



ARIS Process Performance Manager ADVANCED ANALYSIS

Version 10.2

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This document applies to PPM Version 10.2 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 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 valuable information about the settings and configurations for advanced analyses in ARIS Process Performance Manager (PPM). It is intended to support PPM system administrators when they create the configurations required for advanced analysis tasks.

In addition to the methodical procedure, it deals with practical application using command line programs.

Please note that this guide is not intended to replace user or configuration training. It is a source of reference containing information that supplements the information provided in the manuals and online help.

3 Report automations

With report automations, you can run report definitions automatically. You specify report definitions and times of execution in report automations. You also specify the recipients who will receive the created reports by e-mail.

The report automation configurations are stored user-specifically in the PPM database. You distinguish between individual and overall report automation configurations.

INDIVIDUAL CONFIGURATIONS

An individual configuration comprises all report automations of a user saved in the PPM database.

OVERALL CONFIGURATION

An overall configuration comprises all individual configurations of all users, that is, all report automations saved in the PPM database.

3.1 Define and manage report automations

With the PPM user interface, you can create, edit, delete, import, export, test, activate, and deactivate your report automations.

The required functions are available in PPM in the **Administration** module under the component **Reports/Automations**.

Prerequisite

You have the **Report management** function privilege.

For detailed information on creating, configuring, and managing your report automations, please refer to the PPM online help.

If you are using the PPM user interface, a report automation is always user-specific and saved with the user name in the configuration. Only the user who created a report automation can change, delete, test, activate, or deactivate it.

Report automations can be triggered by the system administrator (user name **system** or users with the **System administration** function privilege) and all users with the **Report management** function privilege (see chapter **Run report automations** (Page 5)). Report automations are run under the user name of the creator and subject to the corresponding process and data access privileges.

3.2 Export and import individual configurations

Use the PPM user interface to export your report automations into a file in XML format and import existing files with the corresponding XML format.

During the export, all of your report automations are saved as an individual configuration in an XML file.

The individual configurations exported using the PPM user interface do not include the name (login) of the user who created them. Therefore, individual configurations can be exchanged among users because each user can import any individual configurations.

The imported report automations are added to the individual configuration of the importing user. For detailed information on importing and exporting report automations as individual configurations, please refer to the PPM online help.

You can import individual configurations only by using the PPM user interface.

If you import report automations that have the same name as existing report automations a dialog is displayed. You need to decide whether the existing report automations are to be overwritten or not.

3.3 Export and import overall configuration

With the program **runppmconfig.bat**, you can export or import the report automations of all users. All report automations are saved in a single XML file.

During the export of all report automations, the associated user names (login) are exported, as well, so that the various report automations can be assigned to the respective users.

Only the system administrator (user name **SYSTEM** or users with the **System administration** function privilege) can import and export the overall configuration of the report automations.

The program **runppmconfig.bat** is located in the **bin** directory of the PPM installation.

<PPM installation

directory>\server\bin\agentLocalRepo\unpacked\<installation_time>_ppm-client-run-prod-<version>-runnable.zip\ppm\bin

The following arguments are required for executing **runppmconfig.bat**.

runppmconfig.bat -client <client name> **-user** <user name> **-password** <user password> **-mode** <edit mode> **-reportautomations** <file name>

The arguments **-overwrite** and **-replace** are supported during import, if required.

For detailed information on the command line program **runppmconfig.bat** please refer to the documentation **PPM Operation Guide**.

3.3.1 Export configuration

You can export the overall report automation configurations into an XML file.

Start the program **runppmconfig.bat** with the required arguments in **export** mode.

Example

```
runppmconfig -client umg_en -user system -password manager -mode export  
-reportautomations C:\Reportautomation.xml
```

Prerequisite

You are a system administrator.

Procedure

1. Start a command prompt in the **\bin** directory.
2. Enter the command **runppmconfig <arguments>**.
Enter all required arguments for the variable **<arguments>**.

3. Press the Enter key.

The program is started with the specified parameters and the export is executed. The configuration is written to the file specified.

3.3.2 Import configuration

You can import report automations that exist as an overall configuration in a file in the required XML format.

Individual configurations whose user names do not exist in the PPM system are not imported. The import is not aborted.

The arguments **-replace** and **-overwrite** are optional. The argument **-replace** replaces the existing overall configuration and **-overwrite** overwrites existing report automations.

Start the program **runppmconfig.bat** with the required arguments in **import** mode.

Warning

Deleted individual configurations and report automations cannot be restored.

Example

```
runppmconfig -client umg_en -user system -password manager -mode import  
-reportautomations C:\Reportautomation.xml [-replace/-overwrite]
```

Prerequisite

You are a system administrator.

Procedure

1. Start a command prompt in the **\bin** directory.
2. Enter the command **runppmconfig <arguments>**.
Enter all required and optional arguments for the variable **<arguments>**.
3. Press the Enter key.

The program is started with the specified parameters and the import is executed. The configuration is extracted from the specified file and added to the overall configuration.

The import output is written to the log file under **<PPM installation directory>\server\bin\work\data_ppm\log**

3.4 Run report automations

The PPM server checks at specified times if report automations exist, whether they have been executed or are to be executed, and executes them, if required. The server checks are initiated manually using the program **runppmreport.bat** (for example, in automated batch files). Each user with the **Report management** privilege specifies when the server is to check and run the report automations, for example, after every data import.

EXECUTION TIME

During the execution of **runppmreport -triggerreportautomation** all due and activated report automations of all users are run. A report automation is run if the current point in time is the same as the earliest execution time or later.

A report automation is run only once in a defined time interval even if **runppmreport.bat triggerreportautomation** is executed several times during this interval.

Example

For a report automation, you specify weekly execution with Tuesday as the earliest execution time. **Runppmreport.bat -triggerreportautomation** is executed on Mondays and Thursdays after a data import. Thus, the report definition is run on Thursdays each week.

The due report automations are run in the order of their earliest execution time.

All time information refers to the time, time zone, and calendar of the server.

SAVE REPORTS

The created reports are saved in a separate folder of the PPM installation.

<PPM installation

**directory>\server\bin\work\data_ppm\reportautomation\<client>\<User>
-<Name_Report automation>\<Name_Report>.<File format_Report>**

Warning

Created reports are not archived. This means that files of a previous execution will be deleted or overwritten during the next execution and cannot be restored.

DISPATCH

If e-mail addresses have been set in a report automation, the created reports are automatically sent to the specified recipients as e-mail attachments. You can specify any e-mail addresses.

The e-mail address of the user or, if this is not specified, the e-mail addresses of the users associated with the report automation is specified for the sender of the e-mails.

LOGGING

The report automation output is written to the log file **<PPM installation directory>\server\bin\work\data_ppm\log\<client>**.

The output of the report execution during report automation is also saved in this module so that you can distinguish them from executions of individual report definitions in the PPM user interface.

3.4.1 Call runppmreport

You can trigger report automation executions using the program **runppmreport.bat**. To do so, call **runppmreport.bat** for the relevant client with your PPM user name and password and the **-triggerreportautomation** argument as follows.

```
runppmreport -client <client name> -user <user name> -password <user password> -  
triggerreportautomation
```

Example

`runppmreport -client umg_en -user system -password manager -triggerreportautomation`
The program **runppmreport.bat** is located in the **bin** directory of the PPM installation.

<PPM installation

directory>\server\bin\agentLocalRepo\unpacked\<installation_time>_ppm-client-run-prod-<version>-runnable.zip\ppm\bin

The due report automations are run under the account of the user with which they are associated. This takes the privileges and restrictions (for example, data access privileges) of the corresponding user account into account.

It is impossible to run report automations and individual report definitions simultaneously with **runppmreport.bat**. This means that you cannot use the arguments for running individual report definitions if you use **-triggerreportautomation**.

Prerequisite

You have the **Report management** function privilege.

Procedure

1. Start a command line in the **\bin** directory.
2. Enter the command **runppmreport <arguments>**.
Enter all required arguments for the variable **<arguments>**.
3. Press the Enter key.

The program is started with the specified parameters and the due and activated report automations are executed.

4 EPC templates

The EPC's appearance is generally determined by the data specified in the file **EPK_settings.properties**. The global settings specified in that file are valid for all optional imported templates in the EPC view, unless they are overwritten with different specifications for the individual templates in the XML configuration file.

You can store additional user-specific settings as EPC templates in an XML configuration file. If you import this file with the **runppmconfig** command line program, the settings from the **EPK_settings.properties** file are overwritten if the import file contains the corresponding specifications. If an XML template does not include specifications for particular keys that are specified in the settings file, the corresponding values from the settings file are used when this template is used in the EPC view.

You can overwrite all settings from the settings file with the corresponding specifications in the XML configuration file to be imported. You can also use the configuration file to specify additional settings for your EPC view, for example, displaying model attributes. When using an XML template in the EPC view of PPM, you can temporarily overwrite the settings from the file **<client>_epctemplate.xml** with the data you specify in the **Display options** dialog. Unless you save them as a Favorite, these are only effective for the duration of the current analysis. The file **<client>_epctemplate.xml** is located under `<installation directory>\ppm\server\bin\work\data_ppm\custom\<client>\xml`.

You can export the templates currently saved in your database to a local XML file using **runppmconfig**. It is not possible to modify templates using the PPM user interface; you must manually edit the templates as required and re-import the modified XML configuration file using the command line. The import process is performed automatically in **replace** mode, that is, all templates in the database are first deleted and the new or modified templates are then imported.

Warning

Assign a different name to each template you create in the XML configuration file. If you import several templates with the same name, only the last EPC template imported is written to the database.

By default, the information in the settings file is used to create the **Default** template. You can adapt this template to your requirements using a corresponding template in the XML configuration file. You must name this template **Default**. Any missing specifications in the default template are always supplemented with the required specifications from the settings file to ensure completeness. The **Default** template passes on its settings to all other templates in the EPC view, unless these are partially or fully overwritten by different specifications in the template used.

4.1 Configuration

EPC templates are configured in accordance with the specifications in the file **epctemplate.dtd** or **_epclayout.dtd**.

Overview of the most important setting options:

XML element/ attribute	Description
template	Definition of a template
name	Unique name of the template, name of the default template: Default
epcconfigkey (optional)	EPC configuration key to be used to represent EPC symbols from the config.xml file under <installation directory>\ppm\server\bin\work\data_ppm\config\umg_en\epkviewer (for example, DEFAULT or uml)
symbol-draw-option (optional)	Shadow depth of nodes. Overwrites the shadowdepth attribute of the epc-config element from the configuration file <installation directory>\ppm\server\bin\work\data_ppm\config\umg_en\epkviewer\config.xml
epcbackground image (optional)	File name of wallpaper in the EPC view. The file must be stored under <installation directory>\ppm\server\bin\work\data_ppm\config\umg_en\epkviewer\images. The following file types are supported: JPEG, JPG, PNG, and GIF
stringlayout (optional)	Rendering procedure for node strings. Valid values: 0 : Node names are written in full. 1 : Nodes names are truncated if they are too long.
epcintensity (optional)	Color intensity of objects
value	Intensity value, specified as a decimal value, for example, 0.6 (= 60% of default color intensity)
epcedgelist (optional)	List of connection configurations
defaultwidth	Default line weight of connections
edgeconfig	Configuration of a connection

XML element/ attribute	Description
max	Connection frequency as an interval between the individual edgeconfig values, for example, 0.7 when specifying 0.3, 0.7, 1.0 as an interval of 30% to 70% (in an aggregated process instance only)
thickness	Connection weight in pixels (in an aggregated process instance only)
edgeattribute (optional)	Configuration of connection attributes
key	Attribute identifier
show-position	Attribute value placement at connections Valid values: <ul style="list-style-type: none"> ▪ start-top (at the start of the connection, right) ▪ start-bottom (at the start of the connection, left) ▪ center-top (at the center of the connection, right) ▪ center-bottom (at the center of the connection, left) ▪ end-top (at the end of the connection, right) ▪ end-bottom (at the end of the connection, left)
epcelement (optional)	Configuration of EPC elements (functions, events, organizational units)
objectname	Object identifier
type	Object type. Valid values: <ul style="list-style-type: none"> ▪ ALL (all EPC objects) ▪ OT_FUNC (all functions in the EPC) ▪ OT_EVT (all events in the EPC) ▪ OT_ORG (all organizational units in the EPC)
epcattribute	Configuration of object attributes
key	Attribute identifier

XML element/ attribute	Description
show-position	Attribute value placement at the object. Valid values: <ul style="list-style-type: none"> ▪ center (in the center of the object) ▪ northwest (top left) ▪ northeast (top right) ▪ north (top) ▪ southwest (bottom left) ▪ southeast (bottom right) ▪ south (bottom)
show-tooltip	Display of attribute and attribute value in tooltip. Valid values: yes no
format (optional)	Format deviating from the default format for displaying the attribute, for example, displaying a time attribute in an English format: format="yyyy.MM.dd"
attribute	PPM attribute that is to be displayed as an alternative to the attribute specified for the object in epcattribute if this attribute cannot be found. If there are several attribute specifications, the first attribute from the list that is found will be displayed.
key	Attribute identifier
modelattributes (optional)	Configuration of model attributes to be displayed
show-panel	Display of model attribute label in EPC. Valid values: true false
show-relative (optional)	Specifies whether the label is to have a relative position, so that it does not exceed the area available. Valid values: true false .
x-position y-position (optional)	Absolute coordinates for positioning the model attribute label (in pixels, top left-hand corner of EPC view is 0,0). If there are no optional specifications, the model attribute label is positioned in the top left.

XML element/ attribute	Description
key	Identifier of the model attribute to be displayed, for example, AT_PROCTYPEGROUP
epclayout (optional)	Layout configuration
algo-no (optional)	Layout algorithm number of the ARIS Layerer. Not to be changed.
epc-algo (optional)	EPC layout algorithm of the ARIS Layerer. Not to be changed.
longest-path (optional)	Alignment of the longest path. Valid values: <ul style="list-style-type: none"> ▪ 0 (centered) ▪ 1 (left-aligned) ▪ 2 (right-aligned)
root-down (optional)	Root position relative to the subtree. Not to be changed. Valid values: <ul style="list-style-type: none"> ▪ 0 (All roots in top position) ▪ 1 (Only some roots in the top position) ▪ 2 (Roots are moved in line with their trees)
root-position (optional)	Root node position. Valid values: 1 (left) 2 (right) no specification or every other value (centered)
change-son-arrangement (optional)	Change to vertical layout
make-space (optional)	Create space in partial layout
arrange-sattelites (optional)	Alignment of surrounding nodes: <ul style="list-style-type: none"> ▪ 0 = horizontal ▪ 1 = square ▪ 2 = vertical

XML element/ attribute	Description
adjust-scaling (optional, obsolete: exists only for compatibility reasons)	Adjust columns/rows Valid values: true false
ignore-grid (optional, obsolete: exists only for compatibility reasons)	Align connections to the grid Valid values: true false
object-scaling (optional)	Scale objects Valid values: true false
show-trimmed (optional)	Display trimmed EPC. Valid values: true false
show-attrib-title (optional)	Display attribute title. Valid values: true false
break-space (optional)	Replace space with line break. Valid values: true false
x-spacing (optional)	Horizontal spacing of objects (in pixels)
y-spacing (optional)	Vertical spacing of objects (in pixels)
fontsize (optional)	Font size of texts in EPC objects
zoom-factor (optional)	Factor for the maximized/minimized EPC representation. Value specified in percent (for example, "75" for 75%).
show-orgunits (optional)	Display organizational units in EPC. Valid values: true false
show-events (optional)	Display events in EPC. Valid values: true false
show-probabilities (optional)	Display execution probabilities in aggregated EPCs. Valid values: true false

XML element/ attribute	Description
show-func-ki (optional)	Display function measure values at functions in EPC. Valid values: true false
irrelevant-path (optional)	Hide paths that are below the specified execution probability in the EPC. Specified as a decimal number (for , "0.01" = 1%, "0.5" = 50%, and "1" = 100%).
string-layout-no (optional)	Formatting information for texts within the EPC objects. Valid values: 0 = Text that is too long automatically has line breaks, but only where there are spaces. 1 = Text that is too long automatically has line breaks, even within strings.
show-ppm-image (optional)	Display "Generated by PPM" logo. Valid values: true false
horizontallayout (optional)	EPC is displayed horizontally (true) or vertically (false).
epc-show-mostprobablepath (optional)	Display most probable path. Valid values: true false

5 Planned values

Planned values are defaults for measure values. Unfavorable deviations from the planned value indicate to the process manager that there is a need for action. Planned value definitions are specified as planned value 1 and planned value 2 for particular process types with a filter definition. During the planned value check, the corresponding measure is queried using the specified filter and compared with planned value 1 and planned value 2.

UNFAVORABLE PLANNED VALUE DEVIATION

The assessment of a measure is specified in the **assessment** XML attribute when registering the measure at the process tree (**ProcessTree.xml** configuration file).

If the measure is assessed as positive (**assessment="POS"**), a measure value lower than the planned value represents an unfavorable deviation and an increasing measure value is rated as positive.

If the measure is assessed as negative (**assessment="NEG"**), a measure value greater than the planned value represents an unfavorable deviation and an increasing measure value is rated as negative.

PLANNED VALUE 1

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, accomplishment of the process goal is endangered and you should initiate improvement measures immediately. The unfavorable deviations from planned value 1 are indicated in **yellow** in the analysis.

PLANNED VALUE 2

Planned value 2 corresponds to the planned measure value. As soon as the measure infringes this planned value, the goal has not been accomplished. The unfavorable deviations from planned value 2 are indicated in **red** in the analysis.

Unfavorable planned value deviations can be reported to a specified recipient by automatically created e-mails.

5.1 Authorization and visibility privileges

FUNCTION PRIVILEGE

To display and edit planned value definitions, you require the **Planned value management** function privilege.

PROCESS ACCESS PRIVILEGE

You can only edit planned value definitions for process types for which you have been assigned the process access privilege.

DATA ACCESS PRIVILEGE

Depending on the data access privileges (see the documentation **PPM Customizing**, chapter **Using data access dimensions**) that apply to the PPM user logged in, certain planned value definitions may be displayed but cannot be edited.

5.2 Planned value definitions

Planned value definitions are edited in the **Planned values** component in the **Configuration** module of the PPM user interface. A planned value definition relates to a measure for a particular process type group, a particular process type or a particular function. No planned value definitions can be created for ranking measures.

In a scaled PPM system, planned value definitions are managed on the master server.

You can use the command line program **runppmconfig** to save all saved planned value definitions to one XML file (see **PPM Operation Guide** or command line help on importing and exporting PPM configurations).

5.2.1 Planned value definitions for process instance-independent measures

PLANNED VALUES

A process instance-independent measure can be simultaneously registered at different points in the process tree. For each process instance-independent measure, there is only one planned value definition, which is valid for all process type groups and process types. The planned value definition for a process instance-independent measure is specified as process type independent.

ALARM VALUES

An alarm value cannot be assigned for a process instance-independent measure due to the lack of a process instance reference.

5.2.2 Identification of the displayed planned value

If planned values are shown in the analysis, one planned value is displayed for each data point. It is identified as follows.

1. First of all, all planned value definitions defined for the measure represented in the analysis are determined for each data point.

Example

For the current query, the Process cycle time measure, the Cash sale process type and a CW 46/2002 filter are set. For the Process cycle time measure displayed, the following planned value definitions are determined:

No.	PTG/PT	Measure	Filter	Filter value	Planned value 2
1	Credit memo	PDLZ	Time	Nov. 2002	3.000 day(s)
2	Order processing	PDLZ	Time	Nov. 2002	1.800 day(s)
4	Returns	PDLZ	Time	2002	2.000 day(s)
5	Cash sale	PDLZ	Time	Nov. 2002	1.500 day(s)
8	Cash sale	PDLZ	Time	Dec. 2002	1.300 day(s)
11	Cash sale	PDLZ	Time	2002	1.300 day(s)

2. From all the relevant planned value definitions, those definitions matching the queried process type are then determined. If there are no planned value definitions for the process type, all planned value definitions of the higher level process type group are determined.

Example

In the example, the planned value definitions 5, 8, and 11 are determined:

No.	PTG/PT	Measure	Filter	Filter value	Planned value 2
5	Cash sale	PDLZ	Time	Nov. 2002	1.500 day(s)
8	Cash sale	PDLZ	Time	Dec. 2002	1.300 day(s)
11	Cash sale	PDLZ	Time	2002	1.300 day(s)

3. From these planned value definitions, all planned value definitions that have the highest number of filter criteria are then determined.

In the example, all three planned value definitions previously determined have the same number of filter criteria, which means that the selection cannot be limited any further.

4. If several planned value definitions were determined in the previous step, a ranking is created based on the deviation in the resolution of the filters specified in the analysis and the planned value definition. The most specific planned value definitions are those with the lowest deviation.

Example

In the example, planned value definitions 5 and 8 are determined because the deviation in the resolution of the filter used in the analysis (week) and the resolution of the filter specified for the planned value (month) is one level in each case.

No.	PTG/PT	Measure	Filter	Filter value	Planned value 2
5	Cash sale	PDLZ	Time	Nov. 2002	1.500 day(s)
8	Cash sale	PDLZ	Time	Dec. 2002	1.300 day(s)

5. If several planned value deviations with the lowest overall deviation were determined in the preceding step, the planned value definition with the most critical planned value is determined. The most critical planned value means the highest planned value for positively assessed measures or the lowest planned value for negatively assessed measures.

Example

From the example data, planned value definition **8** is determined and displayed at the data point in the analysis.