

## What is new for Adroit 8.2 and MAPS 3.2

Adroit 8.2 and MAPS 3.2 provides the following features and improvements:

### MAPS

- MAPS HMI: a lower cost, simpler version of the MAPS SCADA product, targeting the OEM and IPC bundled product to compliment the Mitsubishi hardware offering.

The MAPS HMI is a stand-alone solution, which supports the addition of up to 2 remote operator/viewing clients, but cannot be incorporated into a larger distributed MAPS project. There is also no support for redundancy.

### Adroit Agent Server

- Implemented HMI mode, which is licensed via the HASP and when enabled:
  - prevents the use of the following agent types: AREC, Audit, Command, Frame, Integer, Max-Demand, Multistate, OEE, PID, Real, Recipe, Scheduler, SNMPManager, SystemDatalog and Text;
  - the Agent Server can only be run in stand-alone mode and not cluster or cluster-aware mode.

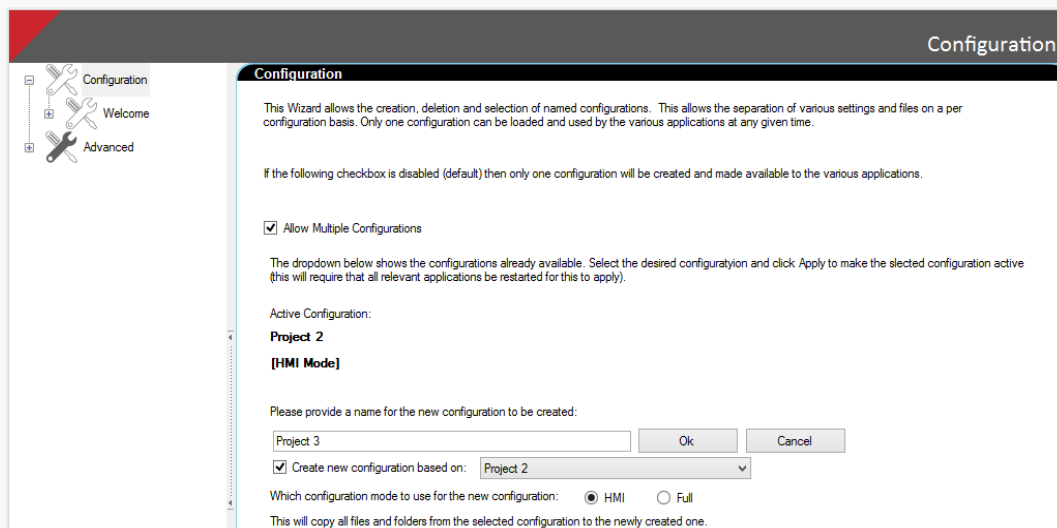
### MAPS Config Editor

- HMI mode is typically configured on installation. However, you can create configurations using the Full or HMI mode by using the **Configuration** dialog of the **MAPS Config** utility.

**Note:** You can only see if the current (active) configuration is running in Full or HMI mode, after checking the **Allow Multiple Configurations** checkbox.

When using multiple configurations (when engineering multiple projects), you can specify which configurations run in Full or HMI mode, depending upon your project's requirements. This allows you to easily switch between projects (configurations) running in Full or HMI mode.

You can also create additional configurations that are based on existing ones, as needed.

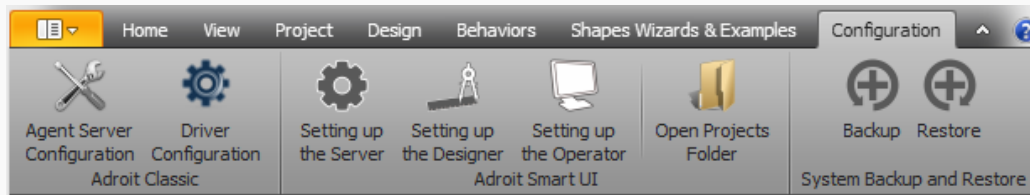


- **System Restore** supports restoring between x86 and x64 operating system architectures and across different operating system language sets. However, any file paths within the agent database (.wgp) file are not currently converted and still need to be manually edited after restoring the project.

## MAPS Designer

### Affecting project configuration and management

- In order to make things easier for the users, the **Designer** ribbon includes the **Configuration** tab, which provides direct links to the MAPS Config configuration dialogs for:

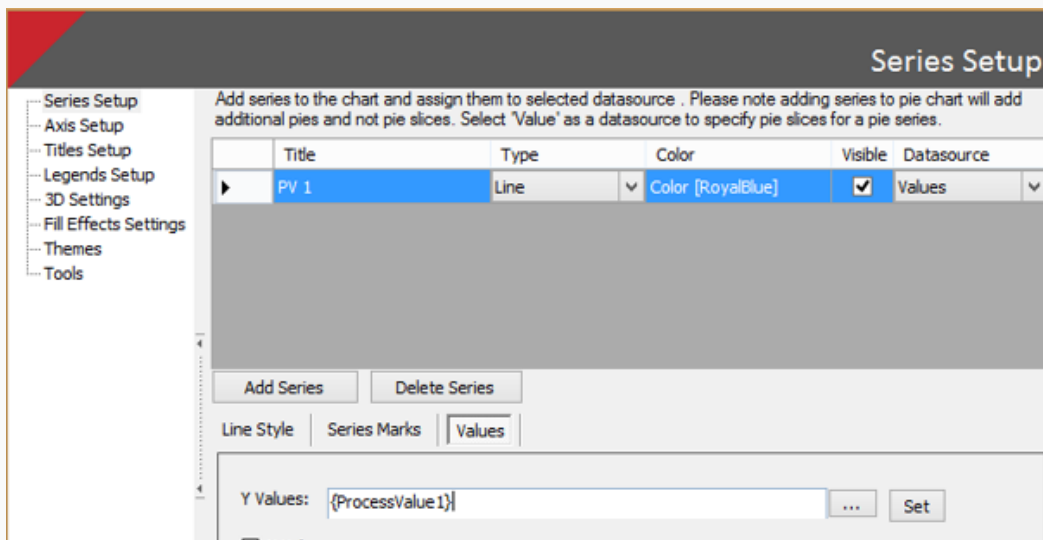


- Adroit: Setting up the Agent Server and agent database (.wgp) file name and/or installing and configuring protocol drivers and their devices
- MAPS: Setting up the Server, the Designer, and the Operator
- Open Projects Folder: opens the folder containing the configured projects, in Windows Explorer, when these projects are on the same computer, so that content can be manually copied into the relevant projects.
- Backup and Restore: to backup and/or restore the relevant registry settings and all the files and folders containing the user-configuration of the currently specified Configuration.

### Affecting wizards and SmartUI Templates

**Note:** SmartUI Templates are reusable graphic forms that can be used at run-time, which have one or more configured aliases. Unlike wizards which are reusable at design time and have one or more configured substitutions.

- Wizards and SmartUI Templates can now use charting controls. Since the applicable Series values of chart controls support the use of curly brackets {} to create aliases for SmartUI Templates or data element substitutions for wizards:



- Wizards and SmartUI Templates can now use Adroit Alarm Viewer controls. Since the Alarm List / Alarm Agent value supports the use of curly brackets {} to create an alias for SmartUI Templates or a data element substitution for wizards:

## Adroit Alarm Viewer Configuration

Alarm Type:

Alarm List / Alarm Agent:  ...

General Settings

☒ Auto Refresh

☒ Show All Alarms

☒ Show Alarm StatusBar

**Note:** This control will auto-resize its columns to best display the content.

### Affecting wizards

- Wizards that display one or more SmartUI Templates can now use their substitutions to drive the values of the aliases of these child SmartUI Templates.

In this case ensure that the aliases that you want to drive have the same names as their corresponding wizard substitutions.

For instance, consider the situation where a tank wizard is a rectangle with **Percentage Fill** behavior that is driven by a substitution called `{Tank_Level}`. This wizard then launches a SmartUI Template, when the tank is clicked that contains a digital gauge that has a **Display Value** behavior, driven by the `{Tank_Level}` alias. In this case when configuring the **Execute Command - Open graphic form** behavior of the tank wizard, in the **Aliastab** of the **Advanced View**, you specify `{Tank_Level}` in the **Input** column of the Tag alias

**IMPORTANT:** Do NOT check the **Use Tag Value** checkbox, because you need to pass the substitution and not the value.

## Execute Command Behavior Configuration

Command:

General Settings | Aliases

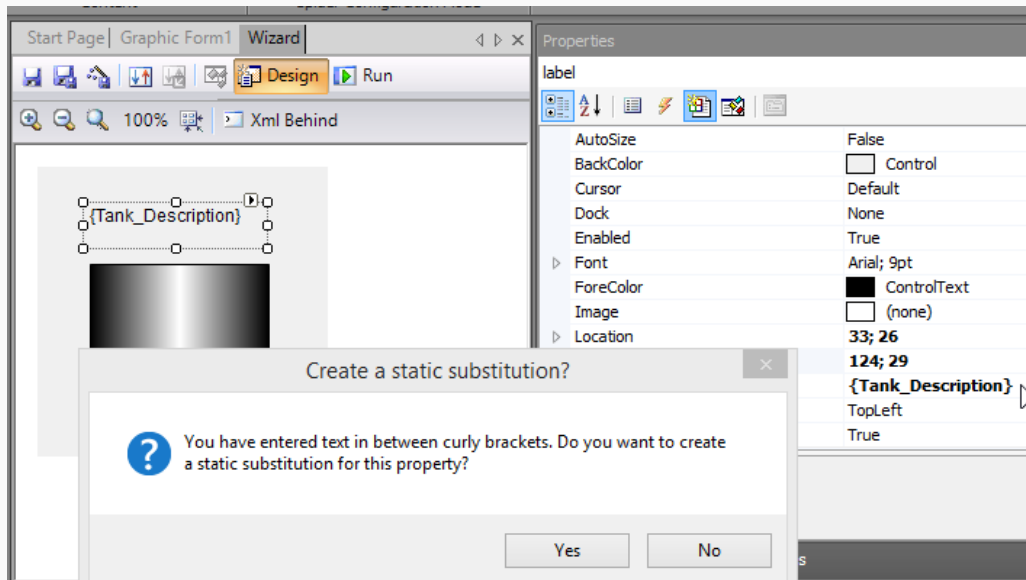
Alias	Input	Use tag value
Tank_Level	{Tank_Level}	<input type="checkbox"/>

Then when this wizard is added to a graphic form the data element (value) that is specified for its Tag substitution to drive its level is also displayed by the digital gauge.



**Note:** These linked aliases and substitutions will also be correctly updated when the wizard is updated.

- Static (text) substitutions are supported, by using curly brackets {} when entering a value into a text property of a control or vector.



These Static substitutions are differentiated by a yellow background in the **Substitution Assignment** dialog, since they are placeholders for text, not data elements.

**Note:** If you choose to browse in a data element for a Static substitution, then only its current value is added to the **Value** column.

Substitution Assignment			
Wizard Name: Wizard	<input type="checkbox"/> Context	Result Column Legend: Valid <span style="color: green;">■</span> Invalid <span style="color: red;">■</span> Static <span style="color: yellow;">■</span>	
Name	Value		Result
{Tank_Description}	Filling Tank 1A	...	Filling Tank 1A <span style="background-color: yellow;"></span>
{Tank_Level}	Adroit.Analog.TANK001.value	...	Adroit.Analog.TANK001.value <span style="background-color: green;"></span>

In other words, the text string in the **Value** column of this dialog is what is displayed in the wizard for each Static substitution, as follows:



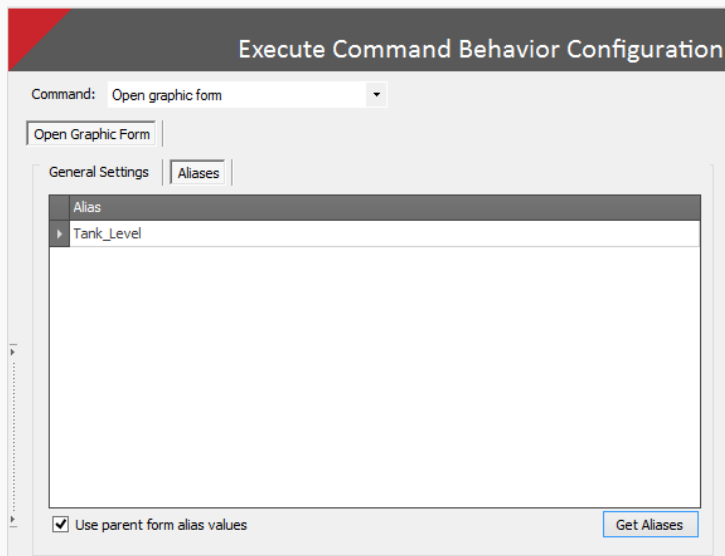
**Note:** Static substitutions can be manually configured in the **Spider Workspace** via the **Static Substitution** custom output of the **Constant** spider, in case you need to drive an input of another spider with a Static substitution value.

### Affecting SmartUI Templates

**Note:** SmartUI Templates are reusable graphic forms that can be used at run-time, which have one or more configured aliases.

- When launching child SmartUI Templates from a parent SmartUI Template, you can now choose to automatically use the alias values of the parent SmartUI Template, instead of manually assigning values to the aliases of each child.

This is configured, by checking the **Use parent form alias values** checkbox, in the **Alias** tab of the **Advanced View** of the **Execute Command** behavior.



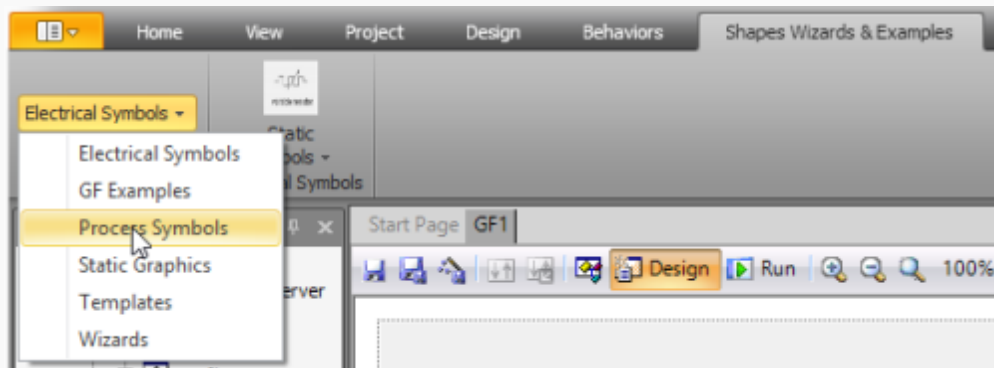
**Note:** This also adds any aliases of this child SmartUI Template to the parent that have not yet been specified.

## Affecting projects (graphic forms)

### Shapes Wizards and Examples

- The **Shapes Wizards and Examples** tab of the Designer ribbon provides easy access to the shapes, wizards and/or examples, provided by the default Shapes Wizards and Examples project, as follows:

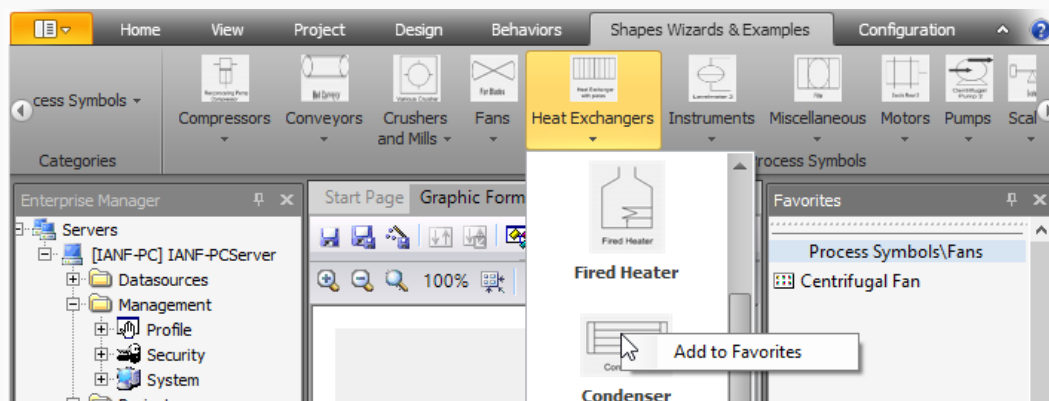
By default this tab displays a drop-down list of the available Categories of items, on the left hand side, selecting the first category by default.



**Note:** These categories are alphabetically sorted.

When a category is selected, its sub-categories of items are displayed horizontally and if they do not fit along the top of the Designer, you can scroll through them using the provided left and right arrows.

Click a sub-category to display its items, in a vertical scrollable window.



Either click the required item and then click where you want it on the graphic form or wizard directly or right click the item and select **Add to Favorites** to populate your **Favorites** window with those items that you will frequently use when designing your graphic forms and/or wizards.

### Project Styles and Navigation

- When adding a new project, you can use a predefined or custom project style, which defines certain default settings for all the graphic forms in this project and/or specify how your end-users navigate between them.

If necessary, check the **Show Project Styles and Navigation Configuration** checkbox to display the **Project Style** and **Project Navigation** tabs.

Insert a name for this new Project

Name:

☒ Show Project Styles and Navigation Configuration

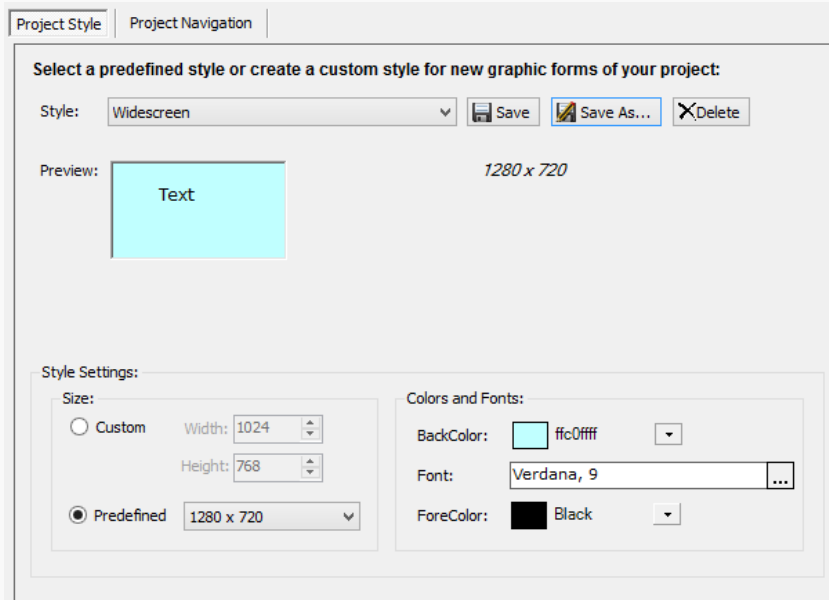
Project Style | Project Navigation

Select a predefined style or create a custom style

- Project Style:** use this tab to either select a predefined style from the **Style** list and/or modify the various settings as required, to **Save As...** your own custom style, which you can reuse when creating other projects.

**Note:** If you do not alter the settings of the **Default** style, then no style is applied to this project, which is the default setting.

**Tip:** Any custom styles that are saved are added to the user profile of the currently logged in user.



Currently the style of the project, can configure the following graphic form properties:

**Size:** their physical dimensions, specified in pixels: either select a **Predefined** width and height, which specify common monitor resolutions or specify your own **Custom** dimensions.

The **BackColor** and **ForeColor** of the graphic form.

**Note:** Depending on the controls that you add to this graphic form, they may inherit the specified BackColor.

The default **Font** of the graphic form and any controls that you add to this graphic form.

**Tip:** Use the **Preview** panel to test the look and feel of the style settings.

When a style is applied to a project:

- This adds a graphic form to this project called !Style, which contains the specified style settings.
- The right click **Create Graphic Form (Styled)** option appears along with the default **Create Graphic Form** option, which adds graphic forms that do not have the project's style.
- The **Project** group of the **Home** tab of the Designer ribbon, also provides a **Create Graphic Form (Styled)** option with the default **Create Graphic Form** option, which adds graphic forms that do not have the project's style.
- The **Project Style** group of the **Project** tab of the Designer ribbon is enabled, so that you can further configure this project style.

**Tip:** The caption of this group indicates the name of the currently selected styled project.

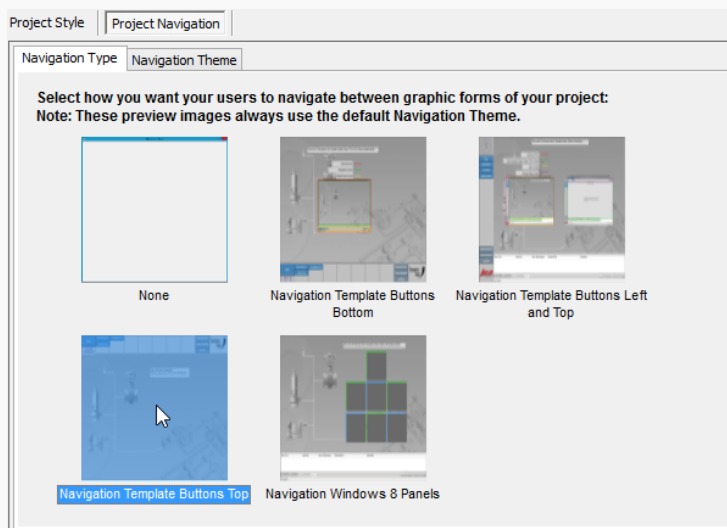
In addition to the providing the project style settings, the **Project Style** group provides the **Open Project Style** item, which opens the project style graphic form (!Style), so that you can add form components to this project style graphic form, such as a banner (header) or footer or any other element or graphic that all your styled graphic forms have in common and/or configure their properties.

After editing this project style graphic form, click the **Save Project Style** item to save these project style changes.

**Note:** You can only edit the style of a single project at a time.

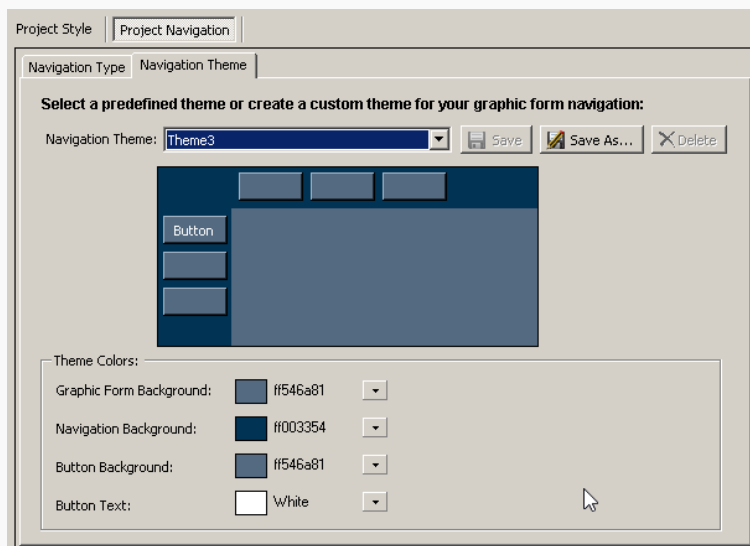
- **Project Navigation:** use the **Navigation Type** tab to select how your end-users will select the configured graphic forms of your project, by clicking the required image. This copies the selected project navigation graphic forms and their folders to your project.

**Note:** If you use the **Default** style, then the style of the selected **Navigation Type** is used for any styled graphic forms that you create for this project, which you can configure as needed.



Selecting any navigation type other than **None** displays the **Navigation Theme** tab, in which you can either select or create a theme that allows you to define the following project navigation colors:

**Note:** If you specify the **Default** navigation theme, then the default color scheme of the selected **Navigation Type** is used.



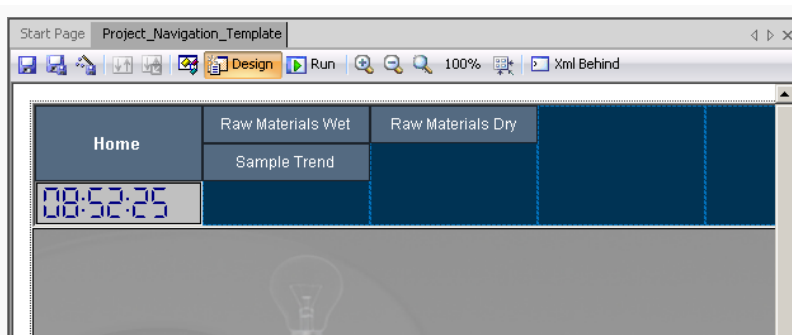
- **Graphic Form Background:** this changes the background color of all the project navigation graphic forms and if you are using the Default style, then this also specifies the background color of any styled graphic forms that you create for this project.
- Note:** The following three colors only affect the graphic form containing the navigation area.
- **Navigation Background:** the background of the navigation area containing the buttons used to open the graphic forms of this project.
- **Button Background:** the background color of the buttons used to open the graphic forms of this project.
- **Button Text:** the text color of the buttons used to open the graphic forms of this project.

You can either select a predefined theme from the **Theme** list and/or modify the **Theme Colors** as required, to **Save As...** your own custom theme, which you can reuse when creating other projects.

**Tip:** Any custom themes that are saved are added to the user profile of the currently logged in user.

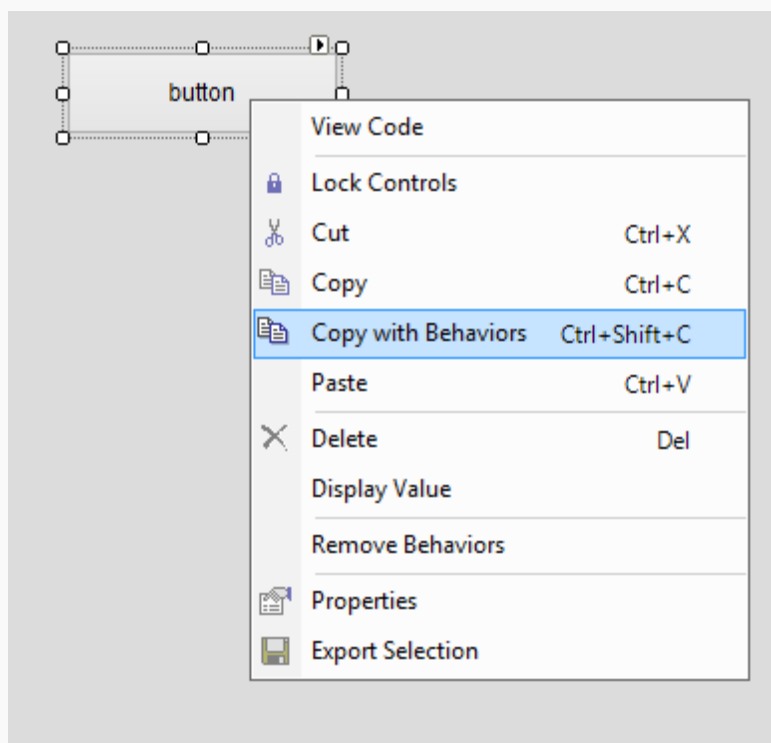
The following project navigation template graphic form uses the predefined Theme3 colors for its navigation area:





### Affecting graphic form components

- A graphic form component configured using behaviors can be copied with their behaviors, either by right clicking it and selecting **Copy with Behaviors** or using the **CTRL+SHIFT+C** shortcut key combination.



### Affecting Controls

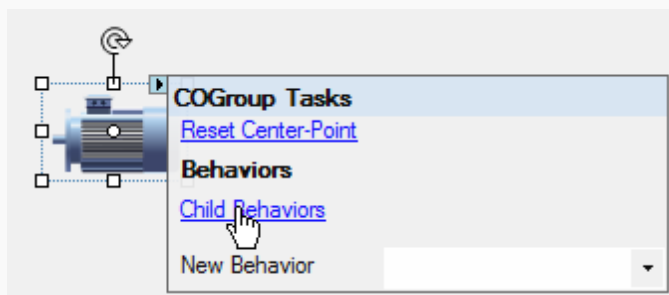
- Adroit Alarm View: This control automatically resizes its columns to best display the content.
- Event viewer: This control automatically resizes its columns to best display the content.

Type	Time	User	Message	Alarm type msg
!	2014/03/26 08:58:41 AM	Empty	Adroit UI stopped	Adroit
!	2014/03/25 12:25:50 PM	Empty	Adroit UI started	Adroit
✖	2014/03/25 09:48:54 AM	Empty	No HASP found on port! Aborting...	Agent Server
✖	2014/03/25 09:48:54 AM	Empty	Read memo Error # -3 !	Hasp not found
!	2014/03/25 09:47:44 AM	Empty	Read memo Error # -3 !	Shut Down Warning
!	2014/03/25 09:46:34 AM	Empty	Read memo Error # -3 !	Shut Down Warning
!	2014/03/25 09:45:24 AM	Empty	Read memo Error # -3 !	Shut Down Warning
!	2014/03/25 09:44:14 AM	Empty	Read memo Error # -3 !	Shut Down Warning
!	2014/03/25 09:43:04 AM	Empty	Read memo Error # -3 !	Shut Down Warning
!	2014/03/25 09:23:12 AM	Empty	Loading complete	Agent Server
!	2014/03/25 09:22:54 AM	Empty	TAG1 Digital agent	On
!	2014/03/25 09:22:54 AM	Empty	1KV002B Digital agent	On
!	2014/03/25 09:22:54 AM	Empty	Primary Connection Configured, Secondary Connection Not Configured	Comms
!	2014/03/25 09:22:54 AM	Empty	TAG1 Digital agent	On
!	2014/03/25 09:22:54 AM	Empty	1KV002B Digital agent	On
!	2014/03/25 09:22:54 AM	Empty	sample test input	Low

## Affecting Behaviors

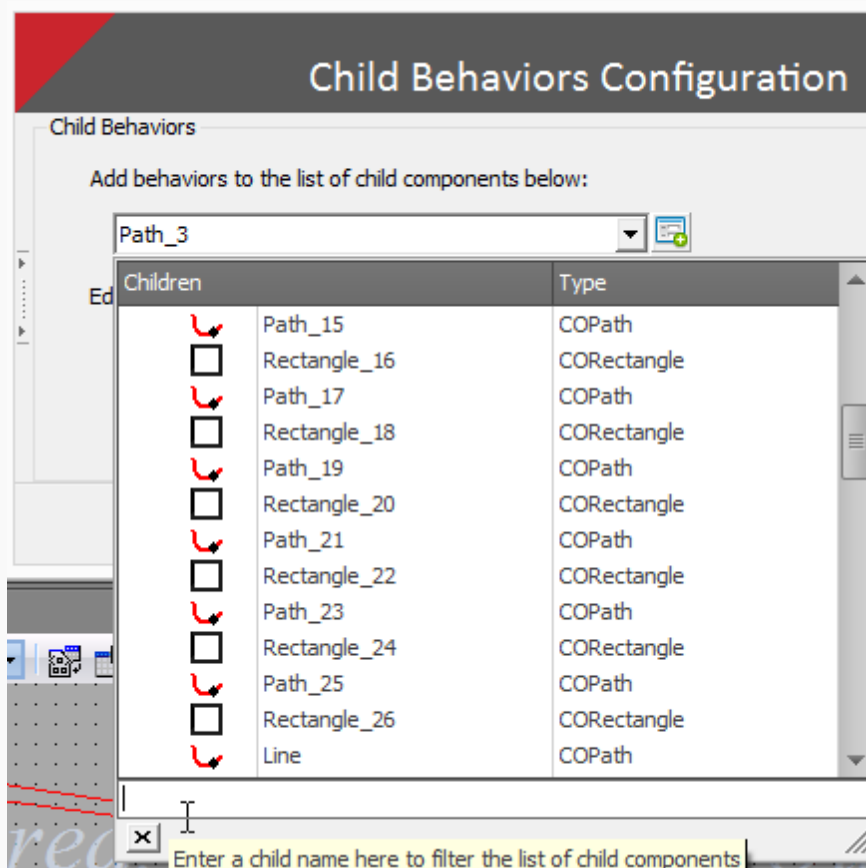
- The **Child Behaviors** dialog, which is displayed for vector groups or wizard instances, has been enhanced to add behaviors to the component elements, in addition to being able to edit and remove their existing behaviors.

This dialog is typically launched by selecting, the **Child Behaviors** link of the **Tasks** menu or by right clicking and selecting the **Child Behaviors** menu item of a vector group , such as any of the **Static Graphics** provided from the **Shapes Wizards and Examples** ribbon tab) that you add to your graphic forms.






**Note:** Although child behaviors are provided when you select a wizard instance it is NOT recommended that you manually edit your wizard instances after adding them to graphic forms - instead modify the wizard and then update its instances in the required graphic forms.

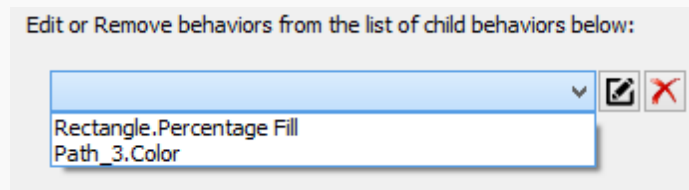
When adding behaviors to the child components, select the name of the required component from the list box:



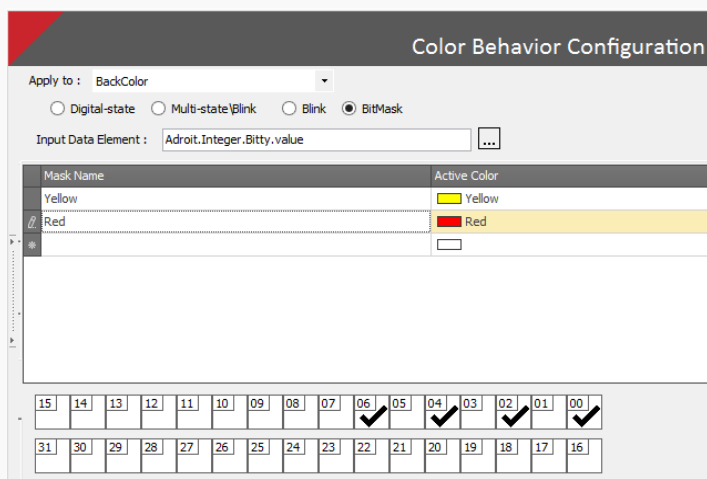
**Tip:** If there are a large number of components, you can type the first letters of the required components in the bottom child name filtering field of this list to filter or limit the displayed child components.

Then click the  button to select which behavior you want to add and then configure this selected behavior.

Use the second list to select which child component you want to edit  or delete  their existing behaviors.

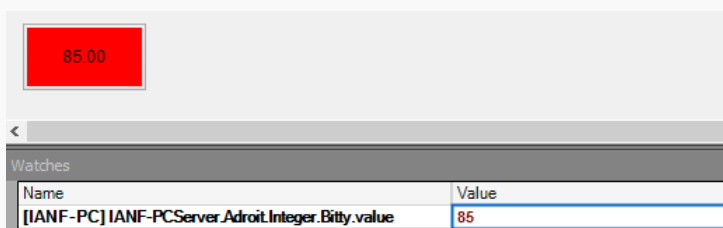


- The **Color** behavior supports a **BitMask** feature, with each bit mask having an associated by an Integer value that represents a specific sequence of bits that are set (to 1) for up to 32 bits. Then create one or more bit mask, by defining which bits need to be simultaneously to display the associated **Active Color**. If necessary, use the **Advanced View** to configure one or all of these colors to blink, if this is needed.




Then when the integer **Input Data Element** matches the associated integer value of a specific **Mask Name** then the color property specified by the **Apply to** field is set to the associated **Active Color**.

For instance, the following screen-shot shows how the **Mask Name** called Red is activated when the value of the integer **Input Data Element** is 85:



- The **Open graphic form** command of the **Execute Command** behavior, has changed the default action for values entered into the **Aliases** tab of the **Advanced View** to always specify the text that is either manually entered or browsed in, unless the **Use Tag Value** checkbox is checked, at which time it will try to resolve the required data element value from the entered (typically browsed in) text.

Therefore when passing substitutions or aliases, in curly {} brackets, ensure that the **Use Tag Value** checkbox is NOT checked, which is its default setting.

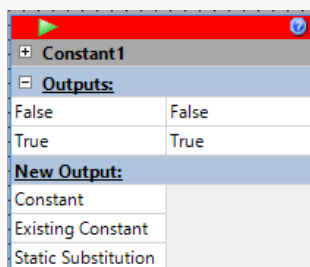


The image shows a software window titled "Execute Command Behavior Configuration". It has a dark header bar with the title in white. Below the header, there is a "Command:" label followed by a dropdown menu showing "Open graphic fom". Below that is a button labeled "Open Graphic Form". Underneath is a tabbed interface with two tabs: "General Settings" (selected) and "Aliases". The "General Settings" tab contains a table with three columns: "Alias", "Input", and "Use tag value".

Alias	Input	Use tag value
Tank_Level	{Tank_Level}	<input type="checkbox"/>

## Affecting Spiders

- The **Constant** spider provides the **Static Substitution** custom output input so that you manually create Static substitutions, ONLY for a wizard, in the **Spider Workspace** to drive an input of another spider with a Static substitution value.



The image shows a configuration window for a spider named "Constant1". It has a red header bar with a play button icon and a close button. Below the header, there is a section labeled "Outputs:" with a table containing two rows: "False" and "True", each with a corresponding "False" and "True" value. Below this is a section labeled "New Output:" with a table containing three rows: "Constant", "Existing Constant", and "Static Substitution", each with a corresponding input field.

Outputs:	
False	False
True	True

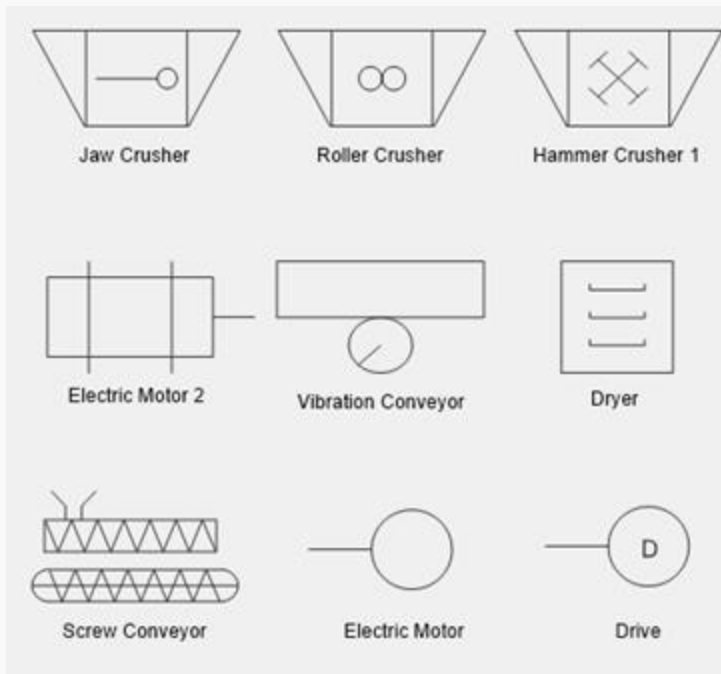
  

New Output:	
Constant	
Existing Constant	
Static Substitution	

## Existing Adroit 8.1 and MAPS 3.1 features:

### MAPS

- The Static image library now provides ISO 10628 images, which are classified according to use, the following are some of the **General** ISO images:



- When MAPS Template graphics are previewed they now display their actual image size, previously they only displayed a small image.
- The size of the optional **Plant Area Code** has been increased to 5 characters.

### Adroit Agent Server

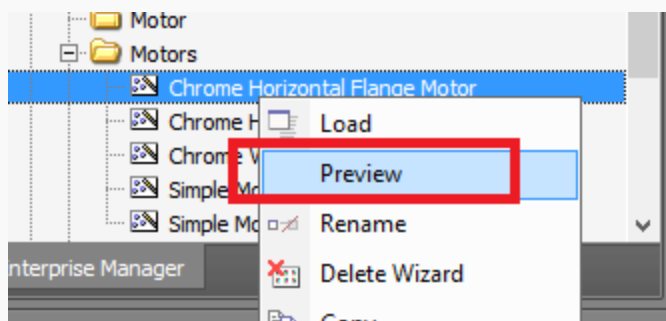
- The Agent Server now runs in demo (timed licensed) mode automatically if no HASP is found and the duration of this timed license has been increased to 2 hours, previously this was only 1 hour.
- The OEE agent provides the following slots:
  - Added the Datetime shiftStartTime slot containing the start time of the current shift.
  - Added the Datetime shiftEndTime slot containing the end time of the current shift.
  - Added the List shiftTargetDataSet slot with two records, where each record contains a Datetime and double value. The first record contains the start time of the current shift and a value of 0, while the 2nd record contains the end time of the current shift and a value equal to the OEE KPITarget slot.
- The Shift agent provides the following slots:
 

Added the startTime and endTime Datetime slots that store the start and end times of the current shift. For example, you can use these two slots to drive the start and end time of a trend/chart.

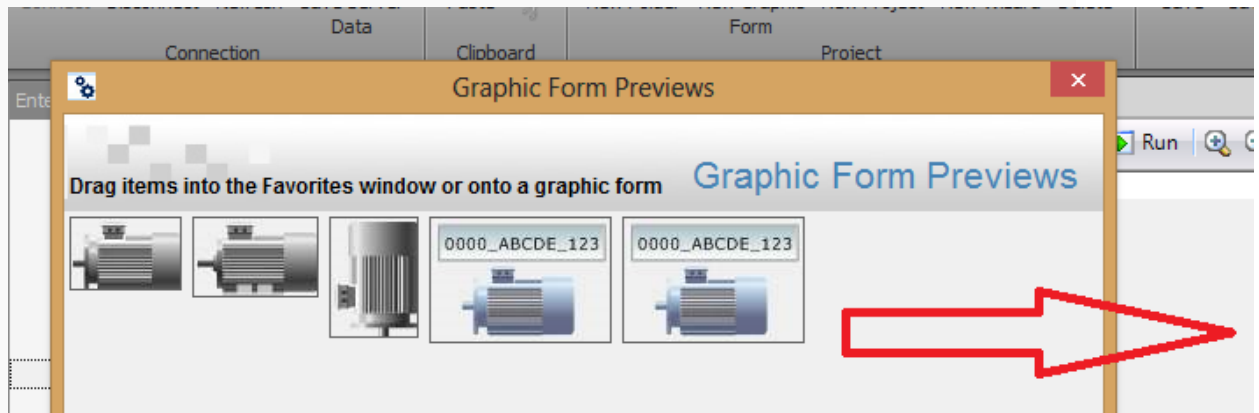
### MAPS Designer

#### Affecting wizards

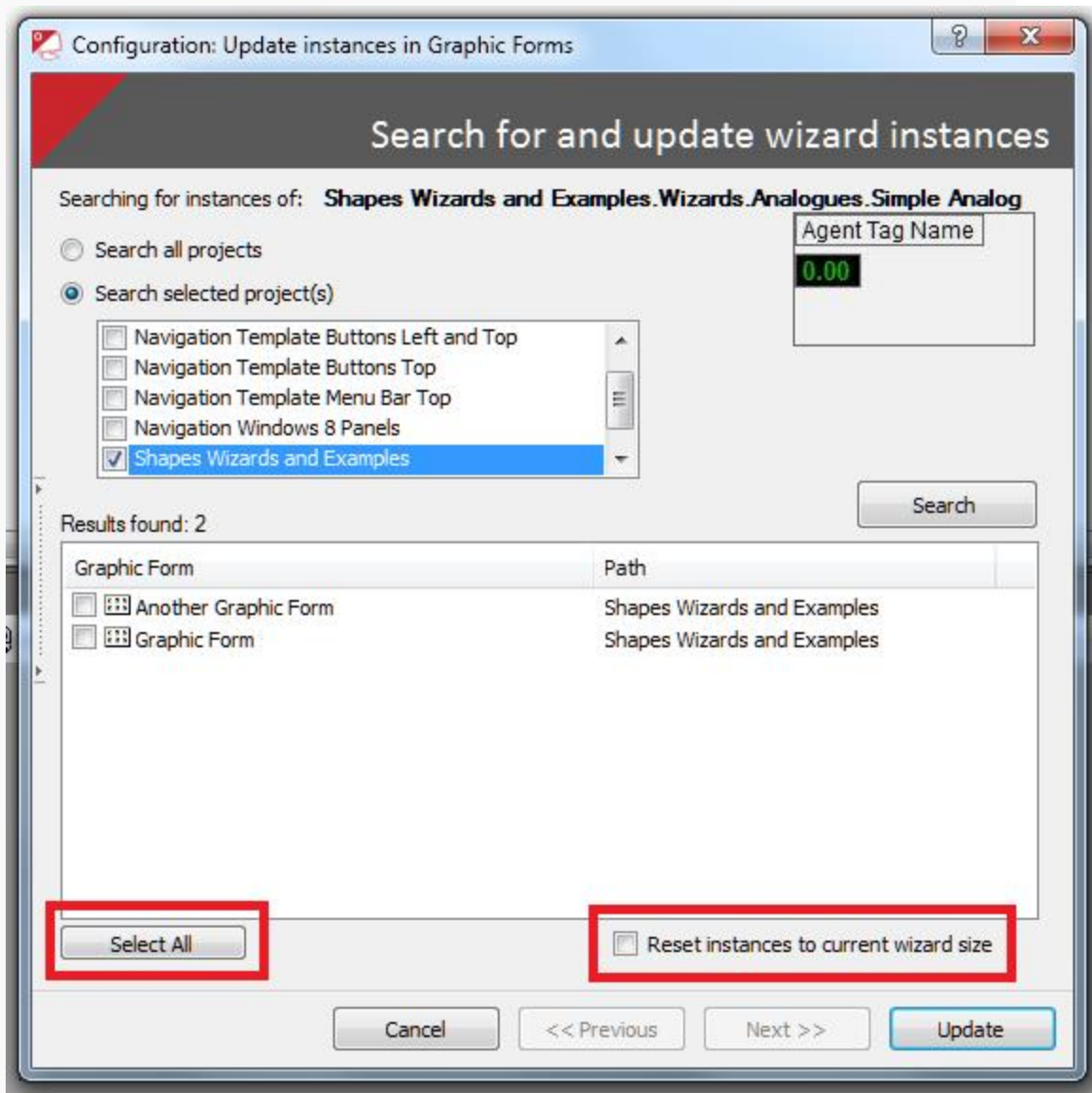
- Individual wizards can now be previewed, so you can ensure that you are adding the correct wizard to your graphic form.



- When previewing wizards, you can now drag them directly from the preview dialog onto the graphic form.



- You no longer need to use the background color of the form for your wizard instances, instead you can use specify their individual background colors.
- Form components are now prevented from being added to wizard instances and template graphic objects.
- Added support for links from properties of controls to data elements when using substitutions, which previously would not show up as valid substitutions.
- When creating wizard instances, custom spider regions are now named correctly as per the instance name of the wizard.
- When updating wizards, the current project is selected by default (previously all projects were selected by default).
- When updating wizards, the **Reset instances to current wizard size** checkbox should be checked when a wizard has been increased in size to include additional items, to ensure that each instance of this wizard will be resized to this new size so that the additional content is not truncated.



- Added the **Select All** checkbox to select all the returned graphic forms in which the wizard has been used. Previously you needed to manually select each one.

## Affecting graphic forms

### Printing

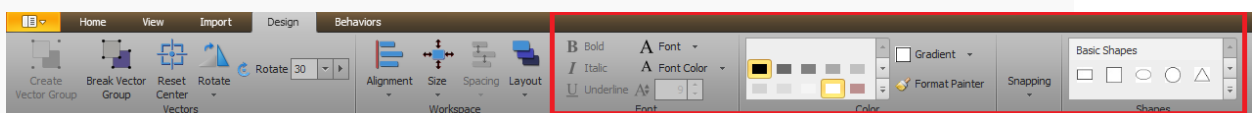
- Graphic forms automatically scale the image to fit the page size.

### Browsing

- Added the **Exclude Project Name (Relative Path)** checkbox option to the Graphic Form Browser dialog, which should typically be used when selecting graphic forms for TGOs to ensure that the specified graphic form will still be located if the project name is renamed or when this graphic form is copied to another project, while preserving its relative path.


### Designing

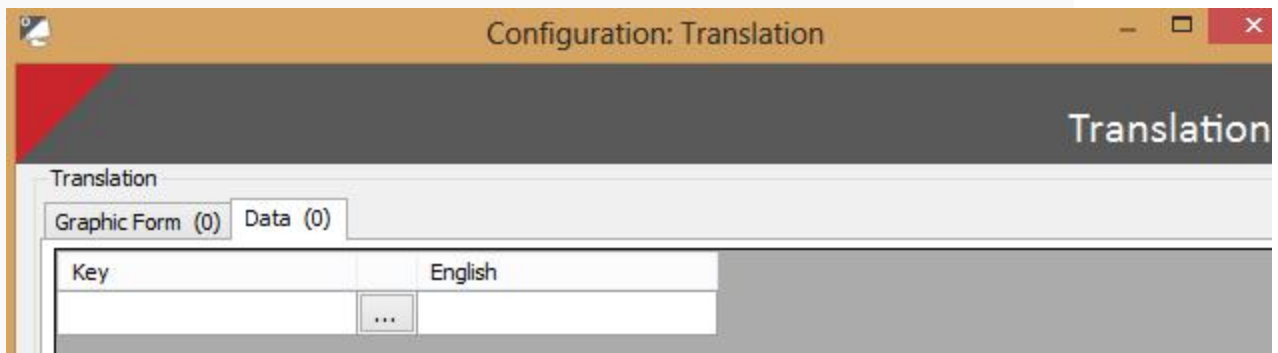
The **Design** tab of the Designer ribbon provides the following new tools:



- The **Color** section provides the following tools ONLY apply to configuring the **BackColor** property of a form component:
  - **Gradient** selection control: click a form component and then either click Gradient to apply the currently selected gradient to the BackColor property of a form component or click the drop down list button to the right to change the current gradient by selecting one of the pre-defined Gradient Types and/or changing the required gradient Color and/or the Intensity or transparency of the gradient fill.
  - **Format Painter**: click the form component whose BackColor you want to copy to another form component, then click the Format Painter option and then click the required form component whose BackColor property you want to configure.
- The new **Snapping** section provides the following snapping methods that can be used to assist in aligning or positioning form components with respect to existing form components, when dragging them within the graphic form:
  - **Off**: to turn off all snapping of form components - if you find this feature annoying and/or want to manually align your form components.
  - **SnapLines**: to use snap lines, which are typically blue, when dragging controls to the sides of the existing controls (and if the **Enable Vector Snapping** checkbox is checked, these lines are also displayed when dragging vectors and this also allows controls and vectors to be snapped to the sides and/or centers of vectors).  
Pink snap lines only appear when dragging controls that contain text to help you align the text with the text of other controls.
  - **Grid**: controls (and if the **Enable Vector Snapping** checkbox is checked then also vectors) align their top left corners to the nearest grid point when moved and resized (snapping to the nearest grid point in the direction of the resize).
- The new **Shapes** section, allows you to add commonly-used pre-configured vector shapes to your graphic form instead of configuring them yourself via the Vectors group of the Toolbox window, which are classified into the following groups: Basic Shapes, Advanced Shapes and Pipework.

## Translating

- The project translation dialog, accessible by double clicking the **Translation**  icon provided by each project in the **Enterprise Manager** now provides the following two tabs:



- **Graphic Form**: The existing graphic form translation table, which now provides the following buttons, which you can use to:
  - **Fetch** translatable strings from graphic forms, previously this process was complicated and required the exporting and importing of translation tables and
  - **Push** translations to all graphic forms in a project, which also adds any language columns to the graphic form translation table that are missing.
- **Data**: Added support for data translation or the translation of specific data strings or keys, which if matched exactly are translated in real-time for all your data sources, which are displayed on graphic forms in this project.  
For Adroit datasources the process of adding these keys is further simplified, because:
  - You can specify the following wildcard notation: AdroitDatasourceName.TagName.\*.slot to return all agents that contain the specified slot.
  - If you select one or more Alarm agents all the translatable fields for the configured alarms are returned, depending upon their specific agent types.



- In order to simply graphic form translation, regionally designated languages are no longer used, such as English(US) or English(South Africa).

From now only the main language, in this case English will be used and added to the graphic form translation tables.

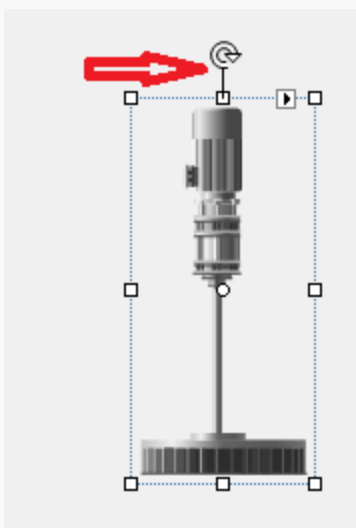
Due to this change, where previous regionally designated language columns exist, the parent language will be used instead.

- Unless explicitly configured, the language a graphic form displays, is the language that is specified by the "Graphic Form Language" setting of the current user profile
- Added support for setting the language (culture) of the UI at runtime from script, so that it is now possible to dynamically change the language in which graphic forms are displayed.

## Affecting graphic form components

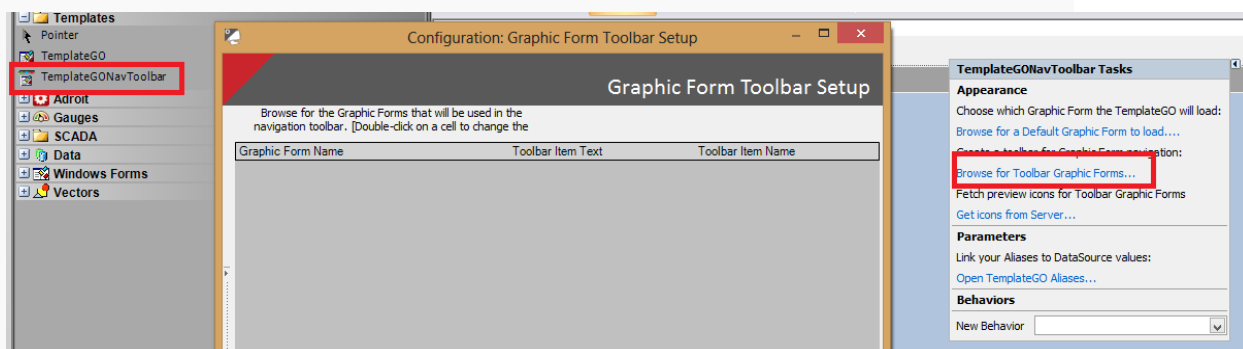
### Affecting vectors

- The Text vector no longer scales its text by default when it is resized
- To make vectors easier to resize, the sizing handles are no longer used to rotate the vector, instead a separate rotation handle is provided above the centre of the vector for rotating the vector around its configured center point.



### Affecting Controls

- **TemplateGONavToolbar**: this control has been enhanced with the following features to make it even easier to create a menu (toolbar) of graphic forms so that your operators can navigate between your graphic forms:



- Added the **Add Project** button to add the project structure of an entire project or a portion of the project to the navigation menu. Where folders become sub menus and graphic forms become menu items and wizards are ignored.
- Allows you to rename the sub menu items that you add.
- Allows you to multi-select rows to bulk configure items in the navigation menu grid.

- Added functionality to export and import the navigation menu (to CSV) , for bulk configuration purposes, typically after adding an entire project.

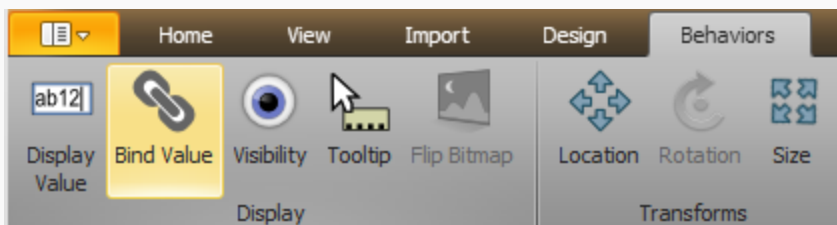
So you can export the current navigation menu to CSV, then change the names of the sub menus and/or the order of the items and remove the unnecessary items and then import this modified CSV file back into the TemplateGONavToolbar.

Instead of performing these configuration tasks in the grid itself.

- Prevented the current graphic form from being added as a navigation item to prevent nesting.

## Affecting Behaviors

- Added the **Bind Value** behavior, which can drive a data element (value) to and/or from the value of a property of a control or vector and therefore provides the following options:
  - **To Control Property:** this is the default option, where a value (data element) is linked to (drives) a property of a control/vector. If this is a String property, then you also have the option of applying string formatting to this value before it displayed.
  - **From Control Property:** this connects a property of a specific control or vector to a value (data element) and specifies which event of this control or vector is used to update (drive) this data element with the current value of this property.
  - **Both (To/From Control Property):** this facilitates a two-way feedback connection between the specified property of the control/vector and the data element by both setting a property of a control or vector to a data element and when a specific user event occurs to this control or vector, then the current value of this property is written back to this data element.

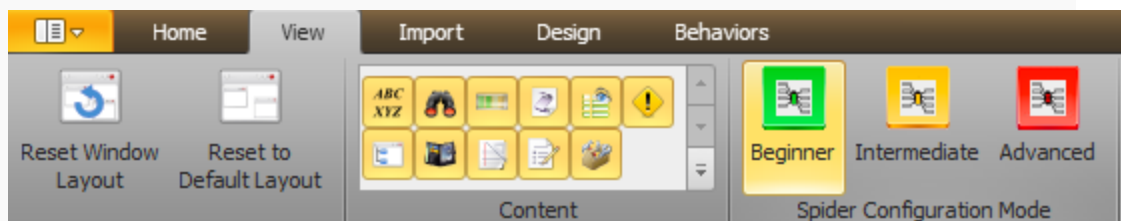


For instance, this behavior can be used to:

- Display a value on a label or button with applied string formatting.
- Drive a gauge control from the value of an Adroit agent.
- Drive a slider control from the value of an Adroit agent and writing this value back to Adroit when the slider is manually adjusted.
- When creating an **Execute Command** behavior to open a graphic form, the user can select the **Open as Template Graphic Object** option. In this case the user must select a Template Graphic Object from the drop down in which to open the selected form. If there is only one Template Graphic Object on the form this is now automatically selected in the drop down - making configuration quicker and easier.

## Affecting Spiders

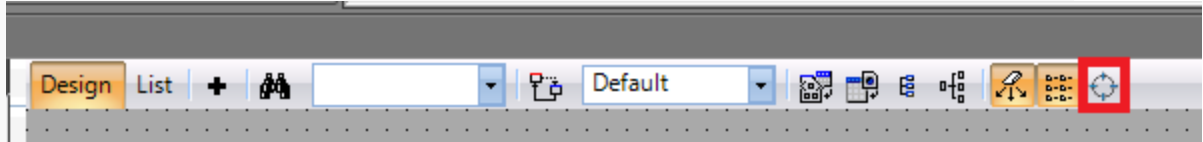
- The **View** tab of the Designer ribbon, now provides the **Spider Configuration Mode** section that provides the following options that determine the availability of and the interaction within the **Spider Configuration** window:



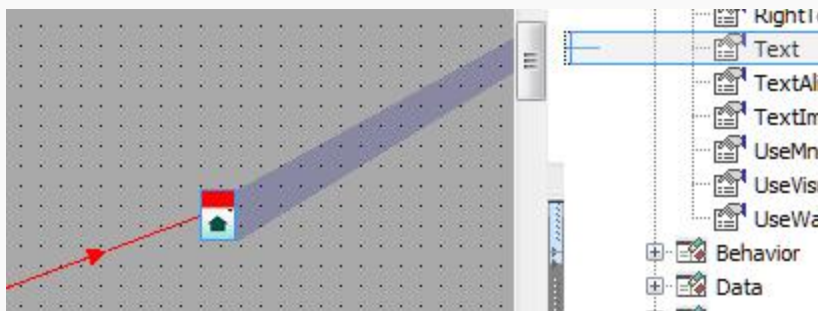
**Note:** When changing from one mode to another, you need to close all open graphic forms.

- **Beginner** mode (default for new installs): the **Spider Configuration** window is not accessible at all - it cannot even be opened. This allows your graphic forms to open much faster, since the visual components of their configured spiders are not loaded.

- **Intermediate** mode: the **Spider Configuration** window can be accessed but is not displayed by default and spider regions associated with configured behaviors cannot be accessed (they remain closed).
  - **Advanced** mode: grants full access to the **Spider Configuration** window and opens this window. However, with regard to spider regions associated with configured behaviors, you are **ONLY** able to edit the existing spiders and are therefore prevented from: dragging spiders into or out of this region; adding spiders to this region or deleting spiders from this region.
- The spider workspace has been increased in size so that now it can fit 3 HD screens.
- The **Spider Configuration** window provides an Overview overlay pane (pop-up), accessible from the spider workspace toolbar, which displays a rectangular overview pane that allows you to select the portion of the entire workspace that the **Spider Configuration** window displays - to help with navigating the spider workspace.



- Spiders, particularly the property and data elements spiders are no longer automatically moved by the spider workspace. For instance if you change the location of a property spider it will remain where you reposition it and not be automatically moved to the right edge of the spider workspace.
- To help you locate the selected property spider in the spider workspace, the shadow of the currently selected property spider is displayed, whether the spider is collapsed or expanded.



- The trigger direction indicator of the silks has now been moved away from the end of the silk, as the previous position caused confusion when multiple silks were linked to the same spider input.
- The **Delete All Spiders...** operation now also removes any behaviours and regions in the spider workspace.

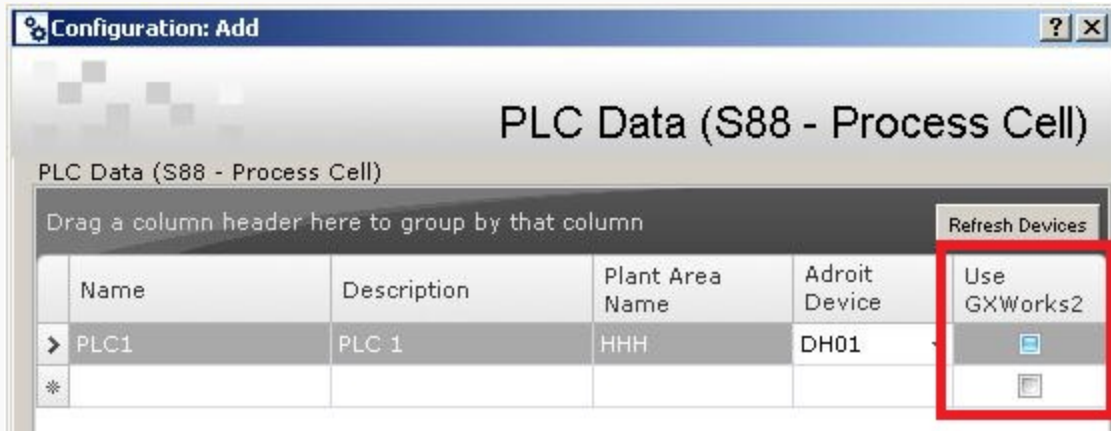
## Existing Adroit 8.0 and MAPS 3.0 features:

### MAPS Projects

- Support is provided for the MX Components driver (in addition to the Mitsubishi Q/QnA Ethernet driver).
- Support is provided to use the GX Works 2 tool to generate your PLC Projects instead of using GX IEC Developer. Currently GX IEC Developer is used unless you check the **Use GX Works2** checkbox.

**Note:** We recommend either using GX IEC Developer or GX Works to generate ALL your PLC projects but not using both tools on the same MAPS project!

When using the MAPS project wizard, you can configure this in the **PLC Data** dialog, as follows:



When using the MAPS 1 Engineer, then you need to configure this in the properties of each PLC before you generate the PLC project, as follows:



- You can add a MAPS Templates datasource to either tweak a system MAPS Template by changing its SCADA and/or PLC functionality to better suit your needs or to create an entirely new custom MAPS Template to represent an item of your instrumentation or equipment. Some of the functionality provided by this datasource, allows you to:
  - import signals (DUT or Data Unit Type) directly from the PLC Program.
  - use either Mitsubishi GX IEC or GX Works 2.
  - specify the type of signal, since the naming convention may not follow the standard MAPS template convention.

- automatically retrieve and replace the function block instance, the DUT and Global Variable from the MAPS project XML file.
- The MAPS project folders are now centralized. In other words, all the requisite files for a MAPS project are now saved in a SINGLE folder, typically C:\ProgramData\MAPS\Project\<Project Name>\..... Previously, the files that related to a specific MAPS Project were saved in disparate folders on the hard drive.
- MAPS projects allows you to use some or all of the Adroit Reporting Suite reports to analyze your Adroit alarming data to improve your alarming configuration and/or record any value that an operator manually changes for auditing purposes, by using its **MAPS Reporting Database SQL Connection String** field of the **Project Settings** to specify a blank SQL database.

Once this database is specified, when the **Sync Tags** operation is performed for this project both an AlarmManagement and an Audit agent is created and appropriately configured for this MAPS project.

**IMPORTANT:** You need to purchase a separate license for the Adroit AlarmManagement agent before you can use this agent to log your alarming data, which you can analyze using the Alarm Management reports.

Then you can install the Adroit Report Suite and connect to this database to use the applicable reports to analyze your data.

- Since one of the purposes of the Operator View, which is generated by each MAPS project, is to provide navigation through the defined plant areas, PLCs, units and equipment, this can be created using one of the following two navigation methods:
  - The **Advanced** view that provides a navigational structure of different panes, which each provide buttons that display the available plant areas, PLCs, units and equipment defined in your MAPS project.

**Note:** This view is more visually appealing and allows your operators to customise this view by hiding or showing the different panes, as needed.
  - The **Simple** view, uses menus and sub menus to navigate through the available plant areas, PLCs, units and equipment defined in your MAPS project.

**Note:** This view provides the same functionality as the Advanced view only in a simpler navigational format.
- Deleting the SCADA graphic of a MAPS Template from a custom graphic form also deletes all the spiders related to it.

## Adroit Agent Server

- Added the OEE (Overall Equipment Effectiveness) agent, which can:
  - EITHER calculate the OEE for the monitored equipment and/or plant.

Overall Equipment Effectiveness (OEE) is a measurement of how effectively a single piece of equipment, or a group of equipment, and even how an entire factory is being utilised.

This takes into account all losses in downtime, speed and quality and can therefore be used for analysis and benchmarking.
  - OR measure a specific key performance indicator (KPI). In other words, individual OEE agents can be applied to any component or part of a process for which a variable denoting a measurement of output is available.

The measured KPI can either compare actual performance with benchmark figures or compare shift performances or today's performance with the previous day or the previous day's shifts.
- Added the Shift agent, which allows you to configure your required shift patterns globally, for use by any interested agents. Instead of configuring the shift pattern information into each instance of these agents.
- Added the DBLog agent, which is a bulk OLE DB logging agent for typically Analog and/or Digital values.

In other words, instead of logging each Analog and/or Digital value separately, you can simply specify a list of tags to log and either export/import this list from a CSV file or browse in this list individually in the required DBLog agent.

- Datalogging subsystem enhancements:
    - Out of limit monitoring enables Datalog agents to immediately log out of limit values (values that are not within their specified operating range), by ignoring the normal time deadband value and using the a faster log rate specified by the out of limit time deadband instead.
    - Each Datalog agent can create their own backup (.LGB) files, when their associated .LGD files wrap. Once created, the datalogging subsystem automatically retrieves the data from these .LGB files, if required by trends (charts) or other requests for historical data.

This feature can also extend the potential amount of logged data without creating larger log files, since larger log files have the side effect of causing the Agent Server to take longer to start up.

In this case, while the active log (LGD) file can remain small, the log backup (.LDB) files can store historical data for much longer time periods.
- IMPORTANT:** When backing up datalogs we recommend the creation and use of .LGB files, which unlike the legacy method of backing up datalogs via the SystemDatalog agent, can have their stored historical data seamlessly retrieved for trending and reporting.
- Agent Servers allow clients to connect to them by using sockets over and above the legacy named pipes:
    - Sockets give you better performance when a remote client (running on another computer) connects to an Agent Server.
    - Named pipes give you better performance when a local client (running on the same computer) connects to an Agent Server.
  - The Notify agent can now transmit alarms by email to the required recipients, by using the Email driver.

This is in addition to transmitting alarms as text messages via cellular phone Short Message Service (SMS) or a paging service directly to a designated person.


The **Body** and/or **Subject** line of these automatically sent email messages can contain text macros that are parsed to before the message is sent.

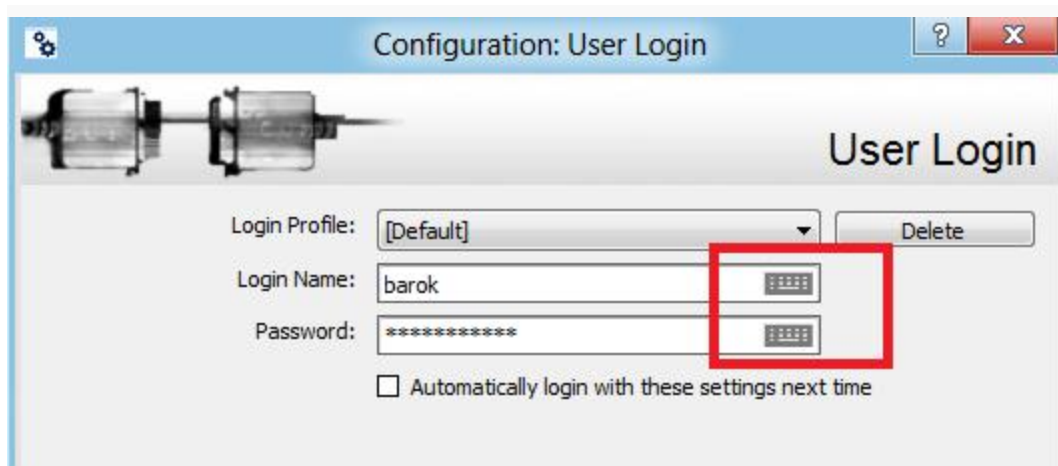
In addition to automatically sending alarms as email message, the Notify agent can also be configured to allow your operators to manually send email messages, via an appropriately configured mimic.

## MAPS Config Editor

- This provides a single point for the configuration and set up of the Adroit and MAPS applications.
  - Added Agent Server and protocol driver configuration dialogs, which no longer need to be configured using the Adroit Setup (PSEXEC) utility.
- This also provides the backup and restoration of the Adroit and MAPS applications and their projects.
- Added the ability to force the update process to always update certain values, such as the product version.
- Added the -clickonce command line switch to allow the clickonce deployment to automatically update after an update or install.
- Changed the default Launcher setup path to ProgramData so that the Launcher Setup exe no longer requires administrator rights, by default, although this is still required should the user wish to extract these files to Program Files for instance.

## MAPS Client Login

When a touch screen is detected, a  button appears to the right of the **Login Name** and **Password** edit boxes, which if pressed, launches a virtual keyboard for users to type in the required value.



### MAPS Server

- Adroit licensing now supports clustered Agent Servers.
- Server Script datasources no longer require licensing.
- Added support for users to change their password if required by Windows or by the domain policy.
- Added functionality to move Data and Project files to new ProgramData directory structure on startup of the MAPS Server.
- Added new Security special functions to create and delete native users, which is used by the Security control.

### Adroit Datasource

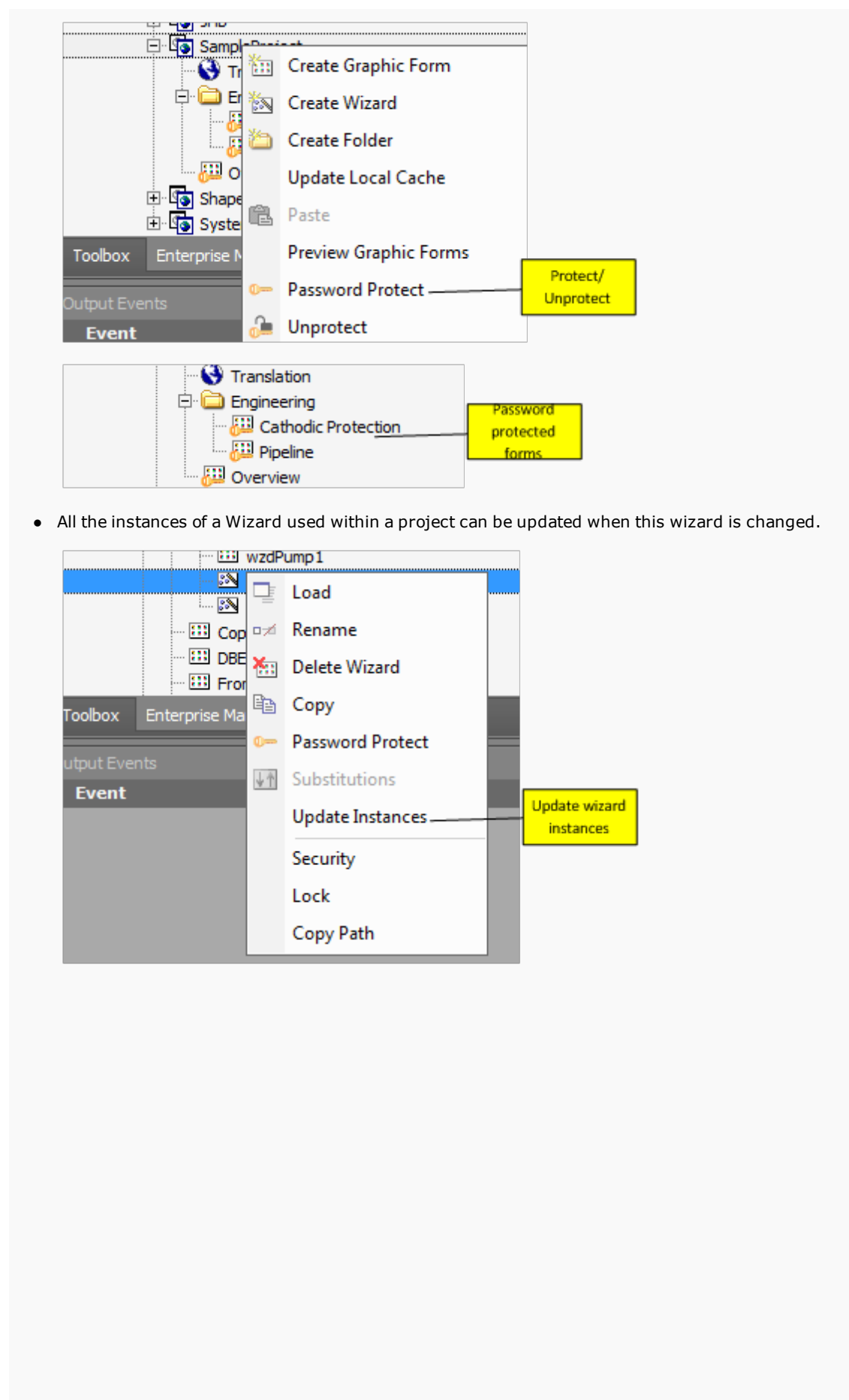
- Better Adroit cluster support allowing for faster switch overs.
- New status indicators displayed on controls to alert users to non-existing and scan-bad agents.
- Automatically updates its agent tree on the client when tags are added / removed.
- Added sample rate support to GetHistoricalData to allow smaller datasets to be sent to clients, such as charts.
- Added support for Agent Server cluster licensing.
- The Agent Configurator is now launched to configure agents, so that users can also configure their scanning, logging and/or alarming etc.
- The Adroit Datasource display name (as displayed in the add Datasource wizard) can be changed via config setting as per OEM requirements.

### Event Log Datasource

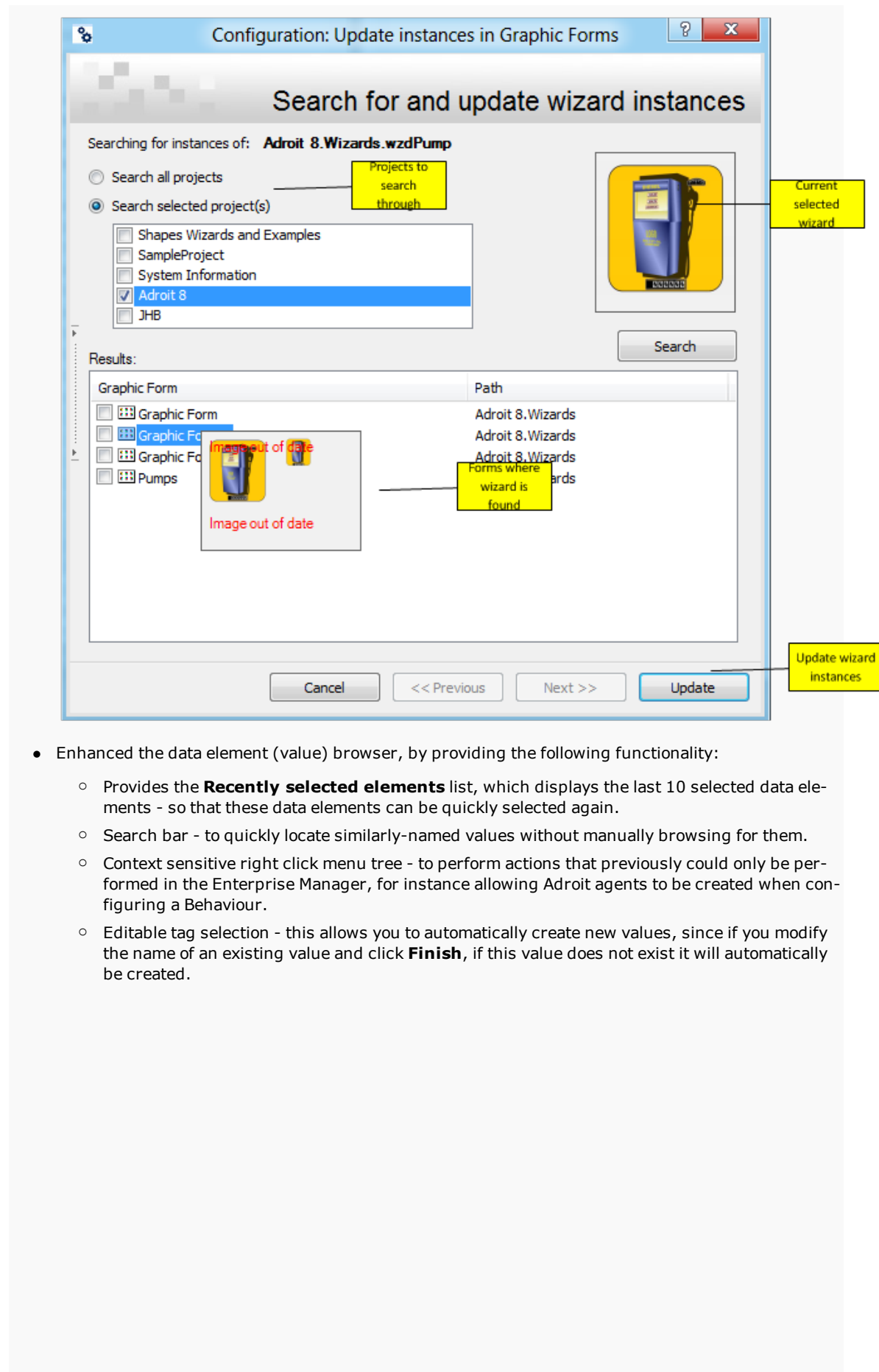
Support added for filtering Adroit specific data.

### MAPS Designer

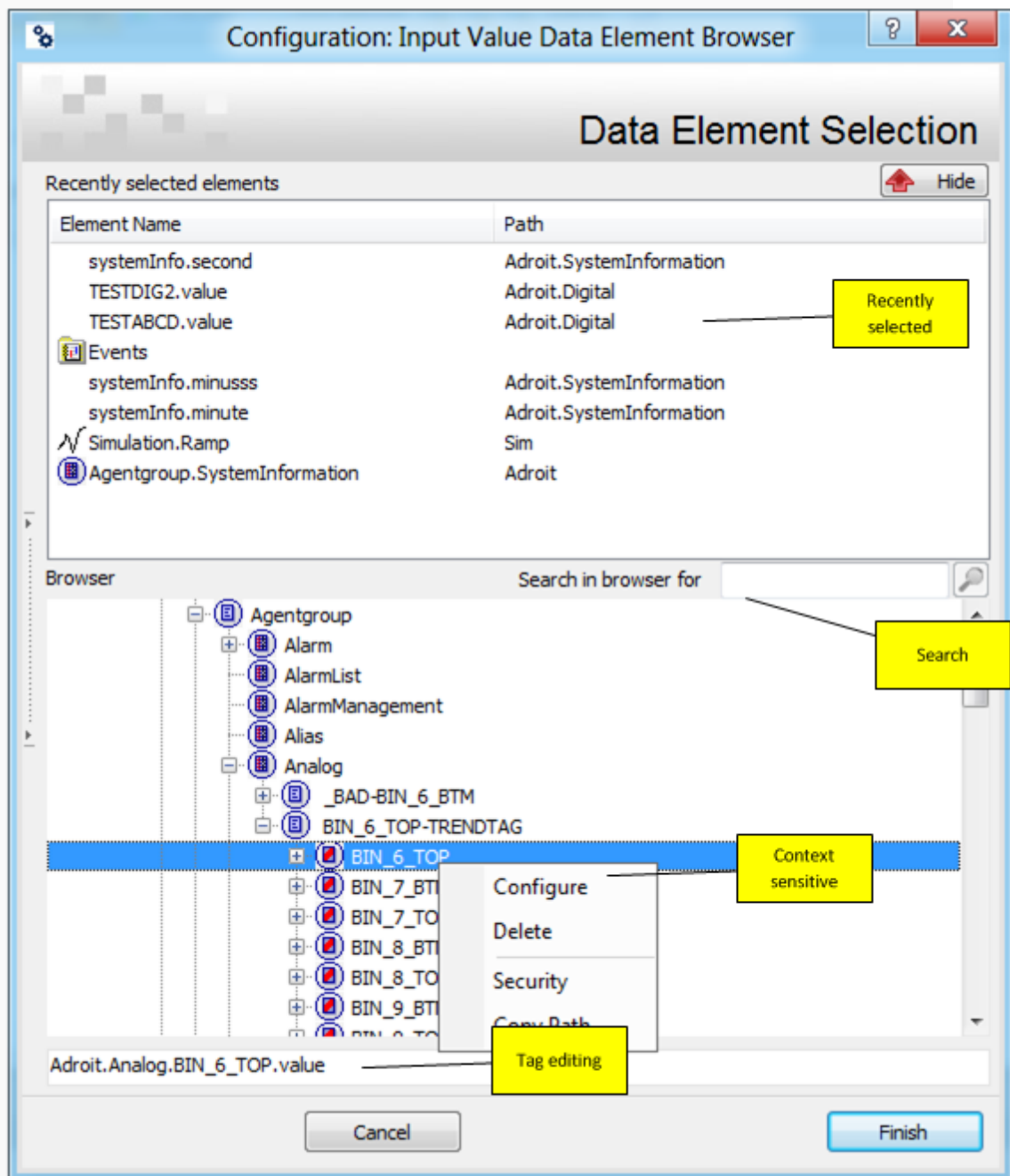
- Provided the ability to import Adroit Classic mimics and trends into the MAPS!
- Support is provided to password-protect Projects and their folders and graphic forms to prevent unauthorized editing of the applicable graphic forms. You are still able to view password-protected graphic forms in the MAPS Operator.



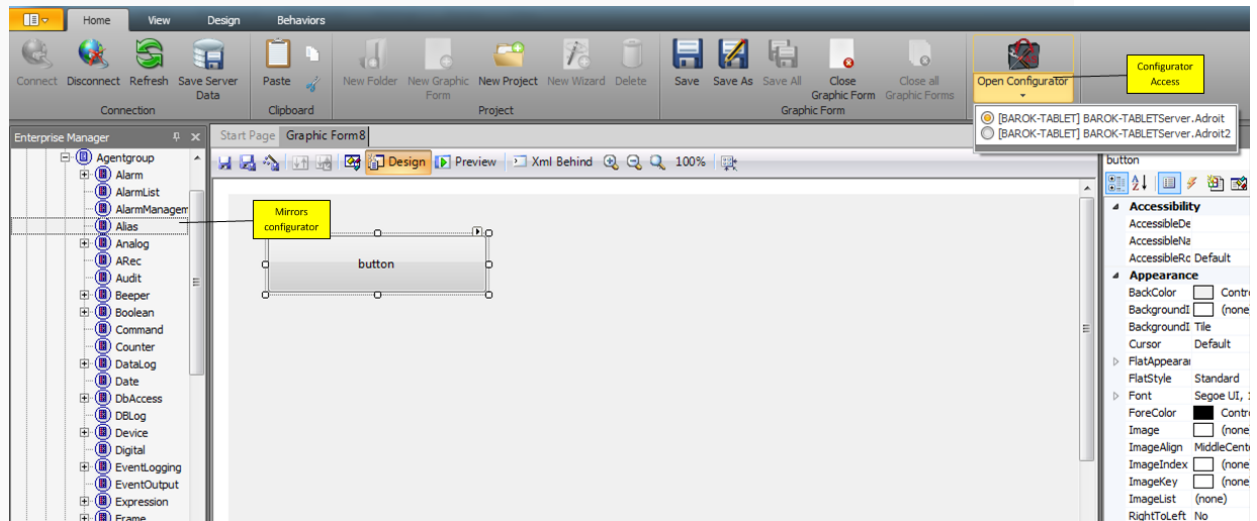




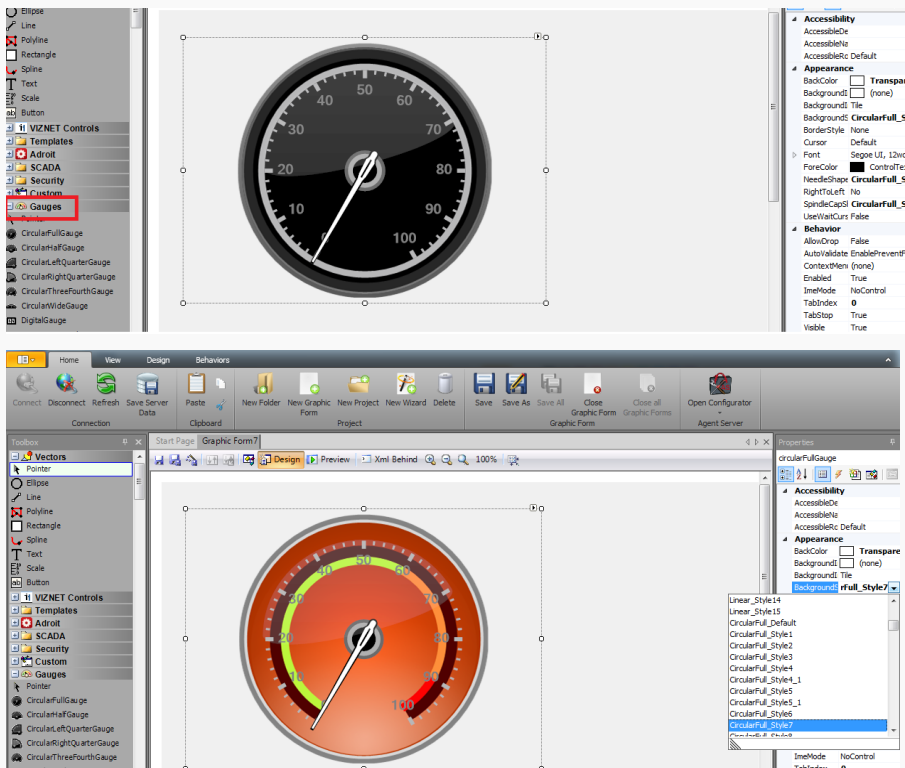
- Enhanced the data element (value) browser, by providing the following functionality:
  - Provides the **Recently selected elements** list, which displays the last 10 selected data elements - so that these data elements can be quickly selected again.
  - Search bar - to quickly locate similarly-named values without manually browsing for them.
  - Context sensitive right click menu tree - to perform actions that previously could only be performed in the Enterprise Manager, for instance allowing Adroit agents to be created when configuring a Behaviour.
  - Editable tag selection - this allows you to automatically create new values, since if you modify the name of an existing value and click **Finish**, if this value does not exist it will automatically be created.



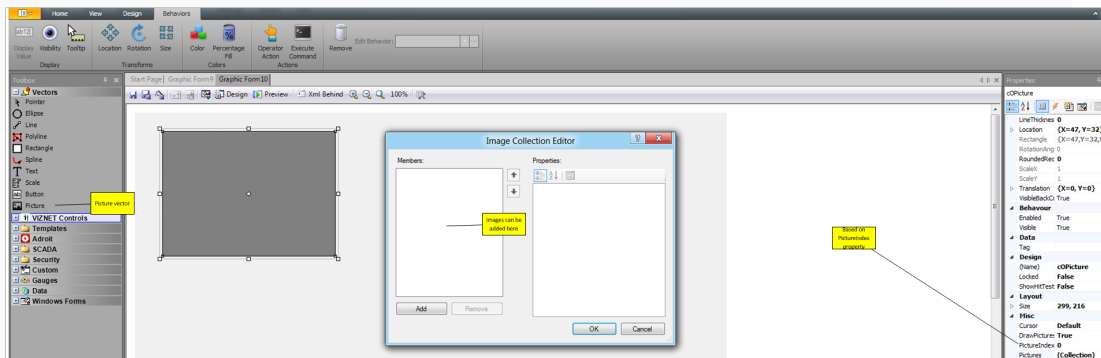
- The Save Server dialog now has a “remember last selection” checkbox to repeat the selected option each time the MAPS Designer is closed.
- Dragging over a dock window tab now selects the tab (particularly useful for watches etc).
- Added the **Open Configurator** ribbon command: the **Home** tab of the Designer ribbon provides the **Open Configurator** command, which launches the Adroit Agent Configurator to configure the agents of the selected Agent Server.
- The Enterprise Manager window mirrors the state of the Adroit Agent Configurator.  
Previously if changes were made, specifically adding and removing agents in the Configurator, the changes would not be displayed in the Enterprise Manager. Now the Enterprise Manager automatically refreshes to display every change that is made.






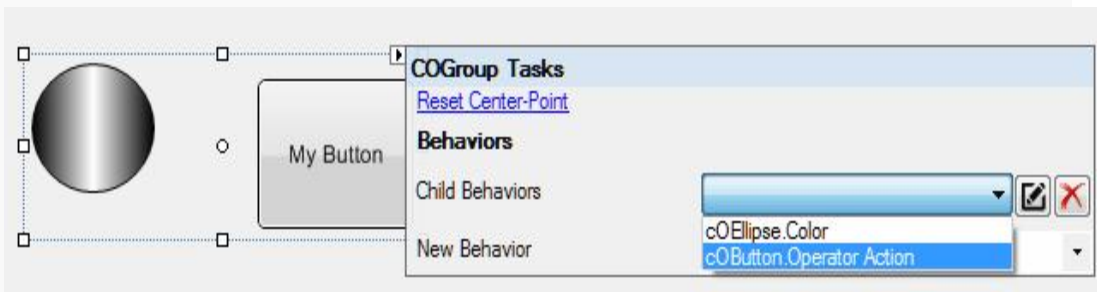
- The **Toolbox** window provides a new **Gauges** category, which provides a number of new gauge controls for use in graphic forms.



- Added the **Security** control, which configures security rights and adds and deletes users and assigns group membership to users.
- Added the `updateThreshold` property to prevent the AlarmViewer control from updating too rapidly when an alarm list is changing too frequently.
- Improved the TemplateGONavToolBar control to allow the selected menu item to be remembered (persisted) by means of a color change and its menu items are now exposed to the MAPS Designer to allow for the adding of behaviors.
- Improved the Charting controls to allow the description and other properties of each Series to be dynamically driven and added support for a historical sample rate.
- Added the **Picture** vector, which displays pictures of the following formats (.bmp, .gif, .jpg, .jpeg, .png, .ico) and is used by the new **Flip Bitmap** behavior to create a multi-image display.

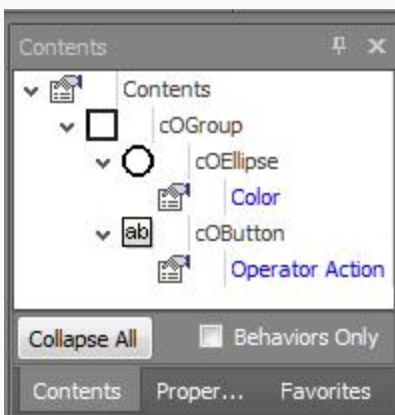



- Added the ability to draw perfect squares and circles by holding down the CTRL key while resizing these vectors.
- Enhanced the **Tasks** list of the vector group (accessed by clicking the  glyph in its top left corner) to provide the **Child Behaviors** list, which displays all the behaviors added to its component vectors, so that these can be edited  or deleted .

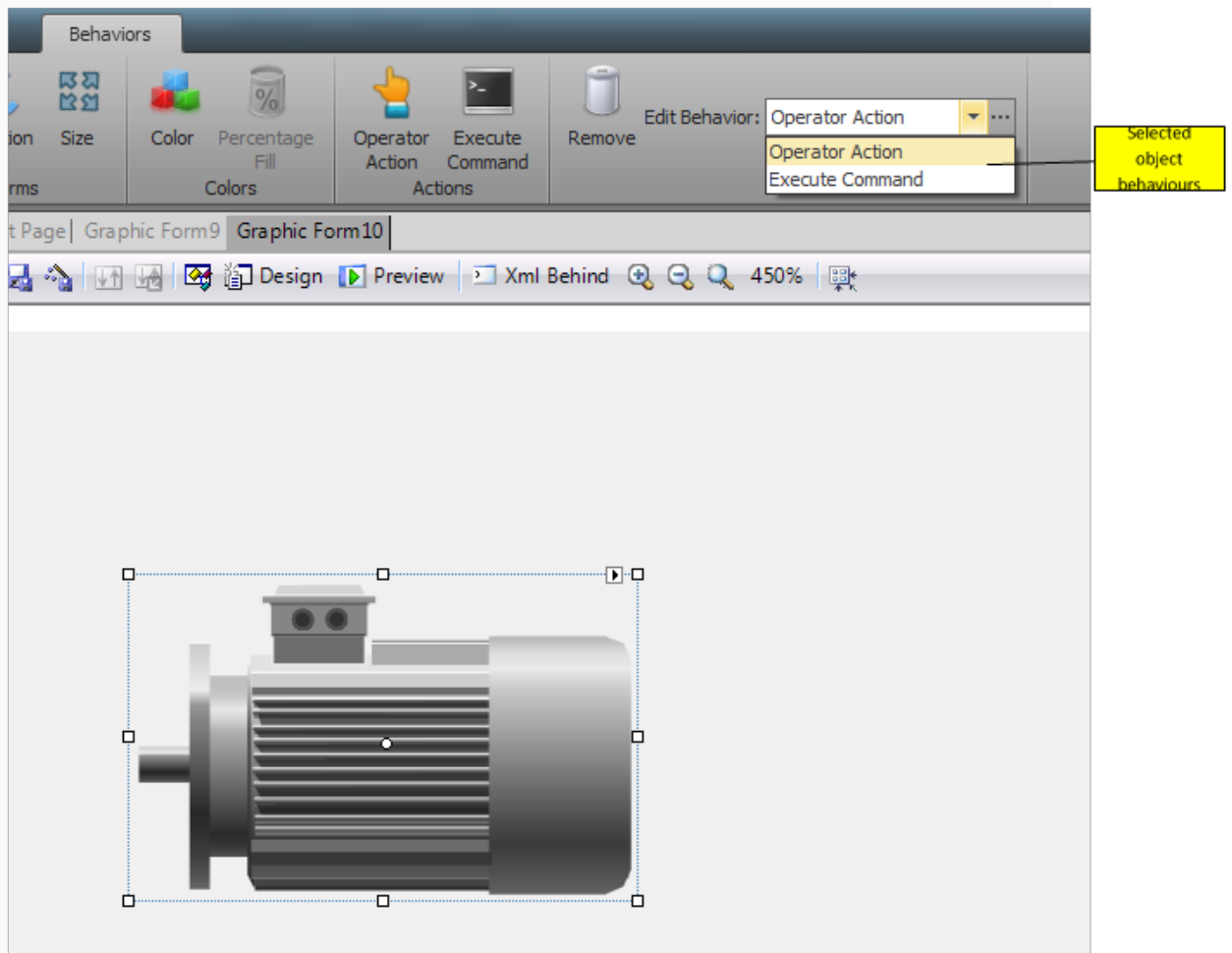


- The **Contents** tool window, displays the contents of vector groups, generic containers (wizards) and/or menu strip components on the current graphic form, so that you can edit each contained vector and/or control and their configured behaviors.

This has been enhanced to provide a **Collapse All / Expand All** button to hide or show every vector and control and their configured behaviors and a **Behaviors only** checkbox that only displays the behaviors of the currently displayed vector/s and control/s in this window. Also the behaviors are now displayed in blue for ease of reference.



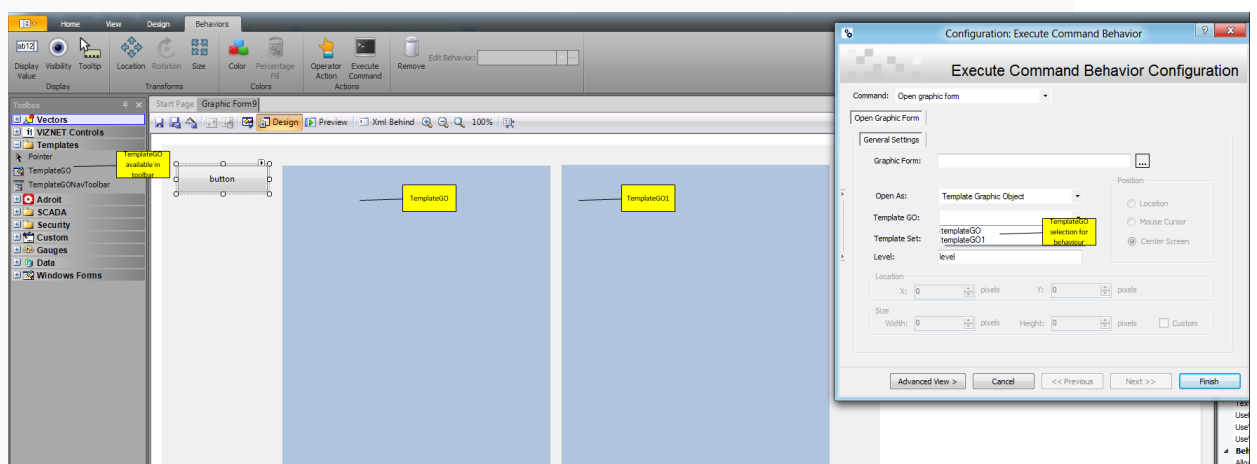
- Configured behaviors can be easily edited: the **Behaviors** tab of the Designer ribbon provides the **Edit Behavior** list box that lists all the behaviors that are configured for the currently selected form component. Clicking its browse  button displays the configuration dialog of the currently selected behavior.



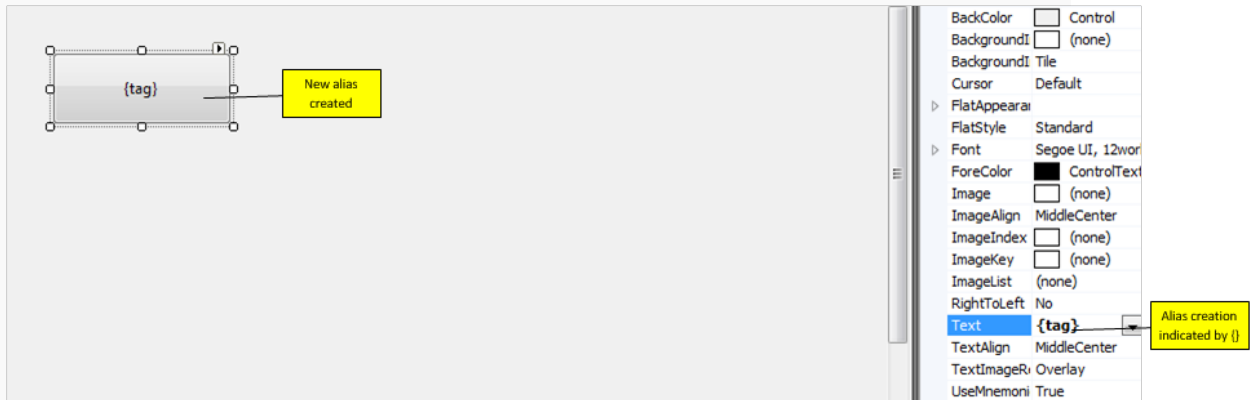
- The Execute Command behavior provides support for Template Graphic Objects. In other words, when configuring an Execute Command behavior to open a graphic form, a Template Graphic Object that exists on this form can also be selected as the destination.

This behavior also provides the following commands that previously could only be performed via code: switching users, logging on and printing graphic forms.

- When using the Execute Command behavior to perform graphic forms operations (opening, closing etc.) in the MAPS Designer in Run mode, an alert is now displayed informing users that this functionality is only available in the MAPS Operator. Previously no such feedback was provided so users thought this functionality did not work.

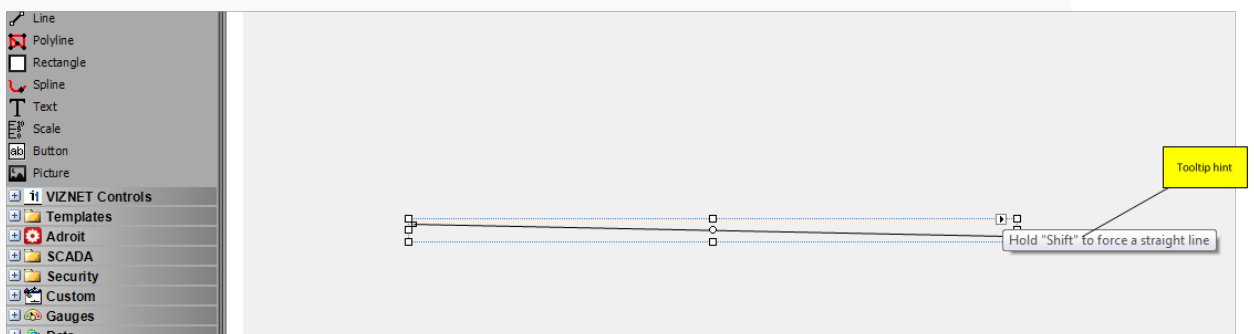
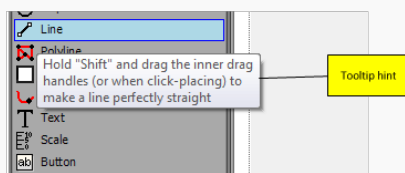


- Aliases (for SmartUI Templates) and substitutions (for wizards) can be automatically added using { } notation, as follows, without requiring any manual spider engine configuration:
  - in the **Properties** tool window: for any String or Text properties, you can specify the required name enclosed in { } braces, which is automatically linked via a String Format spider and a Variable Data Element spider to this String property.
  - when configuring Behaviors: for any data element field, you can specify the required name enclosed in { } braces, which is automatically linked via a Variable Data Element spider to this data element property of this behavior.






**Note:** This example shows how the complete data element (value) has a single alias/substitution, but if you require multiple parts of the data element name to be separately replaced then specify multiple names within { } braces, such as {DataSource}.{Value}.

- The Application spider can now open a graphic form in a specified Template Graphic Object and improved the feedback provided by this spider, as follows:
  - added an alert when users attempt to perform graphic forms operations (opening, closing etc.) by triggering the Application Spider in Run mode in the MAPS Designer, that this functionality is only available in the MAPS Operator. Previously no such feedback was provided so users thought this functionality did not work.and
  - added "graphic form not found" functionality to alert the user in this case.
- Added the ability to add named inputs (instead of only {0}) to the Variable Data Element spider, which are easier to understand and manage.
- Self-documenting user interface: various hints, displayed via tool tips, explain common design tasks and remind users about context-sensitive usage tips, this functionality can be enabled or disabled via a profile setting.



- Added "Revert to Default User" functionality to the profile to revert to a default user rather than completely logging off, when using the inactivity timeout feature.

## MAPS Operator

- When displaying Adroit tags in your graphic forms, to assist in their troubleshooting, by default, both the MAPS Designer in Run (runtime) mode and the MAPS Operator display bad-tag status indicators. The following indicator icons are displayed, in the bottom right corner of the controls (or vectors) that have the applicable bad tags connected to them:
  - general bad: , which usually means the value of the tag is outside of its minimum or maximum range.
  - scan bad: , which usually means either the tag not been scanned correctly or device hasn't started.
  - invalid tag: , which usually mean that the tag doesn't exist.

Right clicking on the indicator displays the name of the associated data element and the property that it is linked to and provides the following two options (these options are also available when using the **Show (All) Information** feature in the MAPS Operator:

- **Copy**: to copy the specified tag name (when this has been directly linked) to the clipboard, for reference purposes.
- **Edit**: to open the Adroit Agent Configurator with this tag (agent) selected (if it can be found), so that it can be edited..



**Note:** Since the editing of tags in the MAPS Operator poses a security risk, the display of this option is controlled via the **AllowEditTags** Boolean setting of the **Operator Settings** page of the profile dialog, which is False (hidden) by default.

- Added dynamic graphic form resizing support, which used in conjunction with the PreserveAspectRatio setting caters for monitors of different aspect ratios.

## MAPS Launcher

- The MAPS Launcher no longer requires Administrator rights by default, but will request Administrator rights if necessary, for instance if it requires access to Program Files.