ARIS PROCESS PERFORMANCE MANAGER
WIDGETS FOR MASHZONE NEXTGEN

VERSION 10.3

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This document applies to ARIS Version 10.3 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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1 General

This documentation gives an overview of the custom PPM widgets provided for MashZone NextGen. The manual describes how you can configure and use the widgets in MashZone NextGen.

In MashZone NextGen you can configure and use the custom widgets analogous to the already available dashboard widgets. For example, you can set selections or to use the widget as a filter widget.

Warning

Use MashZone NextGen version 10.3 only with PPM widgets of version 10.3. Do not use any MashZone NextGen version prior to 10.3 with PPM widgets of version 10.3.

For general use of MashZone NextGen dashboards, see the MashZone NextGen Online Help.

2 Install custom widgets

You must install custom widgets manually in MashZone NextGen.

The installation requires a widget zip file which is located in the PPM installation directory.

<PPM installation>\ppm\server\bin\work\data_ppm\MashZone_NextGen_BA\customWidgets\<WidgetName.zip>

Procedure

1. Copy the relevant widget file in the **customWidgets** folder of your MashZone NextGen installation and unpack the **zip** file.

   <MashZone NextGen installation>\apache-tomcat\webapps\mashzone\hub\dashboard\widgets\customWidgets

   This creates a custom widget subfolder, for example, **functionFlowWidget**.

2. Restart the MashZone NextGen server.
   a. Open the **Software AG**/**Stop servers** program folder.
   b. Click **Stop MashZone NextGen Server**.
   c. Open the **Software AG**/**Start servers** program folder.
   d. Click **Start MashZone NextGen Server**.

The PPM custom widget is now available in MashZone NextGen.

3 Update custom widgets

Custom widgets are not updated by the normal update process. You must update the widgets manually.

Procedure

1. Delete the folder of the custom widget from the MashZone NextGen installation directory.

   <MashZone NextGen installation>\apache-tomcat\webapps\mashzone\hub\dashboard\widgets\customWidgets\<WidgetName>
2. Install the updated widget version.
3. Update the style template.
   a. Open a dashboard in MashZone NextGen.
   b. Click **Manage** > **Change style template** in the dashboard main menu.
   c. Click **Update**.
   d. Click **OK**.

   Detailed information on how to update style templates can be found in the MashZone NextGen online help.

Your custom widget for MashZone NextGen is updated.

4 Insert custom widget in a dashboard

You can insert a custom widget as a widget in your MashZone NextGen dashboards.

For detailed information on how to use the MashZone NextGen dashboard editor, please see the MashZone NextGen Online Help.

In case there is more than one PPM custom widget installed, all PPM custom components are located in one horizontal row in the widget bar of MashZone NextGen. Only one PPM custom widget is visible by default, all other PPM custom widgets are displayed when hovering over the default widget.

Prerequisite

You have installed the custom widget in MashZone NextGen (page 2).

Procedure

1. Start MashZone NextGen.
2. Open or create a dashboard in the dashboard editor.
3. Click the widget button, for example, **Function Flow**. The button is located at the left hand side of the dashboard editor.

The widget is inserted as blank box in your dashboard.

5 Function Flow widget

The **Function Flow** widget adds the PPM Function Flow diagram (page 5) as a further dashboard widget to MashZone NextGen.

For general use of MashZone NextGen dashboards and widgets see the MashZone NextGen Online Help.

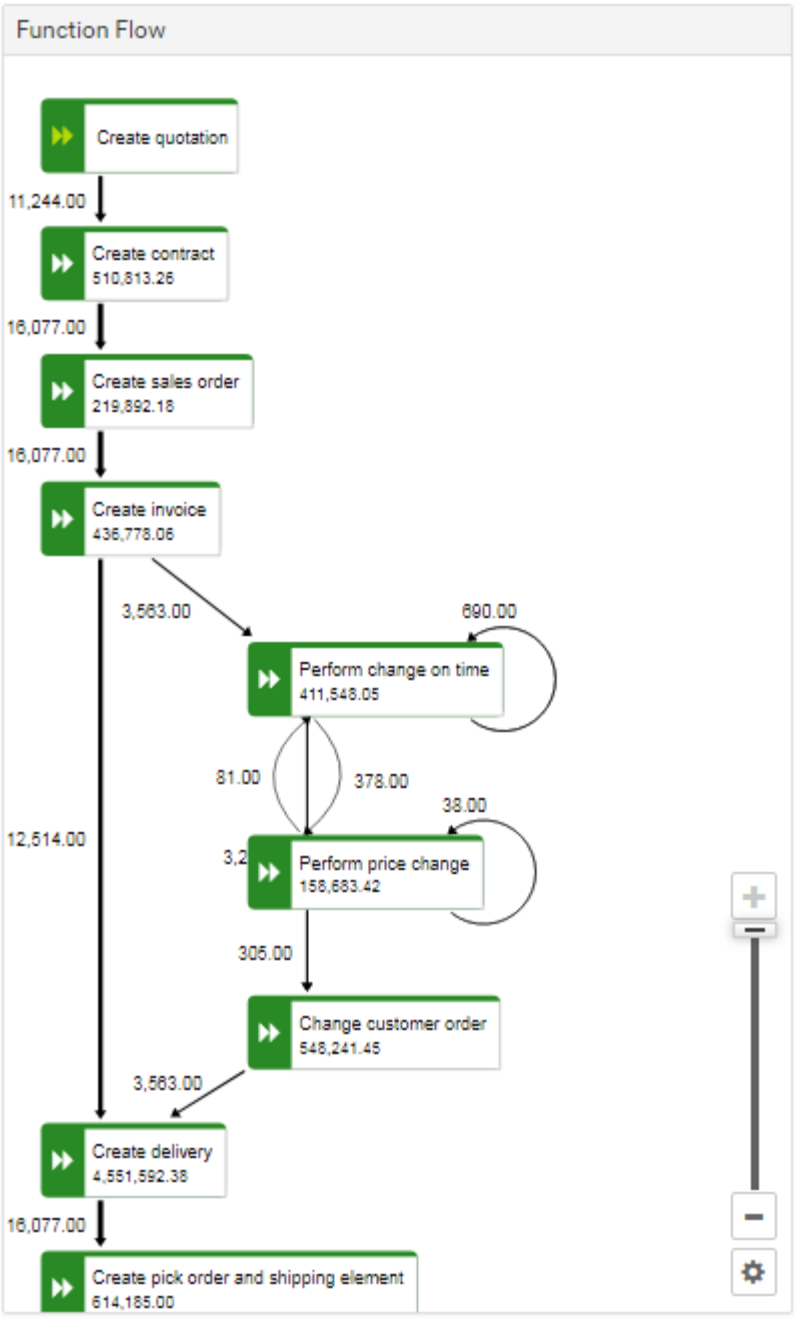
5.1 What is a Function Flow diagram?

The **Function Flow** diagram enables you to analyze the sequence of activities within your business processes. Using the **Function Flow** diagram you are able to clearly display and evaluate the process structure and the relationship between the activities.

A **Function Flow** diagram begins with a start function that is indicated by a green symbol and has only outgoing connections (except self loops). The end function has only incoming connections (except self loops) and is indicated by a red symbol. All other functions have white symbols and have at least one incoming and one outgoing connection.

The weight of a connection is defined by its relevance value.

Example



5.2 Assign data sources

Before you can display content in a dashboard widget, you must first assign a data source to this widget. You can select PPM as data source or any desired data source available in MashZone NextGen.

Procedure

1. Click the **Function Flow** widget in the dashboard. The relevant properties dialog is displayed.

2. Click **Assign data** to edit the data source assignment. The **Assign data (1/2)** dialog is displayed.

   Here you can select a data source and specify your data source settings.
3. Click **Next**.
4. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings (page 8) for details.
5. Assign the data columns to the widget elements using drag and drop.
6. Click the assigned columns to specify the columns settings. See Settings (page 8) for details.
7. Click **OK** to save your settings.

The widget shows a **Function Flow** diagram based on the data of the assigned data source.

5.2.1 Assign data columns of a PPM context

If you have configured a PPM context (page 31) for your dashboard, you must only assign the data columns provided by the PPM context to the elements of the dashboard widgets (**Assign data (2/2)** dialog). You do not have to assign a data source to each widget first (**Assign data (1/2)** dialog). The PPM context is automatically assigned to all widgets in the dashboard that have no data source assigned.

By default, the PPM context provides all available data columns of the PPM system. For the **Function Flow** widget, the columns are automatically filtered, and the PPM context provides all relevant data columns.

Procedure

1. Click the **Function Flow** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. For details, see chapter Settings (page 8).
3. Assign the data columns of the PPM context to the widget elements using drag and drop.
4. Click the assigned columns to specify the columns settings. For details, see chapter Settings (page 8).
5. Click **OK** to save your settings.

The widget shows a **Function Flow** diagram based on the data of the assigned data source.

If you do not want to use context-based data columns, you can assign any other data source provided. You can change the data source by clicking **Use other data**. The **Assign data (1/2)** dialog opens. Here you can assign any data source provided. If you assign another data source,

you cannot reassign the PPM context to the dashboard widget. For details, see chapter Assign data sources (page 6).

If required, you can adjust the list of data columns provided for the data columns assignment. Click **Edit PPM context** to edit the data columns specified in the PPM context.

For details on using and configuring a PPM context, see the MashZone NextGen online help.

5.2.1.1 Column matching

To facilitate the assignment of the source columns to the widget elements, the names of the source columns are automatically matched to the default names of the columns in the standard customizing (in English and German only). The matching is only done if there are no columns already assigned to some widget elements.

The following elements of the **Function Flow** widget are matched (the comparison is case insensitive):

- Start function

  Contains "Function (Start)"

  Contains "(Start)"
- End function

  Contains "Function (Target)"

  Contains "(Target)"
- Function names

  Contains "Function (F"

  Is exactly "Function"
- Relevance column

If there is no matching source column for a widget element, the widget element stays unassigned, and you must manually assign the column to be used.

5.2.2 Settings

The **Function Flow** diagram requires a column for the **Start function**, **End function**, and the **Relevance value** respectively. Additionally, you can define further connection values in the optional list field **Additional connection values**. These values are available in the settings menu in the **Function Flow** diagram, and the value order corresponds to the order in the list field. The fields **Function names** and **Function measure value** are used to display function measures in the **Function Flow** diagram (page 15).

By default, you can change the **Display name** and the **Format** of the relevance and connection values. By changing the **Sorting** of the relevance column you can set the assessment of the connections. If you select **Ascending**, high values are considered positive (for example, revenue). If you select **Descending**, low values are considered positive (for example, costs).

The widget allows you to use the same column for the **Relevance**, **Additional connection**, and **Function measure** widget elements without changing the name. If the widget elements use the same columns but different aggregation types, you must assign different names to the individual widget elements.

OPTION LIST

Field	Description
Start function	Contains the column of the start nodes. These nodes are used as a starting point for the connections and a connection is drawn to the end node. This field is required and only allows unique text columns. If the field is empty, no graph is displayed.
End function	Contains the column of the end nodes. These nodes are used as a target point for the connections and a connection is drawn from the start node to the end node. This field is required and only allows unique text columns. If the field is empty, no graph is displayed.
Relevance value	Contains the column of the relevance values. The relevance value calculates the thickness of the connections, if enabled. The sorting of the relevance can be changed via a property. This field is required and only allows numeric columns which are not already used as additional connection value. If the field is not filled, no graph is shown.
Additional connection values	Can be used to define additional values that can be displayed on connections. The order determines the order in the later selection box. The box can be used to switch between these values. This field is optional and only allows numeric columns which are not already used as relevance value.
Function names	Contains the column of all function names. It has to be a column other than the start or end function because the start function misses nodes without outgoing connections & end function misses nodes without incoming connections and therefore not all required function names are contained in these columns. This field is optional and only allows numeric columns even if they are used as relevance value or additional connection value. It is used to display function measures.

Field	Description
Function measure value	Contains the column of the function measure values. The data of the column is displayed as a function measure within the function boxes. It is only possible to display one value for the function measure. Optional, Numeric columns only, It is used to display function measures.

Advanced options

Field	Description
Display name	New column name displayed in the widget, for example, used for KPI, data points or tool tips. By default, the data source column name is used.
Aggregation	Specifies how the KPI value is calculated. Available for numeric columns. Default is **Average** value. The number of aggregation types provided by context-based widgets may differ from that of non-context-based widgets.
Format	Output format of the column values, for example, used for data points or tool tips. Available for columns of **date** and **numeric** type.
Round Numerically	Displays rounded measure values in the chart. Available for numeric columns. Enabled by default.
Sorting	Sorts the values of the selected element in ascending or descending order.

5.3 Specify the widget settings

You can specify the widget display settings in the widget properties dialog.

Procedure

1. Click the inserted **Function Flow** widget. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below. For more details, see the MashZone NextGen online help.
3. Click the **Interactive mode** icon to activate the interactive mode. In the interactive mode you are able to edit the diagram layout. See the display options list below.

The **Function Flow** diagram is layouted automatically. But you can change the diagram layout in the interactive mode manually.

Your settings are applied.

Display Options

General Options	Description
Name	Optional widget name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Auto refresh	Specifies the automatic data retrieval for the component.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Function Flow widget options	Description
Interactive mode	Activates the interactive mode. The interactive mode ( ) enables you to perform the following actions. - You can resize the diagram using the mouse wheel. - You can move the entire diagram or the individual function symbols using drag and drop. To move the complete graph, click an empty space within the widget and hold down the mouse button. You can move the graph until you release the mouse button. You can select a connection value. You can select a value in the widget **Settings** menu if you have set at least one value using the **Additional connection values** option in the **Assign data (2/2)** dialog. See Assign data sources (page 6). - You can enable the magnifier. Click **Settings** and select **Enable magnifier**. - You can modify the relevance slider view and the relevance slider value. The slider value is not saved in the dashboard.
Layout	**Reset initial**: Restores the initial diagram layout.
Zoom	**Reset**: Restores the initial diagram size.
Relevance slider	Enables the relevance slider in the dashboard view and edit mode.
Connection labels	Displays the connection values in the diagram. The connection values defined in the data assignment (page 6) can be displayed or hidden beside the connections. By default, the relevance values are displayed beside the connections. If an additional connection value is defined, it is displayed as a the connection value instead. If more than one additional connection value is defined, a drop-down menu is provided in the settings menu for you to select the values that are to be displayed beside the connections. By default, the first additional connection value is displayed.
Connection weight	Displays the connection weight in the diagram. The connection weight is indicated by the connection thickness.

5.4 Set selections and fiters

The **Function Flow** widget supports the filter and selection functionalities of MashZone NextGen dashboards. By setting filters and selections you are can define relations and interactions between several dashboard widgets.

The **Function Flow** widget can be used to set a selection or a filter in other dashboard widgets. Furthermore single nodes or connections of the widget can be selected by other widgets. Additionally, the entire widget can be filtered by other widgets.

Details on how to use filters and selections can be found in the MashZone NextGen Online Help.

For setting selections and using coordinates in other widgets please note the following hints:

- The **NodeName** coordinate contains the node name. This coordinate only contains a value when a node is selected.
- There is a coordinate for the function measure value configured. The name of the coordinate corresponds to the relevant column name. This coordinate only contains a value when a node is selected.
- The **StartNode** and **EndNode** contain the names of the respective connections. The **StartNode** coordinate contains the name of the node where the connection starts and the **EndNode** coordinate contains the name of the node where the connection ends. These coordinates only contain values when a connection is selected.
- There is one coordinate for every connection value configured. And the name of a coordinate corresponds to the relevant column name. These coordinates only contain values when a connection is selected.
- The **SliderValue** coordinate contains the current filter value of the relevance slider control. This value is updated after changes to the slider itself or by pressing any of the two slider buttons. If the **SliderValue** coordinate is set, the nodes and connections are filtered accordingly. The values of the other connections are only changed if the currently selected node or connection is no longer visible (in which case the selection is removed).

Nodes can be selected by setting the **NodeName** coordinate or by setting the function measure coordinate. It is possible that the selection can be ambiguously assigned, for example, there is more than one node with the same value. In such a case a node is randomly selected.

Connections can be selected by setting the **StartNode**, **EndNode** or connection value coordinate or an arbitrary combination of these coordinates. Thereby not all coordinates need to contain values. It is possible that the selection can be ambiguously assigned, for example, there are more than one connection with the same value or more than one connection with the same start node. In such a case a connection is randomly selected.

The **SliderValue** coordinate can be set from outside and then the corresponding value is set on the slider and the connections and nodes are displayed or hidden accordingly.

5.5 How to use the Function Flow diagram

In the dashboard view mode you can use the **Function Flow** diagram interactively.

In view mode you can

- to select individual functions and connections, for example, for filtering other widgets. Selected elements are highlighted. To select a connection you can click the connection or the relevant connection value.
- to display connection values. If connection values are displayed, hovering over connections shows a tooltip which contains the column name of the shown connection value together with the corresponding value for this connection.
- to display function labels and function measures. Function name and measure value are displayed within the function symbol. A tooltip is shown when hovering over the function symbol which contains the column name of the function measure value together with the corresponding value for this function. If function measures are defined but there are no values available for a specific function, no value is shown.
- to move the entire diagram or the individual function symbols via drag and drop. To move the complete diagram, click on an empty space within the widget and hold down the mouse button. Now the graph can be moved until you release the mouse button.
- to resize the diagram via mouse wheel. The diagram can be zoomed in or out related to the mouse pointer position.
- to select the connection values displayed. You can select the values in the widget settings menu. The drop-down menu is provided if you have set at least one **Additional connection values** in the **Assign data (2/2)** dialog. See Assign data sources (page 6).
- to enable the magnifier. Click the **Settings** icon and select **Enable magnifier**. The magnifier is enabled by default. The magnifier enlarges the diagram elements on mouse over.
- to display the relevance slider. Click the **Settings** icon and select **Show slider**. The relevance slider is enabled by default. If you deactivate the **Show slider** option the slider is hidden and only the plus and minus buttons are only displayed. The slider is also hidden if there is not enough space in the graph.
  - The relevance slider filters the relevance values in the graph based on the relevance value assigned to the connections. See Assign data sources (page 6). The top and the bottom values are based on the configured sorting of the relevance column. The top value is set to 100% and the bottom value only shows the connections with the smallest value.
  - Move the mouse pointer over the plus and minus button or over the slider to display a tooltip with information about the connection values filtered.
  - The relevance slider is not supported if the widget is used as a global widget on more than one tab.
- to reset the layout. Click the **Settings** icon and select **Reset layout**.
- to reset the zoom factor. Click the **Settings** icon and select **Reset zoom**.

For general use of MashZone NextGen dashboards see the MashZone NextGen Online Help.

5.6 How to display function measures

The **Function Flow** widget allows you to display function measures on nodes in the **PPM Function Flow** diagram (page 5).

The procedure is not required for PPM context based dashboards.

Several conditions must be fulfilled.

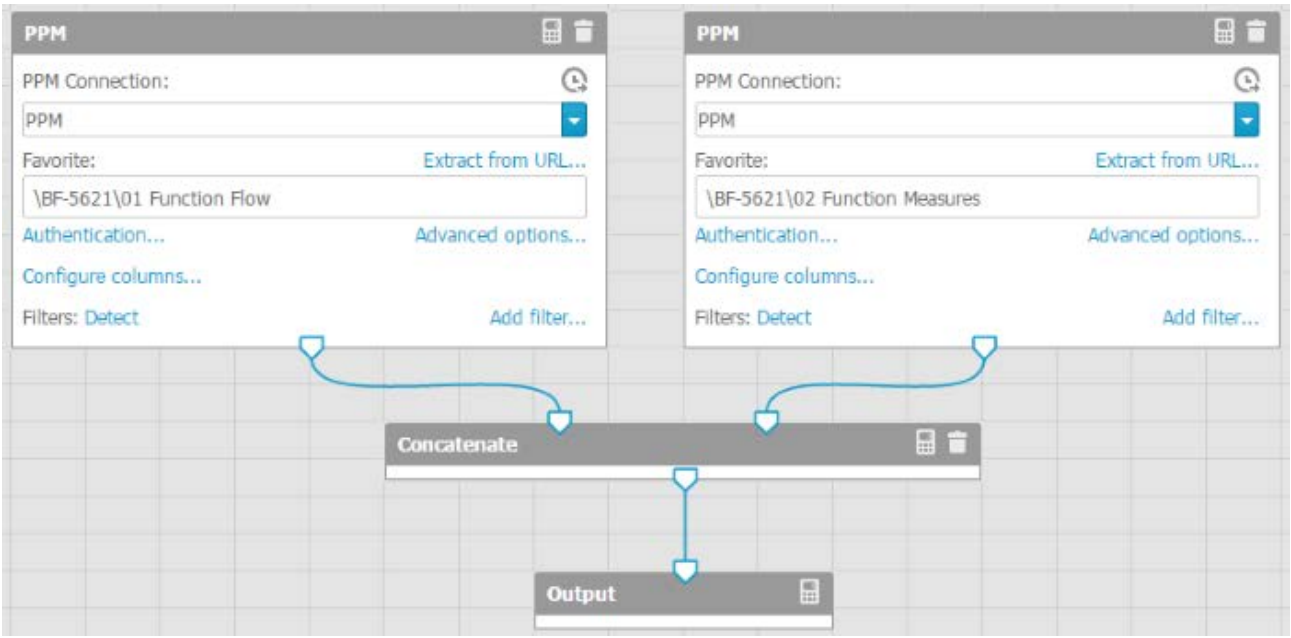
- The nodes data and the connections data are available in separate data tables provided by the relevant data sources.
- A column contains the function names. The data feed can supply several function measure values but only one value can be displayed in the graph.
- The data sources are connected by the **Concatenate** operator.
- The data source columns have to be assigned correctly to the **Function Flow** widget elements (page 6). An incorrect assignment (for example, the function measure value is used for the relevance or vice versa), can result in no graph or no function measure values. There is no check whether the columns have been assigned consistently.

Replacing the displayed function measure value can be done by choosing a different column in the assign data dialog for the function measure value.

Detailed information on how to configure data feeds and how to assign data can be found in the MashZone NextGen online help.

Example data feed for displaying function measures

The example shows a working data feed configuration. The connection data is retrieved by the left PPM data source operator and the data for the function measures is retrieved by the right one. Both data sources are connected by the **Concatenate** operator.



Example feed table with concatenated tables

The result of the data feed definition is shown in the next figure.

Calculation result of operator 'Output'

Communication freq	Function (Start)	Function (Target)	Number of functions	Function
16077.0	Create sales order	Create invoice		
42.0	Perform price change	Perform price change		
84.0	Perform price change	Perform change on time		
305.0	Perform price change	Change customer order		
3563.0	Change customer order	Create delivery		
16077.0	Post goods issue	Confirm goods receipt		
11244.0	Create quotation	Create contract		
12514.0	Create invoice	Create delivery		
3563.0	Create invoice	Perform change on time		
389.0	Perform change on time	Perform price change		
877.0	Perform change on time	Perform change on time		
3258.0	Perform change on time	Change customer order		
16077.0	Create pick order and sh...	Post goods issue		
16077.0	Confirm goods receipt	Deliver to customer		
16077.0	Create contract	Create sales order		
16077.0	Create delivery	Create pick order and sh...		
			3563.0	Change customer order
			16077.0	Confirm goods receipt
			16077.0	Create contract
			16077.0	Create delivery
			16077.0	Create invoice
			16077.0	Create pick order and sh...
			11244.0	Create quotation
			16077.0	Create sales order
			16077.0	Deliver to customer
			4524.0	Perform change on time
			431.0	Perform price change
			16077.0	Post goods issue

6 Jump to PPM client widget

The **Jump to PPM client** widget is a custom widget provided for MashZone NextGen. The widget displays a customizable text which can be used to jump to PPM. An optional favorite can be configured to jump directly to this favorite when switching to PPM.

6.1 Insert text

You can insert any text into the **Jump to PPM client** widget.

Procedure

1. Double-click the widget.
2. Enter your text.
3. Click outside the widget to close the input field.

The text is displayed in the widget.

6.2 Specify the widget settings

You can specify the widget display settings in the widget properties dialog.

Procedure

1. Click the inserted **Jump to PPM client** widget. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below. For more details, see the MashZone NextGen online help.

Your settings are applied.

Display Options

General Options	Description
Name	Optional component name.
More options	Displays additional options.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

General Options	Description
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

Specific Jump to PPM widget options	Description
PPM Connections	Alias of the PPM Connection, which contains the PPM client connection data defined in MashZone NextGen.
Favorite	Path of a PPM favorite. The favorite path represents the favorites tree including favorites folder and name, for example, \Favorites\Process cycle time.
Extract from URL	Automatically determines the connection data of the PPM data source, for example, alias, favorite path, and favorite type, click **Extract from URL** and insert the favorite URL created in PPM.
Favorite type	Favorite type specifies the favorite as **Private** or **Shared**.

6.3 SAML Authentication

If a user starts PPM using the **Jump to PPM client** widget, he is automatically authenticated against the PPM system via single sign-on (SSO), provided SSO is configured correctly for PPM and MashZone NextGen. The current logon language of the user is used for PPM if it is available in PPM. Otherwise, the default language of PPM is used.

Detailed information on how to configure a SSO integration for MashZone NextGen and PPM can be found in the MashZone NextGen online help and the technical documentation **PPM Installation**.

If the PPM client has not yet started, the PPM download client is downloaded and you can then start the PPM client. For more details, see the technical documentation **PPM Installation**.

7 Process Variants widget

The **Process Variants** widget enables the PPM process variants feature in MashZone NextGen. The widget adapts the process variants feature to MashZone NextGen and makes the **Process Variants** widget available in the MashZone NextGen widget bar.

The **Process Variants** widget is available from PPM version 10.1.0.2.

For general use of MashZone NextGen dashboards and widgets, see the MashZone NextGen online help.

7.1 What is the Process Variants widget?

From version 10.1, PPM provides the process variants feature. The process variants feature helps you to obtain an overview of the most typical process variants, to identify irregular processes, and to analyze them (for example, to detect critical outliers).

For details on how to use the variants feature in PPM, see the **PPM Process Analysis Quick Start Guide**.

The **Process Variants** widget adapts the PPM process variants feature to the requirements and use cases of MashZone NextGen.

- The **Process Variants** widget provides a bar chart that shows the configured measure of the variants. In addition to the graphical representation, the measure values are displayed in the bars.
- On the left side of the bar chart, the values of the column assigned to the **Variant dimension** field are displayed. In most cases, these are the names of the variants.
- On the right side, optional measure values are displayed. A column with the values to be displayed can be specified as required. See Assign data sources (page 22) for details.
- When you move your mouse pointer over a bar, a tooltip displays all information for this variant.

AXIS SCALING

You can select the axis scaling in the widget properties dialog.

- **Linear axis scaling** - The X-axis values are scaled linearly from 0 to the highest value (bar completely filled).
- **Logarithmic axis scaling** - The X-axis values are scaled logarithmically.

VARIANT NAMES

The names of the variants depend on the variant dimension level selected. **Variant** has two dimension levels, **Combined variant** (rough step width) and **Precise variant** (refined step width).

The variant **v0(n/a)** contains all process instances that are not assigned to a variant.

Examples

Combined variant with rough step width: v1, v2, v3,...

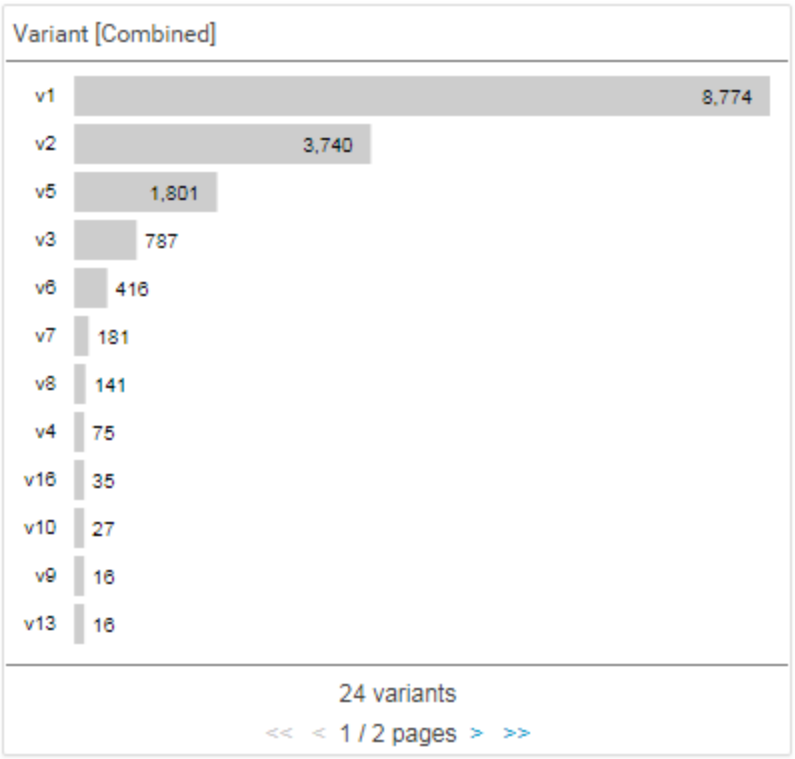
Precise variant with refined step width: v1-1, v1-2, v1-3,.... ,v2-1, v2-2, v2-3... ,v3-1, v3-2, v3-3,....

PAGINATION AND NAVIGATION

Depending on the number of variants and space available for the chart widget, the variants are displayed on multiple pages. The current page and the total number of pages are shown at the center of the page, for example, 1 / 5 pages. You can use the links **<<**, **<**, **>** and **>>** to browse the pages. With the links **<<** and **>>** you can navigate to the first or the last page, respectively. With the links **<** and **>** you can navigate one page backward or forward, respectively. If you click a link, the variants of the new page are loaded immediately without resetting the selections of the previous page.

When MashZone NextGen refreshes the data of the widget, the pages are updated automatically.

Example of the Process Variants widget in MashZone NextGen



7.2 Specify the widget settings

You can specify the widget display settings in the widget properties dialog.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below. For more details, see the MashZone NextGen online help.

Your settings are applied.

Display options

General options	Description
Name	Optional widget name.
Container	**Show / Hide header**: Shows/Hides the header as well as the title of the widget, and resizes the content of the container. Click the icon again to hide/show the header. **Show / Hide border**: Shows/Hides the outline of the widget container. Click the icon again to hide/show the outline.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Style	Selects the style type of the widget. The widget styles available in the drop-down menu are part of the style template selected for the current dashboard. By default, the **Default** widget style is preselected.
Show menu	Enables the widget menu in view mode. In view mode, you can display the widget menu by clicking the **Menu** icon in the widget header. In the widget menu, you can, for example, clear a selection, refresh the data displayed, or save the component widget in a CSV file.

Specific Process **Variants widget options**	Description
Scaling	Scaling type of the primary measure values. Select the type of scaling, **Linear** or **Logarithmic**. The bars are scaled depending on the selected scaling type.
Widget version	Displays the currently installed widget version.

7.3 Assign data sources

Before you can display content in the variants widget, you must first assign a data source to this widget. You can select PPM as data source or any desired data source available in MashZone NextGen.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (1/2)** dialog is displayed.

   Here you can select a data source and specify your data source settings.
3. Click **Next**.
4. The **Assign data (2/2)** dialog will be displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings (page 23) for details.
5. Assign the data columns of the PPM context to the widget elements using drag and drop.
6. Click an assigned column to specify the column settings. See Settings (page 23) for details.
7. Click **OK** to save your settings.

The widget shows a bar chart based on the data of the assigned data source.

7.3.1 Assign data columns of a PPM context

If you have configured a PPM context (page 31) for your dashboard, you must only assign the data columns provided by the PPM context to the elements of the dashboard widgets (**Assign data (2/2)** dialog). You do not have to assign a data source to each widget first (**Assign data (1/2)** dialog). The PPM context is automatically assigned to all widgets in the dashboard that have no data source assigned.

By default, the PPM context provides all data columns of the PPM system. For the **Process Variants** widget, the columns are automatically filtered, and the PPM context provides only the variant dimension and numeric columns available.

Procedure

1. Click the **Process Variants** widget on the dashboard. The relevant properties dialog is displayed.
2. Click **Assign data** to edit the data source assignment. The **Assign data (2/2)** dialog is displayed.

   Here you can assign the data source columns to the individual widget elements. See Settings (page 23) for details.
3. Assign the data columns of the PPM context to the widget elements using drag and drop.

4. Click the assigned columns to specify the columns settings. See Settings (page 23) for details.
5. Click **OK** to save your settings.

The widget shows the variants as a bar chart based on the data of the assigned data source.

If you do not want to use context-based data columns, you can assign any other data source provided. You can change the data source by clicking **Use other data**. The **Assign data (1/2)** dialog opens. Here you can assign any data source provided. If you assign another data source, you cannot reassign the PPM context to the dashboard widget. For details, see chapter Assign data sources (page 22).

If required, you can adjust the list of data columns provided for the data columns assignment. Click **Edit PPM context** to edit the data columns specified in the PPM context.

For details on using and configuring a PPM context, see the MashZone NextGen online help.

7.3.1.1 Column matching

To facilitate the assignment of the source columns to the widget elements, the names of the source columns are automatically matched to the default names of the columns in the standard customizing (in English and German only). The matching is only done if there are no columns already assigned to some widget elements.

The following elements of the **Process Variants** widget are matched (the comparison is case insensitive):

- Variant dimension

  Is exactly "Variant"

  Contains "Variant"
- Primary measure

  Is only matched if there is only a single column with numeric type.

If there is no matching source column for a widget element, the widget element stays unassigned, and you must manually assign the column to be used.

7.3.2 Settings

The **Process Variants** widget requires one column for the **Variant dimension** and one for the **Primary measure** element. Additionally, you can assign a data source column to the optional **Additional measure** element.

You can specify the **Display name** for the **Variant dimension** element. For the **Primary measure** and **Additional measure** elements, you can specify the **Display name** and the **Format**. If you enable the **Round numerically** option, the values are rounded according to the specified format, otherwise the digits are truncated. A column used as **Primary measure** cannot be used as **Additional measure** and vice versa.

If you use the PPM context for a **Process Variants** widget, you can rename the **Display name** of the **Primary measure** and **Additional measure** widget elements.

Option list

Field	Description
Variant dimension	Contains the column with the names of the variants, for example, v1, v2, or v1-3. The names are displayed as labels of the bars. Mandatory. Allows only text columns. If the field is empty, no chart is displayed.
Primary measure	The values are used to compute the length of the bars and the sorting order of the variants. The data is always sorted in descending order. The order cannot be changed. Mandatory. Allows only numeric columns. If the field is empty, no chart is displayed.
Additional measure	Contains additional measure values assigned to the various variants. The values are displayed on the right side of the chart besides the bars. Optional. Allows only numeric columns.

Advanced options

Field	Description
Display name	New column name displayed in the widget, that is for instance used for measure, data point or tool tip. By default, the data source column name is used.
Aggregation	Specifies how the measure value is calculated. Available for numeric columns. The preset aggregation type depends on the configuration in PPM. The number of aggregation types provided by context-based widgets may differ to non-context-based widgets.
Format	Output format of the column values, that is for instance used for data points or tool tip. Available for columns of date and numeric type.
Round Numerically	Displays rounded measure values in the chart. Available for numeric columns. Enabled by default.

7.4 Set selections and filters

The **Process Variants** widget supports the filter and selection functionalities of MashZone NextGen dashboards. By setting filters and selections, you can define relations and interactions between several dashboard widgets.

The **Process Variants** widget can be used to set a selection or a filter in other dashboard widgets. Additionally, the entire widget can be filtered by other widgets.

You can select a single variant or multiple variants at once. Click the variants you want to select. Or click a bar in the chart and drag the mouse pointer to the last variant bar that you want to select. A rectangle displayed marks your multi-selection. You can also use the rectangle to deselect variant bars.

The interactions between widgets are handled by using coordinates that contain the current selection. These coordinates are then updated by the widget on every selection change and can be used to filter other widgets. The **Process Variants** widget currently only exposes one coordinate with the name **VariantList**. This **VariantList** coordinate delivers all variants which are currently selected in the **Process Variants** widget (in a special PPM syntax because MashZone NextGen currently does not support multi-selection.).

Please note the following advice:

- The filtering of other widgets is currently limited to data sources that can interpret the special PPM syntax. Therefore, only an input parameter in the feed or dashboard can be used which directly forwards the filter to PPM.
- Currently, you can only use **Process Variants** widgets to set the selection of other **Process Variants** widgets, because only **Process Variants** widgets can interpret the required PPM syntax.
- The **Process Variants** widget can be filtered by other widgets without restriction. These filters are only result filters and are not forwarded to PPM unless they are configured as input parameters for the PPM operator.
- The selection of the **Process Variants** widgets can be set by other widgets using the **VariantList** coordinate. The multiple selection is currently supported only by **Process Variants** widgets.

General information on how to use filters and selections can be found in the MashZone NextGen online help.

8 Root Cause Miner widget

PPM provides the **Root Cause Miner** widget to analyze the visible data on a dashboard.

If you observe unusual symptoms on a dashboard, that is, interesting data points that need to be investigated, you can use the **Root Cause Miner** widget to analyze these symptoms. For example, you observe that the number of complaints in some distribution regions is too high and you want to get to the bottom of the symptom.

Further details about root cause analysis can be found in the MashZone NextGen online help.

8.1 Start a root cause analysis

The first step in using the **Root Cause Miner** widget is to select one filter provided by the widget to start a root cause analysis.

Technically, a root cause is a dimension value that affects a symptom observed in the dashboard. The root causes are divided into two categories: Root causes that have a promoting effect and root causes that have an inhibiting effect on the symptom.

Prerequisites

- You have configured a Process Mining context. (page 31)
- You have enabled the filter panel and you have selected at least one filter value.

Procedure

1. Open a dashboard in the dashboard editor.
2. Insert a **Root Cause Miner** widget in the dashboard.
3. Specify the widget settings (page 29).

   Only basic settings are available for the **Root Cause Miner** widget. The **Assign data** and **Filter** options are not available. To enable the Translate (page 31) option, you must add a further language to the dashboard. For details on how to add a language, see the MashZone NextGen online help.
4. Click **View dashboard** to open the dashboard in view mode.
5. Click **New** on the **Root Cause Miner** widget to start a new root cause mining. The **New** option is available if a Process Mining context has been configured and the filter panel is enabled.

   The opened dialog shows all Process Mining context (page 31) related filters that are set in the dashboard, either in dashboard widgets or in the filter panel.
6. Select the filter for the symptom that you want to analyze.

   You can select only one filter.
7. If you only want to view process instances that are above a certain threshold value, you can hide results that only occur in a small number of processes and that are of less interest. Root causes that cover more processes are potentially more interesting than those that cover only a few.

Click **Show options** and enter a threshold value in the **Ignore results that occur in fewer instances than** input box. Root causes found in less than the set threshold are ignored in the result.

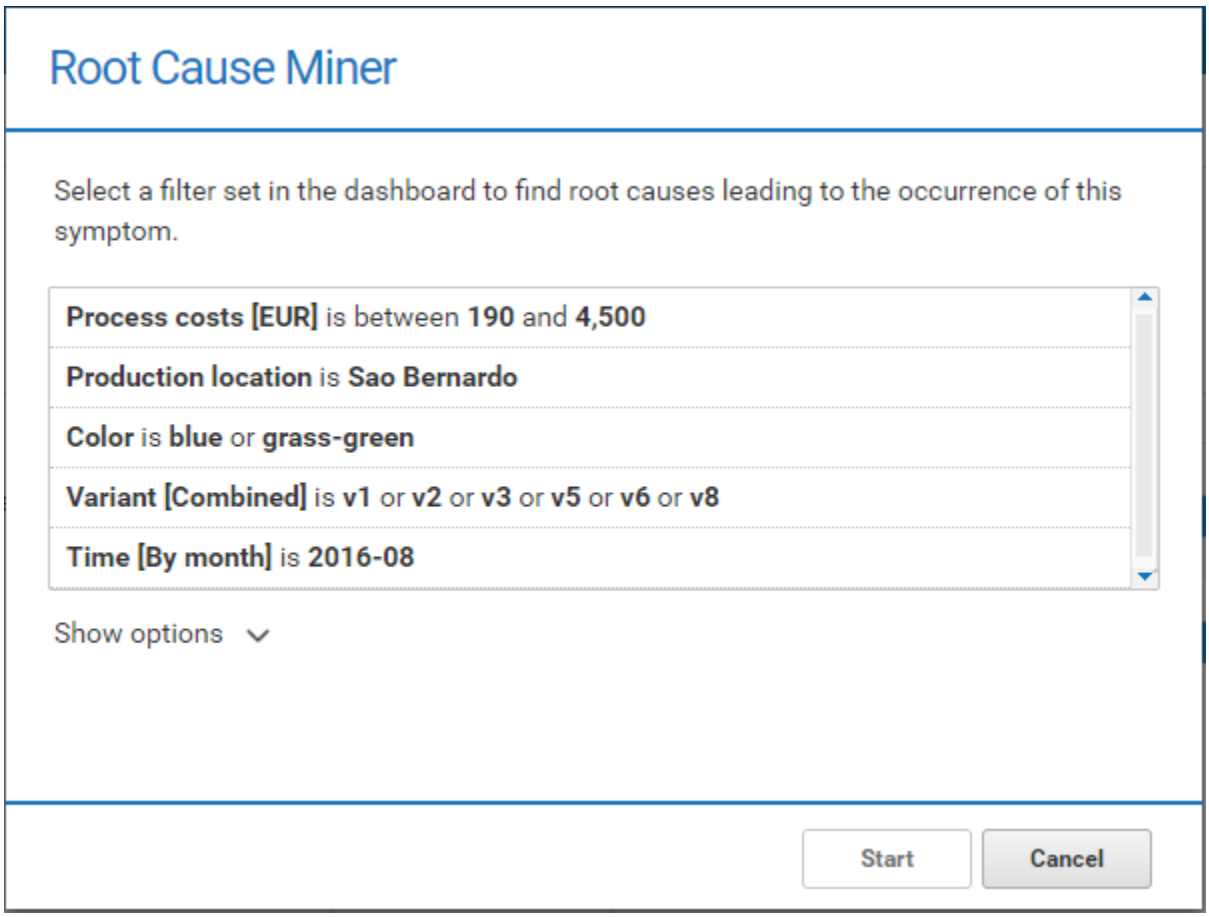
8. Click **Start** to start the data request to PPM.

   The **Start** option is only available if a filter is selected and the entered threshold value is in the correct format.

   After you started the root cause analysis, the widget sends an analysis request to PPM. While the request is running, you can cancel the request by clicking **Abort**.

After the request is done, the widget displays a result overview and the **Result** option is enabled. You can view the result and perform further analyses.

Example



8.2 Analyze the Root Cause Miner results

You can analyze the results returned from your PPM request. As soon as the results are available in MashZone NextGen you can display the results in a separate dialog. The result contains possible root causes that affect the symptom.

Prerequisites

You have started a root cause analysis. (page 26)

Procedure

1. Click **Result** on the **Root Cause Miner** widget. The result dialog opens.

   The dialog shows information on the query at the top: The used symptom for the root cause analysis (for example, Process costs [EUR] is between 2.500 and 3.680) and the total instances with the percentage of instances leading to the symptom. The total instances are all instances which were analyzed; including all instances of the process type configured in the context filtered by the other filters available in the dashboard which were not chosen for analysis.

   Additionally, the score is displayed in the bar for each root cause. The score indicates the strength of the promoting or inhibiting association of the root cause with the symptom. It does not necessarily correspond to the percentage of symptomatic processes. The score is displayed logarithmically inside the bar.
2. Select **Root causes promoting the symptom** in the drop-down menu to display only the root causes that promote the symptom.
3. Select **Root causes inhibiting the symptom** in the drop-down menu to display only the root causes that inhibit the symptom.
4. For further analysis in the dashboard, you can select one root cause in the result list and apply it as a filter to the dashboard. Select a root cause and click **Apply**.

The preset filters without the selected symptom are applied as filters to the dashboard. Only the selected root cause of the currently displayed root cause list is applied.

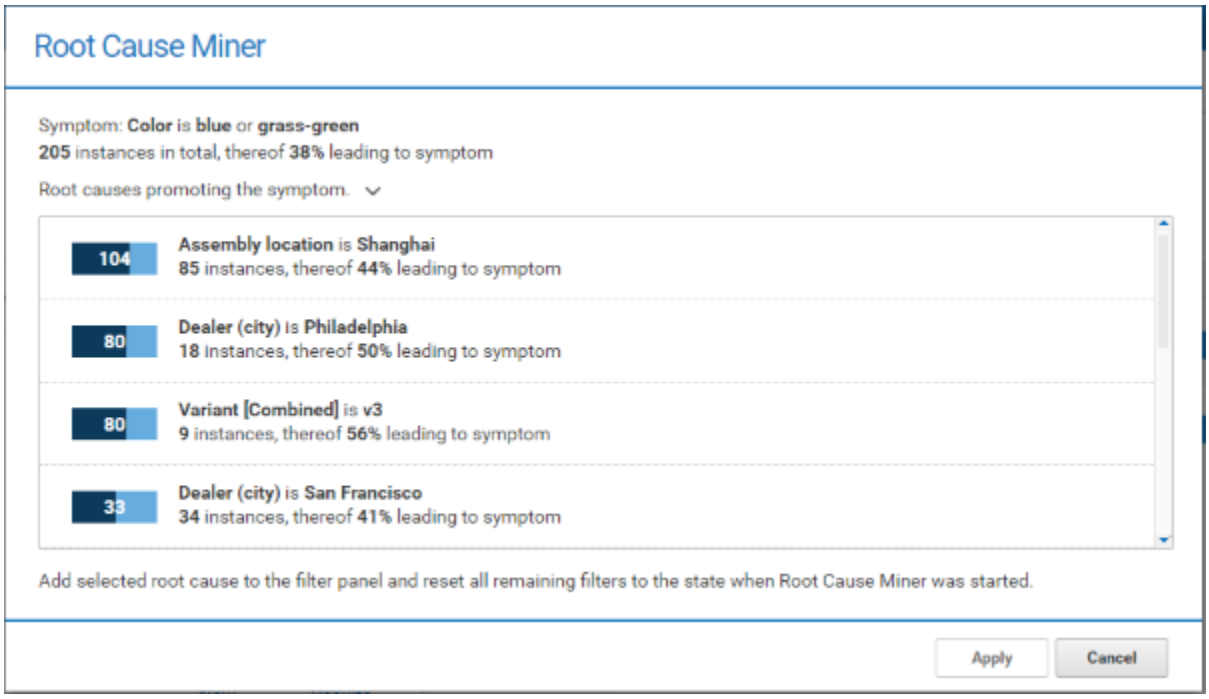
This restores the dashboard filter to the point in time when the root cause analysis was started. All dashboard filters are transferred to the filter panel.

The filter panel does not support time dimensions; therefore any time dimension cannot be changed automatically and you must change them manually. A corresponding dialog displays detailed information about the date filters and what you can do to change them.

Note that

- the selected symptom is not filtered.
- the selections in the dashboard widgets are deleted unless
  - a grid contains only time columns or
  - it is a date or list widget.

Example



8.3 Specify the widget settings

You can specify the widget display settings in the widget properties dialog.

Procedure

1. Click the **Root Cause Miner** widget on the dashboard. The relevant properties dialog is displayed.
2. Specify your settings. See the display options list below. For more details, see the MashZone NextGen online help.

Your settings are applied.

Display options

General options	Description
Name	Optional component name.
Container	**Hide header**: Hides the header as well as the title of the component, and resizes the content of the container. Click the icon again to display the header. The header is hidden by default. **Hide border**: Hides the outline of the component container. Click the icon again to display the outline. The border is visible by default.
Container style	Selects the style type of the container. The container styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.

General options	Description
Style	Selects the style type of the component. The component styles available in the drop-down menu are part of the style template selected for the current dashboard. The **Default** widget style is preselected.
Widget version	Displays the currently installed widget version.

9 Appendix

9.1 What is the Process Mining context?

MashZone NextGen provides the Process Mining context. The Process Mining context is specified for a dashboard and can be used as a data source by any widget on the dashboard.

The Process Mining context significantly facilitates the creation of dashboards based on data from a PPM sever. This allows you to directly access analytics results, such as measures and dimensions, from the PPM server without creating any favorite in PPM itself. In addition, dashboards based on a Process Mining context support automatic filtering (page 31) without any configuration needed.

For details on using and configuring a Process Mining context, see the MashZone NextGen online help.

9.1.1 Automatic filtering

All widgets on a dashboard using the Process Mining context (page 31) are automatically filtered by a selection in another Process Mining context-based widget. That is, if you select a data point in a context-based widget, such as a column in a chart, all other context-based widgets on the dashboard are filtered by the values selected. Currently only text and numeric columns are supported. The selections are directly passed to PPM, and the corresponding filtered data is returned to MashZone NextGen and displayed in the widgets.

For every data column in the Process Mining context, there can only be one widget which filters this column automatically by its selections. By default, this widget is the first widget which was created with the data column assigned. The data columns which are automatically filtered by a widget are listed on the **Context** tab in the properties dialog of the widget. You can also enable or disable this automatic filtering for data columns on this tab.

Note that filtering on functions and relation dimensions is currently not supported in the Process Mining context and therefore the **Function Flow** widget does not filter other widgets by its selections.

For details on how to configure the filter for Process Mining context-based widgets, see the MashZone NextGen online help.

9.2 Multi-lingual dashboards

Starting with version 10.3, MashZone NextGen supports multi-lingual dashboards. Every widget can offer different elements for translation. The dashboard creator can specify different translations in different languages for every widget at creation time and the viewer can then switch between these languages at view time.

For more details about multi-lingual dashboards, see the MashZone NextGen documentation.

Depending on the widget, different elements can be translated. The following strings are available for translation.

Widget element	Function Flow	Process Variants	Start PPM client	Root Cause Miner
Widget title	x	x	x	x
Displayed text in the dashboard			x	
Relevance measure name	x			
Function measure name	x			
Name of additional measure(s)	x	x		
Variant dimension name		x		
Primary measure name		x		

All language strings visible in the Root Cause Miner widget, are translated automatically in all MashZone NextGen languages.

10 Legal information

10.1 Documentation scope

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

If you want to install technical and/or business system functions without Software AG's consulting services, you require extensive knowledge of the system to be installed, its intended purpose, the target systems, and their various dependencies. Due to the number of platforms and interdependent hardware and software configurations, we can only describe specific installations. It is not possible to document all settings and dependencies.

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Name	Includes
ARIS products	Refers to all products to which the license regulations of Software AG standard software apply.
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Proper operation of ARIS products requires the availability of a reliable and fast network connection. Networks with insufficient response time will reduce system performance and may cause timeouts.

If ARIS products are used in a virtual environment, sufficient resources must be available there in order to avoid the risk of overbooking.

The system was tested using scenarios that included 100,000 groups (folders), 100,000 users, and 1,000,000 modeling artifacts. It supports a modeling area of 25 square meters.

If projects or repositories are larger than the maximum size allowed, a powerful functionality is available to break them down into smaller, more manageable parts.

Some restrictions may apply when working with process administration, ARIS Administration, ARIS document storage, and ARIS Process Board, and when generating executable processes. Process Governance has been tested and approved for 1000 parallel process instances. However, the number may vary depending on process complexity, for example, if custom reports are integrated.

ARIS document storage was tested with 40.000 document items. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.