write a process image on closing. Premature closing can result in data loss! Use this option only in case of emergency, when you are really sure, that the task will not close on its own.

## 16.10 Saving reports of the Report Generator in the Runtime

Please be aware that on saving reports in the Runtime, all functions are replaced by the current contents of the cells (numbers). The functions in these reports (.xrs files) are no longer available. Additionally, these reports can no longer be edited in the Editor. So please use the MDI function "Save as" so that the original reports from the Editor are not overwritten. Moreover, we recommend to define the original reports as *read-only*.

## 16.11 The database server service must be entered correctly in the Startup Tool

Beside the versions you can also change the data base server with the **Startup Tool**. If you use this function, please note:

Between version 6.21 SP0 and 6.22 SP0 the SQL Service was entered incorrectly in the *zendb.ini* by the setup. This was no problem because the **zenDBSrv** did not consider the value. As of 6.22 SP1 this is the case again.

If you read the values using function **Read from zenDB.ini**, the values are stored wrongly in the **Startup Tool**. You must check existing entries and change them if necessary.

## 16.12 zenon Logic Intellisense is slow

For large programs the Intellisense function of the zenon Logic Workbench can cause the project to open very slowly. In this case you should deactivate the Intellisense function in the straton Workbench.

## 16.13 Transport service Autostart

The transport service (**zensysrv.exe**) is normally started automatically by the operating system when a user logs in. If the transport service is not started, the computer cannot be reached via the Remote Transport.

At a new installation it is restarted after the computer has rebooted.

If you accidentally delete the entry for the automatic start from the registry, you can restore it with the help of command *Register* in the Startup Tool. At this the transport service is also automatically restarted.

## 16.14 Overwriting Runtime files

When creating Runtime files in the zenon Editor it can happen, that files changed in online operation are overwritten. This occurs with the following modules:

- ▶ Recipegroup Manager
- ▶ Production & Facility Scheduler or Scheduler
- ▶ User administration
- ▶ Standard Recipes

In order to guarantee that data created in runtime (recipes, schedules, etc.) is not lost when creating Runtime files, there is a new tab in the dialog for project configuration: **Runtime changeable data** For the modules mentioned above you can define here whether the concerned files should be overwritten when Runtime files are created. If the checkboxes are not active, the files are overwritten!

This behavior is also true for the Remote Transport, when the Runtime files are to be transferred to another computer. So these checkboxes also apply here. If you want to transport all files to the remote system, deactivate all checkboxes. Otherwise the corresponding data will not be transported.

When creating Runtime files and when using Remote Transport, a message appears in the output window indicating that the concerned files were not overwritten.

The standard setting is: Runtime Files are not overwritten!