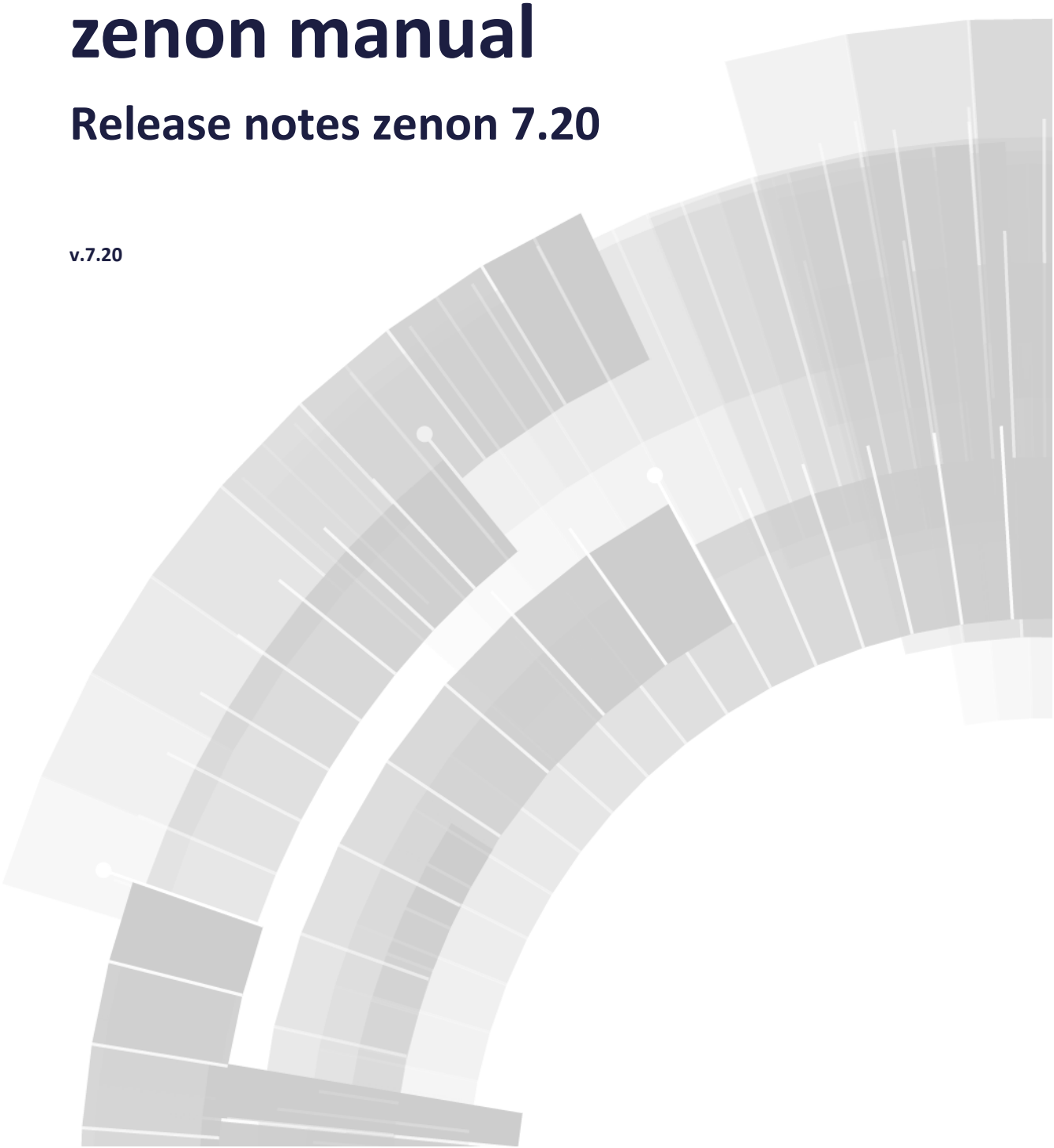
COPA-DATA
do it your way

# zenon manual

## Release notes zenon 7.20

v.7.20



# 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. Revision text zenon 7.20

# 3. General

# 4. Converting projects

Before you convert a project, please read back all Runtime changeable files (User Administration, Standard Recipes, Recipegroup Manager, Scheduler/PFS and Message Control) 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 RT 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 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.

### CONVERSION OF PROJECTS 6.20 AND EARLIER

*zenon projects in version 6.20 or older 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.*

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

## 4.1 Converting Recipegroup Manager database

From version 7.10, the MS Access database is no longer supported in the Recipegroup Manager. When opening an existing project, the data storage is automatically converted to binary data. A project backup is created in the process. This makes it possible for you to open the project with the version in which it was created.

### CONVERSION WITH 64-BIT EDITOR

The 64-bit Editor cannot access the MS Access database. To convert this, open the project in the 32-bit Editor first. There is a mechanism available that with the RGM setting **DataSource**: `MS AccessDB` automatically transfers the data to binary files. The property **DataSource** is no longer available from version 7.10. If the data storage has already been set to binary files, the database data is rejected. For this, the following applies:

- Copying the data from the Access database to binary data storage only occurs with conversion in the 32-bit Editor. The data from the Access database is always rejected with 64-bit.
- When converting under 64-bit, a check is made to see if the data storage of the RGM is set to MS Access. In this case, corresponding information with notification of conversion is displayed in the 32-bit Editor.
- If, when copying over in the 32-bit Editor, it is established that at the target (binary files) data has already been configured, the user is asked which data is to be kept (MS Access or binary). MS Access and binary data cannot be combined.

After conversion, you can also open and edit the project with the 64-bit Editor.

If you want to convert the project again, use automatically-created backup during the conversion.

### AMENDMENT OF RECIPEGROUP NAMES AND RECIPE NAMES FOR 32-BIT ZENON

Recipegroup names and recipe names that contain invalid characters for "binary data" are automatically renamed when converting a project to the 32-bit version of zenon 7.1x. The renamed elements are shown in the output window. Check the output window for corresponding messages after conversion.

**Attention:** If recipe groups or recipes are renamed, the following elements must be checked and amended manually in the project:

- All RGM functions
- Variables that could contain recipegroup names or recipe names
- VBA code that could contain recipegroup names or recipe names

# 5. Installation with Windows 7: Windows Update KB3033929

zenon uses a new Code Signing certificate. For installation, this means:
If zenon 7.50 or 7.20 is installed with Windows 7, `Windows Update KB3033929` must be installed for this. If it is not yet on your system, it must be installed before the installation of zenon.

You can find the update on the installation medium in the **`AdditionalSoftware\Microsoft Windows Update KB3033929`** section.
Alternatively, you can also get it from the download section of the Microsoft website:
https://www.microsoft.com/en-us/download/details.aspx?id=46078
(https://www.microsoft.com/en-us/download/details.aspx?id=46078).

# 6. zenon Logic Workbench

zenon Logic Workbench 8.6 is integrated into zenon.

# 7. Supported operating systems

| Operating system | Required service pack | | | | | |
|---|---|---|---|---|---|---|
| | zenon Editor | zenon Runtime | zenon Web Server | zenon Web Client | zenon Logic Runtime | zenon Analyzer Server |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Windows 7** (Professional, Enterprise and Ultimate version, x86 and x64 versions). | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 - x64 |
| **Windows Embedded Standard 7** (if all necessary operating system components exist). | Cannot run | SP 1 | SP 1 | SP 1 | SP 1 | Cannot run |
| **Windows 8 and 8.1** (Standard, Professional, Enterprise version, x86 and x64 versions) | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 - x64 |
| **Windows Embedded 8 Standard** (if all necessary operating system components exist). | Cannot run | SP 0 | SP 0 | SP 0 | SP 0 | Cannot run |
| **Windows 10** | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 |
| **Windows Server 2008 R2** (All editions with the exception of Core) | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 | SP 1 - x64 |
| **Windows Server 2012 and 2012 R2** (All editions with the exception of Core) | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 | SP 0 - x64 |
| **Windows CE 6.0** (ARM and x86) | Cannot run | zenon Operator only | Pro Light only | Cannot run | Running | Cannot run |
| **Windows Embedded** Compact 7 (ARM and x86) | Cannot run | zenon Operator only | Pro Light only | Cannot run | Running | Cannot run |

- All operating systems are supported in the multi-lingual version.
- Windows RT 8 and Windows RT 8.1 are not supported due to the system.
- Itanium processors are not supported for any operating system.

**OVERVIEW**

| | Windows Embedded 7/8 Standard | Windows Embedded 8.1 Pro/Industry | Windows 7 SP1/Windows 8 and 8.1/ Server 2008 (R2) SP1, 2012 and 2012 R2 | Windows CE |
|---|---|---|---|---|
| **Editor** | | X | X | - |
| **Runtime** | X | X | X | - |
| **Runtime for Windows CE** | - | - | - | X |
| **Web Server** | X | X | X | X |
| **Web Client** | X | X | X | - |

# 8. DirectX 11.1 (RQ 4812)

The following applies when using DirectX 11.1:

- DirectX 11.1 is available natively under Windows 8 and later versions of the operating system.
- DirectX 11.1 cannot be used under Windows 7 and Server 2008R2 without a Service Pack and versions earlier than this.
- For Windows 7 SP1 and Server 2008 R2 SP1, a Windows platform update must be installed

  **Note:** This only concerns Windows 7 SP1 and Server 2008 R2 SP1. DirectX 11.1 is already present on more recent versions. The update cannot be installed on older versions.

### PLATFORM UPDATE

The platform update for Windows 7 SP1 and Server 2008 R2 SP1 is automatically installed with the zenon Setup.
To install the platform update manually if required:

1. Download the platform update **KB2670838** from the Microsoft support website.
2. Select the version that corresponds to your operating system:
   - 32-bit
   - 64-bit
3. Select the corresponding installation file.

# 9. Entries in zenon6.ini amended for [AlarmFilterDialog] (Def. 31696)

In **zenon6.ini**, an entry in the **[AlarmFilterDialog]** section can be used to predefine filter screens for **variable name** and **identification** in the filter dialogs for AML, CEL and filter screens. These entries were amended with version 7.20. Entries that have already been defined thus no longer work.

Because all entered filters are automatically saved on the local computer using this entry in **zenon6.ini**, configuration via the INI file is not necessary. You can find details on the entries that are currently valid in the documentation for the configuration files.

# 10. zenon Operator license administration

The license for zenon Operator was enhanced with the following option:

- Extended Trend:
  - Sampling with a cursor is possible.

# 11. zenon Logic

# 12. I/O Treiber (RQ 4794)

The IEC61850 server was enhanced with all FC and bTypes that were introduced with edition 2 of the standard.

The IEC 61850 server now also accepts a `Cancel` if a command is already in execution (`Status 200, operated`) and sets the status to `299 (wants-cancel)`. accordingly. This can be confirmed (300) or declined (301-318) by the user-defined state machine.

# 13. Current zenon Logic Workbench (RQ 4948)

zenon Logic was, in the current version 8.7.140507 integrated into the logic workbench in the zenon Editor.

# 14. ModbusRTU Slave supports function code 8 (Def 31519)

If a Function code 8 is sent to the slave by the master, it responds with an 'echo answer'.

# 15. Editor

# 16. DirectX in the Editor (RQ 4800, 4874)

The native DirectX dsplay is available in the Editor through the settings of the **Graphics quality** property.

There is no dotted line for the grid. It is replaced by a solid line during `project conversion`.

The hard copy function also uses DirectX. This concerns the following functions:

- API HardCopy
- Preview screens for your own MDI templates
- Graphics export of screens and symbols

When a new project is created, the **Graphics quality** is `DirectX hardware` by default. This can be changed manually to `Windows basic` or `DirectX software`. During project conversion, the previous value `Windows Enhanced` is changed to `DirectX hardware`. If a project that was configured with `Windows Enhanced` is started in Runtime, it is loaded with `DirectX hardware`.

Note: The graphic display of `DirectX` is different from `Windows Enhanced`. You can read details in the Differences between the graphics qualities of "Windows Enhanced" and "DirectX".

If, from version `7.00` a different graphics quality to `Windows Basic` is set for a project (including the corresponding setting for the **`Create RT files for`**), Runtime up to zenon version `6.51` loads the `Windows extended` graphics quality. If the `Windows basic` graphics quality is set, this is retained.

# 17. Amendment to the size setting of the operating system (RQ 4830)

If the **Change size of all elements** property is executed in the Control Panel of the operating system or a resizing level is selected manually, then:

- The selected enlargement factor in the zenon Editor is taken into account
- The control elements in the properties window are amended to the Windows settings for the font size accordingly

# 18. Size of dialog to select archive variables can be amended (Def. 33392)

The size of the dialog to select archive variables can now be amended in the Editor and in Runtime. The size and position are saved in the Editor independently of the project. The size and position cannot be saved in Runtime.

# 19. Configurable lists: Coloring (RQ 4891)

With configurable lists, the text color and background color can be determined individually for each column. In addition, a background color for colored columns can be configured.

# 20. Context menu Screen, Symbol, Symbol Editor (RQ 4875)

Some options are amended in the view window in the context menu of a selected screen, symbol or symbol editor.

- The `Screenshot print current screen...` option that was visible in the view window in the context menu of a selected screen was amended in the `Export screen as graphic file...` option.
- The `Screenshot print current screen/symbol...` option that was visible in view window of the context menu of a selected symbol was amended in the `Export screen as graphic file...` option. changed:
- The `Screenshot print current symbol...` option that was visible in view window of the context menu of the symbol editor was amended in the `Export screen as graphic file...` option. changed:

**Note:** Output is now only to the printer directly, otherwise an export as a graphics file is carried out, which can then subsequently be output to the printer. A screen or a symbol can be exported to a selectable graphics file.

# 21. Message element (RQ 4870)

The message element is shown as unlinked if either no column variable or no line variable is issued.

# 22. "Print screenshot" removed (RQ 4873)

In the Editor, in the **File** menu, the **Print screenshot** function has been removed.

# 23. Current zenon Logic Workbench (RQ 4948)

zenon Logic was, in the current version 8.7.140507 integrated into the logic workbench in the zenon Editor.

# 24. Energy Edition

# 25. ALC - dashed line for ground (RQ 4797)

In the Automatic Line Coloring module, the line for the grounding (= **Grounded**) can now also be displayed as a dash.

To do this, a check box was introduced in the configuration dialog of the sources for the ALC. If this is activated for the **GROUNDED** source color, the ground line is shown in Runtime as dashed.

# 26. Command Processing (RQ 4793, 4794)

The double command and single command actions have been renamed:

- **Double Command** has been renamed to **Switching Command**.
- **Single Command** has been renamed to **Pulse Command**.

#### NEW "CHECK RESPONSE VALUE" FOR COMMAND SEQUENCES

The new "Check response value" action type checks the value or the status of a variable, even if no action is outstanding. This value checking can be canceled accordingly with the "Cancel" button.

Note: If no runtime monitoring has been configured for the "**Check response value**", the **Check response value** command always waits until it is canceled with **Cancel**.

# 27. IEC850 driver configuration (RQ 4846)

The user interface of the IEC850 Driver configuration add-on has been revised.

The add-on **`IEC850 Driver Configuration`** allows you to read IEDs that are already present in SCL files and to create connections in the IEC850 driver with this.

# 28. Module Command Sequencer (RQ 4794, 4795, 4796, 4797)

The new module Command Sequencer allows commands from the Command Processing module to be compiled into processes in zenon, to visualize these and to execute user interactions if required.

The module consists of three parts:

1. The engineering environment in the zenon Editor:
   Here, the data for command sequences is applied from the configuration in the Command Sequence module.
2. The Command Sequencer Editor in zenon Runtime:
   With this Editor, the command sequences are created in zenon Runtime. The configured command processing is the basis for command sequences. During the process, the respective status of the command is displayed in the Command sequencer Editor and you can make changes to the command sequence process.

The module is designed in a way which makes it completely independent of the control. This means that the data communication take place via all available zenon energy drivers with any PLCs or even IED. They only execute the process actions. The complete editing of a command sequence is carried out in the computer in the Command Sequences Editor. No modification to the PLC code is necessary when a change is made to a command sequence.

# 29. Module Load Management (RQ 4796, 4797)

With zenon version 7.20, the Energy Management System (EMS) module was renamed to Load Management.

### PRIORITY OF THE DEVICE AS A PRIMARY SWITCHING FACTOR

Selection of the device to be switched by the Load Management module Individual switching priorities can now be configured for each device. This was previously only possible for generators. The new project configuration does not depend on the switching load of the individual devices. This ensures that load management is better orientated to the process and the individual devices.

The desired switching behavior can be configured in the new **Priorities as primary factor active** property in the **Status information** properties group for each supply area.
If this property is active, the list of planned switchings is switched according to switching steps of the devices. The switchings are sorted according to priority and switching is carried out according to this sequence. In doing so, an attempt is first made to carry out the switching of the components with the highest priority.

The new **Switching steps** property was introduced in the properties of the devices for configuration of the switching steps. The respective switching steps for devices are configured in this group.

# 30. zenon Science Package

The zenon Science Package was enhanced with the LEGO MINDSTORMS EV3 version.

The zenon Science Package for LEGO MINDSTORMS EV3 enables the programming of LEGO Mindstorms EV3 objects. The zenon Science Package for LEGO MINDSTORMS 2.0, for the programming of of LEGO Mindstorms NXT 2.0 objects, remains part of the package.

# 31. Runtime

# 32. Graphic display when screen switching (RQ 5024)

When switching, closing or calling up a screen, the behavior in Runtime has changed.

DirectX:

- With a screen switch when a frame has been called up, the frame is only visible if the screen to be called up is ready for the display.

DirectX and Windows Basic:

- If the frame is open, the screen that has already been called up is displayed until the new screen to be called up is ready for the display.

# 33. Double click in configurable lists available (F 4754)

In `Configurable list` type lists, cells can be opened for editing in Runtime by double clicking.

The previous method is still available: Click in the cell, followed by a second click (slow double click).

# 34. Recommended resolution

*The minimum recommended resolution in Runtime is now 1024 x 768 pixels. Smaller resolutions can also be configured. However it may then not be possible to operate some online dialogs. This only affects a few dialogs. If these are not used, the resolution can be selected as lower.*

# 35. Size of the main window of Runtime can be configured in the Editor (RQ 1204)

The size of the main window in Runtime can now be configured in the COPA-DATA Editor.

To do this, a new property group, **Local Runtime size**, was created for the **Workspace** node. This property group contains two new properties, **Runtime window width [pixel]** and **Runtime window height [pixel]**, for the configuration of the main window size.

# 36. Configurable lists: Coloring (RQ 4891, RQ 4947)

Configurable lists can:

- Be colored with different text and background colors for each column
- Show the focus on one position with coloring

This is available for the following objects:

- Active Directory:
  - List in the Active Directory window (but not: tree)
- AML
- AML filter/CEL filter/time filter:
  - Lots: Archive selection
  - Lots: Lot selection
- Batch:
  - List of master recipes
  - Control Recipes List
- CEL
- User list:
  - User list
- Extended Trend:
  - Expanded curve list
- Message Control:
  - Message queue
- RGM:
  - Recipe list and recipe value table (but not: CE recipe value table)

# 37. Border around dynamic elements in Runtime removed (RQ 4875)

The display of **Border around dynamic elements** can no longer be changed in Runtime, either under `Windows Basic` or under `DirectX`.

# 38. Reference resolution for the adaptation of resolution in Runtime (Def 30285)

Two new entries in **`zenon6.ini`** can be used to set the reference solution for the amendment of resolution in Runtime regardless of the main window size of Runtime. It is thus possible to set the resolution of a monitor for Runtime and at the same time set the project configuration resolution as different on one monitor.

Entries:

**RT_CXRESOLUTION**= Width of the resolution of the target computer in Runtime in pixels, depending on the value of the **RT_CXMAINFRAME** property.

**RT_CYRESOLUTION**= Height of the resolution of all monitors minus 1 pixel. Saves together with **RT_CXMAINFRAME**= the position and size of the Runtime window.

# 39. Frame background color (RQ 4908)

The background of the frames is now shown in Runtime by the color of the screen that is called up.

# 40. Block Windows key using Startup Tool

The blocking of the Windows key using **`Keyblock Runtime Start`** was able to be deactivated by means of the **`Windows`** key + *L* keyboard shortcut. The **`Windows`** key can now be deactivated completely in the **`Startup Tool`** under **`Application -> Options -> General`**. It is necessary to restart the system to do this.

#### BEHAVIOR OF THE DISABLE WINDOWS KEY OPTION

The **Disable Windows Key** option behaves as follows:

Set block

- Initial situation: The option is not set.
- Action: The option is activated.
- Result:
  - The system must be restarted.
  - The **Windows** key is deactivated. **Windows** keyboard shortcuts are blocked.

Undo block

- Initial situation: The option is not set.
- Action: The option is deactivated.
- Result:
  - The system must be restarted.
  - The **Windows** key is available. The block of the **Windows** key combinations is released.

# 41. Screens

# 42. CEL: Filter out system messages (RQ 4860)

System messages can be included or excluded from `Chronological Event List` screens and `Chronological Event List filter` screens. System messages are messages that do not relate to a variable.

To do this, the screen switching for both screens in the **General** tab has the new option **Always display system messages in list**. If this option is active, system messages are always shown in Runtime. This also applies if they are to be filtered out by the text or variable filter.
**Exception:** However system messages are not shown despite the checkbox being activated if they are filtered out by the **time filter** or the filters for **data origin** (`ring buffer` or `historic data`).

For example: Only messages with the text "XY" are to be displayed. However if the option is active, system messages that do not contain the term are also displayed.

The `Chronological Event List filter` screen has a new control element, **Always display system messages in list**. If this control element is configured, there is a check box available in Runtime, with which system messages can be excluded or included.

# 43. "Edit user" screen [RQ 4553]

The new Edit user screen allows the editing of users in Runtime. Depending on the configuration of screen switching, users can be created and edited or passwords can be changed.

# 44. "User group list" screen [RQ 4553]

The `user group list` screen lists all zenon user groups created and makes it possible to create new ones and configure authorization levels.

# 45. "User list" screen [RQ 4553]

The new `user list` screen lists all zenon users of the project who have been created and makes it possible to call up the `Edit user` screen and thus create, edit or delete users and configure authorization levels.

# 46. "HTML" screen (RQ 3914)

The HTML screen now also allows dynamic definition of the start address by means of a variable.

# 47. "Login" screen (RQ 4475, RQ 4644, RQ 4910)

The `Login` screen was enhanced and can now be used for temporary login and/or signature instead of the modal dialog. To do this, it must be allocated to the **Screen for Login** or **Screen for Login with signature** property in the project properties.

# 48. Lot filter when reloading (RQ 4829)

A lot filter can be defined in the screen switching of some screen types. For this filter, there is the option of having it displayed when the screen is called up. The lot filter is now only displayed when screen switching and when the filter is called up, but not when Runtime is reloaded.

# 49. Lot selection: Dialog can be replaced by a screen in Runtime (RQ 4780)

In the screen switching for `AML`, `CEL`, `Extended Trend`, `Historian`, `Report Generator` and `Report Viewer` screens, as well as when exporting archives, an option was added for lot selection.

If the **Display lot selection dialog** option is activated, the new **Replace dialog with screen in Runtime** option is available. A screen is thus defined that is to be called up in Runtime instead of the **lot selection dialog**. Only `time/lot filter` screens are offered.

# 50. Combined element: Transfer of "locked" from project properties (RQ 4912)

Combined elements can accept the action for buttons set in the project. To do this, activate the **Darstellung im gesperrten Zustand von Tasteneigenschaften des Projekts übernehmen** property.

For this, the settings of the following project properties are taken into account:

- **Login and signature** -> **Locked buttons**
- **Locked/Interlocked elements** -> **Interlocked buttons**

**Note:** The `gray` setting has no effect on symbols in the text.

# 51. Combined element: Shadow (RQ 4806)

With a combined element, the shading effects now act in the same way as for other elements or symbols. All rotations no longer have any effects on the actual angle of the shade.

# 52. Combined element: Variable information (RQ 4497)

With the combined element, the resources label and the time stamp can now also be displayed as variable information.

# 53. Combo-/Listbox (RQ 4807)

When displaying the combo box in the Editor, the first line in the background color is shown; the rest of the box is transparent. Thus other elements are not covered in the Editor. The display in Runtime is as usual.

# 54. Combined element: Fill color for the graphics file and screen symbol (RQ 4875)

A **fill color** for the **combined element** can now be selected; this is automatically used as the standard color in the Editor as well as in Runtime.

Note: The `Accept color of the main variable` property is now deactivated in **graphics file and screen symbol** mode.

# 55. Dynamic elements: Harmonization of the display sequence of element components (RQ 4874)

The display sequence of the individual element components was made the same for dynamic elements.

# 56. Dynamic text: "Text from variable" property replace with "Display text" (RQ 4830)

For the configuration of the Dynamic Text screen element, the **Text from variable** check box has been replaced by the new **Display text** drop-down selection.

This allows the selection of the content to be displayed in Runtime from a drop-down list:

- `Resources label`: The content of the **Resources label** variable property is displayed.
- `Limit text`: As long as no limit value has been breached, the content of the **Text** screen property is displayed. If a limit value is breached, the content of the **Limit text** variable property is displayed.
- `Measuring unit`: The content of the **Measuring unit** variable property is displayed.
- `Variable identification`: The content of the **Identification** variable property is displayed.
- `Variable name` : The content of the **Name** variable property is displayed.
- `Variable value`: The value of the variable is displayed.

Default: `Limit text`

When converting projects, the property is set according to the status of the check box:

| Check box in projects before 7.20 | Selection in drop-down list in 7.20 |
|---|---|
| `inactive` | `Limit text` |
| `active` (variable is numerical) | `Variable value` |
| `active` (variable is not numerical) | `Limit text` |

When compiling Runtime files in version 7.20 for version or 7.11 or lower, the value for the check box is set in the compiled version:

- `active`: Selection for drop-down selection is `variable value`
- `Inactive`: for all other setups

### COMPATIBILITY RUNTIME FILES

The 'variable value' value was originally only used for **STRING** variables. From version 7.20, this version is converted depending on the type of the variables. **INTEGER** variables become **limit value text**, **STRING** variables become **variable value**. This conversion is carried out in the Editor and in Runtime when loading a screen element.

If Runtime files are transferred from a project before 7.20 directly into a version 7.20 project, this can lead to the following behavior: **INTEGER** variables are swapped for **STRING** variables and vice versa.

**Solution:** Create the Runtime files again in version 7.20.

# 57. Antialiasing property removed (RQ 4873)

The **Use antialiasing** property was removed from the project properties. **Antialiasing** is now always used if the set graphics quality supports it.

# 58. Text angle and letter slant properties removed (RQ 4873)

The **text angle** and **letter slant** properties have been removed. These could be used with the **`static text`** element if the script was embedded. **Text angle** can be implemented by rotating the complete element. There is no replacement for **letter slant**.

# 59. Filter screens with lot selection (RQ 4780)

The time filter screen has been renamed to `Time / lot filter`. It has new control elements to display and operate an archive list and a lot list.

The screen switching for `time / lot filter`, `AML filter` and `CEL filter` screens has been enhanced with tabs to select lots and configure the new control elements.

# 60. "Windows Enhanced" graphics quality removed (RQ 4908)

The `Windows Enhanced` graphics quality option was removed from zenon. When a new project is created, the **Graphics quality** is `DirectX hardware` by default. This can be changed manually to `Windows basic` or `DirectX software`. During project conversion, the previous value `Windows Enhanced` is changed to `DirectX hardware`. If a project that was configured with `Windows Enhanced` is started in Runtime, it is loaded with `DirectX hardware`.

**Note**: The graphic display of `DirectX` is different from `Windows Enhanced`. You can read details in the Differences between the graphics qualities of "Windows Enhanced" and "DirectX".

If, from version `7.00` a different graphics quality to `Windows Basic` is set for a project (including the corresponding setting for the **`Create RT files for`**), Runtime up to zenon version `6.51` loads the `Windows extended` graphics quality. If the `Windows basic` graphics quality is set, this is retained.

# 61. Indexing for screen switching: Parameters for functions (RQ 4830)

When switching screens in Runtime, functions can be replaced dynamically using parameters.

New key word for substitution rule: **`{PARAM}`**.

Parameters for functions are used in the substitution dialog for indexes of screen switching. In doing so, the key word **`{PARAM}`** is replaced by the content of the parameter entry in the substitution rule.

**Note:** Avoid character sequences that are also used for parameter of the indexing variables, such as **`{X01}`**.

Functions that are linked to the following screen elements can be replaced using parameters:

- Button
- Combo-/Listbox
- Combined element

When executing a function in Runtime that uses substitution, the key word **`{PARAM}`** is replaced by its respective entry. If the entry does not provide a meaningful result, the original value is displayed.

# 62. Lasso - adaptation to native Multi-Touch (RQ 4787)

The use of the Runtime lasso was adapted to Windows 8 touch gestures.

# 63. Frames: Property new and renamed (4826)

The frames have new properties. The new properties make it possible to configure the size of a screen when it is called up, as well as the movement of screens on the monitor. In addition, two existing properties have been renamed. When converting a project, the values for the new properties are set to the default values.

### NEW PROPERTIES

| Property | Description |
|---|---|
| **Opening size**: | Defines the size with with which a screen based on this frame is called up in Runtime. |
| **Value (Opening size)** | Value for the selected type of size setting. |
| **Limitation Minimum**: | Defines limits for minimum.<br>Only has an effect on Multi-Touch gestures. |
| **Value (minimum)**: | Value for the selected type of limit. |
| **Move**: | Defines possible settings when moving the object. |
| **Limitation**: | Defines the type of limit when moving. |
| **Minimum frame margin**: | Defines the area that must remain on the monitor if an object is moved beyond the border of the monitor. |

### RENAMED PROPERTIES

| zenon 7.11 | zenon 7.20 |
|---|---|
| **Width [pixels]**: | **Width (maximum) [pixels]**:<br>Defines the maximum width. |
| **Height [pixels]**: | **Height (maximum) [pixels]**:<br>Defines the maximum height. |

# 64. Frames: "Border type" property changed 29252)

The possible settings for the **Border type** were changed for frames:

| Up to 7.11 | From version 7.20 |
|---|---|
| Bold border | Size adjustable |
| Thin border | Size fixed |
| No border | No border |

The display in the Editor and Runtime is thus changed. In the Editor, the border of the frame is now shown as it would look in Runtime on the same PC with the same settings in the operating system. The appearance of the frame in converted projects can thus change.

# 65. Move Frame via mouse (RQ 4787)

Frames can also be moved with the mouse if the screen is not a worldview. To do this, the new **Move Frame via mouse** property in the **Interaction** group must be activated. The property is only available if no reaction has been configured for the **Move horizontally** and **Move vertically** gestures.

# 66. Limit moving of frames (RQ 4824)

The moving of frames in Runtime can be limited to:

- Frame border: The frame cannot be moved beyond the monitor limit.
- Frame border area: The frame can be moved beyond the monitor limit. However there must be an area on the monitor that can be accessed for further actions. This area can be set Default: from 30 pixels

# 67. Visibility of screen elements (RQ 4830)

The visibility of screen elements can now be controlled not just by means of variables, but also by means of interlockings. Selection is made using the new **Visibility** property:

- Variable: The visibility is controlled by a variable. The element is always visible if no variable is defined. If a variable has been defined, the visibility is either taken from the limit properties of these variables or defined by the value range that is defined in the 'From' and 'To' properties.
- Interlocking: The visibility is controlled by an interlocking. The element is always visible if no interlocking is defined. The new **Visible if interlocked** property is used to define whether the element is visible, if it is interlocked or if it is not interlocked.

### VISIBILITY WITH INTERLOCKING

| Interlocking linked | Interlocking active | Visible if interlocked | Result |
|---|---|---|---|
| X | X | X | Visible |
| X | X | - | Invisible |
| X | - | X | Invisible |
| X | X | - | Visible |
| - | - | - | Visible |

### ACTION IN THE EVENT OF A CONFLICT

If the same interlocking for interlockings in the project properties for **User administration** or **Graphical design** and the visibility for the screen element are both configured, the local setting has higher priority than the setting in the project properties.

# 68. Symbols: Renaming (Def. 31917)

Some terms have been changed in the symbols area:

| Previously | From version 7.20 |
|---|---|
| Embedded symbol | `Element group` |
| Linked symbol | `Symbol` |

Screen symbols mark symbols and/or element groups contained in a screen.

# 69. Differences between the graphics qualities "Windows Enhanced" and "DirectX" (RQ 4908)

The `Windows Enhanced` graphics quality was removed from zenon, see the "Windows Enhanced" graphics quality removed. There is the possibility of pixel differences, and things being displayed differently in the graphics output, as a result of the project conversion.

If the project needs to be amended after project version, note the following differences between the graphics qualities `Windows Enhanced` and `DirectX`:

Differences can occur in the following areas:

- ClearType of fonts
- Antialiasing
- Positioning of displays within elements

  In doing so, note:

  - The dynamic elements and
  - all areas in which text occurs.
- Dynamics/symbols:
  - Rotate
  - Scaling
  - Move

Also possible differences in:

- Color gradient
- Rounding
- Effects, such as shading
- Rounded corners
- End of line
- Line type
- Graphics file
- Zoom in zenon Editor
- Worldview in zenon Runtime

**Note:** Differences that are not listed here can also occur in other areas.

# 70. Unlinked elements (RQ 4874, 4871, 114016)

Unlinked elements are shown in the Editor without effects.

#### COMBINED ELEMENT:

In **graphics file and screen symbol** mode, the **combined element** in the Editor is shown as unlinked and not shown in Runtime if no main variable is linked.

Note: No bitmap in default status no longer means that the status is `unlinked`.

#### TREND ELEMENT:

If no curves have been defined in the Editor, the **trend element** is not shown in Runtime.

#### CLOCK ELEMENT:

If the **clock element** is configured with the time difference setting, but no variable is linked, it is no longer shown in Runtime and shown as unlinked in the Editor.

#### WPF ELEMENT:

A **WPF element** for which no valid XAML file has been linked is not shown in the Editor and not available in Runtime.

# 71. WPF element: Editing linkings (Def. 29057)

All linkings configured in a WPF element can now be edited using the properties of the element without having to open the configuration dialog. Click on the element and open the property group **WPF links**. Hyperlinks can be further configured here, without having to open the dialog.

Limitations:

- The linking type cannot be changed here.
- New linkings can only be created via the configuration dialog.
- Insertion of a WPF elements into a symbol: WPF linkings cannot be exported.

# 72. Functions and scripts

# 73. Filter when screen switching in Runtime (RQ 4826)

Depending on the configuration, either the time filter or the lot filter is offered for configuration with the following screens in Runtime when screen switching:

- AML
- CEL
- Historian
- ETM
- Report Generator

Filter:

- If the **Show this dialog in Runtime** option is activated, the time filter is offered if this has been configured.
- If, in the Lots tab, the **Show lot selection dialog** option is also activated, then the lot filter is offered.

# 74. New Select functions and scripts dialog (RQ 4830)

Individual functions and scripts can now be configured for many functions in dialogs, properties and dynamic elements by means of a specific dialog. Several functions continue to be configured in their own dialogs.
The dialog to select functions and scripts is called up for:

- Archive configuration / tab for Runtime: Execute function for archive start or archive end
- Combo box/list box: each element that has its own functions
- Dialogs: all properties with functions
- Dynamic elements: all properties with functions and double click on a dynamic element
- Reaction matrices: Function
- Replace links: Replace function dialog
- WPF: Event properties

The dialog offers the possibility to select functions and to configure scripts:

- `Functions selection`: Selection of a function or creation of a new function
- `Script selection`: Selection of a script or creation of a new script as well as assignment of a function **Script: execute**

# 75. New function "Analyzer: Create report (RQ 4766)

In zenon, there is now a function that makes it possible to create reports on an event-triggered basis with the help of the COPA-DATA product zenon Analyzer. Therefore an event - such as a change of value, for instance - can be used as a trigger for the creation and sending of an Analyzer report.

# 76. Menus

# 77. Display behavior of menu entries in Runtime (RQ 4192)

The display behavior of menu entries in Runtime can be amended in the Editor to the authorizations of the user administration from zenon 7.20.

To do this, in the new **Locked menu items** property, in the **User administration** property of the project, it is possible to select `Normal`, `Grayed out` or `invisible`.

The setting for the authorizations is configured for each individual menu entry in the **Authorization level** property.

# 78. Modules

# 79. Historian

## 79.1 Creation and modification of aggregated archives enhanced (RQ 4882)

The configuration of aggregated archives has been enhanced:

- When creating new archives with the assistant, aggregation archives can now also be created at the same time.
- When adding variables to base archives or aggregated archives, these can also be immediately assigned to all subordinate aggregation archives.

## 79.2 Key words: Print archive (RQ 4884)

The @TAGNR key word is now available for the printing of archives in Runtime. The variable identification of the entry is thus added.

## 79.3 SQL evacuation to MS Azure service bus (RQ 4904)

The SQL evacuation of an archive can now be carried out on an MS Azure service bus. To do this, the **Use MS Azure service bus for writing** option must be activated for the configuration of the archive in the **Save** tab. Writing to the SQL table is then not carried out directly via the OLEDB connection and SQL INSERT statement, but via the MS Azure service bus. In doing so, all archive values are added to the Azure service bus queue with the name **archivequeue**. This must exist in the MS Azure namespace of the configured connection.

## 79.4 SQL evacuation with primary key (RQ 4917)

When creating the SQL tables for archive data, lots and variables, a primary key is now automatically created using the Editor.

Because the GUID is now included in the index, this NOT must be zero. From zenon version 7.20, an empty string is entered instead of ZERO for the evacuation of variables of your own project for the GUID.

If Runtime files for version 7.11 or earlier are compiled, there is a compatibility problem as a result: Because ZERO is written in the GUID column here, the evacuation does not work.

**Solution:** The table in the SQL Server must be created manually without GUID in the primary key or completely without a primary key.

For example, with the following syntax:

```
CREATE TABLE [$projectname$_$archivename$]
(
[VARIABLE] int,
[CALCULATION] int,
[TIMESTAMP_S] int,
[TIMESTAMP_MS] int,
[VALUE] float,
[STATUS] int,
[GUID] varchar(36),
[STRVALUE] varchar(?),
CONSTRAINT [PK_$projectname$_$archivename$] PRIMARY KEY CLUSTERED
(
[TIMESTAMP_S] ASC,
[TIMESTAMP_MS] ASC,
[VARIABLE] ASC,
[CALCULATION] ASC
)
)
```

# 80. Alarm status line can be configured (RQ 4949)

The colors for alarms and warnings can be freely configured in the alarm status line. The project properties in the **Alarm Message List/Alarm status line** group can be used to define text color and background color of the alarms and the warnings.

# 81. AML and CEL SQL export (RQ 4883)

With version 7.20, the **RESLABEL** column was added to the table for SQL export for the resources label.

- Name: **RESLABEL**
- Format: `varchar(128)`

#### INCOMPATIBILITY WITH EXISTING EXPORT TABLES FOR SQL

Tables that already exist cannot continue to be used for export after project configuration.

- Background: The export is incremental. A new column cannot be added to existing tables.
- Solution: The table must be renamed for correct export.
  To do this, open the function and change the name of the table or give it a name in the **Export format** tab.

# 82. Equipment Modeling

## 82.1 Import and export via API (Def. 27608)

Equipment models can also be exported and imported using the API.

**Attention:** The complete equipment model is overwritten on import. Existing equipment models and equipment groups with the same name as imported objects are overwritten on import. Objects that are not contained in the import file are deleted.

# 83. Batch Control

## 83.1 Control recipe: No more grouped CEL entries with a value change (Def. 31959)

There is no longer a grouped CEL message any more when values change in a control recipe. Instead, each message has all information that concerns the recipe. The header entries have been removed and

all changes of parameter values now use the same entries as for editing via the parameter list. The entries for changes were also adapted to the minimum execution time. New entries were added for this.

The following entries were removed:

- `"@Engineering of the phase@ %s""%s/%s"" @(column@ %i - @row@ %i@) changed, control recipe@ ""%s""@, master recipe@ ""%s"""`
- `"@Reason:@ ""%s"""`
- `"  @Value of the parameter@ ""%s"" @was changed. Old value@ ""%s"", @new value@ ""%s""`
- `"  @Minimum duration of execution was changed. Old value@ ""%s"", @new value@ ""%s""`

The following entries were added:

- `"@Minimal processing duration of the phase@ %s"%s/%s" @(column@ %i - @row@ %i@) was changed. Old value@ ""%s"", @new value@ ""%s""@, control recipe@ ""%s""@, master recipe@ ""%s""`
- `"@Minimal processing duration of the phase@ %s"%s/%s" @(column@ %i - @row@ %i@) was changed. Old value@ ""%s"", @new value@ ""%s""@, control recipe@ ""%s""@, master recipe@ ""%s"" @reason@ ""%s""`

# 84. User administration

## 84.1 Amendment of function authorization for the symbol library of a global project (RQ 4913)

if the global project user who is logged on in the zenon Editor does not have the necessary function authorization for the Screens module, it is no longer possible for this user to edit symbols of the global symbol library.

## 84.2 Administering users in Runtime (RQ 4553)

The new `Edit user`, `User list` and `User group list` screens enable users to create and edit user groups in Runtime and link them to authorization levels.

## 84.3 Accelerated automatic login and logout for subprojects (RQ 4868)

The procedure for automatic login to subprojects and logout from subprojects has been sped up. A Windows user (AD/ADAM) who is already logged into a subproject is now reused and replaces the individual need for each project. If a Windows user in the login chain is used for the first time, the password is checked at this point. If a check at the start of the login chain returns invalidity, the complete login process is canceled. If a login attempt in a subproject is rejected, this login is canceled, but the process is continued for all other projects.

## 84.4 Delete path for "Screen: Return to last" (RQ 4811)

The path of the screen-back function can be deleted in Runtime:

- Automatic: Using the new **DelPicBackPathAtLogout** project property in the **User administration** group.
- Individually: Using the new **`Delete path for "Screen: Return to last"`** function.

## 84.5 Used AD/LDS properties documented (Def. 32729)

The AD/LDS properties used by zenon for communication with AD/LDS have been documented: **`User administration`** manual, **`AD/LDS properties used by zenon`**.

## 84.6 Login and signature (RQ 4475, 4910 RQ )

The `Login` screen was enhanced and can now be used for temporary login and/or signature instead of the modal dialog. To do this, it must be allocated to the **Screen for Login** property or the **Screen for Login with signature** property in the project properties.

## 84.7 Password security (RQ 4848, 4698)

Changes to the password via functions, screens, dialogs and API are also checked with the same logic as the login and lead to the user being blocked if the current password is entered incorrectly three times (default). Only read access is now possible to the "Locked" property and the "UserLocked" dynproperty of the "User" API object.

## 84.8 Change password in Runtime (RQ 4949)

Users can now also change their password in Runtime using an individually-designable `Edit user` screen. The screen is called up modally instead of the previous modal dialog. To do this, the screen must be linked in the new **Screen for password change** project property.

## 84.9 Improvement of data security of user administration (RQ 4849)

Under certain circumstances, it was also possible to edit a project or restore a project backup without the corresponding access rights. This safety loophole has been rectified.

# 85. Extended Trend

## 85.1 Block arrays under Windows CE too (Def. 32647)

In the Extended Trend, block arrays are now also supported under Windows CE. This change was also implemented in zenon version 7.11.

## 85.2 Relative lot filter - no curves permitted (Def. 31259)

If, for the **`Extended Trend`** for screen switching in the **`Lots`** tab, the **Relative lot selection** option has been activated, no curves can be configured. If configured curves are combined with this option, this can lead to unwanted effects in Runtime.

## 85.3 Cursor: Writing abscissas in variables (RQ 4605)

Two variables can be defined for the cursor, in which the abscissas are written for calling up and moving the cursor (time or X values). The variables can be **`LREAL`** or **`DWORD/DINT/UDINT`** variables and are configured in the screen switching in the **`Display`** tab. In doing so, the values are saved in Unix time format (number of seconds passed since 1 January 1970 00:00 UTC).

## 85.4 Properties of the fill color can be displayed (RQ 4895)

The properties for the fill color can now be displayed in the **Extended curve list** in Extended Trend:

- Area display
- Fill color
- Transparency fill color

The project is now configured in the Editor for screen switching or in Runtime by right-clicking on the column title in the **Column selection** dialog.

## 85.5 Expanded curve list Arrange curves (RQ 3844)

The sequence in which the curves are drawn in the ETM can be defined. The order can be configured in the Editor in screen switching and in Runtime in the **Extended Curve List** window.

## 85.6 Cross-hair for XY-view

The cross-hair in Runtime for the XY-view is now configured in screen switching. To do this, activate the **Show cross-hair in XY diagram** option.

Configuration was previously carried out by means of the **SHOW_XY_CROSS**= entry in **project.ini**. When converting a project from a version before zenon 7.20, the setting is read from **project.ini** and entered. From now on, the entry in **project.ini** is ignored.

## 85.7 Curve selection by means of double clicking (RQ 4895)

When screen switching, curves can now be opened for editing by double clicking.

# 86. Industrial Maintenance Manager

## 86.1 IMM table names (Def. 32564)

Table names in the IMM have been amended to the convention of measuring point administration. The table names in the IMM are thus fixed and can no longer be changed in the properties:

- **Table for devices**: `Devices`
- **Table for maint. works**: `MaintenanceWorks`
- **Table for history**: `MaintenanceHistory`
- **Table for documents**: `Documents`

These table names correspond to the naming in the Metering Point Administration.

Different table names are retained when projects are converted. New projects use the fixed, prescribed table names. If tables are used together in IMM and Metering Point Administration, they must correspond to this convention. Different names in IMM can be amended using a dialog.

# 87. Process Gateway

## 87.1 DNP3-Outstation/Slave (RQ 4789, 4790, 4791)

#### NEW STACK

The stack of the DNP3 slave for zenon Process Gateway has been updated for version 7.20.

Communication was changed from shared memory to COM. As a result, there is the possibility of using variables of several projects.

The user interface and dialogs have been redesigned and documented accordingly.

#### UNSOLICITED RESPONSES

The DNP3 slave in zenon Process Gateway now supports the sending of Unsolicited Responses (responses that have not been requested) to the DNP3 master. This can also be requested from the master. However to do this, this possibility must be activated in the DNP3 slave in the Process Gateway.

The number of events and the maximum time delay can be configured for each event class.

Timeout and Retry are given for all event classes together.

#### SOE, MOST RECENT FOR DNP3 OBJECT GROUPS AND DNP3 DATA POINTS

The type of event creation can be configured for each DNP3 object group and each data point.

- For each value change (**SOE**)
- For the last value change only (**most recent**)

#### UNIX TIME

It is now possible to switch between standard time and Unix time as a format for the time stamp.

## 87.2 Modbus (RQ 4961)

The MODBUS offset can be configured for each variable in the MODBUS slave module for Process Gateway. An additional dialog was created for this. This opens when the variable is assigned and the MODBUS offset can be configured for each variable.

## 87.3 IEC-60870 (RQ 4790)

#### RECEIPT OF A FILE OF AN IEC-60870-5-104 MASTER

The Process Gateway can receive files of an IEC-60870-5-104 master in accordance with the standard. To do this, the `<120> File ready` type has been made available in the **Type Identification** drop-down list of the configuration dialog of the **`Information object settings`**.

Only a string variable is available as a SCADA variable.

The new **`AccessAzure.dll`** communication module writes variable values of Runtime to an MS Azure service bus queue. This data can then be called up with the **`AzureDrv`** driver from MS Azure and integrated in processes of zenon or zenon Analyzer.

# 88. Report Viewer

## 88.1 Printing of alarm areas for AML and CEL (RQ 4768)

A column has been added to the data sets for both the Alarm Message List and Chronological Event List in zenon 7.20. The new "**AREA**" column with the `String` data type contains the compiled names with the alarm areas that are linked to the variable (formats as in the AML/CEL list).

Existing RDL files must be enhanced manually if required. Newly-created RDL files automatically contain this column.

# 89. Recipegroup Manager (RGM)

Changes for the Recipegroup Manager:

- New recipe value table (RQ 4787) (on page 51)

## 89.1 Changes to recipe value table (RQ 4829)

Up to and including version 7.11, the recipe value table lost the position and selection when certain buttons were clicked on. In addition, changes that had already been made, such as the insertion of a new column, were lost. From version 7.20, the list is only reinitialized when it is called up and when the **`Filter`** button is clicked on. Thus the position, selection and modifications are retained with all other actions.

Affected buttons:

- **`All values ++`**
- **`All values --`**
- **`Change all values %`**
- **`Change all values with formula`**
- **`Read & save all values`**
- **`Write all values`**
- **`Read selected values`**
- **`Write selected values`**

## 89.2 Keyboards for recipe value tables (RQ 4822)

Keyboards for the entry of values in the recipe value tables can be predefined. If a keyboard is assigned to a data type, then the corresponding keyboard is opened in Runtime for the entry of values. The keyboard thus no longer needs to be defined separately for each variable. The following keyboards can be defined in the Editor in the properties for the **Keyboards** RGM group:

- **Binary tags**
- **Numeric tags**
- **String tags**

## 89.3 New recipe value table (RQ 4787, 4788, 4823, 4827, 4830)

The RGM has a new **recipe value table** (executed as a configurable list). This can be sorted in the Editor and in Runtime by means of Drag&Drop. The new table is not available for Windows CE. The previous table remains present as a **CE recipe value table** and is used with Windows CE. One of the two screens can be inserted into each of the two tables. If the new **recipe value table** is configured, this is replaced with the **CE recipe value table** when switching to Windows CE. In doing so, the settings of the original screen switching are retained.

There are now specific buttons available in Runtime for column selection and column formatting for the new recipe value tables.

Note: The **Print table** control element is not available for the new recipe value table. Printing and exporting can be carried out by means of a **Report Viewer** function. A corresponding chapter has been added to the documentation of the **RGM** chapter.

#### CONFIGURABLE TABLE COLUMNS

The table columns of the new recipe value table can be configured into an order using drag&drop and can be sorted by clicking on a column header. The columns can be selected and formatted using the **Recipe value table column selection** and **Recipe value table column format** buttons. The cells can also be edited depending on the content.

Available are:

- **Writing order**: Display only
- **Action**: Display only
- **Resources label**: Display only
- **Filter text**: Display only
- **Actual value**: Display only
- **Identification**: Display only

- Measuring unit: Display only
- Maximum value: Display only
- **`Minimum value`**: Display only
- **`Variable name`**: Display only
- **`Value or variable`**: can be edited depending on the entry in the **`Action`** column
- **`Value display as text`**: can be edited depending on the entry in the **`Action`** column (only by means of a `Keyboard` screen)

### 89.3.1 Display of incorrect values (RQ 4827)

*The values displayed in the recipe value tables are checked automatically and highlighted in the event of errors. This display is not available for the **`CE recipe value table`**.*

*The following cells are marked:*

- Values that are outside the defined minimum/maximum value
- Values that relate to a variable that is not present or not contactable

Default: red background color.

Colors for texts and background can each be amended individually using the properties of the Color group.

### 89.3.2 Color amendment for recipe checking and interlocking (RQ 4827, RQ 4828)

The colors for the display of the results of the recipe value checking and for interlockings can be amended individually in the new recipe value table using the properties in the **Colors** group.

Default values:

- `Green`: Results correspond.
- `Red`: There are deviations.
- `blue`: No connection to the PLC.

This amendment is not available for the **`CE recipe value table`**.

### 89.3.3 New control element (RQ 4788)

For the RGM, there are two new control elements available for the recipe value table:

- **`Column selection`**: Opens the dialog for selecting the columns to be displayed.
- **`Column format`**: Opens the dialog to format the columns..

### 89.3.4 New writing order column for recipe value table (RQ 4827)

The new recipe value table in the RGM now has a **`Writing order`** column. This shows the sequence in which the recipes are written. The sequence cannot be changed here, but the table can be sorted according to the write sequence.

# 90. Enhanced SAP Interface (RQ 4888)

#### SERVER PROGRAM

Configuration of server programs was added to the SAP interface. zenon functions can thus be called up from an SAP application, for example in order to transfer order data to zenon.

#### ENTRIES INTO CEL

Log entries were automatically written to the CEL up to version version 7.11. From version 7.20, writing to the CEL can be controlled using the **LOG messages in the CEL** property.

# 91. Multi-Touch (RQ 4787, 4826, 4827, 4828)

The use of native Windows 8 gestures has been enhanced.

It is thus possible to configure the moving and zooming for all screens and all suitable screen content using properties with version 7.20. VSTA is not required. Whether screens or screen content can be manipulated depends on the configuration of the screen as a worldview:

- No worldview: the screen is moved or zoomed (including frame)

- Worldview: the screen extract is moved or zoomed

#### LIMIT MOVING (RQ 4826)

The moving of frames/screens beyond the edge of the monitor can be limited to the edge of the monitor or a definable area. Theses limits are also applied to zooming.

#### BEHAVIOR WITH 2-FINGER GESTURES (WINDOWS 8)

If the screen is touched with two fingers in Windows 8, the action depends on the elements that are touched. Pressed buttons are shown as not pressed again if a second finger is placed outside the button and Multi-Touch gestures for the screen are enabled.

# 92. Mobile applications

# 93. Everywhere Server by zenon

The Everywhere Server by zenon is for visualizing zenon projects on mobile devices.

Finished apps can be used for this, which are available free of charge in the respective app stores. Visualization with self-created apps is also possible.

## 93.1 Everywhere Server by zenon programming interface (RQ 4600)

Everywhere Server by zenon has been integrated into Runtime. Configuration is carried out either by using the external **`Everywhere.Config.exe`** tool or directly in zenon6.ini.

Furthermore, a programming interface was created and documented for Everywhere Server.

## 93.2 Configuration of authorization levels for Everywhere Server by zenon in the Editor (RQ 4911)

The control of access rights for Everywhere Server by zenon has been integrated into the zenon Editor. A separate property group has been created in the workspace properties for this. Alternatively, this user authorization can also be undertaken in the zenon6.ini file.

# 94. Everywhere App by zenon (RQ 4430, 4751, 4843)

Configurations in zenon can be visualized on smartphones (Microsoft Phone, Android and iPhone) as well as the iPad. Apps are provided in the respective app stores free of charge for this.

The graphical user interface has been revised. A profile for a demo project is also supplied on installation.

# 95. The following are visualized:

- Real-time display of values of a zenon project
- Authentication by means of the mobile application
- Selection of the equipment model of the active project
- Assignment of the configured user authorizations (via .INI entry)
- Individual variables can be activated
- Display of values in lists ...
  - ... with graphic progress bars
  - ... with dynamic pointer instruments
  - ... Alarm messages with time

# 96.

# 97. Everywhere App for Desktop (RQ 4601)

Configurations in zenon can be also visualized on desktop devices and Windows tablet computers from Windows 8. A free app is provided in the Windows app store for this.

# 98. The following are visualized:

- Real-time display of values of a zenon project
- Authentication by means of the mobile application
- Selection of the equipment model of the active project
- Assignment of the configured user authorizations (via .INI entry)
- Individual variables can be activated
- Display of values in lists ...
  - ... with graphic progress bars
  - ... with dynamic pointer instruments
  - ... Alarm messages with time

# 99. Notifier App by zenon (RQ 4892)

The new **Notifier App by zenon** displays SMSs that have been sent by the **Message Control** module and contain certain key words or have been sent by certain telephone numbers. After **Notifier App by zenon** receipt, an alarm is played back for 30 seconds on the Smartphone.

If the message is opened within the time period, the user can acknowledge the alarm by SMS or reject it. If the message is ignored, then the information is filed to the **Notification-Bar**. If this is activated, the acknowledgment screen is called up again.

**Note:** The App is only available for devices with the Android operating system.

# 100.Programming interface

# 101.Process Control Engine (PCE) removed (RQ 4946)

Starting from version 7.20, PCE will not be supported anymore and it will not be shown in the module tree of zenon anymore. PCE will not further be developed and documented.

While converting projects from versions lower than 7.20, which contain PCE tasks, the node PCE will be shown for these projects again.

**Recommendation:** Please use **zenon Logic** instead of PCE.

# 102.VSTA events removed from zenOn.DynPictures (Def. 32778)

The following VSTA events have been removed with zenon 7.20:

- **DynPictures.PointerDeviceChange**
- **DynPictures.PointerDeviceInRange**
- **DynPictures.PointerDeviceOutOfRange**

Furthermore, the following enum was removed:

- **tpPointerDeviceChange**

# 103.Definable filter for historical AML/CEL entries (RQ 4909)

From zenon 7.20, there is now the possibility to determine historical AML/CEL entries in Runtime using the API with the following methods:

| Description | CEL access | AML access |
|---|---|---|
| Resetting of the filter | `Cel.ResetQueryFilter()` | `Alarm.ResetQueryFilter()` |
| Manipulation of the filter | `Cel.DynProperties("QueryFilter[0]")` | `Alarm.DynProperties("QueryFilter[0]")` |
| Application of the filter | `Cel.CelItems(".")` | `Alarm.AlarmItems(".")` |

`DynProperty QueryFilter[0]` contains a range of further properties. These can be viewed as usual using the DynPropertiesEnum function.

# 104.New properties of the element class (RQ 4914)

New properties have been added to the **`Element`** class in order to be able to read additional information on the interlocking status in Runtime and and information of a function linked to the dynamic element.

The **`Element.Function`** property can be used to determine the zenon **`RtFunction`** function type that is linked to a dynamic element.

The **`Element.Interlocking`** property can be used to read the interlocking of an **`Interlocking`** dynamic element.

# 105.Enhancement of the API for the Production & Facility Scheduler (RQ 4850)

New functions were added to the API:

### USER-DEFINED EVENTS VIA THE API

The **`UserEventId`** property can be used to add a user-defined event to a relative switching point. A user-defined event can only be linked once per schedule.

### SET RELATIVE TIME EVENTS

The **`EventId`** property can be used to add a pre-defined event to a relative switching point. When linking a user-defined event, any pre-defined linked event is reset (and vice versa).

### SWITCHING POINTS CAN BE SWITCHED TO ACTIVE/INACTIVE BY MEANS OF THE API

A switching point can be set to active or inactive using the `PfsScheduleValue.Active` property.

### READ A TIME MODEL FROM AN INDIVIDUAL DAY

The `PfsCalendar.TimeModelForDay(Date, string)` method can be used to query the time model that is currently linked.

### LINK TIME MODEL TO AN INDIVIDUAL DAY

`PfsTimeModell.AddToDay(Date, tpPfsDayLink)` ca be used to link a time model to an individual day.

### QUERY OF THE LINKING TYPE OF A TIME MODE ON A DAY

The linking type can be queried with the `PfsTimeModell.IsOnDay(Date)` method.

### LINKING OF SCHEDULES TO AN INDIVIDUAL DAY

In the `PfsEngine` object, there is a new object for the calendar that can be addressed via `PfsEngine.PfsCalendar`. This object contains the linked schedules and time models for a certain day and a certain time model group.

### QUERY SCHEDULES FOR DAY

The calendar object of the PFS-API can be used to query the linked schedules for a certain day and a certain time model group using the `PfsCalendar.SchedulesForDay(Date, string)` method.

### COPYING OF SCHEDULES USING THE API

Schedules can be duplicated by using the `PfsSchedules.DuplicateSchedule(string, int)` method.

### DETERMINING EXCEPTIONS IN THE SCHEDULE

The `PfsSchedule.SkippedDays()` method can be used to determine days for which a schedule is established as standard but has been deactivated for this special day.

### SWITCHING POINT PREVIEW VIA THE API

Methods via which the possibility of the switching preview via the API are prepared have been added. The `Calendar.CreateSwitchingPointFilter()` method can be used to create a

`PfsSwitchingPointFilter` filter object. This object provides a method called `SwitchingPointPreview()` that returns an array to `PfsSwitchingPoint` objects.

# 106.Save Remote Transport password in encrypted form (RQ 4744)

The password for the Remote Transport connection is saved in encrypted form from zenon 7.20:

- At the source (Editor) in `project.ini`, `TRANSPASS` section.
- At the destination (Runtime) in `zenon6.ini`, `TRANSPASS` section.

To do this, a new entry called **KEYCRYPT**= was created. This is only used if a the previous **KEY**= entry is empty.

In addition, the complete communication is encrypted if the encryption has been activated for the zenon network.

# 107.Wizards

# 108.Analyzer Export Wizard enhancement (RQ 4905)

Analyzer Export Wizard was supplemented with the ability to import data from zenon 7.20.

The export:

- Allows the selection of local projects.
- Takes Sankey diagrams into account
- Uses the newly-implemented properties in zenon 7.20 for zenon Analyzer

The following properties in the zenon **Analyzer** variable properties group provide information for reports in the zenon Analyzer:

- **Visual name**: Entry of a display name of the variable in zenon Analyzer. This must be unique in the project. The check is not carried out when issued in zenon, but when imported into zenon Analyzer. If this property is changed after the first export to a zenon Analyzer, these changes are not applied in the zenon Analyzer.

- **Meaning**: Entry of the (Meaning) of a variable in the zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. Several meanings are separated by a comma.
  Syntax: `[Meaning1],[Meaning2],…,[MeaningN]`
- **Parameter for waterfall diagram**: Parameters of a variable for a waterfall diagram in zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. The individual parameters are separated by a comma. Several waterfalls are divided by a semicolon.
  Syntax: `[model name],[row index],[index in row],[color code];`

Up to version 7.11, the entries of the new **Meaning** and **Parameter for waterfall diagram** properties were entered into the **Resources label** property.

When converting a project to version 7.20, the entries are kept in the **Resources label** property. When exporting to zenon Analyzer, both the previous property and the new one are checked. If both are assigned, the entries of the new properties are taken on.

# 109. Metering Point Administration - new wizard (RQ 4975, 4996)

The new wizard for metering point administration (**Metering Point Administration Wizard**) allows the administration of meters and metering points.

The metering point administration was optimized to work together with the optional IMM - Industrial Maintenance Manager module and the zenon Analyzer. This is how the metering point provides the relative values necessary for the zenon Analyzer in order to create reports. In the IMM, the meters can also be administered in the same manner and these can be included in the existing maintenance cycles.

- In the zenon Editor, metering points are linked to variables from archives with the help of the wizard.
  Metering points and counters can be created or edited. Each metering point is allocated a respective variable for the absolute value and a variable for the relative value.
  The values for this come from archives or are calculated automatically.
- A new ActiveX element is provided for operation in zenon Runtime. This control can be configured in each zenon screen.
- Meters are assigned to metering points in zenon Runtime. Meters can be swapped and meter values can be entered or administered manually.

# 110.Separate DLLs for Analyzer wizards (RQ 4950)

Installation and maintenance of the Analyzer wizard has been changed and is now different from zenon wizards:

The **`Anaylzer Export Wizard`** has its own DLL. **`Meaning and Waterfall Chart Wizard`** and **`Sankey Wizard`** share a DLL. Analyzer wizards are thus automatically kept up to date with the updates from zenon from version 7.20. The update can, if required, also be carried out manually via the build file contained in the zenon Analyzer installation medium for zenon from version 7.10. These wizards are not updated by means of the update mechanism of the zenon wizard.

# 111.Parameterization Wizard renamed and adapted for zenon 7.20 (RQ 4906, Def. 32754)

The **`Meaning and Waterfall Chart Wizard`** was renamed and has now been integrated as the Meaning and Waterfall Chart Wizard. The wizard was also adapted for use with zenon 7.20.

From zenon 7.20, there is a new property available for the display name. Meanings and waterfall parameters are no longer saved in the **Resources label** variable property. The new properties are in the new **Analyzer** group:

- **Visual name**
- **Meaning**
- **Parameter for waterfall diagram**

# 112.Sankey Wizard (RQ 4907,4955)

The Sankey Wizard makes it possible to model a Sankey diagram in a graphical user interface. The Sankey diagram created this way is saved as an XML file. With the Analyzer Export Wizard, the diagram for further processing can be exported to zenon Analyzer.

**WIZARD FUNCTIONS:**

- Selection of projects, archives and variables.
- Creation of nodes.
- Color assignment of nodes.

- Connection of nodes by means of mouse operation.
- Assignment of zenon variables with drag&drop.
- Loss detection with the calculation of differential flows.
- Use existing diagrams as a template.

# 113.IEC850 driver configuration (RQ 4846)

The user interface of the IEC850 Driver configuration add-on has been revised.

The add-on **IEC850 Driver Configuration** allows you to read IEDs that are already present in SCL files and to create connections in the IEC850 driver with this.

# 114.Driver

# 115.Easier configuration of the driver configuration (RQ 4891)

The configuration steps for the driver have been improved:

- Deletion of drivers from the detail list using multiple-selection.
- Open the configuration dialog of a driver by double clicking on the driver in the detail list.

# 116.AzureDrv (RQ 4918)

The new **AzureDrv** driver gets evacuations of online data that have been saved by Process Gateway in the MS Azure service bus for processing in zenon or zenon Analyzer.

# 117.BACnetNG (Def. 31361, 33233, 34155)

The driver has been adapted:

### SEPARATOR

In the **Settings** tab, the new **Object name separator** option has been added to the configuration of the BACnetNG driver. This makes it possible to freely select the separator between device names and variable names in the variable name or identification. The period remains the default separator.

For the **Object name separator** and **Property separator** options in the driver configuration, the characters **@** and **#** are not permitted as separators.
**Attention:** If one of the two characters is used, no communication takes place.

### ADDRESSING

#### SELECTION OF ADDRESS

The **Use identification to define object name and property** check box in the **Settings** configuration dialog has been replaced with the **Property used for adressing** drop-down list. Addressing using the following methods can be selected:

- Variable name
- Identification
- Symbolic address

The corresponding entry from the drop-down list is set during project conversion.

#### NEW CHECK BOX FOR STATUS EXTRACTION

The new **Do not read property/event state from address string** check box makes it possible to not extract the **Property-ID** and **Event State** from the selected address.

If this option is activated:

- The **Property-ID** or **Event State** must be set using the driver-specific properties envisaged for this. This configuration is carried out automatically with online import.
- Individual elements of BACnet Arrays/lists can no longer be addressed.
- The variable name cannot be used for addressing, because this must be unique. Addressing must be either by means of identification or symbolic address.

- The **Property separator** is not always searched for in the address field. The address thus now only consists of: `<Device name>.<object name>`.
  The following is applicable in the process:
  - The device name must not include a period (.).
  - No restrictions for object names.

# 118.CTI enhanced (D 33606)

The CTI driver has been enhanced.

It provides a second IP address during configuration. This is used if the first IP address cannot be reached.

The data type `BOOL` is also now available for the following driver objects:

- STW
- WX
- WY
- K
- Loop Variable Secondary Objects:
  - Alarm Acknowledge (LACK)
  - Loop Status
  - Loop Mode
  - Loop V-flags (LVF)
  - Control flags - MSW (LCFH)
  - Control flags - LSW (LCFL)
  - Ramp/Soak status flags (LRSF)
- Alarm Variable Secondary Objects:
  - Alarm Acknowledge (AACK)
  - Alarm V-flags (AVF)
  - Alarm Control flags - MSW (ACFH)
  - Alarm Control flags - LSW (LCFL)

# 119.DNP3_TG (RQ 4819)

Driver for the protocol in accordance with IEEE1815 Distributed Network Protocol (DNP3). The new DNP3_TG driver replaces the DNP3_NG driver. The DNP3_NG driver, as well as the DNP32 driver, are supplied as before for compatibility reasons, however they are not offered by default in the driver selection list for new project or new drivers in converted projects.

The driver is Master at protocol level and supports serial communication with several Outstations, as well as IP communication via TCP.

# 120.IEC 61850 (RQ 4792, 4793, 4794)

### VARIOUS ADAPTATIONS TO EDITION 2 OF THE IEC 61850 STANDARD:

- Service tracking LN (LTRK) information is edition 2 compliant (amendments)
- SR, SP, SV and CF are also deactivated for polling
- SR, SP, SV and CF are also possible as dynamic data sets.
- Support for edition 2 FCs:
  New edition 2 FC are supported: When importing variables with the driver, the new functional constraints SR, OR and BL can now be created.
- New bTypes: ObjRef, Currency, PhyComAddr, TrgOps, OptFlds, SvOptFlds

### RCB

The IEC 61850 client can make another attempt to register the clients. To do this, in the server dialog in the configuration dialog of the driver, the new RCBs property enable retries was added.

Expansion in the dialog to configure the data attributes of the RCB:

- Integrity period
- BufTm
- OptFld

### COMMANDS TO ANALOG VALUES

*/Oper.ctlVal as a structure with f and i can be sent to the server.

#### CAUSE OF TRANSMISSION

Detection, with variables, of whether the value of the variable is received by means of a report or polling. The information is indicated on the COT status bit.

#### CANCEL OPERATE

From the Command Processing module, an Operate that has not been completed can be canceled with enhanced safety (3 and 4).

A new property for the **Cancel Operate** variable has been introduced for this.

The IEC 61850 server now also accepts a cancel if a command is already being executed (Status 200, operated) and sets the status to 299 (wants-cancel) accordingly. This can be confirmed (300)or rejected (301-318) by the user-defined state machine.

# 121.IEC870 (RQ 4791)

The **IEC870 driver** now supports **file transfer in control direction**. To do this, in the **Basic settings** tab of the configuration dialog of the driver, a new **Directory for file transfer in Control Direction** field has been added.

**Note on compatibility:** If a project from an earlier version than 7.20 that uses the IEC870 driver is imported into version 7.20 and the driver configuration is opened, the stated directory for the monitoring direction is also written to the control direction.

Various adaptations to edition 2 of the IEC 61850 standard:

- New data types (edition 2): ObjRef, Currency, PhyComAddr, TrgOps, OptFlds, SvOptFlds. **Note:** With this implementation, all basic types of the 61850-6, 9.5.4.2 are covered.
- New Edition 2 FC (functional constraints) are supported: The new constraints SR, OR and BL can now be added during a variable import by the driver.

# 122.Driver KABA (Def. 32779)

The new driver for KabaDPServer was implemented. It is for displaying the status and alarms of doors; the monitoring of these is implemented with a Kaba system.

# 123.Logix_ODVA: Maximum block size when writing (Def. 32896)

For the Logix_ODVA driver, the configuration of the TCP connections can now be amended to a maximum block size when writing. Thi value depends on the firmware used. It should only be changed if writing causes errors. The value is not always documented by the hardware manufacturer and must be empirically determined in that case. The default value (`450`) worked with all known controllers in testing.

# 124.Modbus Energy with LINT and ULINT (Def. 31904)

The Modbus Energy driver now also supports the data types LINT and ULINT.

# 125.MtoM driver (DEF 31972)

The **`MtoM`** driver was ported for zenon 7.20 and the driver documentation revised.

# 126.Remote Runtime (RQ 4903)

The new Remote Runtime driver (**`RemoteRT.exe`**) makes it possible to read variable values in Runtime from a different Runtime by means of a connector container, and to apply these. The driver is fundamentally different from other zenon drivers in terms of its connector concept. The requesting of data from the source Runtime roughly corresponds to the teaching of a recipe.

The driver only addresses on the basis of names via the symbolic address.

# 127.Simotion driver enhancement (Def. 30880)

The SIMOTION driver was enhanced with:

- Blockread and Blockwrite.

- Import of the checksum from SimotionScout files and checking of the checksum for the loaded program in Runtime.
- Import of the TO alarms from SimotionScout files and reading of the active TO alarms as well as indication to bit variables.

# 128.SNMP_NG (RQ 3080)

- The SNMP_NG drier supports all versions of the SNMOP trap (V1, V2, V3).
- The SNMP-NG driver now also supports the SNMPv3 standard. The v3 standard can thus be used. This allows encrypted communication.
- The maximum number of OIDs are now saved directly in the driver for each connection
- The host name supports more than 15 characters
- Manufacturer-specific MIB files are included in the OID translation automatically.

> **Attention**
>
> The old (**SNMP32**) driver and the new (**SNMPNG32**) SNMP driver should never be operated at the same time.

# 129.Tools

# 130.External tools

# 131.Startup Tool - Configuration Listening Ports (RQ 4656)

The ports used by zenon can be configured individually for individual applications in the Startup Tool. A new **Listening ports** tabs was added for this.

All computers with which communication takes place must have the same settings. The settings that were saved in the respective **zenon6.ini** file are used in Runtime. These settings are not available under Windows CE.

# 132.Variables

# 133.Step7 projects

The assistance programs for enhanced import of variables for Step 7 projects from version 11 have been revised.

When exporting from Step 7, version 12 projects with the CD_TIAProject_Exporter.exe external tool, it could happen that the program crashed or no longer reacted during the export of Step 7 projects. This problem has been rectified.

Then new external program CD_TIA13Project_Exporter.exe now also allows the import of Step 7, version 13 projects.

# 134.Maximum number of decimal places extended to 10 (RQ 3092)

zenon variables support up to 10 decimal places from zenon 7.20.

# 135.Enhanced limit value text (RQ 3768)

The limit value text and the status text of a reaction matrix can now be up to 1024 characters long. In the table format for the SQL export of alarms, the TEXT column has been extended to 1024 characters.

The buffer for the dynamic parts of the dynamic limit value texts when using long dynamic limit value texts (**D*.AML** and **D*.CEL**) can now vary, with a maximum size of 1024 bytes. The save format of D*.AML and D*.CEL files has been changed for this. Existing files remain unchanged as a fixed-length record format with 264 bytes and are not converted. Newly-created files are created with a variable record length in the new format version.

# 136.New property group for zenon Analyzer in zenon (RQ 4858)

In order for zenon Analyzer and zenon to work better together, a separate properties group was created for zenon variables.

The following properties in the zenon **Analyzer** variable properties group provide information for reports in the zenon Analyzer:

- **Visual name**: Entry of a display name of the variable in zenon Analyzer. This must be unique in the project. The check is not carried out when issued in zenon, but when imported into zenon Analyzer. If this property is changed after the first export to a zenon Analyzer, these changes are not applied in the zenon Analyzer.
- **Meaning**: Entry of the (Meaning) of a variable in the zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. Several meanings are separated by a comma. Syntax: `[Meaning1],[Meaning2],…,[MeaningN]`
- **Parameter for waterfall diagram**: Parameters of a variable for a waterfall diagram in zenon Analyzer. Entry is manual or by means of the **Meaning and Waterfall Chart Wizard**. The individual parameters are separated by a comma. Several waterfalls are divided by a semicolon. Syntax: `[model name],[row index],[index in row],[color code];`

Up to version 7.11, the entries of the new **Meaning** and **Parameter for waterfall diagram** properties were entered into the **Resources label** property.

When converting a project to version 7.20, the entries are kept in the **Resources label** property. When exporting to zenon Analyzer, both the previous property and the new one are checked. If both are assigned, the entries of the new properties are taken on. Entries that are created using the **Meaning and Waterfall Chart Wizard** are always entered into the new properties.

# 137.Important information

# 138.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.

# 139.Alarm status line and Windows application switching under Windows 7

If, on a computer with the operating system Windows 7/Server 2008, applications that are running are switched through several times using the `Windows key + Tab key`, the following behavior can occur when selecting zenon Runtime:

- The alarm status line is switched to the background
- This can only be brought back to the foreground by the user intervening.

This behavior results from the operating system. Microsoft provides the hotfix **2587473** to rectify this. This can be requested from Microsoft directly: http://support.microsoft.com/kb/2587473/en-us (http://support.microsoft.com/kb/2587473/en-us).

# 140.Screen-type specific functions (Def. 31123)

If screen-type specific functions are invalid, for example as a result of copying a button to a screen of a different type, then the invalid linking is pointed out and this can be replaced. Invalid functions are removed during compiling.

When converting projects, these can contain screen-type specific functions that are still invalid in Runtime.

# 141.Integration of VBA wizards and VSTA wizards

All VBA wizards are saved in the file "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 want to use our new wizards or modified ones, you can import them manually via the menu "**File – Update Wizards**" in the Editor. At this you can decide yourself which wizards you want to overwrite.

# 142.Erroneous line display if extended graphics mode deactivated

In the extended graphics mode, dashed lines with a line width >1 can be drawn. If you deactivate the extended graphics mode and zoom onto the line, the line will be displayed as solid.

# 143.Complex vector graphics

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

# 144.Converting existing data

If a project is started in Runtime version 7.x for the first time, the Runtime files of the concerned modules are converted. This guarantees that data changed in online operation is not lost. To do this, please read about conversion of projects (on page 73) in the General (on page 13) chapter.

**Attention:** All files have to be created in the Editor for the new version; otherwise the project cannot be started!

# 145.Converting projects

Before you convert a project, please read back all Runtime changeable files (User Administration, Standard Recipes, Recipegroup Manager, Scheduler/PFS and Message Control) 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 RT 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 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.

#### CONVERSION OF PROJECTS 6.20 AND EARLIER

*zenon projects in version 6.20 or older 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.*

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

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

There a 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**.

# 147.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.

# 148.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)
- Remote Desktop (zenVncSrv.exe and zenVncCli.exe)
- Network server (zennetsrv.exe)
- Transport service (zensyssrv.exe)
- Drivers with TCP/IP connections
- Web Server (zenWEBsrv.exe)
- zenon Logic Workbench
- zenon Logic Runtime

# 149.Process Desk – killing tasks

The Process Desk of zenon now allows you to kill tasks that got stuck.

**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.

# 150.Page preview and printing in the Report Generator

In order to use the page preview and the printing of the Report Generator, a printer must be configured.

# 151.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`.

# 152.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 functionRead from zenDB.ini, the values are stored wrongly in the Startup Tool. You must check existing entries and change them if necessary.

# 153.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.

# 154.String arrays with straton32 driver

Several string arrays with the same sice can be read out correctly with the **straton32** driver only as of version 6.22 SP1 and zenon Logic Workbench SR7-3. If projects of older versions are converted, the string length must be changed for every string array in order for the communication to work.

# 155.Transport service Autostart

The transport service (zensyssrv.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.

# 156.Overwriting Runtime files

When creating Runtime files in the 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: "**RT 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!

# 157.Wibu Key error message „WK1128“

If you get the error message **WK1128** when starting the Editor or Runtime, an obsolete version of Wibu Key is being run. Install the current version of the Wibu Key software from the installation medium.

# 158.zenon in the Startup folder with dongle licensing

If zenon is started from the Startup folder, it may happen that it starts before the Wibu Key or Codemeter driver. Consequently, no dongle will be found and zenon will start in demo mode.

You can change this behavior by configuring a delayed start of the Runtime. For this, you need to make the following entry in the **zenon6.ini** file:

```
[DEFAULT]
STARTDELAY=[delay of the Runtime start in ms]
```

# 159.zenon Web Client: No support for Google Chrome from version 42

From version 42, Google Chrome no longer supports NPAPI plugins. Chrome can thus no longer be used as a zenon web client from version 42.