ARIS PROCESS PERFORMANCE MANAGER

PROCESS ANALYSIS QUICK START GUIDE

VERSION 10.3

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Contents

1 Text conventions

Menu items, file names, etc. are indicated in texts as follows:

- Menu items, key combinations, dialogs, file names, entries, etc. are displayed in **bold**.
- User-defined entries are shown in **<bold and in angle brackets>**.
- Single-line example texts (for example, a long directory path that covers several lines) are separated by ↵ at the end of the line.
- File extracts are shown in this font format:

  `This paragraph contains a file extract.`

2   General

This manual provides an overview of PPM and, using examples, introduces you to basic functionalities.

The quick start guide to process analysis is intended for PPM users being **process owners** or **business analysts**.

Role definition

As a **process owner**, you can

- call predefined queries.
- interpret the results in reports.

As a **business analyst**, you can

- create basic analyses by using measures, dimensions, filters, and various views.
- perform cause analyses for your processes and organizations.

Tipp

More information on PPM is available in the PPM user interface under **PPM > Documentation**.

3   PPM demo database

PPM includes a demo database that you can use to familiarize yourself with the program.

If you want to work with an example we recommend that you use the **umg_en** demo database. The demo database contains all measures and dimensions that you need for the examples. It is possible that the measures and dimensions in the use cases are not available due to the configuration of your company-specific PPM database. Of course, you can use any other process types, measures, and dimensions to work with the example.

You can use PPM Customizing Toolkit to install the demo database. If you want to use the demo database, please contact your system administrator.

4   Introduction to ARIS Process Performance Manager

ARIS Process Performance Manager (PPM) provides comprehensive analysis functions (Slice & Dice, ad-hoc analyses, reporting, etc.) to monitor and evaluate the performance of business units and business processes from various perspectives (for example, results view vs. view of processes leading to results). By combining business process data, social interaction patterns, and result data users can create integrated analyses for measure evaluation. These analyses allow comprehensive insight into daily routines and results of a company and thus represent the basis for benchmarking and weak point analyses - for example, early identification and resolving of bottlenecks or problematic interaction patterns.

PROCESS PERFORMANCE MANAGEMENT

Business processes (page 8) are operational business activities. Effective company management therefore requires active business process controlling (**Business Process Intelligence** (page 8)). Process performance management continuously monitors planned goals and warns in time if deviations from the plan occur so that suitable countermeasures can be initiated. This is how companies achieve improved process quality, which directly impacts business performance. The continuous monitoring of actual business processes therefore closes the gap between corporate strategy and its operational implementation.

ARIS PROCESS PERFORMANCE MANAGER

PPM supports you in analyzing your processes by providing comprehensive online analysis options based on measures and by representing your actual, measured processes. For an efficient process analysis, PPM gathers the necessary data from your operational systems, automatically reconstructs the processes across the whole system, and calculates the **measures** required for these processes. The individual **process instances** (page 8), that is, actual processes or transactions (for example, an order #4711 received by FAX on 17-Sep-2005) are imported from a freely definable source system (such as SAP MM) and represented in an **EPC** (page 8) (event-driven process chain). For data extraction from your source systems, PPM provides all required interfaces and extractors.

PROCESS ANALYSIS

Process analysis mainly involves specifying process and function measures (cycle times, frequencies, costs, adherence to deadlines and quality guidelines), as well as representing the actual process in an EPC view. The visualization functions have been developed in such a way as to make a process view more informative and easy to read. PPM provides a wide selection of chart types and tables for you to display the results of your analyses clearly and in detail.

Example

The following illustrations show examples of a process analysis of the **cross series** processes of the **Order processing**.

The first example shows a trend chart with the process cycle time for the year **2008**. It illustrates the development of the process cycle time in the course of the year and how the actual measure behaves in relation to the planned values.

Example: Trend chart of process cycle time
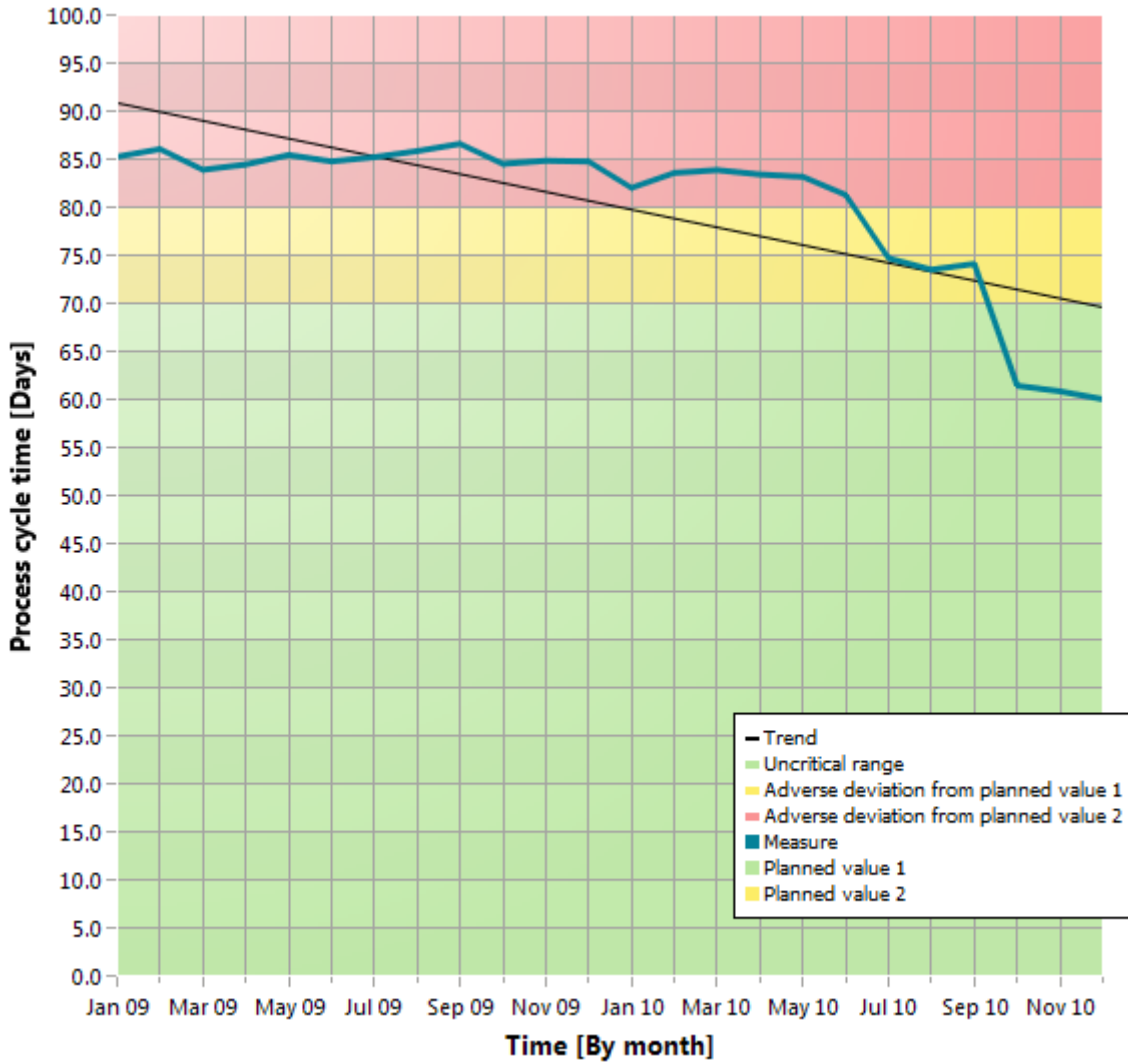
The following example shows a process instance in the form of an EPC, which PPM automatically generated based on the measured processes. It illustrates the actual flow of an individual process of the **cross series** process type (page 9) in the **Order processing** process type group.

Example: Display process instance as EPC
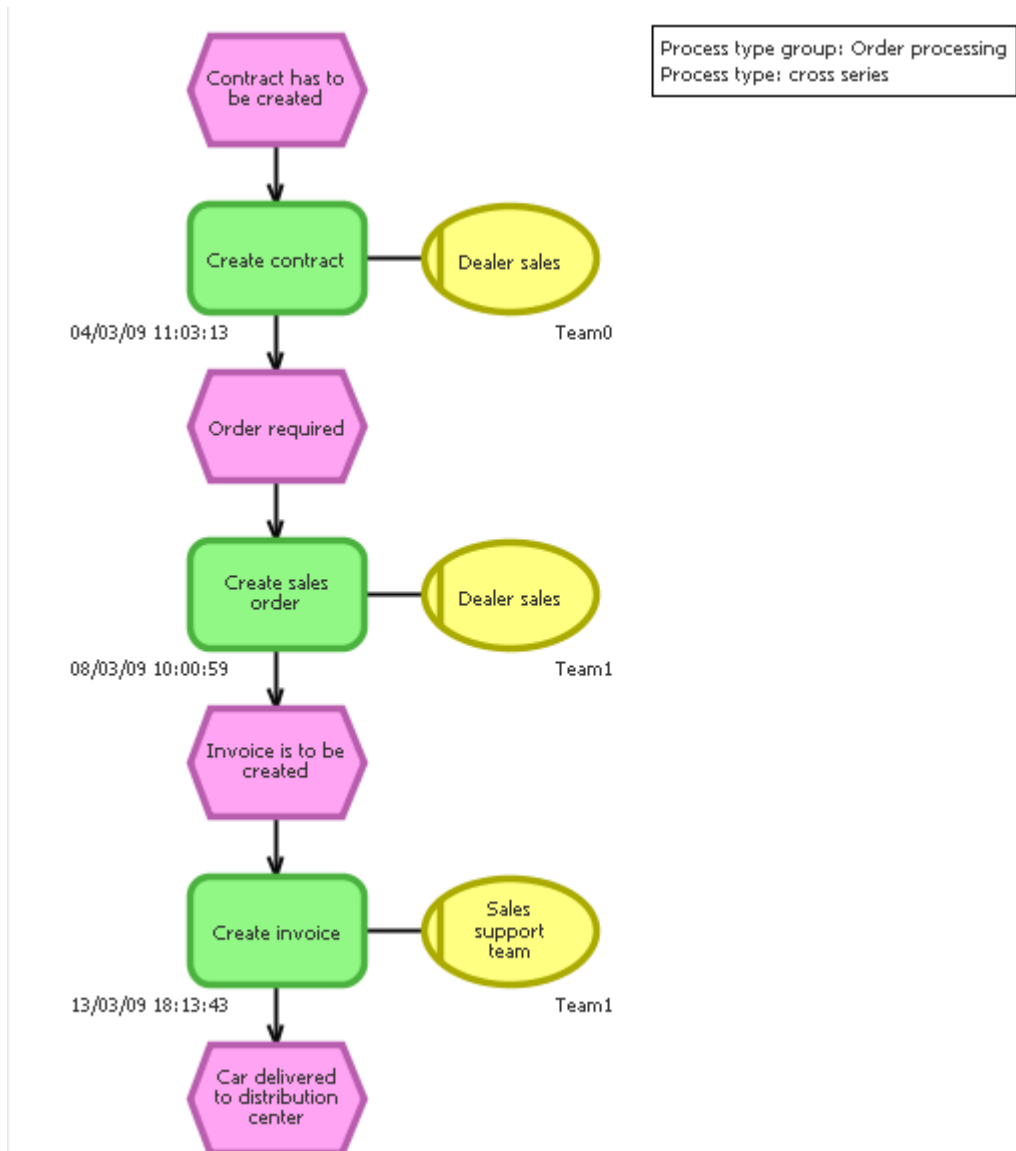
The following example illustrates the data measured by PPM for the selected process instance. The data of the process instance or the individual process elements, such as functions or events are displayed as attributes.

Example: Process instance attributes
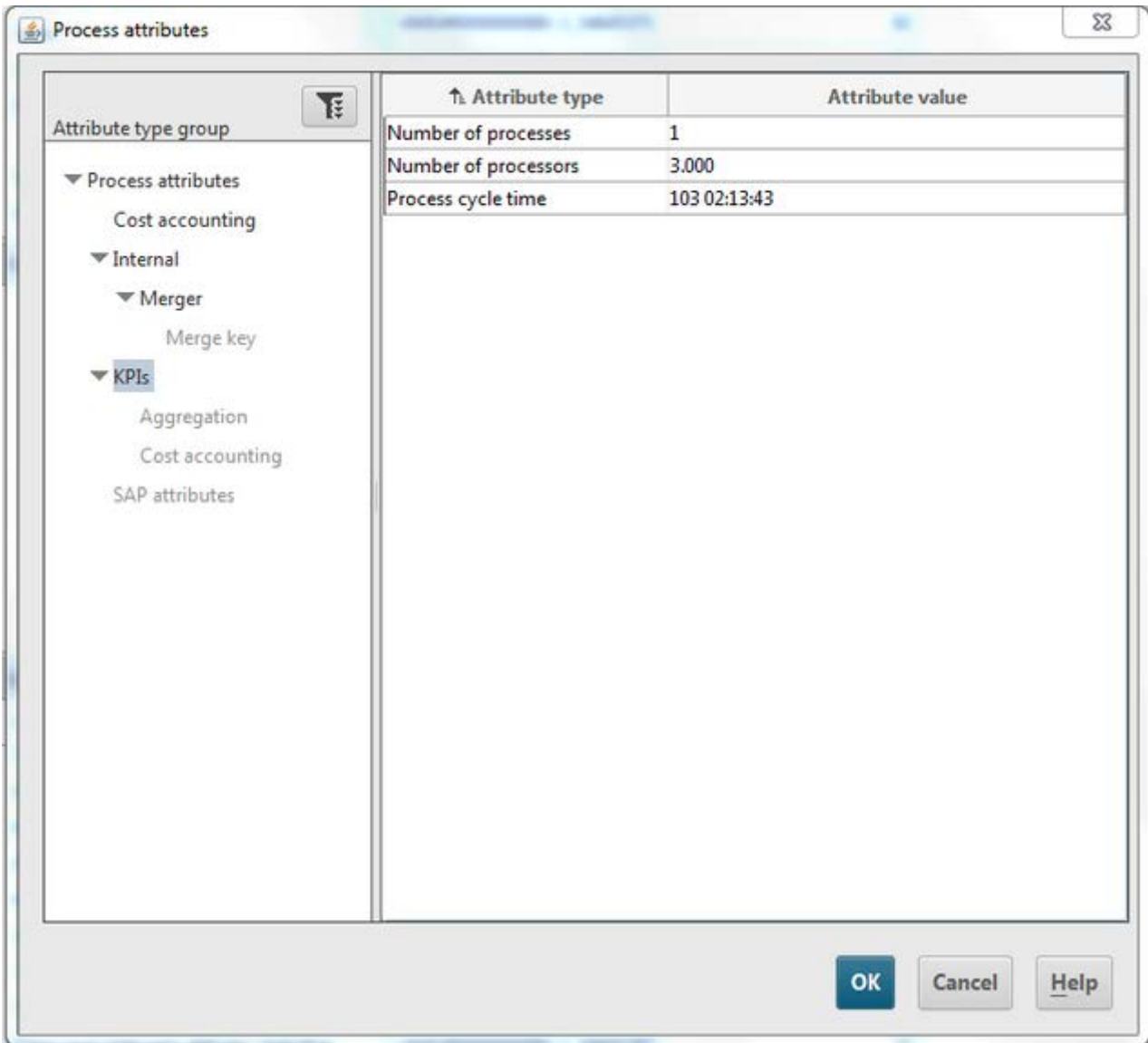
Tip

The PPM user interface provides you with all of the functions required to set your analyses and display the results.

5   Key terms

PROCESS INTELLIGENCE

Process intelligence (Business Process Intelligence) describes a method for systematic analysis (collection, evaluation, representation) of business processes and company data (process data) in electronic form. The objective is to obtain conclusions that enable improved operative or strategic decision-making in terms of corporate goals. Process intelligence provides an objective basis for decisions pertaining to displaying and implementing improvement potential in real time. Automated analyses identify factors that affect process performance.

BUSINESS PROCESS

A business process is a sequence of activities aiming to achieve business results. A business process is usually run through multiple times, can be part of another business process or contain or trigger other business processes. Business processes often apply across departments and divisions and are therefore part of the company organization structure.

EVENT-DRIVEN PROCESS CHAIN (EPC)

An event-driven process chain is a model type used to graphically describe the chronological sequence of a performance delivery process. The event-driven process chain is based on the following assumptions:

- Each activity within a process is triggered by a commercially relevant change of state of an information object.
- Each activity can result in a commercially relevant change of state of an information object.

The status of a commercially relevant information object is graphically described by means of an event. Functions are used for the graphic representation of activities.

Linking events and functions in series and connecting these objects with directed connections graphically represents the control flow of the process. Since an event can trigger several functions and since a function can have several events, the process path can branch. AND, OR, or EXCLUSIVE OR rules are inserted at branches of the process path. They illustrate the logical relationship that exists between the sequenced objects.

Organizational units can be assigned to a function. An organizational unit describes the group of processors in the company which executes the function in question. Organizational units are linked to the relevant function using connections.

EPCs are used in PPM to represent processes actually executed in the past (so-called process instances).

PROCESS INSTANCE

Concrete occurrence of a process, for example, processing of standard order 4711. A process instance describes the sequence of activities performed in the company to deliver a required product or service.

Process instances provide the data base for calculation of the measures in PPM. They are provided by a data import from a source system.

In PPM, the EPC (page 8) model type is used for the graphic representation of process instances.

5.1   Process type

All process instances are classified when you import data into PPM. They are therefore assigned to process types. This assignment ensures that order processing transactions are not compared against return transactions, for example.

5.2   Measure

In business, measures represent aggregated information on quantifiable operating facts. They are intended to enable easy control of processes and results.

Example

An example of a measure is the process duration (or process cycle time). It is calculated based on two process instance measurement points, Start time and End time. The calculation/measurement is performed for each process instance. When analyzing multiple process instances, the measurement values of the individual instances are aggregated (for example, by averaging) and the aggregated values are then displayed in PPM. Measures are sometimes referred to as metrics, as well.

Measure evaluation

The rating of a measure indicates the effects of an increasing measure value on the achievement of your process goals.

- **Positive** means that rising values have a positive effect on goal accomplishment (for example, number of orders).

- **Negative** means that rising values have a negative effect on goal accomplishment (for example, process cycle time).

5.3   Dimension

Dimensions are criteria according to which the measures analyzed can be differentiated (for example, sales organization or order volume).

Dimensions can be configured in terms of step width and value range. For example, the **Time** dimension can be displayed with the step widths **Year**, **Quarter**, **Month**, **Week, Day**, or **Hour**. The incremental calculation or analysis of a measure via a dimension is also called **iteration**. You can restrict the value range using **filters**. For the **Time** dimension, the value range can be defined as a period (for example, time from 07/01/01 to 07/01/02).

5.4   Filter

Filters limit the number of process instances to be included in the aggregation of a measure during analysis. You can define filters for measures and dimensions. Each filter describes a specific value range for a measure or dimension, and process instances falling within this range will be included in the analysis.

5.5   Planned value

A planned value describes the objective for individual process measures that you can specify in a planned value definition. A planned value definition consists of two numerical values.

Planned value 1 is the value above or below which the measure moves into a critical range. As soon as the measure infringes this planned value (green-yellow limit), accomplishment of the process goal is jeopardized and you should initiate improvement measures immediately.
Planned value 2 (yellow-red limit) corresponds to the planned measure value. As soon as the measure infringes this planned value, the goal has not been accomplished.

5.6   Query

Queries summarize the configuration of analyses, for example, filters, dimensions, measures and view type.

You can use the PPM user interface to interactively set up and run a query and display the analysis results.

FAVORITE

A favorite is a shortcut to quickly access a query that already exists. Using favorites, you can, for example, create frequently used queries and reuse them.

A favorite does not store the actual values of a query, but the following criteria:

- Process types or functions
- Measures
- Dimensions
- Filter
- View
- Formatting of the individual views

6   Start the PPM user interface

This chapter describes how to start the PPM user interface.

To use PPM, you must log in as a user to an available PPM client. Depending on how PPM was installed, you call up the user interface via a Web browser or start it as a local installation.

Before you can start the user interface you need to start the required infrastructure components and PPM components.

In PPM, the **system** user is created with the password **manager** by default. You log in with this user/password combination if the password has not been changed and if you have not been configured as a PPM user.

Tip

For further information on PPM installation, please refer to the document **PPM Installation** or contact your system administrator.

Procedure

1. Open the Windows Start menu and click **Start ARIS PPM Core 10.3** in the **ARIS > PPM 10.3 > Start Servers** program group.

   The infrastructure components and PPM components start. As soon as the start process is completed, you can start the PPM user interface.

2. Open the Windows Start menu and click **ARIS PPM GUI 10.3** in the **ARIS > PPM 10.3 > Tools** program group.

   The login dialog is displayed.

3. Enter **system** in the **User** box.

4. In the **Password** box, enter the password **manager**.

5. In the **Client** box, enter the client name **umg_en**.

6. Click **Next**.

7. In the **Language** box, select the language that PPM is to be displayed in.

8. Enable the option **Save login data** if you want to save the login data entered for the next login. The password will not be saved.

9. Click **Log in**.

The PPM user interface is started and the start page is displayed.

The PPM start page provides quick and easy access to your analyses. (page 35)

7 Analyze processes

This chapter uses a complete use case example to describe basic PPM functionalities.

For your process analysis, the following questions must be considered.

- What is the **goal** of your analysis (for example, do you want to find out about the causes of a planned value deviation or conduct a performance analysis of particular processes)?

- Which **processes** in your company do you want to analyze, for example, sales or order processing?

- Which **measures** (for example, sales or process cycle time) do you want to view for which **dimensions** (for example, sales or sales organization)?

- What is the best **view type** (for example, chart or table) for the results of your analyses?

Example

Situation

Several customers complained about very long processing times of their orders and that deadlines were not met. You should therefore find possible weak spots in your company processes.

Procedure

You want to examine the **Order processing** processes, in particular the **cross series** processes with a view to planned value deviations and suspected deviations pertaining to **Process cycle time**.

First, you query the **process performance** of the cross series in order processing. Then you perform your analysis in detail for your company's **Dealers** for the year **2009**. In addition, you evaluate the analysis results by quarter. Using the process instance analysis, you examine the suspected deviations in your processes. You display your analyses in various views in structured charts and tables and make them available as a PDF document.

Your procedure consists of the following steps:

- Display a predefined query

- Create a 2D and 3D column chart

- Create list table

- Determine process instance distribution

- Display anomalous process instances as an EPC

- Perform EPC benchmark

- Output analyses as a PDF document

7.1 Display favorites

You want to display suspected deviations in the processes of the **SUV series** area. This is an analysis that you will frequently use to find out in time about possible anomalies in your processes.

A predefined query (page 10) is available as a favorite (page 10) to do this. With this favorite, you can easily run frequently used queries (Queries bar).

Procedure

1. Select the **Process analysis** module.

2. Click **Private favorites** in the **Favorites** bar.

3. Double-click the **01 Process cycle time** favorite.

A **speedometer chart** displays the current average **process cycle time** relative to the defined planned values. With 83 days, the process cycle time is in the critical range and deviates from the defined planned value 2 (yellow/red limit).

Example: Process performance in the SUV series area
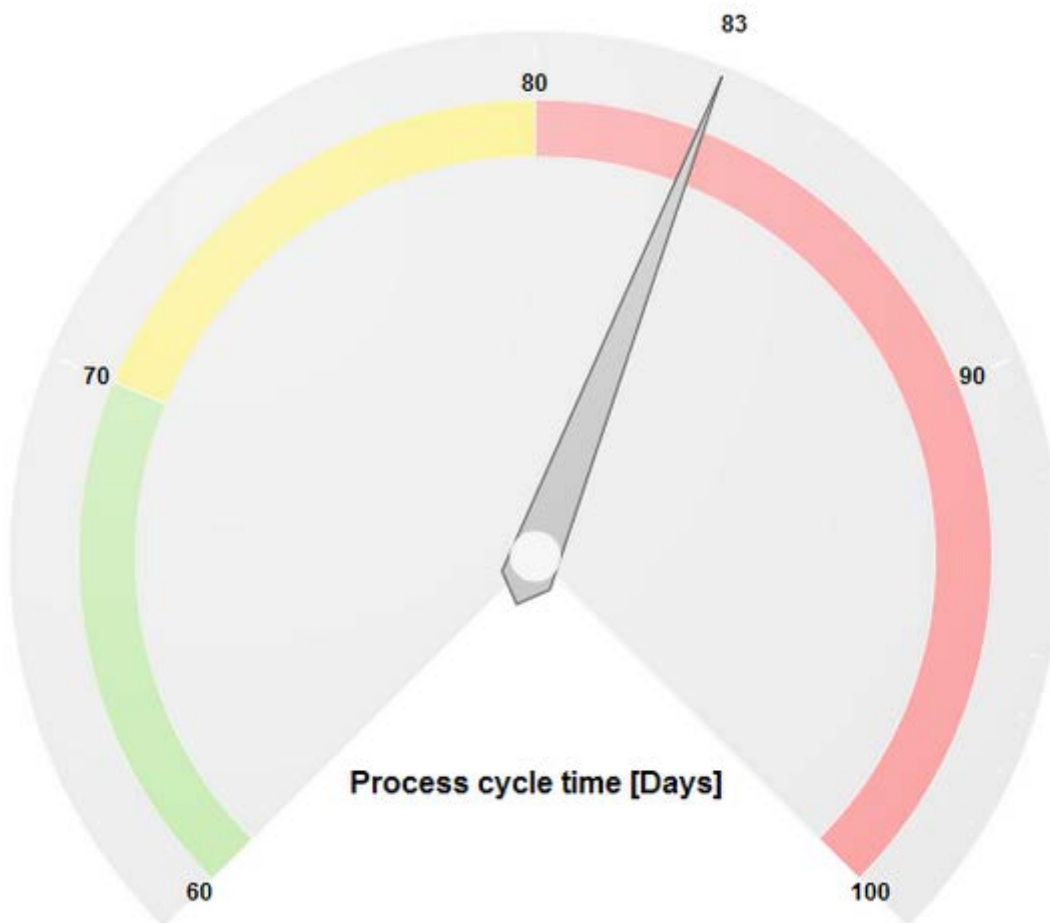
7.2   Save analyses

You want to save your current analysis results to be able to reuse them later.

To do so, you can copy your analysis to the **Clipboard** panel. The Clipboard panel keeps your analysis for the duration of your current PPM session.

Procedure

1. Display the **Clipboard** tab bar.

2. Click the **Apply** button.

Your current analysis is saved in the **Clipboard** panel and displayed as a thumbnail.

Tip

If you want to reuse your analysis in a subsequent PPM session you can save it as a favorite.

For detailed information on this topic, please refer to the PPM help topics.

7.3 Display analysis as a chart

You want to analyze the process performance of the **cross series** processes in detail for the year 2009, and you suspect weak spots at your dealers. Your analysis is to be displayed in a clear and easy-to-read chart.

The analysis of only one measure (page 9) (Process cycle time) and one dimension (page 9) (Dealer) can easily be displayed in a 2D column chart.

Use a wizard to create your analysis.

In the wizard, set the following items for your analysis.

- View type: 2D column chart

- Processes: SUV series of Order processing

- Measure: Process cycle time

- Dimension: Dealer

- Filter: 2009

Procedure

1. Display the **Base** tab bar.

2. Click ➕ **New**.

3. Click the **Two-dimensional chart** button.

4. Click **Execute**.

5. Click the **Column chart** button.

6. Click **Next**.

7. Double-click the **Order processing** process type group in the process tree.

8. Select the **cross series** process type.

   Only the process instances of this process type will be evaluated.

9. Click **Next**.

10. Select the **Process cycle time** measure.

    The process cycle times of the process instances you selected in the previous step are analyzed.

11. Click **Next**.

12. Select the **Dealer** dimension.

    The process cycle times of the standard orders are analyzed for the selected dealers.

13. Click **Next**.

14. Double-click the **Time** dimension.

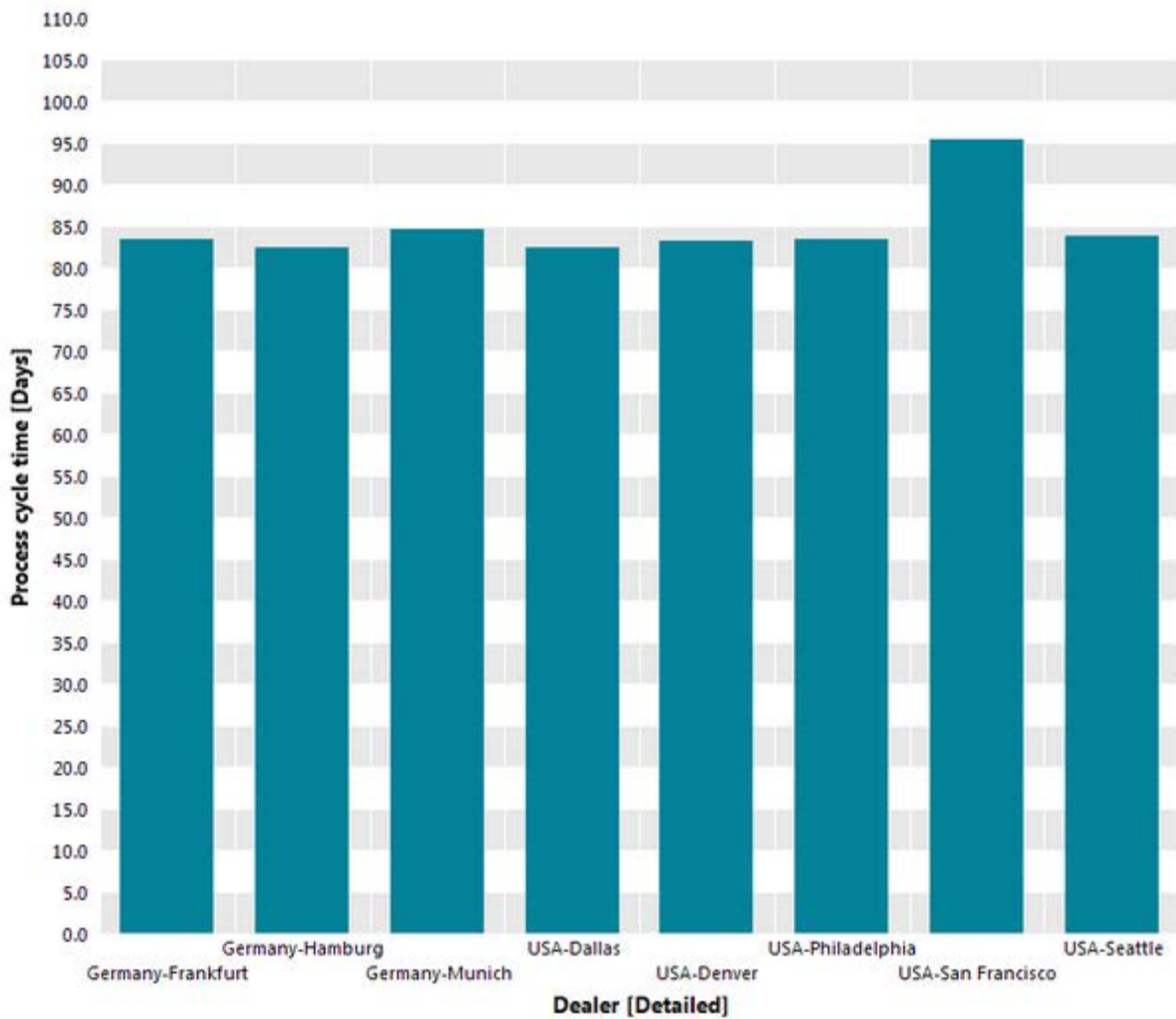   a. Enter 2009 on the **Absolute** tab.

    b. Click **OK**.

    Only data for the year 2009 will be analyzed.

15. Click **Finish**.

Your process analysis is displayed as a 2D column chart.

Example: Process cycle time/Dealer process analysis as a 2D column chart

7.4 Display measure values and legend in the chart

You want to display the measure values for each dealer in your chart and also want to show a legend.

Procedure

1. Display the **Base** tab bar.
2. Click ▦ **Display options**.
3. Display the **Chart settings** page.
4. Select the **Absolute** option in the **Measure values** group box.
5. Display the **Labels** page.
6. Enable the **Display legend** option.
7. Display the **Colors** page.
8. Enable the **Highlight values** option in the **Display effects** group box.

Now the measure values and a legend are displayed in your chart.

Tip

You can move the displayed legend in the chart using the mouse.

7.5 Display planned values

You want to display planned values (page 10) in your chart to see which of your dealers meet or deviate from the planned values.

Additionally, you display the planned values and measure areas in your current analysis.

Procedure

1. Display the **Query** tab bar.
2. Click ⊕ **Planned values**.

The planned values and the corresponding measure areas are displayed in color in your chart.

Planned value 1 indicates the borderline between the uncritical area (green) and the unfavorable area (yellow), while **Planned value 2** demarcates the borderline to the critical area (red).

Example: Display planned values in process analysis
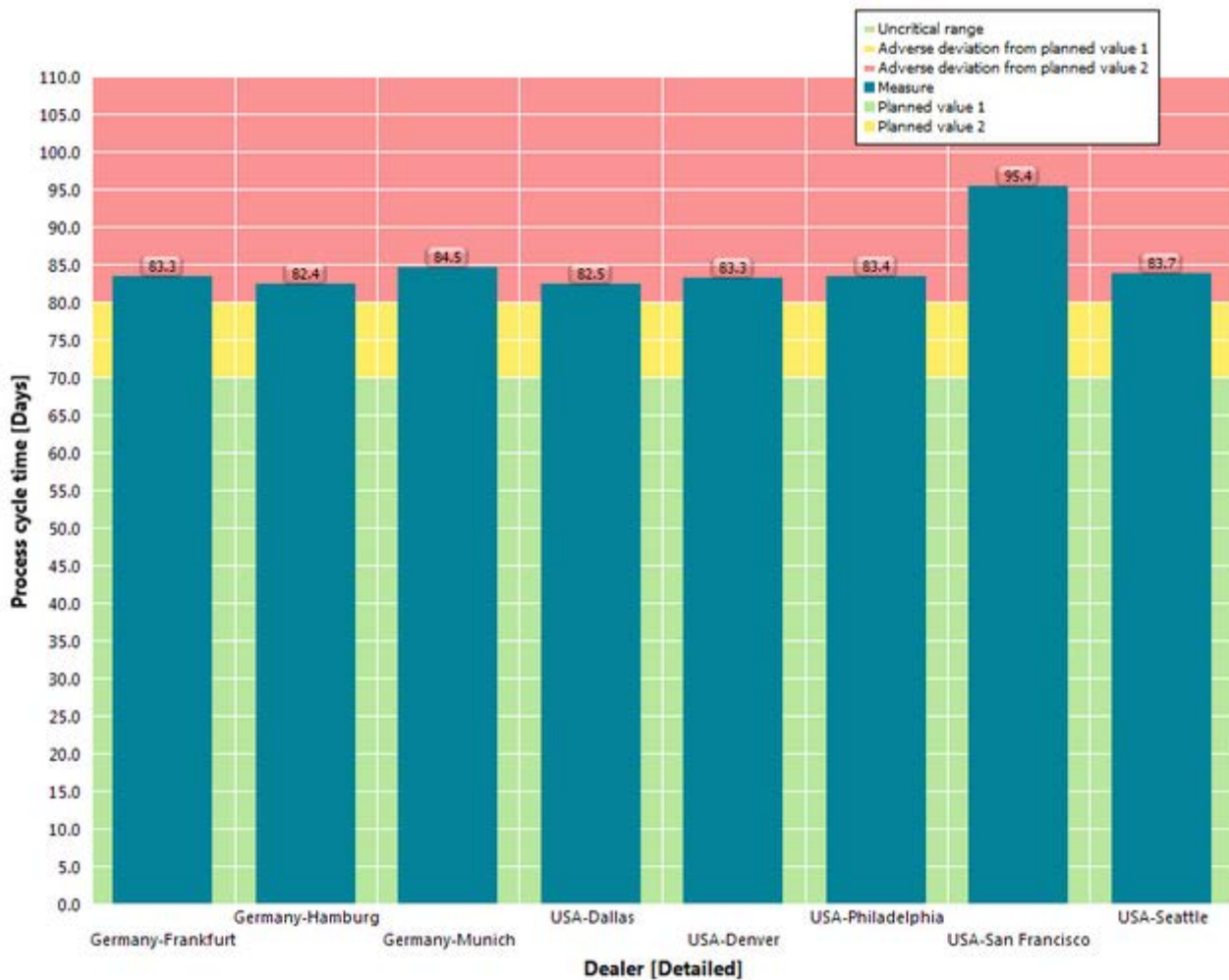
7.6   Set filter

You want to limit your process analysis to the two dealers with the longest process cycle time and compare them to the dealer with the shortest process cycle time.

To do so, set a filter (page 10) for your dealers that returns the dimension steps with the relevant measure values. The filter includes the dealers in Frankfurt and San Francisco, both of which are close to planned value 2, and Munich with the shortest process cycle time.

Procedure

1. Enable the **Filters** bar.

2. Display the **Filters** tab bar.

3. Click ▼ **Select criteria**.

4. Double-click **Dealer** in the **Available dimensions/measures** column.

5. Click **OK**.

    The filter criterion **Dealer** is added to the **Filters** bar.

6. Click ▼ **Expand** in front of the **Germany** and **USA** filter values under the filter criterion **Dealer**.

    The tree expands accordingly.

7. Enable the filter values **Frankfurt**, **Munich**, and **San Francisco**.

    The column chart displays only the columns for Frankfurt, Munich, and San Francisco.

8. Set the sort direction for the chart axis.

    a. In your chart, right-click the **Dealer** dimension.

    b. Select **Sort axis values**.

    c. Select **Ascending** as direction and **Process cycle time** as sort criterion.

    d. Click **OK**.

The set filter is applied to your analysis and the dimension steps are displayed in your chart in line with their measure values in ascending order.

Example: Process analysis with filter
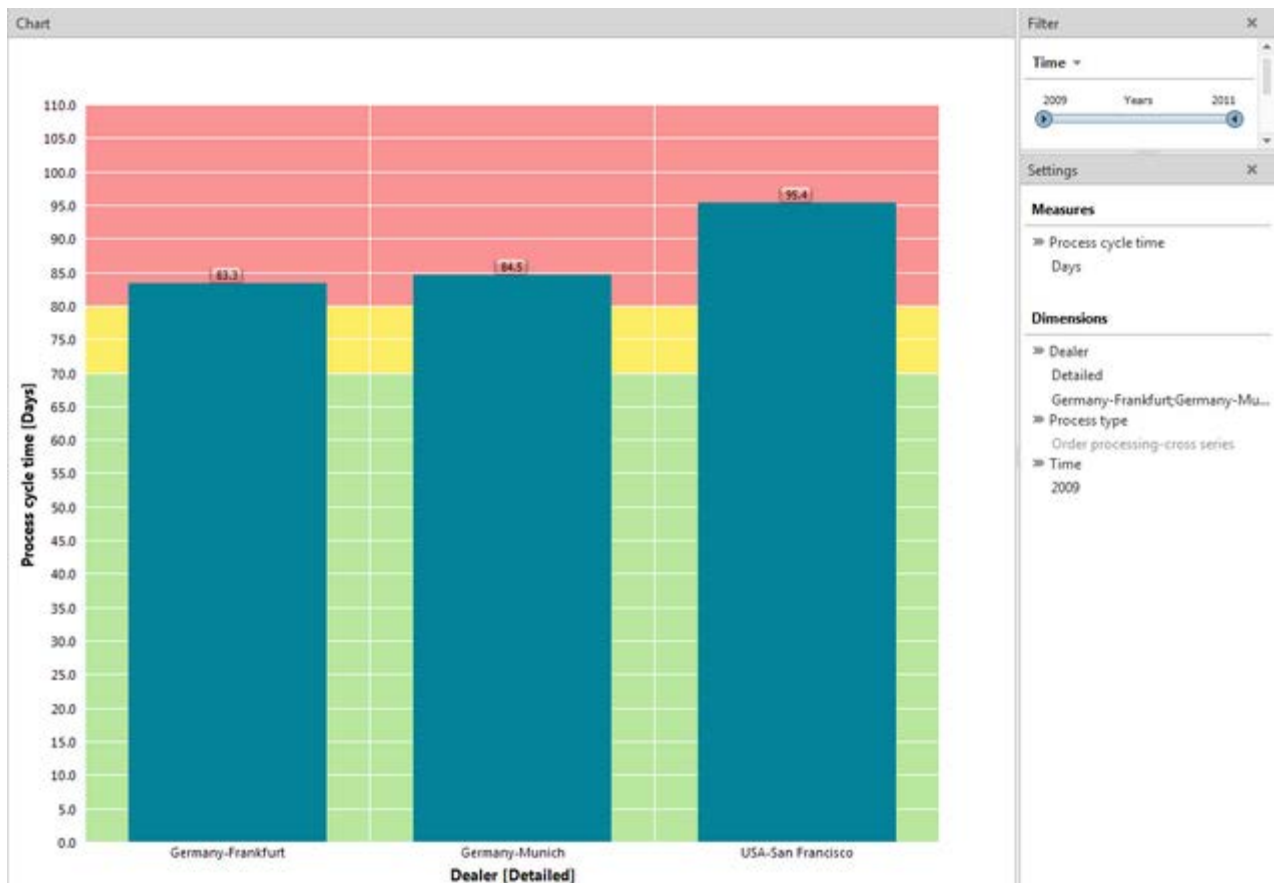
7.7   Replace dimension

Next, you want to analyze the process cycle times for the **SUV series** area for the year **2009**.

To do this, you can replace the **Dealer** dimension with the **Time** dimension directly in your chart.

REPLACE DIMENSION

Procedure

1.   In your chart, right-click the **Dealer** dimension and select **Replace dimension**.
2.   Select the **Time** dimension.
3.   Click **OK**.

The new **Time** dimension and the **Process cycle time** measure with the corresponding planned values are displayed in your chart.

Tip

Alternatively, you can replace a dimension by drag and drop. To do this, display the **Dimensions** bar and drag the relevant dimension with the mouse to the desired position in your chart.

You can also replace measures in your analysis using the same procedure.

7.8   Set step width

You want to summarize the display of the set **Time** dimension in quarters instead of displaying it in months.
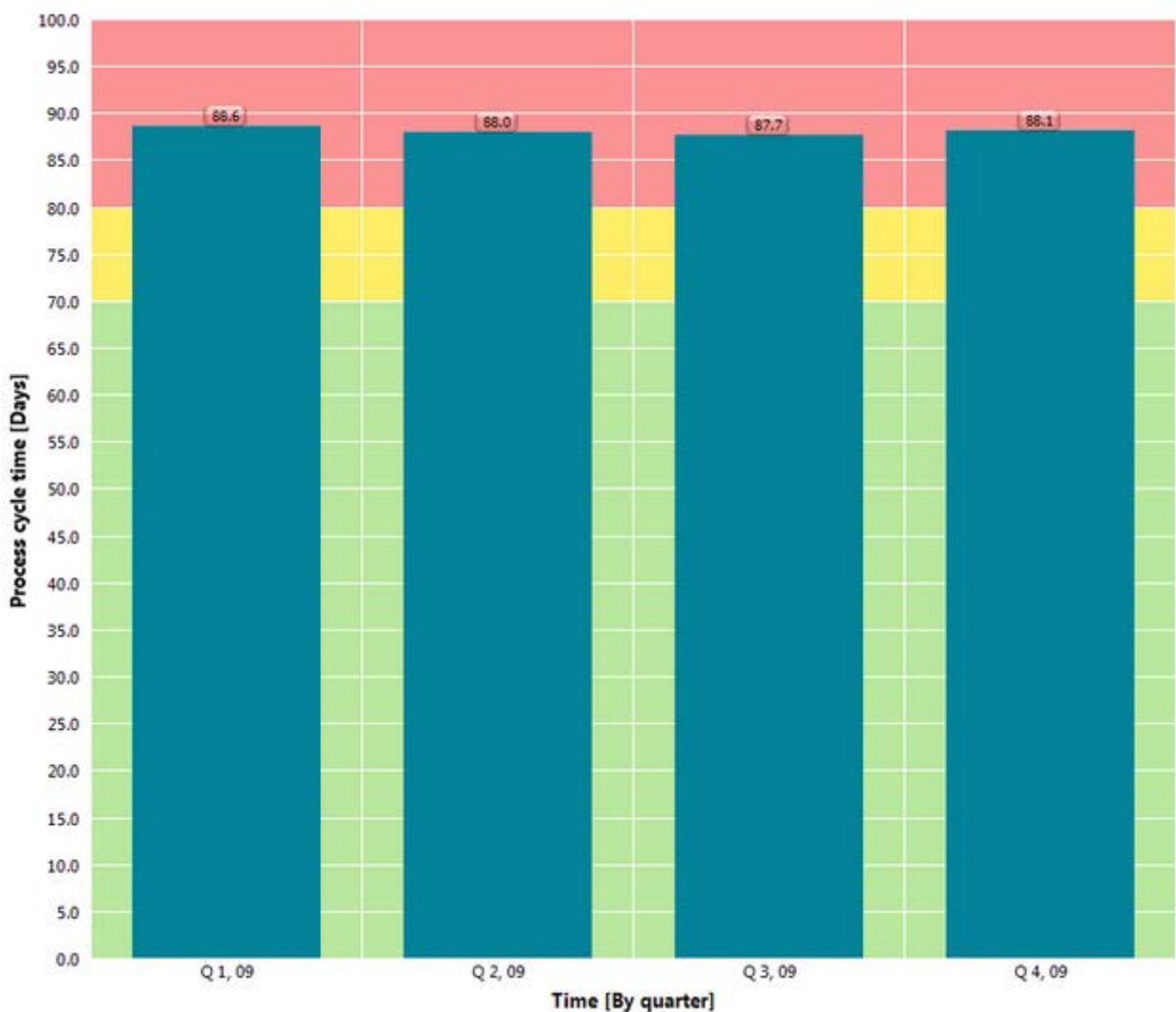
To do so, set the step width of the Time dimension.

Procedure

SET STEP WIDTH

1.   Display the **Settings** bar.
2.   For the **Time** dimension, click the currently set step width.
3.   Enable the **By quarter** option.
4.   Click **OK**.

The set step width is applied to your analysis and displayed as a single column in your chart.

Example: By quarter **step width of the** Time **dimension**

7.9   Add dimension

You want to display the two individually analyzed dimensions in one chart to determine possible interrelations.

To do so, add the **Dealer** dimension of your current analysis to the **Time** dimension and hide the planned values from your chart for better reading.

Procedure

1.   Display the **Query** tab bar.

2.   Click ⤢ **Select dimensions**.

3.   Double-click the **Dealer** dimension.

4.   Click **OK**.

5.   Click ⊕ **Hide planned values** in the **Query** tab bar.

The additional dimension is added to your analysis and displayed in your chart. The individual sales organizations are grouped for each quarter in line with the set step width.

In the fourth quarter of 2009, the process cycle times of the three dealers are almost identical.

Example: Process analysis with the Sales organization **and** Time **dimensions**
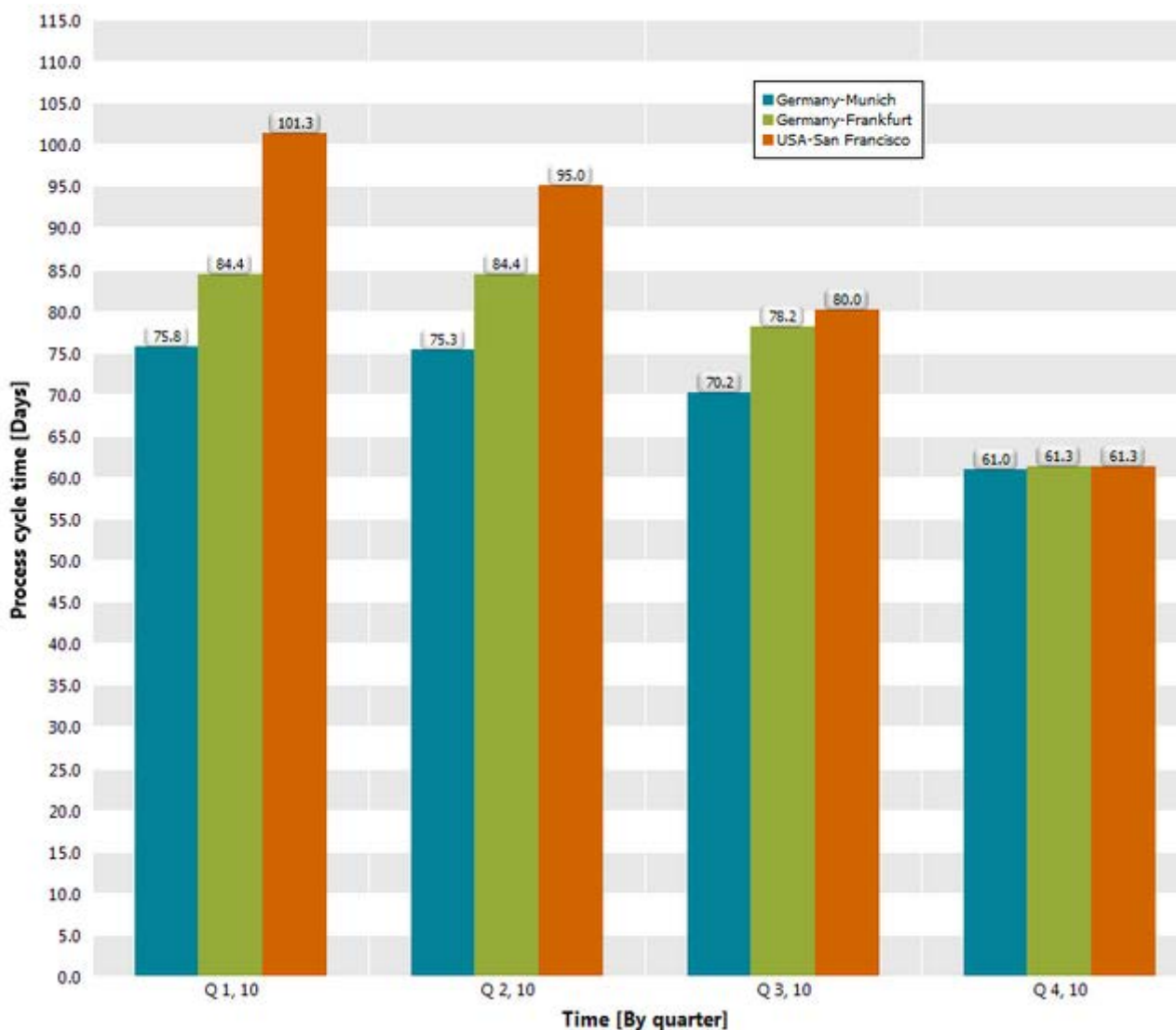
7.10   Change analysis view

To obtain a better overview, you want to display each dimension of your analysis on its own chart axis. Besides, you want to summarize your analysis in a table and display the planned values.

To do this, select the corresponding analysis view. To display the analysis of two dimensions and a measure, you can select a 3D column chart, for example. To display planned values in a table, a list table is recommended for an analysis view.

DISPLAY 3D COLUMN CHART

Procedure

1. Display the **Visualization** tab bar.

2. Click ⠿ **Select analysis view**.

3. Double-click the **3D column chart** button.

4. Set descending sort direction for the **Dealer** axis.

   (See chapter **Set filter (page** 17**))**

5. To render the chart clearer, set the color of the columns for the dealer in **Frankfurt**.

   a. Right-click a column of the **Frankfurt** dealer.

   b. Click **Edit color assignment** in the pop-up menu.

   c. Select a color.

   d. Click **OK**.

The changed settings are applied to your current analysis.

Example: Analysis of a measure and two dimensions in a 3D column chart
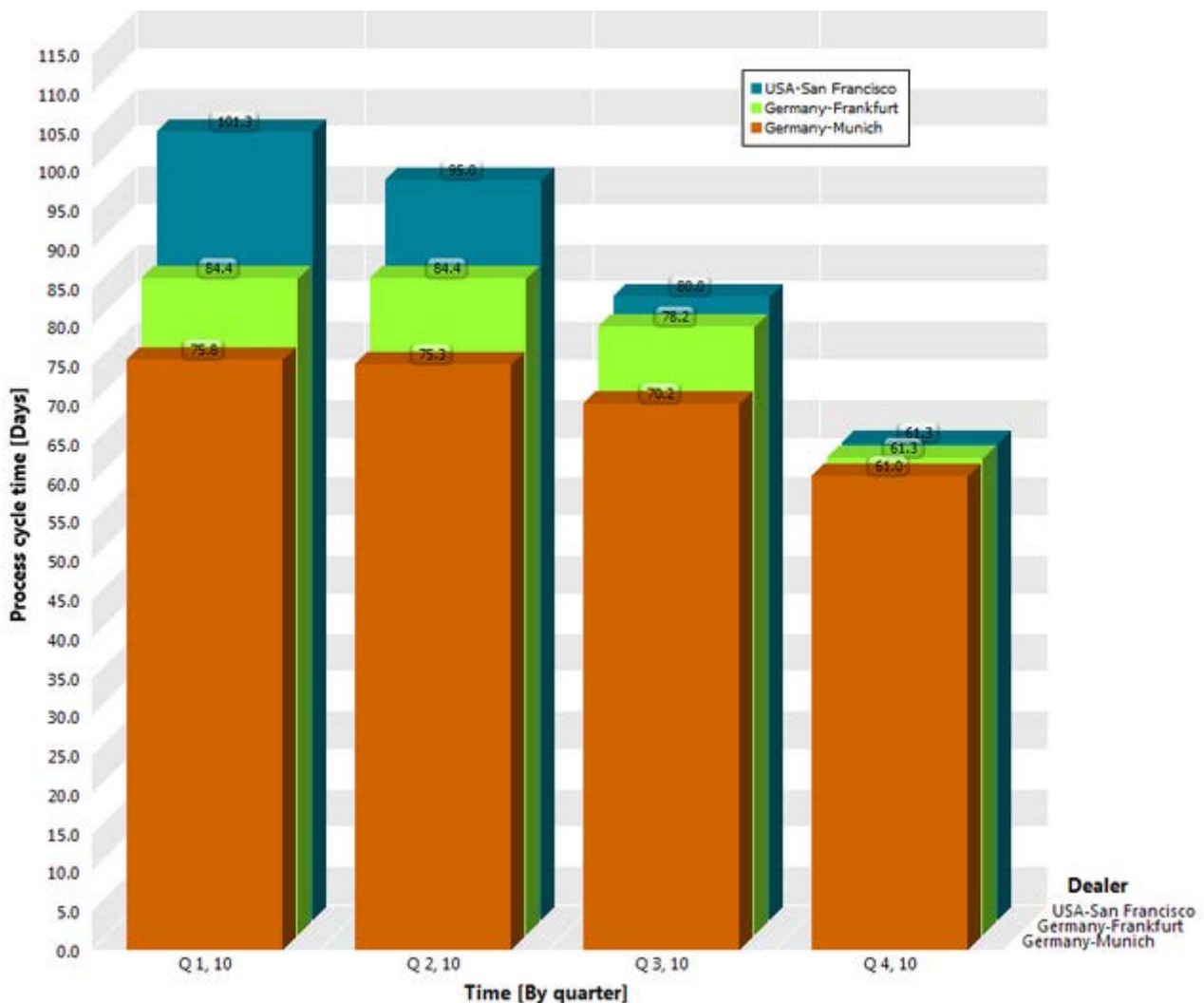
Procedure

1. Display the **Visualization** tab bar.

2. Click ⊞ **Display list table**.

3. Display the **Query** tab bar.

4. Click ⊕ **Show planned values**.

5. In the table, click the header of the column **Process cycle time** to sort the table in descending (⬇) or ascending (⬆) order.

The changed settings are applied to your current analysis.

The list table is sorted by process cycle time including planned values 1 and 2. The measure values are colored in line with your goal accomplishment.

Example: Analysis of a measure and two dimensions with planned values as a list table

Table

Time [By quarter]	Dealer [Detailed]	Process cycle time [Days]	Planned value 2 Process cycle time [Days]	Planned value 1 Process cycle time [Days]
Q1, 10	Germany-Frankfurt	84.4	80.0	70.0
Q1, 10	Germany-Munich	75.8	80.0	70.0
Q1, 10	USA-San Francisco	101.3	80.0	70.0
Q2, 10	Germany-Frankfurt	84.4	80.0	70.0
Q2, 10	Germany-Munich	75.3	80.0	70.0
Q2, 10	USA-San Francisco	95.0	80.0	70.0
Q3, 10	Germany-Frankfurt	78.2	80.0	70.0
Q3, 10	Germany-Munich	70.2	80.0	70.0
Q3, 10	USA-San Francisco	80.0	80.0	70.0
Q4, 10	Germany-Frankfurt	61.3	80.0	70.0
Q4, 10	Germany-Munich	61.0	80.0	70.0
Q4, 10	USA-San Francisco	61.3	80.0	70.0

7.11 Display process instance distribution

You want to know how process instances distribute to the various process cycle times or, in other words, you want to see with which process cycle times the most processes are executed in the SUV series area.

To do so, create a distribution chart for your analysis. A distribution chart displays the number of process instances for a distributable measure.

You can create a distribution chart either using a wizard or, if your current analysis already contains the relevant measure, using ⩗ **Show distribution**.

Procedure

1. Display the **Query** tab bar.

2. Click ⩗ **Show distribution**.

3. Display the **Clipboard** tab bar.

4. Click the **Apply** button.

A distribution chart is displayed for the set **Process cycle time** measure and your query is saved in the **Clipboard** panel.

Most process instances are in the uncritical area (green), but are very close to the average value.

Example: Distribution chart of the Process cycle time **measure**
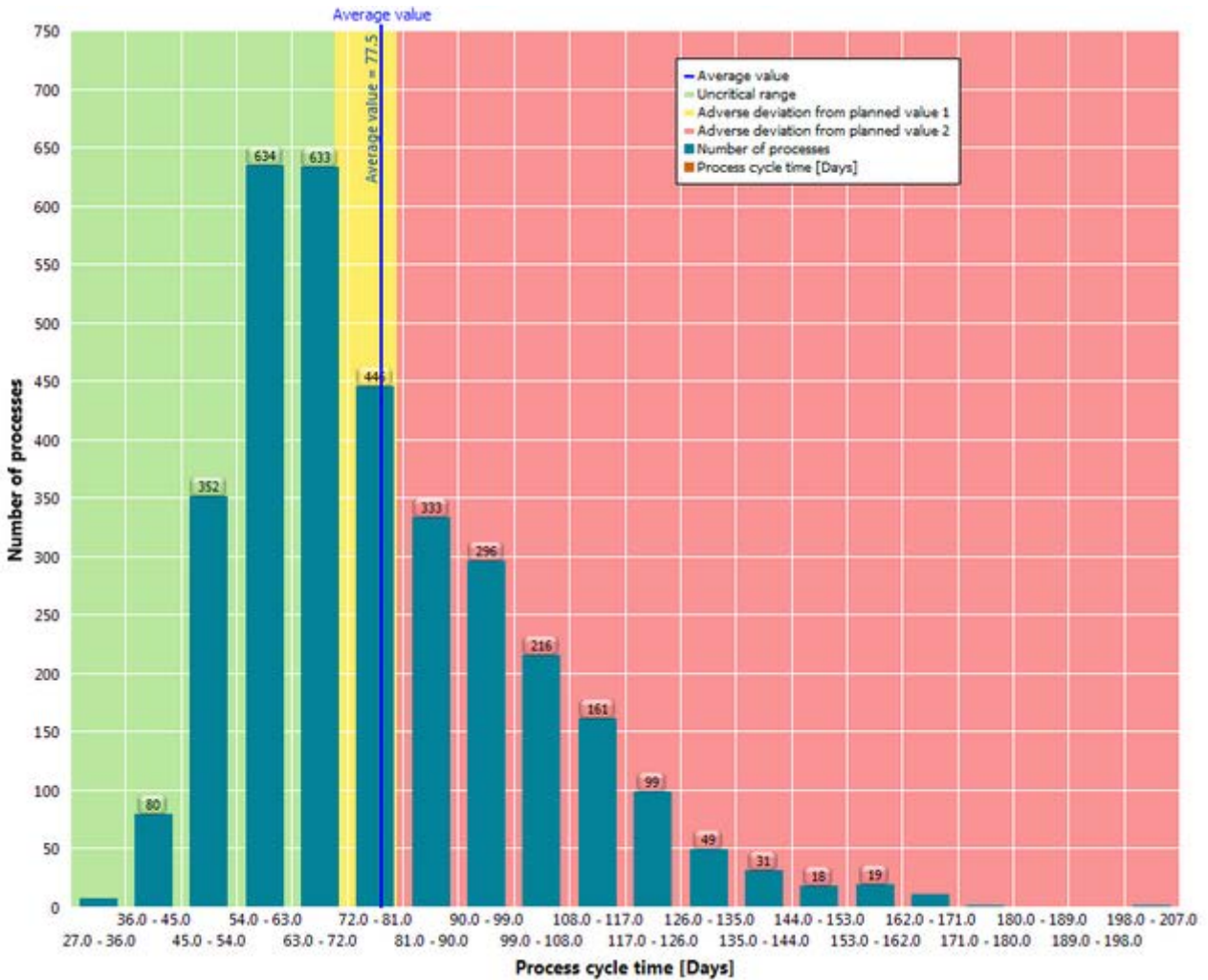
7.12   Display process instances

You want to view the process instances in the critical area in detail. The data range of interest comprises the process cycle times **81** to **180** days, which are above the defined planned value.

Display a list of the critical process instances for the corresponding data range.

Procedure

1.   Display the **Visualization** tab bar.

2.   Click ⬚ **Select data range**.

3.   With the mouse, drag a selection frame in the chart around the columns of the data range **81.0-90.0** to **171.0-180.0** days.

The area is now selected.

4. In the selected area, click ▼ **Display menu**.

5. Click **Display process instance table** in the pop-up menu.

    The process instance table with the critical process instances of the selected area is displayed.

6. Click the header of the column **Process cycle time** to sort the table by process cycle time in descending order.

7. From the list, select the process instance with the longest process cycle time.

The EPC pertaining to the selected process instance is displayed.

Example: Process instance and EPC with the longest process cycle time

7.13　Compare processes

You want to compare process instances with long and short process cycle times to identify possible weak spots in the process.

To do so, compare the two aggregated EPCs of the respective process instances. An aggregated process creates an aggregated process from multiple process instances and assigns a probability of execution to each path in the process.

Use the **Clipboard** panel to compare two EPCs.

Tip

To improve the process display, you can hide organizational units and events in the displayed EPC. Only functions and start and end events of the EPC are displayed now.

AGGREGATED EPC WITH LONG PROCESS CYCLE TIME

Procedure

1. Click in the process instance table and select all process instances by pressing **Ctrl** and **A**.

   All process instances in the table are selected and an aggregated EPC of all selected process instances is displayed.

2. Display the **Base** tab bar.

3. Click ⊞ **Display options**.

4. Display the **EPC view** settings page.

5. Disable the **Organizational units** and **Events** options in the **Display** box.

6. Click **OK**.

   Organizational units and **events** are no longer displayed.

7. Display the **Visualization** tab bar.

8. Click ⊞ **Fit to window**.

   The complete EPC is displayed in the window.

9. Display the **Clipboard** tab bar.

10. Click the **Apply** button.

Your current query is saved in the **Clipboard** panel.

AGGREGATED EPC WITH SHORT PROCESS CYCLE TIME

Procedure

1. In the **Clipboard** panel, double-click the previously created distribution chart.

   The distribution chart is displayed.

2. In the chart, right-click the bar with the shortest process cycle time.

3. Select **Display process instance table**.

   The table of process instances with the shortest process cycle time is displayed.

4. Click in the table and select all process instances by pressing **Ctrl** and **A**.

   All process instances in the table are selected and an aggregated EPC of all selected process instances is displayed.

5. Display the **Base** tab bar.

6. Click ⊞ **Display options**.

7. Display the **EPC view** settings page.

8. Disable the **Organizational units** and **Events** options in the **Display** box.

9. Click **OK**.

10. **Organizational units** and **events** are no longer displayed.

11. Display the **Visualization** tab bar.

12. Click 🔳 **Fit to window**.

    The complete EPC is displayed in the window.

13. Display the **Clipboard** tab bar.

14. Click the **Apply** button.

Your current query is saved in the **Clipboard** panel.
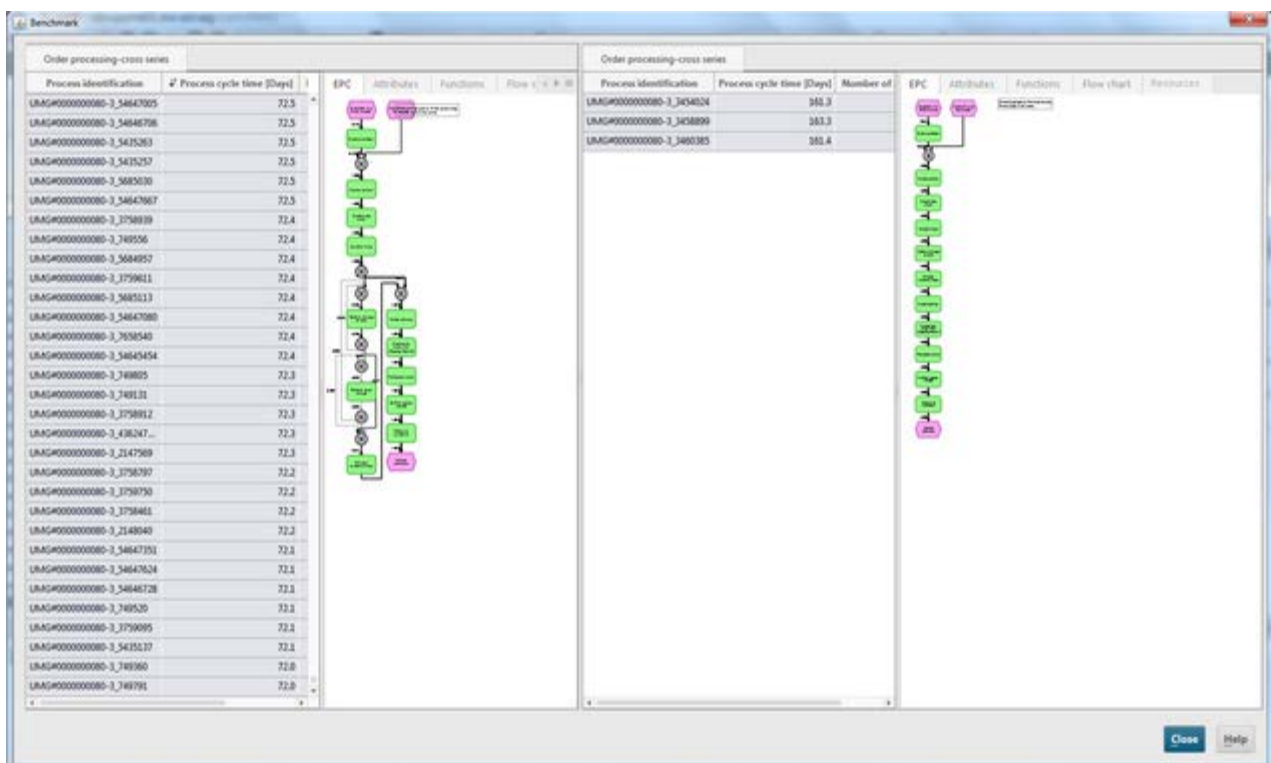

COMPARE PROCESSES

Procedure

1. Select both queries in the **Clipboard** panel.

2. In the **Clipboard** tab bar, click the **Benchmark** button.

Both processes are displayed in one window side by side in their EPC views.

You can now compare both processes in detail and examine them for process weak spots.

Example: EPC benchmark on process cycle time

7.14   Process variants

With version 10.1 PPM provides the process variants feature with the new **Variants** bar as additional analysis tool.

7.14.1   Variants bar

Use the **Variants** bar to get an overview of the most typical process variants, to identify irregular processes, and to analyze them for, for example, critical outliers. Accordingly, you can select variants for filtering your current analysis.

The **Variants** bar contains all process variants of your analysis, taking your current filter settings into account. It shows how often certain process variants occur in your analysis and shows their frequency graphically and numerically. You can set the scaling of the variant values (linear or logarithmic) to adjust the bars displayed (context menu (▼) -> Preferences).

The variants are listed descending by their frequency on one or more pages of the **Variant** bar. The number of variants displayed per page can be set (context menu (▼) -> Preferences).

The variants listed depend on the variant dimension level selected. **Variant** has two dimension levels, **Combined variant** (rough step width) and **Precise variant** (refined step width), and the **Name** as dimension value. The **Combined variant** level is set initially. The dimension level can be changed in the context menu (▼).

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,….

Similar to other dimensions, you can set a filter for the **Variant** dimension. (See Introduction to filters for details.) The filtered variant dimension values are highlighted graphically. But only the filtered variants of the selected dimension level are displayed.

Example

The filter set for the variant dimension contains the following values: v1; v4; v6-3; v12-1. If the **Combined variant** level is selected only the values **v1** and **v4** are displayed. If you switch to the **Precise variant** level the values **v6-3** and **v12-1** are displayed.

The variant **v0(n/a)** shows the number of all variants without values assigned (values are "not maintained"). The variant **v0(n/a)** is always displayed at the end of the dimension value list.

The "**Others**"-entry informs you how many other variants exist besides those listed and (in brackets) how many process instances are covered by these other variants. If the number of dimension values exceeds this maximum of displayed values (Default is 5000) an "Others"-entry is added at the end of the variants list. The entry is not selectable.

The **Variants** bar is only available if the **Variant** dimension is configured in PPM.

Example: Variants bar with six precise variant values selected for filtering

Variants	✕
Precise variant ▾	
v26-1	30,843
v1-1	8,776
v2-1	3,743
v35-1	3,021
v27-1	1,818
v5-1	1,801
v37-1	1,208
v29-1	1,023
v3-1	787
v36-1	715
v38-1	428
v30-1	422
v6-2	347
v45-1	253
v40-1	252
v28-1	144
v8-1	141
v7-2	135
v46-1	92
v4-1	75
v32-1	67
v6-1	51
v39-1	35
v7-1	31

Variant: v29-1
Value: 1,023

1   100   10,000

6 of 73 variants selected

◂ 1 2 3 ▸
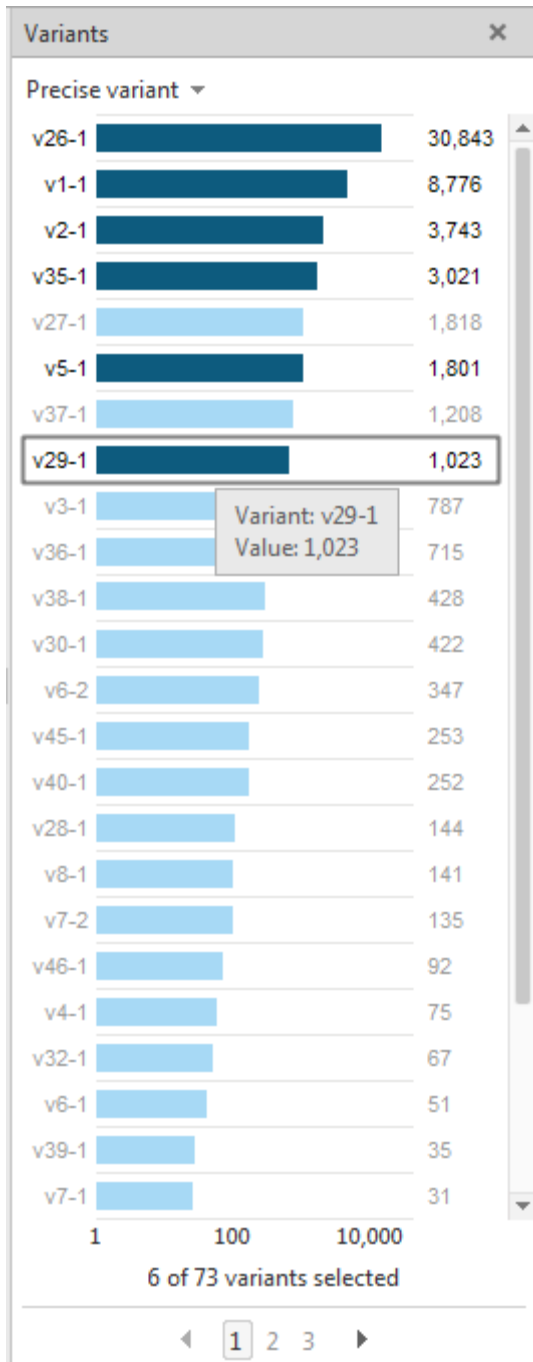
7.14.2   Use variants

You can use the **Variants** bar to identify the most frequently executed processes and critical outlier.

The following example based on a function flow diagram shows how you can use the **Variants** bar for your analyses. You can use the **function flow diagram** to analyze the sequence of activities within your business processes. This view enables you to clearly display and evaluate the process structure and the relationship between the activities.

DISPLAY VARIANTS BAR

Procedure

1. Open the **Interaction analysis** realm.

2. Display the **Base** tab bar.

3. Click ⊞ **New**.

4. Double click the **Function flow** button.

5. Specify your settings and click **Finish**. Select **Order processing** as process instances and **Function cycle time (relation)** as measure.

    The function flow diagram is displayed.

6. Click the ⊞ **Variants** button if the **Variants** bar is not already displayed.

The **Variants** bar is displayed with all process variants of the current analysis.

Example

Initially all existing variants of the created function flow are preselected in the **Variants** bar. The function flow displayed is the aggregated function flow across all variants.
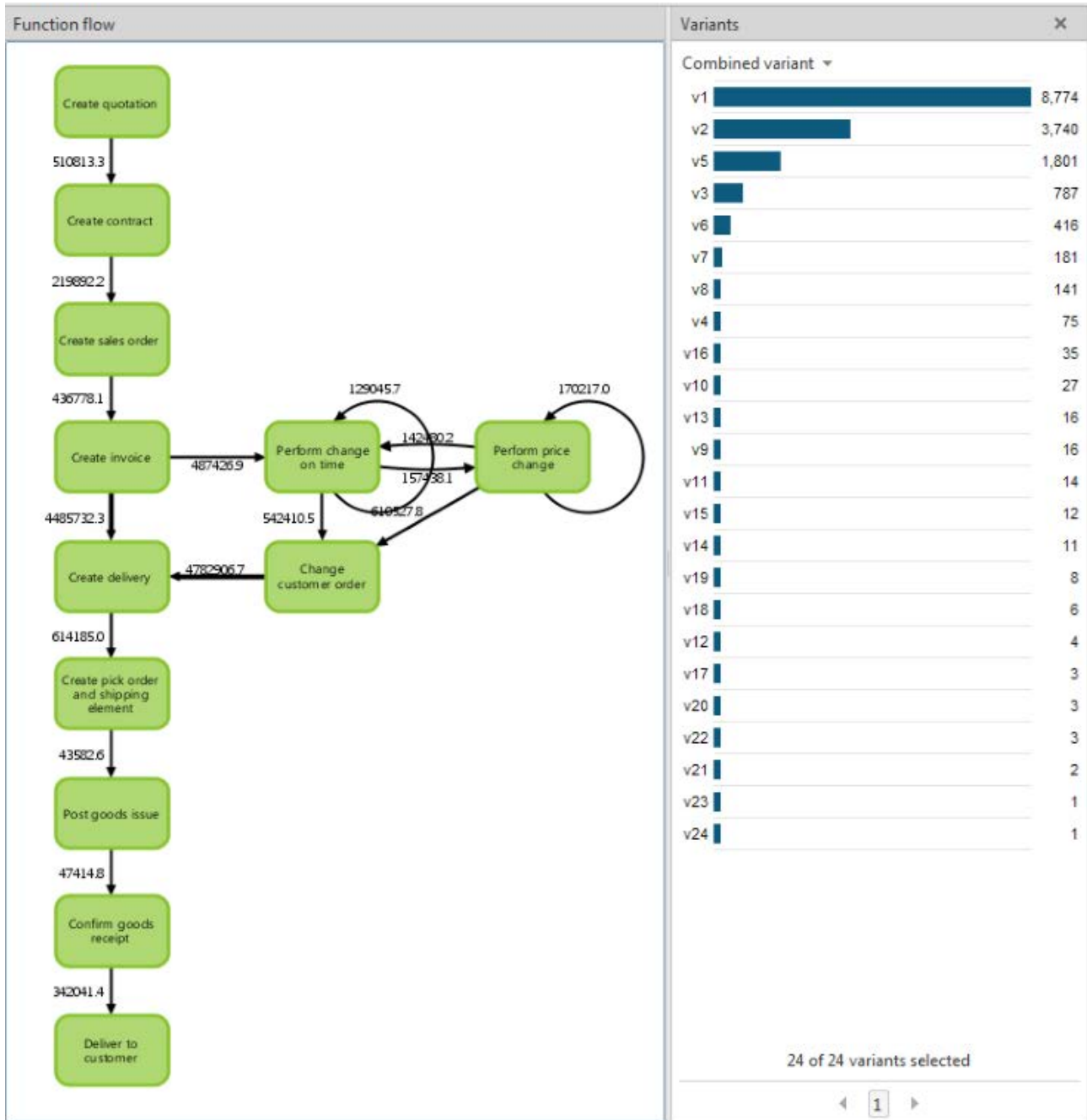
COMPARE PROCESS VARIANTS

Filtering one or more variants in the **Variants** bar enables you to compare and analyze individual process variants. The comparison of several   process variants helps you to identify weaknesses and problems in your business processes.

Process variant **v1** is the most frequently executed process variant and therefore probably the planned target process. You can display the **v1** variant of the function flow and compare it with other process variants by using the **Clipboard** panel.

Procedure

1.   Click the ▉ **Clipboard** button to display the **Clipboard** panel and **Clipboard** tab.

2. Click the **v1** variant in the **Variant** bar. The filtered **v1** variant of the function flow is displayed.

3. Activate the **Clipboard** tab and click the 🗐 **Add** button. The filtered function flow is added to the clipboard.

4. Click again the **v1** variant in the **Variant** bar to cancel the selection.

5. Click the **v5** variant in the **Variant** bar. The filtered **v5** variant of the function flow is displayed.

6. Click the **Add** button in the **Clipboard** tab. The filtered function flow is added to the clipboard.

7. Click the 📊 **Benchmark** button in the **Clipboard** tab.

Both variants are displayed in a separate window.

Example

The direct comparison shows a significant deviation of variant **v5** (on the right-hand side) to variant **v1** (the planed target process).

Based on the variants analysis, you can further extend your analyses, for example, you could perform an outlier analysis to identify the cause of the error.

7.14.2.1   Variants in scaled systems

Each sub-server in a scaled system (sub-server and master-server scenario) calculates its own process variants. If a sub-server is not connected to the master-server and a new variant is calculated, the variant receives a sub-server specific name with the letter **s**. Variants with the same name of the different sub-servers do not necessarily have to be identical. For example, the variant s1 of sub-server 1 does not have to be identical to variant s1 of sub-server 2.

The common master-server consolidates the various sub-server variants, provided the sub-servers are connected to the master server. Variants that are consolidated in the sub-servers are marked with the letter **v**. Variants with the same name and the letter **v** are identical on all sub-server. Sub-server variants are automatically consolidated during the next import cycle of a sub-server with a connected master.

8   General handling

This chapter contains information on the general handling and basic functions of PPM.

8.1   Quick-start an analysis

Use default queries to start a predefined analysis and customize it in line with your requirements.

Each analysis realm provides you with a specific, predefined analysis if it was created during client customizing. When you open process analysis or a Data analytics analysis realm for the first time, the default query is displayed immediately. When you open it again, the analysis you last configured is displayed.

Procedure

1.   Display the PPM start page.

2.   Open the relevant **analysis realm**.

When you open the interaction analysis, click **Start**.

The default query with the predefined settings is displayed in the analysis realm.

As in all other analyses, you can replace and set measures, dimensions, filters, etc., in the default query.

You can display the predefined default query again any time.

8.2   Adapt user interface

PPM provides you with various options for adapting the user interface to meet your requirements.

You can place individual bars and views at a particular position using drag and drop, combine multiple bars, show or hide bars and adjust their size.

- Move views (page 36)
- Swap views (page 36)
- Adjust view size (page 36)
- Move bars (page 36)
- Combine bars (page 37)
- Show and hide bars (page 37)
- Adjust bar size (page 38)
- Show and hide tab bars
- Change tab order (page 38)

When you exit an analysis realm your bar position settings will be saved.

You can restore the original bar positions (page 38).

8.2.1　Move views

You can move individual views in a multi-panel analysis using drag and drop.

Procedure

1. Create a multi-panel analysis.
2. Click in the header of a view.
3. Hold down the mouse button and move the view to the relevant position using drag and drop.

   A frame with the label **Insert view** is displayed where the bar will be positioned.

The view is moved to the selected position.

8.2.2　Swap views

You can swap the position of individual views in a multi-panel analysis using drag and drop.

Procedure

1. Create a multi-panel analysis.
2. Click in the header of a view.
3. Hold down the mouse button and use drag and drop to move the view to the center of a view whose position you want to swap.

   A frame with the label **Swap view** is displayed.

The positions of the two views are swapped.

8.2.3　Adjust view size

You can adjust the width and height of the individual views in a multi-panel analysis.

Procedure

1. Create a multi-panel analysis.
2. Move the mouse pointer on the separating line of a view.
3. Move the separating line in the relevant direction while holding down the mouse button.

The size of the view is automatically adjusted.

8.2.4　Move bars

You can move individual bars using drag and drop.

Procedure

1. Click in the header of a bar.
2. Hold down the mouse button and move the bar to the desired position using drag and drop.

   A frame is displayed at the location in which the bar will be positioned.

The bar is moved to the selected position.

8.2.5 Combine bars

You can combine multiple bars into one single bar. The bars are displayed as individual tabs in the new bar.

Procedure

1. Click in the header of a bar.
2. Hold down the mouse button and use drag and drop to move the bar to the desired area or bar you want to combine it with.

   A frame is displayed around the selected bar.

The two bars are displayed as individual tabs in the new bar.

Click the title of a tab to display the bar.

8.2.6 Show and hide bars

You can hide bars that are not required for your current analysis and show them again later. Thus, you create more space for displaying the analysis area.

Procedure

HIDE BARS

1. Display the **View** tab bar.
2. Click the button with the name of the bar you want to hide, for example, the **Favorites** (⭐) bar.

The selected bar is hidden.

Alternatively, you can click ✖ **Close** in a bar's title bar.

SHOW BARS

1. Display the **View** tab bar.
2. Click the button with the name of the bar you want to show, for example, the **Favorites** (⭐) bar.

The bar is displayed.

Tip

Use the bar at the right side of the work area to quickly show and hide bars.

Click the corresponding button in the bar, for example, **Favorites** (⭐).

Click ❯ **Hide bars** to hide all bars that are currently displayed.

8.2.7   Adjust bar size

You can adjust the width and height of the bars.

Procedure

1.   Move the mouse pointer on the separating line of the bars.

2.   Move the separating line in the relevant direction while holding down the mouse button.

The size of the bar is adjusted.

8.2.8   Change tab order

You can change the order of the tabs displayed in a bar.

Procedure

1.   Click the tab header.

2.   Use drag and drop to move the tab to the position in which you want to place it.

The tab is moved to the selected position.

8.2.9   Restore bar positions

You can restore the original positions of the various bars.

Procedure

1.   Display the **View** tab bar.

2.   Click the **Reset bar positions** button.

3.   Click **Reset**.

     PPM closes automatically.

4.   Restart PPM to restore the original bar positions.

After restarting PPM, the bars will be displayed at their original positions.

8.3   Quickly find entries in lists and tree structures

You can use the keyboard to quickly find entries in various bars, certain dialog boxes, and tables.

Procedure

1.   Click the first entry in the interface element that you want to search, for example, the first row in a table.

2.   Then enter the first few letters of the word you want to find.

The selection will jump to the first position that begins with the letter combination you entered.

In some interface elements, such as the **Dimensions** and **Measures** bars, you can use custom search boxes to browse the list displayed.

9 Legal information

9.1 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.

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