

ARIS PROCESS PERFORMANCE MANAGER RELEASE NOTES

VERSION 10.5.4
MAY 2022

This document applies to ARIS Process Performance Manager 10.5.4 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.

Copyright © 2000 - 2022 Software AG, Darmstadt, Germany and/or Software AG USA Inc., Reston, VA, USA, and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software AG product names are either trademarks or registered trademarks of Software AG and/or Software AG USA Inc. and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software AG and/or its subsidiaries is located at <https://softwareag.com/licenses>.

Use of this software is subject to adherence to Software AG's licensing conditions and terms. These terms are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software AG Products / Copyright and Trademark Notices of Software AG Products". These documents are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

Contents

1	Text conventions.....	1
2	Support	2
3	General.....	3
4	Critical information	4
5	Known issues.....	5
6	Usage notes	6
	Installation.....	6
	Upgrade.....	7
	Analysis	7
	Configuration.....	8
	Administration	8
	Demo Database	9
	Display SAP Transaction	9
7	Changes in version 10.5.4	10
	7.1 Resolved issues in current version.....	10
	7.2 Documentation changes	10
	7.3 Terminology changes	10
	7.4 Added, removed, deprecated or changed items.....	11
	7.5 Added, removed, deprecated, or changed Built-In Services.....	12
	7.6 Added, removed, deprecated, or changed parameters.....	12
	7.7 Added, removed, deprecated, or changed APIs	12
8	Former Versions.....	13
	8.1 Release 10.5.3	13
	8.1.1 Fixes included in 10.5.3	13
	8.1.2 Resolved issues in 10.5.3.....	13
	8.1.3 Documentation changes.....	13
	8.1.4 Terminology changes.....	14
	8.1.5 Added, removed, deprecated or changed items	14
	8.1.6 Added, removed, deprecated, or changed Built-In Services	16
	8.1.7 Added, removed, deprecated, or changed parameters	16
	8.1.8 Added, removed, deprecated, or changed APIs.....	16
	8.2 Release 10.5.2	17
	8.2.1 Fixes included in 10.5.2	17
	8.2.2 Resolved issues in 10.5.2.....	17
	8.2.3 Documentation changes.....	17
	8.2.4 Terminology changes.....	18
	8.2.5 Added, removed, deprecated or changed items	18
	8.2.6 Added, removed, deprecated, or changed Built-In Services	20
	8.2.7 Added, removed, deprecated, or changed parameters	20
	8.2.8 Added, removed, deprecated, or changed APIs.....	20
	8.3 Release 10.5.1	21
	8.3.1 Fixes included in 10.5.1	21
	8.3.2 Resolved issues in 10.5.1.....	21
	8.3.3 Documentation changes.....	24
	8.3.4 Terminology changes.....	25
	8.3.5 Added, removed, deprecated, or changed items	25
	8.3.6 Added, removed, deprecated, or changed Built-In Services	29
	8.3.7 Added, removed, deprecated, or changed parameters	29

8.3.8	Added, removed, deprecated, or changed APIs.....	29
8.4	Release 10.5.....	29
8.4.1	Fixes included in 10.5.....	29
8.4.2	Resolved issues in 10.5.....	29
8.4.3	Documentation changes.....	31
8.4.4	Terminology changes.....	32
8.4.5	Added, removed, deprecated or changed items	32
8.4.6	Added, removed, deprecated, or changed Built-In Services	34
8.4.7	Added, removed, deprecated, or changed parameters	34
8.4.8	Added, removed, deprecated, or changed APIs.....	34
8.5	Release 10.3.....	35
8.5.1	Fixes included in 10.3.....	35
8.5.2	Resolved issues in 10.3.....	35
8.5.3	Documentation changes.....	38
8.5.4	Terminology changes.....	39
8.5.5	Added, removed, deprecated or changed items	39
8.5.6	Added, removed, deprecated, or changed Built-In Services	42
8.5.7	Added, removed, deprecated, or changed parameters	42
8.5.8	Added, removed, deprecated, or changed APIs.....	42
8.6	Release 10.1.....	43
8.6.1	Fixes included in 10.1.....	43
8.6.2	Resolved issues in 10.1.....	43
8.6.3	Documentation changes.....	50
8.6.4	Terminology changes.....	51
8.6.5	Added, removed, deprecated or changed items	51
8.6.6	Added, Removed, Deprecated, or Changed Built-In Services	54
8.6.7	Added, Removed, Deprecated, or Changed Parameters	54
8.6.8	Added, Removed, Deprecated, or Changed APIs	54
9	Copyright information	55
10	Support	55

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 as **<bold text in angle brackets>**.
- *Example texts that are too long to fit on a single line, such as a long directory path, are wrapped to the next line by using ↵ at the end of the line.*
- File extracts are shown in this font format:

`This paragraph contains a file extract.`

2 Support

Visit the [Empower and Documentation](#) Web sites of Software AG to learn about support policies and critical alerts, read technical articles and papers, download products and fixes, submit feature or enhancement requests, and more.

Visit the [Software AG TECHcommunity](#) Web site to access additional articles, demos, tutorials, technical information, samples, useful resources, online discussion forums, and more.

3 General

This file contains important information about using ARIS Process Performance Manager 10.5.4. Specific user documentation is available on the [TECHcommunity](#) Web site. Go to the Documentation area of the community to find the following documents in the ARIS section:

- ARIS System Requirements
- PPM Installation Guide
- PPM Migration Guide
- PPM Release Notes
- Other technical product documentation

This file contains information about functionality that has been added, removed, marked as deprecated, or changed for this product. Deprecated functionality continues to work and is supported by Software AG but may be removed in a future release. Software AG strongly recommends that you do not use deprecated functionality in new projects.

4 Critical information

Please go to the [Knowledge Center](#) on Empower to find out about important information that Software AG might retrospectively publish about the current ARIS PPM release.

5 Known issues

This section lists all issues that were known about the current ARIS PPM release at the time when these Release Notes were published. Any issue identified at a later point in time will be documented in the Knowledge Center of Empower.

6 Usage notes

This section provides you with important details about how to work with the current product release.

Installation

- The new version **ARIS PPM 10.5 Service Release 4** (10.5 SR4, 10.5.4) is a full featured ARIS PPM release that can be installed either side-by-side to an existing older ARIS PPM version 9.12 to 10.4, separately as a new installation or using the new over install mechanism to update a former ARIS PPM 10.5 version.
- From ARIS PPM 10.2, the **ARIS PPM Setup** tool was used to install or uninstall ARIS PPM. This setup routine can be affected by **McAfee** or any other virus scanner scans and may fail with errors when accessing locked files that are needed for the installation. All McAfee versions prior to the ENS 10.5.4 August Update are known to cause this problem. Other virus scanner tools might affect the **ARIS PPM Setup** by performing some "On Access Scans" during installation.
Workaround: Update your McAfee installation to the latest version or temporarily deactivate "On Access Scans" in your virus scanner tool.
- We recommend installing the setup in an installation directory that does not contain any other Software AG product installations. The new setup is available in the **ARIS Download Center or Empower**. For more details on using the setup, see the document **PPM Installation**.
- Java Applet and Java Web Start are no longer supported and are now replaced by the **PPM Download Client**. It is no longer possible to start the ARIS PPM UI or management views based on Java applets in a browser. It is still possible to install the ARIS PPM GUI using a separate setup. For more details see the document **PPM Installation**.
- In an integrated scenario with **ARIS Aware**, the dashboarding component ships the PPM widgets **Function Flow**, **Root Cause Miner**, **Process Variants**, **Conformance Check** and **Jump to PPM Client**. The widgets allow the user to extract and analyze data using the existing PPM data source.
- The standard ARIS PPM 10.5 SR4 installation includes the **Conformance Check** widget. All widgets are available and can be used in **MashZone NextGen 10.5 Fix7** and higher. This fix is required for new features introduced in the **Function Flow** widget.
- In MashZone NextGen, the **PPM** data source operator and **PPM context** support single sign-on with ARIS PPM. The **PPM** data source supports single sign-on with ARIS PPM as an alternative to logging in using the technical user. The data retrieved from the **PPM** data source is filtered according to the access privileges of the currently logged-in users.
- If you have added project-specific runtime libraries (**JAR** files) to your ARIS PPM installation, you must update these custom classes so that they conform to the new ARIS PPM version after the upgrade.

If you want to update your project-specific runtime libraries, please contact the Software AG product support.

- To access **PPM Cloud Agent**, you must enter a user/password combination. The combination is saved in various start and stop scripts (User = **Clous**, password = **g3h31m**). From ARIS PPM 10.4, you can change the user and password for PPM Cloud Agent during the PPM installation. For more information on securing your ARIS PPM installation, see the document **PPM Operation Guide**.
- In addition to the familiar **PPM help topics** of the online help, PDF documents and the **PPM Compendium** are provided via a Web service. Start the **ppm_web** component to correctly display the help and the documents.
- With this version, the **ARIS Patch Setup** tool is used to install or uninstall fixes that are available in the **ARIS Download Center**. The ARIS PPM patch reads the ARIS PPM installation path from the registry. For more details on how to use the ARIS Patch Setup, please refer to the **PPM Installation** document.
- The **ARIS PPM Setup** tool can also be used to install or uninstall **ARIS PPM Analysis GUI**. The **setup.exe** installation tool for **ARIS PPM Analysis GUI** is part of the ARIS Client Setup and located in the **setup\ARIS** folder of the ARIS installer media. For more details on how to use the ARIS PPM Setup, please refer to the **PPM Installation** document.

Upgrade

PPM 10.5. SR4 provides two different upgrade scenarios:

- Over-installation scenario to upgrade former **PPM 10.5** versions to **PPM 10.5.4**.
The upgrade process contains an automatic migration of ARIS PPM clients and configuration settings. Existing data still needs to be migrated separately using the **PPM converter** tool.
- Side-by-side installation scenario to upgrade older ARIS PPM versions **9.x,...,10.4** to **PPM 10.5.4**
This procedure is the same as in former ARIS PPM versions. The new ARIS PPM version is installed side-by-side to a different installation folder than its predecessor versions. There is no migration tool enabling you to upgrade directly but CTK supports a semi-automated migration for ARIS PPM clients and configuration. For more details on how to migrate data and configurations, please refer the migration guide **PPM Migration**.

Analysis

- If the ARIS PPM client and server are located in different time zones, the server time is valid for all queries.
- If you use the ARIS PPM export functionality, for example, in combination with Microsoft® Excel, the CSV files use **ISO-8859-1** encoding by default. If you must change the encoding, specify the corresponding **UTF-8** encoding instead of the default **ISO encoding** in the client-specific files **csv.xsl** and **csv_formatted.xsl**. These files are located in the following directory of each client:

<PPM installation directory>\ppm\server\bin\work\data_ppm \config\<client name>\report\xsl\.

- If you jump from a **Data Analytics** analysis realm to the process instance list, you must ensure that the filters set do not exceed a certain number of dimension values. Currently, this value is 10,000 entries. If this number is exceeded, the jump to the process instance list is automatically aborted.

Configuration

- We recommend the Firefox or Chrome browser for the usage of **Process Mining configurator**. From version 10.4 onwards Process Mining configurator enables you to easily create and import an ARIS PPM customizing based on a CSV file by using a Web interface without directly accessing the ARIS PPM server. CTK provides you with the **process_mining_configurator template** that you need to enable Process Mining configurator.
- In planned-value definitions, the use of n-level dimensions as filters is limited to nine levels.
- Process types can be configured only as two-level dimensions.
- Cardinality measures can be defined only at the most detailed or roughest level for n-level dimensions.

Administration

- All ARIS PPM components are managed using PPM Cloud Controller (ACC). Please note that PPM Cloud Agent must be started to use ACC.
- The RMI and Corba registries are managed using the **ppm_core** component.
- The Web application server, the Web server for Query API, and the applet are managed using the **ppm_web** component.
- ARIS PPM clients consist of two components: the ARIS PPM client server (prefix **_cs**) and the ARIS PPM analysis server (prefix **_as**).
- The new name of Cloud Agent runnables is as follows (for example ppm_web):
20220326.101559_ppm-web-run-prod-10.5.4.0-runnable.zip.
- The basic user management functions (such as creating, deleting, and editing user data) are no longer available in the user administration of the ARIS PPM server. From version 9.0 onwards, these functions are provided in User Management. To create new users, you must start the **umcadmin** component in Cloud Agent. You can access this service in the Web browser using the following URL: <https://<hostname>/umc> (default). Specific ARIS PPM access privileges and function privileges are still managed and stored in ARIS PPM. Users registered in the User Management component must have the **PPM user** privilege to be able to use ARIS PPM.
- The User Management provides you with the system user **system** in combination with the password **manager**. If you log in with this user and password, you can create and edit new

ARIS PPM users. As of ARIS PPM version 9.6, there is a new additional administration user with the username **administrator** and the password **manage**.

- The signer certificate will expire on 2022-10-21.
- You can enable the RMI SSL encryption using ACC. For further information, refer to the document **PPM Operations Guide**.

Demo Database

- After you have installed the product, the related demo databases are available in the directory **<PPM installation directory>\ppm\server\bin\work\data_ppm\custom\ <client>**.
- The demo data of the process instance ranges from 2014 to 2017.
- The **Function Flow** widget for MashZone NextGen is a part of the demo database. The demo database also includes the **Order processing** demo dashboard. A corresponding description is also available. In addition, the widgets **Process Variants**, **Root Cause Miner**, and **Jump to PPM client** are delivered independently as a part of ARIS PPM.

Display SAP Transaction

- Due to increased security restrictions in the Java Runtime Environment (version 1.7.0_45 and higher), switching from an ARIS PPM process instance list to the SAP transaction module by using a browser (Java Applet or Java Web Start) to access the ARIS PPM user interface is no longer supported. You can use the ARIS PPM Analysis GUI instead.
- To switch from the process instance list view in ARIS PPM to the transaction module in SAP using the ARIS PPM Analysis GUI, you must copy the unsigned JCO driver package to **<PPM installation directory>/ppm/server/bin/work/data_ppm/driver** to be able to connect to the correct context in SAP. The ARIS PPM applet is no longer supported for this procedure.
- If you want to call an SAP transaction in ARIS PPM from a process instance list, you must import a support package in line with SAP OSS note **1258724**.

7 Changes in version 10.5.4

7.1 Resolved issues in current version

Security Issues

ARIS PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

7.2 Documentation changes

- PPM Compendium in PPM 10.5.4
- PPM Help topics in PPM 10.5.4
- PPM Embedded Help in PPM 10.5.4
- PPM Migration for former versions PPM 9.x, 10.0 to 10.5.4
- PPM System Architecture in PPM 10.5.4
- PPM Operation Guide in PPM 10.5.4
- PPM Installation in PPM 10.5.4
- PPM Database Systems in PPM 10.5.4
- PPM Advanced Analysis PPM 10.5.4
- PPM Data Analytics in PPM 10.5.4
- PPM Data Import in PPM 10.5.4
- PPM Customizing in PPM 10.5.4
- PPM Customizing Toolkit 10.5.4
- PPM Process Extractors in PPM 10.5.4
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.5.4
- PPM Content Package for SAP MM PPM 10.5.4
- PPM Content Package for SAP SD PPM 10.5.4
- PPM Process Events Import PPM 10.5.4
- PPM Cloud Infrastructure PPM 10.5.4
- PPM Widgets for MZNG in PPM 10.5.4
- PPM Process Conformance Checking with ARIS in PPM 10.5.4

7.3 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.5.3	ARIS Process Performance Manager 10.5.4

7.4 Added, removed, deprecated or changed items

Added Item	Description
Java 11 Runtime	ARIS PPM uses the new Java 11 runtime.
Removed Item	Replacement, if any
In this version no items were removed.	
Deprecated Item	Replacement, if any
Data Input component for process instance-independent measures in the analysis UI (PIKIs).	
Process Instances, UI component (located in Administration) used for aggregated paramsets.	
Export component of PPM Report function (configured in the configuration part of the analysis UI).	
SAP systems SAP ERP/ECC < 6.0.	
CPI (Continuous Process Improvement).	
Calculation of internal database statistics ("-genstats" option of "runppmimport").	
Support of region-specific encodings.	The encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database schema (which also must support UTF-8 characters).
ARIS PPM Analysis GUI installation on the client machine.	
Shared fragment mechanism and corresponding configuration elements for shared fragments.	
The usage of shared functions.	

Configuration classes (for example, calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of ARIS PPM.

Report engine < ARIS PPM 9.6. The option to use the older version of the report engine *will phase out*.

7.5 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM Cloud Agent 10.5	The service name and default port are the same (ARIS PPM Cloud Agent 10.5, 17013) The new name of Cloud Agent runnables is composed as shown in the following example: 20220326.091714_ppm-web-run-prod-10.5.4.0-runnable.zip

7.6 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

7.7 Added, removed, deprecated, or changed APIs

In this version, no changes were made to APIs.

8 Former Versions

8.1 Release 10.5.3

8.1.1 Fixes included in 10.5.3

- PPM/MashZone 10.5.3 fix version (10.5.3.3), released 07/07/2020
- PPM/MashZone 10.5.3 fix version (10.5.3.2), released 02/04/2020
- PPM/MashZone 10.5.3 fix version (10.5.3.1), released 11/22/2019

8.1.2 Resolved issues in 10.5.3

ACS-11904 (SI-459207, Fix 3)

Printing log information into a protocol file shows some issues with timestamps in the file. All Extractors are affected.

This issue is fixed in the current version.

ACS-11830 (Fix1) and ACS-11854 (Fix2) Security Issues

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11818 (Fix 1)

The logging service of the cloud controller may not be initialized correctly.

This may lead to problems logging other problems during operations.

This issue is fixed in the current version.

8.1.3 Documentation changes

- PPM Compendium in PPM 10.5.3
- PPM Help topics in PPM 10.5.3
- PPM Embedded Help in PPM 10.5.3
- PPM Migration for former versions PPM 9.x, 10.0 to 10.5.3
- PPM System Architecture in PPM 10.5.3
- PPM Operation Guide in PPM 10.5.3
- PPM Installation in PPM 10.5.3
- PPM Database Systems in PPM 10.5.3

- PPM Advanced Analysis PPM 10.5.3
- PPM Data Analytics in PPM 10.5.3
- PPM Data Import in PPM 10.5.3
- PPM Customizing in PPM 10.5.3
- PPM Customizing Toolkit 10.5.3
- PPM Process Extractors in PPM 10.5.3
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.5.3
- PPM Content Package for SAP MM PPM 10.5.3
- PPM Content Package for SAP SD PPM 10.5.3
- PPM Process Events Import PPM 10.5.3
- PPM Cloud Infrastructure PPM 10.5.3
- PPM Widgets for MZNG in PPM 10.5.3
- PPM Process Conformance Checking with ARIS in PPM 10.5.3

8.1.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.5.2	ARIS Process Performance Manager 10.5.3

8.1.5 Added, removed, deprecated or changed items

Added Item	Description
------------	-------------

In this version, no items were added.

Removed Item	Replacement, if any
--------------	---------------------

Querying sequences via Oracle JDBC driver is no longer supported by Oracle.
This results in a warning message if genDrop is used:
"The underlying database schema does not support the complete deletion of the database contents."

Deprecated Item	Replacement, if any
Data Input component for process instance-independent measures in the analysis UI (PIKIs).	
Process Instances, UI component (located in Administration) used for aggregated paramsets.	
Export component of PPM Report function (configured in the configuration part of the analysis UI).	
SAP systems SAP ERP/ECC < 6.0.	
CPI (Continuous Process Improvement).	
Calculation of internal database statistics ("-genstats" option of "runppmimport").	
Support of region-specific encodings.	The encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database schema (which also has to support UTF-8 characters).
ARIS PPM Analysis GUI installation on the client machine.	
Shared fragment mechanism and corresponding configuration elements for shared fragments.	
The usage of shared functions.	
Configuration classes (for example, calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of ARIS PPM.	
Report engine < ARIS PPM 9.6. The option to use the older version of the report engine <i>will phase out</i> .	

8.1.6 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM Cloud Agent 10.5	The service name and default port are the same (ARIS PPM Cloud Agent 10.5, 17013). The new name of Cloud Agent runnables is composed as in the following example: 20210926.091714_ppm-web-run-prod-10.5.3.0-runnable.zip

8.1.7 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

8.1.8 Added, removed, deprecated, or changed APIs

In this version, no changes were made to APIs.

8.2 Release 10.5.2

8.2.1 Fixes included in 10.5.2

- PPM/MashZone 10.5.2 fix version (10.5.2.3), released 07/07/2020
- PPM/MashZone 10.5.2 fix version (10.5.2.2), released 02/04/2020
- PPM/MashZone 10.5.2 fix version (10.5.2.1), released 12/27/2021

8.2.2 Resolved issues in 10.5.2

ACS-11831 (Fix 1) Security Issues

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11750 (Fix 1)

Migrating clients from version PPM 10.5.0 to new version, the automation during update process fails to reconfigure some paths of log settings in a client. This issue is fixed in the current version.

ACS-11816 (Fix 1)

The logging service of the cloud controller is not initialized correctly after startup. This may lead to problems logging other problems during operations. This issue is fixed in the current version.

8.2.3 Documentation changes

- PPM Compendium in PPM 10.5.2
- PPM Help topics in PPM 10.5.2
- PPM Embedded Help in PPM 10.5.2
- PPM Migration for former versions PPM 9.x, 10.0 to 10.5.2
- PPM System Architecture in PPM 10.5.2
- PPM Operation Guide in PPM 10.5.2
- PPM Installation in PPM 10.5.2
- PPM Database Systems in PPM 10.5.2
- PPM Advanced Analysis PPM 10.5.2
- PPM Data Analytics in PPM 10.5.2
- PPM Data Import in PPM 10.5.2
- PPM Customizing in PPM 10.5.2
- PPM Customizing Toolkit 10.5.2

- PPM Process Extractors in PPM 10.5.2
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.5.2
- PPM Content Package for SAP MM PPM 10.5.2
- PPM Content Package for SAP SD PPM 10.5.2
- PPM Process Events Import PPM 10.5.2
- PPM Cloud Infrastructure PPM 10.5.2
- PPM Widgets for MZNG in PPM 10.5.2
- PPM Process Conformance Checking with ARIS in PPM 10.5.2

8.2.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.5.1	ARIS Process Performance Manager 10.5.2

8.2.5 Added, removed, deprecated or changed items

Added Item	Description
Azure Cloud Platform	With this version the Cloud Platform Azure provided by Microsoft is also supported. PPM instances created in Azure support Windows Server 2019 and Cent OS 8 as Operating Systems.

Removed Item	Replacement, if any
<p>EDA events are no longer available in ARIS PPM.</p> <p>The following features based on EDA events are removed:</p> <ul style="list-style-type: none"> • PPM Process Extractor Universal Messaging-2-PPM • CTK template wm_process, which uses Universal Messaging data sources. 	

For former **wm_process** clients migrated to PPM 10.5.2 the current CTK issues an error messages because EDA data sources are no longer supported.

Deprecated Item	Replacement, if any
Data Input component for process instance-independent measures in the analysis UI (PIKIs).	
Process Instances, UI component (located in Administration) used for aggregated paramsets.	
Export component of PPM Report function (configured in the configuration part of the analysis UI).	
SAP systems SAP ERP/ECC < 6.0.	
CPI (Continuous Process Improvement).	
Calculation of internal database statistics ("-genstats" option of "runppmimport").	
Support of region-specific encodings.	The encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database schema (which also has to support UTF-8 characters).
ARIS PPM Analysis GUI installation on the client machine.	
Shared fragment mechanism and corresponding configuration elements for shared fragments.	
The usage of shared functions.	
Configuration classes (for example, calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of ARIS PPM.	
Report engine < ARIS PPM 9.6. The option to use the older version of the report engine <i>will phase out</i> .	

8.2.6 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM Cloud Agent 10.5	The service name and default port are the same (ARIS PPM Cloud Agent 10.5, 17013). The new name of Cloud Agent runnables is composed as in the following example: 20210226.091714_ppm-web-run-prod-10.5.2.0-runnable.zip

8.2.7 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

8.2.8 Added, removed, deprecated, or changed APIs

In this version, no changes were made to APIs.

8.3 Release 10.5.1

8.3.1 Fixes included in 10.5.1

- PPM/MashZone 10.5.1 fix version (10.5.1.7), released 03/07/2022
- PPM/MashZone 10.5.1 fix version (10.5.1.6), released 01/21/2022
- PPM/MashZone 10.5.1 fix version (10.5.1.5), released 12/27/2021
- PPM/MashZone 10.5.1 fix version (10.5.1.4), released 05/18/2021
- PPM/MashZone 10.5.1 fix version (10.5.1.3), released 07/07/2020
- PPM/MashZone 10.5.1 fix version (10.5.1.2), released 02/04/2020
- PPM/MashZone 10.5.1 fix version (10.5.1.1), released 11/22/2019

8.3.2 Resolved issues in 10.5.1

ACS-11994 (Fix 7)

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11886 (Fix 6)

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11881 (SI-457516, Fix 6)

After download the ARIS PPM Download Client doesn't start when double click on ARISPPMClientDownloader10.5.jar file.

The issue is resolved in the current version.

ACS-11839 (Fix 5)

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11437 (Pivotal ID 5424698,Fix 4)

The runnables ppm_core, ppm_web and the client server and analysis server runnables don't accept a connection from JConsole via JMX.

The issue is resolved in the current version.

ACS-11434 (Pivotal ID 5421653,Fix 4)

In special cases, when the system was rebooted, the start of the ARIS PPM runnables failed with a time out error when checking the existence of a file containing process information.

The issue is resolved in the current version. The number of checks has been increased.

ACS-11463 (Pivotal 1432913, Fix 4)

The function flow widget did not show every node when using non-ASCII characters if two or more node names had the same length.

This issue is resolved in the current version.

ACS-11466 (Fix 4)

Processes are assigned to the "Default Variant" if variants on root level are used in combination with multiple process types using process tree extension.

This issue is resolved in the current version.

ACS-11520 (Fix 4)

Security Update: 3rd party library "jetty-server-9.4.18.v20190429" has known security vulnerabilities. Library updated to the most recent version.

ACS-11548 (Fix 4)

Security Update: 3rd party library "batik-css-1.13" has known security vulnerabilities. Library updated to the most recent version.

ACS-11562 (Fix4)

Configuring a new SQL Server 2019 database connection with a named instance, the instance name is ignored by the configuration dialog and the connection is configured with the default instance name.

This issue is resolved in the current version.

System Requirements (Fix3)

With this new Fix for Process Performance Manager 10.5 SR1, the Cloud Platform Azure provided by Microsoft is also supported. PPM instances created in Azure support Windows Server 2019 and Cent OS 8 as Operating Systems.

Documentation (Fix3)

A new set of Technical documentation was released due to the certification of Microsoft Azure. Affected documents are:

PPM Operation Guide (English version only)

PPM Cloud Infrastructure (only available in English)

ACS-11369 (Fix3)

Update code signing certificate

Jar files have been signed with a new certificate

Valid From: 18.05.2020 02:00:00 MESZ

Valid Until: 20.05.2022 14:00:00 MESZ

ACS-11285 (Pivotal ID 5406668,Fix 2)

In special cases, if a big number of different filters on text dimensions is used in queries, there was a performance issue when using dashboards.

The issue is resolved in the current version.

ACS-11323 (Pivotal ID 5413079,Fix 2)

If calculation class "ZNumberOperation_sap2ppm" was used with a table field which did contain an empty value, an error occurred during extraction process.

The issue is resolved in the current version. Empty values will be ignored.

ACS-11302 (Fix 1)

Statistics output:

If number of visited lines of a query with dimension filter was zero, this resulted in a wrong statistic output (question mark in "Selectivity: Average" of dimension statistics). The issue is resolved in the current version.

Documentation (Fix 1)

With this new fix the technical documentation (like Installation Guide, Operations Guide etc.) is also available in German and Portuguese language.

Online Help/Embedded Help (Fix 1)

With this new fix the Online Help and Embedded Help are also available in German, Portuguese and Japanese language.

ACS-11262 (Pivotal ID 5403639)

Filtering on multilevel dimensions

When multi-level dimensions were filtered in CTK, a problem with the filtered view occurred after the editing of dimension names.

ACS-11194 (Pivotal ID 5399724)

Factorytimespan changes

Changing the 'factorytimespan' parameter to a normal time in CTK was not saved and updated properly.

ACS-11015 (Pivotal ID 5393807)

EPC view issue

In the PPM EPC view the end time was calculated for single process instances but not displayed properly.

ACS-10968 (Pivotal ID 5392241)

User defined steps issue

During the definition of a float dimension with calculated attribute of type time span an error occurred for user-defined steps.

ACS-10947 (Pivotal ID 5378356)

In the Conformance check an error occurred during the PPM import in case of mismatching start nodes and connectors of a nonconforming process instance in a reference model.

ACS-10881 (Pivotal ID 5386052)

CTK Automation

If an automation has been run and one of the related batch files of the automation created certain nonprintable characters (e.g. a form feed character) in its console output, in some cases the automation definitions were no longer accessible in CTK.

8.3.3 Documentation changes

- PPM Compendium in PPM 10.5.1
- PPM Help topics in PPM 10.5.1
- PPM Embedded Help in PPM 10.5.1
- PPM Migration for former versions PPM 9.x, 10.0 to 10.5.1
- PPM System Architecture in PPM 10.5.1

- PPM Operation Guide in PPM 10.5.1
- PPM Installation in PPM 10.5.1
- PPM Database Systems in PPM 10.5.1
- PPM Advanced Analysis PPM 10.5.1
- PPM Data Analytics in PPM 10.5.1
- PPM Data Import in PPM 10.5.1
- PPM Customizing in PPM 10.5.1
- PPM Customizing Toolkit 10.5.1
- PPM Process Extractors in PPM 10.5.1
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.5.1
- PPM Content Package for SAP MM PPM 10.5.1
- PPM Content Package for SAP SD PPM 10.5.1
- PPM Process Events Import PPM 10.5.1
- PPM Cloud Infrastructure PPM 10.5.1
- PPM Widgets for MZNG in PPM 10.5.1
- PPM Process Conformance Checking with ARIS in PPM 10.5.1
- PPM Widgets for MZNG in PPM 10.5
- PPM Process Conformance Checking with ARIS in PPM 10.5

8.3.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.5	ARIS Process Performance Manager 10.5.1

8.3.5 Added, removed, deprecated, or changed items

Added Item	Description
Database platform SQL Server 2019	Usage of database SQL Server 19 is possible now.
Conformance Check Widget	Widget to support the Conformance Check functionality with ARIS Aware 12 onwards.

Deprecated Item	Replacement, if any
<p>Data Input component for process instance-independent measures in the analysis UI (PIKIs).</p>	
<p>Process Instances, UI component (located in Administration) used for aggregated paramsets</p>	
<p>Export component of PPM Report function (configured in the configuration part of the analysis UI).</p>	
<p>SAP systems SAP ERP/ECC < 6.0.</p>	
<p>CPI (Continuous Process Improvement).</p>	
<p>Calculation of internal database statistics ("-genstats" option of "runppmimport").</p>	
<p>Support of region-specific encodings.</p>	<p>The encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database schema (which also has to support UTF-8 characters).</p>
<p>PPM Analysis GUI installation on the client machine.</p>	
<p>EDA events are marked as deprecated as well as the following features that are based on EDA events:</p>	
<ul style="list-style-type: none"> - PPM Process Extractor Universal Messaging-2-PPM 	
<ul style="list-style-type: none"> - CTK template WM_process, which uses Universal Messaging data sources. 	
<p>Shared fragment mechanism and corresponding configuration elements for shared fragments.</p>	
<p>The usage of shared functions.</p>	

Configuration classes (for example, calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of PPM.

Report engine < PPM 9.6. The option to use the older version of the report engine *will phase out*.

Changed Item	Description
Function Flow Widget	The Function Flow Widget is now able to display processes with a single function.

Create queries with limited number of steps

The number of steps in the result set of a query is limited by the property "RETRIEVER_MAX_ITERATION_STEPS" in the file AnalysisServer_settings.properties.

If the Analysis-Server reaches this limit during result set generation, it will abort the query with a message, saying that the configured number of steps has been reached.

When this message is being displayed to the user in the chart, table or gantt view, the user is able to ignore this message and force the request of this query by pressing a "Query" button.

Until PPM 10.5.1 this 2nd request enabled the user to request the query with an unlimited amount of steps which could lead to a massive use of server resources on both the client server and the analysis-Server.

Starting with PPM 10.5.1 this 2nd query will be limited to 50,000 steps.

Already existing queries with unlimited number of steps will be limited to 1,000,000 steps.

These values can be configured in the file Keyindicator_settings.properties

(RETRIEVER_MAX_ITERATION_STEPS_EXTENDED and RETRIEVER_MAX_ITERATION_STEPS_LIMIT).

These changes apply to queries executed by the UI, requests from MashZone (feeds and context), reports, exports and background favorite calculations.

Report fonts directory

The property "reports.itext.fonts_directory" pointing to "c:/windows/fonts/" in the file Report_settings.property is now obsolete for reports, created with the new report engine (see parameter "report.use_new_engine" in the file Report_settings.properties).

The new report engine uses fonts from the system's font folder and additionally from "<PPM Install location>\ppm\server\jre\lib\fonts".

Additional fonts must be added to this location, if not already present in the system's font folder.

8.3.6 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM Cloud Agent 10.5	The service name and default port are the same (ARIS PPM Cloud Agent 10.5, 17013). The new name of Cloud Agent runnables is composed as in the following example: 20200903.091714_ppm-web-run-prod-10.5.1.0-runnable.zip

8.3.7 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

8.3.8 Added, removed, deprecated, or changed APIs

In this version, no changes were made to APIs.

8.4 Release 10.5

8.4.1 Fixes included in 10.5

- PPM/MashZone 10.5.0 fix version (10.5.0.5), released 03/07/2022
- PPM/MashZone 10.5.0 fix version (10.5.0.4), released 12/27/2021
- PPM/MashZone 10.5.0 fix version (10.5.0.3), released 08/13/2020
- PPM/MashZone 10.5.0 fix version (10.5.0.2), released 02/04/2020
- PPM/MashZone 10.5.0 fix version (10.5.0.1), released 11/22/2019

8.4.2 Resolved issues in 10.5

ACS-11984 (Fix 5)

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries.

ACS-11840 (Fix 4)

PPM uses some java-based 3rd party libraries. Detected security vulnerabilities within these libraries were fixed by updating or replacing these libraries

ACS-11374 (Fix3)

Update code signing certificate

Jar files have been signed with a new certificate

Valid From: 18.05.2020 02:00:00 MESZ

Valid Until: 20.05.2022 14:00:00 MESZ

ACS-11133 (Fix3)

PPM Favorites in MashZone NG

When updating a favorite in ARIS PPM and requesting the data again from a MashZone NextGen Dashboard, the Dashboard still shows the old information and is not updated accordingly. This issue is resolved in the current version.

ACS-11101 (fix 2)

The configured encoding was ignored when the CSV input file was read by a CSV-2-PPM Process Extractor.

ACS-11085 (fix 2)

If several operators in a calculation rule Calculated Attributes in CTK were replaced by one using the pop-up menu, the application could be blocked and was no longer editable.

ACS-11059 (fix 2)

A query sent from PPM Analysis Server to PPM Client Server in an inappropriate format degraded the query performance.

ACS-11006 (fix 2)

During the installation of ARIS PPM Fix 1 the configuration settings for the ARIS PPM download client were overwritten by a default file.

ACS-10961 (fix 2)

After migration from PPM 10.3 or a former version the Java system properties for remote connection via JMX of a PPM client got lost.

ACS-10960 (fix 2)

When a new JDBC data source was created, the prefix for the auto-mapping (default "AT_") was not automatically written to the corresponding configuration file.

ACS-10923 (fix 1)

The action `setSelection` of the Function Flow widget could cause the following behavior: A wrong node could be selected in the function flow, if the name of a node occurred as a part of another node's name.

ACS-10919 (fix 1)

An Error that occurred during the check of the license expiration date was fixed.

ACS-10915 (Pivotal ID 5386052, fix 1)

During an automation run in CTK a problem could occur caused by certain non-printable characters.

Due this problem the automation definitions were no longer accessible.

ACS-10906 (Pivotal ID 5387920, Fix 1)

In the Conformance check, an error occurred during the PPM import if mismatching start nodes and connectors of a non-conforming process instance occurred in a reference model.

8.4.3 Documentation changes

- PPM Compendium in PPM 10.5
- PPM Help topics in PPM 10.5
- PPM Embedded Help in PPM 10.5
- PPM Migration for former versions PPM 9.x, 10.0 to 10.5
- PPM System Architecture in PPM 10.5
- PPM Operation Guide in PPM 10.5
- PPM Installation in PPM 10.5
- PPM Database Systems in PPM 10.5
- PPM Advanced Analysis PPM 10.5
- PPM Data Analytics in PPM 10.5
- PPM Data Import in PPM 10.5
- PPM Customizing in PPM 10.5
- PPM Customizing Toolkit 10.5
- PPM Process Extractors in PPM 10.5
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.5
- PPM Content Package for SAP MM PPM 10.5
- PPM Content Package for SAP SD PPM 10.5
- PPM Process Events Import PPM 10.5
- PPM Cloud Infrastructure PPM 10.5

- PPM Widgets for MZNG in PPM 10.5
- PPM Process Conformance Checking with ARIS in PPM 10.5

8.4.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.4	ARIS Process Performance Manager 10.5

8.4.5 Added, removed, deprecated or changed items

Added Item	Description
Database platform Oracle 19	Usage of database Oracle 19 is possible now.

Deprecated Item	Replacement, if any
Data Input component for process instance-independent measures in the analysis UI (PIKIs).	
Process Instances, UI component (located in Administration) used for aggregated paramsets	
Export component of PPM Report function (configured in the configuration part of the analysis UI).	
SAP systems SAP ERP/ECC < 6.0.	
CPI (Continuous Process Improvement).	
Calculation of internal database statistics ("-genstats" option of "runppmimport").	
Support of region-specific encodings.	The encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database scheme (which also has to support UTF-8 characters).
PPM Analysis GUI installation on the client machine.	

EDA events are marked as deprecated as well as the following features that are based on EDA events:

- PPM Process Extractor Universal Messaging-2-PPM
- CTK template **WM_process**, which uses Universal Messaging data sources.

Shared fragment mechanism and corresponding configuration elements for shared fragments.

The usage of shared functions.

Configuration classes (for example, calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of PPM.

Report engine < PPM 9.6. The option to use the older version of the report engine *will phase out*.

Changed Item	Description
Analysis Server indices	Analysis Server indices as configured in AnalysisServer_settings.properties file are added/removed automatically during process data import and analysis server restart (before version 10.5 a reinitialization of the Analysis Server was needed). Also, indices for dimensions which are assigned to a limited set of process types consume less RAM. Changes to core configurations (such as keyindicator or processtree) make it necessary to run a (potentially empty) PPM import to make indices usable again.
Function right Conformance configuration is renamed into ARIS data transfer and extended.	To import models into ARIS, the user needs the function right ARIS data transfer . This function right was previously named Conformance configuration and also enables users to configure reference models for the conformance check in PPM.

8.4.6 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM 10.5	<p>The service was renamed from ARIS PPM/ MashZone Cloud Agent 10.4. New default port: 17013.</p> <p>The new name of Cloud Agent runnables is composed as in the following example: 20190928.091714_ppm-web-run-prod-10.5.0.0-runnable.zip</p>

8.4.7 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

8.4.8 Added, removed, deprecated, or changed APIs

In this version, no changes were made to APIs.

8.5 Release 10.3

8.5.1 Fixes included in 10.3

- PPM/MashZone 10.3.0 fix version (10.3.0.8), released 04/30/2020
- PPM/MashZone 10.3.0 fix version (10.3.0.7), released 10/17/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.6), released 08/06/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.5), released 07/12/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.4), released 05/31/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.3), released 04/04/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.2), released 02/12/2019
- PPM/MashZone 10.3.0 fix version (10.3.0.1), released 12/17/2018

8.5.2 Resolved issues in 10.3

ACS-11064 (Fix 8)

If a query result transferred from PPM Analysis Server to PPM Client Server exceeds the size of 1GB the performance is reducing.

The issue is resolved in the current version.

ACS-10974 (Fix 8)

If the name of the process type contains a '/' or '\' character, it's not possible to create a Conformance Check configuration for ARIS PPM process types.

The issue is resolved in the current version.

ACS-11015 (Fix8)

Selecting the option "Display function measures" in the EPC display options, the fill color of a function nodes may become dark-green and the label is rendered in white. Optional attributes around the node are also rendered in white and are not visible on the white background.

The issue is resolved in the current version.

ACS-10936 (Pivotal ID 5387920, fix 7)

In the Conformance check, an error occurred during the PPM import if mismatching start nodes and connectors of a non-conforming process instance occurred in a reference model.

ACS-10920 (fix 7)

An Error that occurred during the check of the license expiration date was fixed.

ACS-10913 (Pivotal ID 5386052, fix 7)

During an automation run in CTK a problem could occur caused by certain non-printable characters.

Due to this problem, the automation definitions were no longer accessible.

ACS-10886 (fix 7)

Filtering indexed time dimensions.

Defining a time dimension index with the refinement **BY_DAY** and running a query for this dimension based on a filter triggering the use of the index had the effect that when the earliest time stamp of the filter referred to a year for which no data was available, the filter was applied to the first year that contained data. Consequently, wrong query results were returned.

ACS-10599 (fix 6)

When measures were replaced in some charts, the wrong name was displayed on the axis.

ACS-10473 (Pivotal ID 1380525, fix 6)

In certain cases on certain operating systems, a custom cursor was not loaded by ARIS PPM while the CTK GUI was started.

Documentation (fix 6)

With the current fix version the complete ARIS PPM Technical Documentation is available in Portuguese.

ACS-10486 (fix 5)

With the current fix version Portuguese language is available also for ARIS PPM CTK.

ACS-10473 (Pivotal ID 5369759, fix 4)

In certain cases and operating systems a custom cursor might not be loaded by ARIS PPM while starting the CTK GUI

ACS-10357 (Pivotal ID 5365108 fix 4)

In the Report Editor, graphics marked as "behind the text" were no longer displayed. However, they were displayed properly in the executed report.

ACS-10380 (fix 4)

With the current version ARIS PPM also supports Portuguese. This includes the user interface and command line tools.

ACS-10341 (Pivotal ID 5364596, fix 3)

Discrete values were no longer supported in the filter panel. It was no longer possible to evaluate wildcard filters for descriptions of single-level dimensions without using an asterisk or a question mark (wildcard characters).

ACS-10329 (fix 3)

Starting the ARIS Cloud Controller in PPM used to result in an "Access denied" error message indicating that a log file could not be created under C:\ProgramData\ARIS10\acc\log. The issue is resolved in the current version. The log folder for ARIS Cloud Controller was changed to <installdir>\ppm\server\acc\log.

ACS-10319 (Pivotal ID 5362883, fix 3)

In the CTK Data module, an error used to occur during the change of the absolute data source directory path.

ACS-9873 (Pivotal ID 5356604, fix 2) and ACS-9853 (Pivotal ID 5355380, fix 2)

The start time for the next possible execution of a PPM job automation was not correctly recalculated after the automation was deactivated and reactivated in CTK.

ACS-9797 (Pivotal ID 5353660, fix 2)

Several Eclipse Jetty security vulnerabilities (CVE-2017-7656, CVE-2017-7657, CVE-2018-12536, CVE-2018-12538) are resolved in the current fix version.

ACS-9797 (Pivotal ID 5351473, fix 1)

Numeric measures used as an iteration with a logarithmic or linear step width were not displayed correctly in a report output that was saved in the XLS or XLSX file format.

ACS-9709 (Pivotal ID 5341473, fix 1)

When a report that contained columns such as "KPI added as a dimension" was run, these columns were not exported correctly to the XLS or XLSX format.

ACS-9709 (Pivotal ID 5347374, fix 1)

When a report that contained columns such as "KPI added as a dimension" was run, these columns were not exported correctly to the XLS or XLSX format.

ACS-9734 (fix 1)

In very rare cases it was possible to store an inconsistent user-defined measure configuration in a database. This used to result in an exception during the configuration export.

ACS-9771(Pivotal ID 5344842, fix 1)

When there was a difference between the user login name and the User Principal Name (UPN), the Kerberos login did not work properly.

YF-5615 (fix 1)

The client-server communication used by the **Root Cause Miner** widget has been optimized regarding the time-out process running between the widget and PPM loadbalancer.

ACS-9366 (Pivotal ID 5335485)

When the properties of invisible measures were set in the corresponding dialog, a wrong measure used to be preselected.

ACS-9351 (Pivotal ID 5335273)

The **EPC** view in the process instance list containing cardinality measures did not work. Using this view used to lead to an error message.

ACS-9215 (Pivotal ID 5326556)

There used to be an error displaying dimensions in diagrams. Long dimensions were not properly displayed.

ACS-9206 (Pivotal ID 5326464)

During the alarm value deviation analysis, the display of changed favorite data was not properly refreshed. As a result, the alert values displayed were incorrect.

ACS-9194 (Pivotal ID 1328475)

The data types **LONG**, **VAR**, **CHAR**, and **BIT** were not properly extracted. The **BIT** data type is now supported for extraction.

ACS-8670 (Pivotal ID 5307524)

The process of displaying a very long process instance list used to be canceled. As a result, an error message was issued by the subserver. However, this message was not shown on the client side.

8.5.3 Documentation changes

- PPM Compendium in PPM 10.3
- PPM Help topics in PPM 10.3
- PPM Embedded Help in PPM 10.3
- PPM Migration for former versions PPM 9.x, 10.0 to 10.3

- PPM System Architecture in PPM 10.3
- PPM Operation Guide in PPM 10.3
- PPM Installation in PPM 10.3
- ARIS PPM Query Interface in PPM 10.3
- PPM Database Systems in PPM 10.3
- PPM Advanced Analysis PPM 10.3
- PPM Process Analytics Quick Start Guide in PPM 10.3
- PPM Data Analytics in PPM 10.3
- PPM Data Import in PPM 10.3
- PPM Customizing in PPM 10.3
- PPM Customizing Toolkit 10.3
- PPM Process Extractors in PPM 10.3
- PPM Process Extractor SAP-2-PPM - SAP Administration in PPM 10.3
- PPM Content Package for SAP MM PPM 10.3
- PPM Content Package for SAP SD PPM 10.3
- PPM Process Events Import PPM 10.3
- PPM Cloud Infrastructure PPM 10.3
- PPM Widgets for MZNG in PPM 10.3
- ARIS Interface for PPM 10.3

8.5.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.2	ARIS Process Performance Manager 10.3

8.5.5 Added, removed, deprecated or changed items

Added Item	Description
Variants in scaled systems.	The usage of variants for process instances is now supported in scaled systems (master/subserver scenarios).
BIT datatype for JDBC Extractor.	The JDBC-Extractor supports the BIT datatype for SQL Server now.
MashZone NextGen Root Cause Miner Widget.	This new widget allows to identify the influencing factors to the processes which are to be analyzed.

Usage of database SQL Server 2017 (+ SQL Server 2017 Unicode) is possible now.

Removed Item	Replacement - if any
<p>Query API (API_* context). The formerly deprecated external query-API (represented by <base-url>/ppm/API_<client> has been removed from the product.</p> <p>It is no longer possible to query data via the API_* context</p>	
<p>Dimensions of the data type Timerange are no longer supported in Query API / MZNG Context. These dimensions were removed for queries and cannot be used in existing contexts. Timerange dimensions are no longer available in new contexts.</p>	
<p>Java Applet / Java Webstart.</p>	<p>ARIS PPM Download Client.</p>
<p>Management View Administration has been removed.</p>	
<p>Property RMIOjectsBindAddress is removed from "RMIServer_settings.properties."</p>	
<p>The already deprecated Minitab integration and also SIX Sigma Integration have been removed from PPM.</p>	
<p>WM_BPMS Template is removed with this version.</p>	
<p>ADABAS support in JDBC adapter. In CTK a JDBC data source contains no longer the database type ADABAS.</p>	
<p>Closed loop analytics integration with WM Optimize. This includes:</p> <ul style="list-style-type: none"> - Being a jump target of Optimize / Interpret queries of Optimize in PPM provided within the Optimize request - Jump from PPM to Optimize - Functionality to create a PPM configuration from WM Optimize metadata. 	

It is no longer possible to select SQL Server 2014 or SQL Server 2014 (Unicode) as a database in CTK Client setup.

Command Central Support.

Will be replaced by the ARIS Tenant Management tool in a future version.

Deprecated Item

Replacement – if any

Data input component for process instance-independent measures in the analysis UI (PIKIs).

Process Instances, UI component (located in Administration) used for aggregated paramsets.

Export component of PPM Report function (configured in the configuration part of the analysis UI).

SAP Systems SAP ERP/ECC < 6.0.

CPI (Continuous Process Improvement).

Calculation of internal database statistics ("-genstats" option of "runppmimport").

Support of region specific encodings.

The Encoding (that can be selected during client creation in CTK) will be limited to only support UTF-8 for future versions. This also includes the encoding of the underlying database scheme (which also has to support UTF-8 characters).

PPM Analysis GUI installation on the client machine.

EDA Events are deprecated and everything that is based on EDA events. These are:

- PPM Process Extractor Universal Messaging-2-PPM
- CTK template "WM_process", which uses Universal Messaging data sources.

Shared fragment mechanism and its according configuration elements are phased out for 10.3.

The usage of shared functions will be phased out.

Configuration classes (e.g. calculation classes, merge algorithms, keyrules, transformation rules) that do not refer to classes delivered with the standard product installation of PPM.

Report engine < PPM 9.6. The option to use the older version of the report engine is phased out

8.5.6 Added, removed, deprecated, or changed Built-In Services

Changed Service	Description
ARIS PPM/ MashZone Cloud Agent 10.3	<p>The service was renamed from Software AG PPM/MashZone Cloud Agent 10.2. New default port: 17011.</p> <p>The new name of Cloud Agent runnables is composed as in the following example: 20180828.091714_ppm-web-run-prod-10.3.0.0-runnable.zip</p>

8.5.7 Added, removed, deprecated, or changed parameters

In this version, no changes were made to parameters.

8.5.8 Added, removed, deprecated, or changed APIs

Removed API	Replacement, if any
<p>Query API (API_* context). The formerly deprecated external query-API (represented by <base-url>/ppm/API_<client> has been removed from the product.</p> <p>It is no longer possible to query data via the API_* context</p>	

8.6 Release 10.1

8.6.1 Fixes included in 10.1

- PPM/MashZone 10.1.0 fix version (10.1.0.10), released 07/02/2020
- PPM/MashZone 10.1.0 fix version (10.1.0.9), released 10/12/2019
- PPM/MashZone 10.1.0 fix version (10.1.0.8), released 12/11/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.7), released 11/12/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.6), released 09/18/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.5) released 07/12/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.4), released 04/02/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.3), released 03/05/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.2), released 01/09/2018
- PPM/MashZone 10.1.0 fix version (10.1.0.1), released 11/14/2017

8.6.2 Resolved issues in 10.1

ACS-11370 (Fix10)

Update code signing certificate. Jar files have been signed with a new certificate

Valid From: 18.05.2020 02:00:00 MESZ

Valid Until: 20.05.2022 14:00:00 MESZ

ACS-10887 (fix 9)

Filtering indexed time dimensions

Defining a time dimension index with the refinement **BY_DAY** and running a query for this dimension based on a filter triggering the use of the index had the effect that when the earliest time stamp of the filter referred to a year for which no data was available, the filter was applied to the first year that contained data. Consequently, wrong query results were returned.

ACS-9744 (fix 8)

Trend lines in charts were not configured properly.

ACS-9660 (Pivotal ID 5344842, fix 8)

When there was a difference between the user login name and the User Principal Name (UPN), the Kerberos login did not work properly.

ACS-9695 (Pivotal ID 5347374, fix 7)

Numeric measures used as an iteration with a user-defined step width were not displayed correctly when a report was output to the **XLS** or **XLXS** format.

ACS-9570 (fix 6)

JAR files have been signed with a new certificate. Valid From: 24.05.2018, 02:00:00 MESZ.
Valid To: 24.05.2020, 01:59:59 MESZ.

ACS-9359 (fix 6)

The **EPC** view of a process instance list with a cardinality measure (based on a function dim) was empty.

ACS-9169 (Pivotal ID 5324830, fix 5)

The key EMAIL defined for the parameter **ALARMVALUE_BEHAVIOUR** was ignored.

ACS-9136 (fix 5)

Changing the **Include enumeration of superior section** option using the **Change properties** dialog was ignored.

ACS-9173 (fix 5)

Under certain circumstances, it happened that statistics were missing in the log files or were not calculated correctly.

ACS-9094 (fix 4)

The temporary folder for HTML-Reports was not deleted after a report has been created.

ACS-9077 (fix 4)

Under certain circumstances, the **Show more details** and **Show less details** buttons moved the slider but the visible nodes and edges were not affected.

ACS-9074 (fix 4)

Hidden nodes and edges no longer show a tooltip when you hover the mouse over the location where they were previously shown.

ACS-9072 (fix 4)

When moving the slider between the first and the second edge value, the **Show more details** button was not enabled to switch back to the initial state.

ACS-9063 (fix 4)

In some circumstances, isolated nodes were shown in the Function Flow widget when filtering with the slider. In these cases, the node labels could be dragged outside of the nodes. This issue is resolved and isolated nodes are always hidden.

ACS-9061 (fix 4)

It is no longer possible to select hidden nodes and edges by clicking on the location where they were previously shown.

ACS-9054, ACS-9056 (fix 4)

The setSelection action in the Function Flow widget is now triggered every time when a node or edge is deselected.

ACS-9053 (fix 4)

After filtering the Function Flow widget with the slider, reset layout showed nodes and edges at their initial position every second time when reset layout was used.

ACS-9052 (fix 4)

If a favorite was inserted into a section in the report designer that contains an enumeration, it could happen that the favorite was displayed as incompatible to the enumeration although it was compatible.

ACS-9049 (fix 4)

Since MashZone NextGen 10.1.0.4 node labels of Function Flow widgets were no longer visible.

ACS-9015 (fix 4)

When PPM has been started with the language setting Japanese the filter dialogue doesn't work correctly with quarter filters.

ACS-8984 (fix 3)

German documentation is not shipped with 10.1 Fix 2.

German documentation was not shipped with GA and any older Fix. With Fix 3 the German product documentation will be installed and can be accessed via client.

ACS-8878 (fix 3)

Runinitdb fails for client configured with JA language.

Check of names of error instances in process tree, configured in "Database_settings.properties", did not work in all system environments with multibyte characters.

ACS-8789 (Pivotal ID 5312503, Fix3)

Temp folder will not be deleted after a too big request.

During report generation the report engine writes some files temporarily into the defined Temp folder of the PPM installation. Those files are defined Temp folder of the PPM installation. Those files are not deleted after the report was generated. The temporary files pile up on the hard drive and may lead to other issues in PPM because the disk space runs out. Workaround: delete the PPM Temp folder regularly.

ACS-8891 (Pivotal ID 5313697, Fix3)

Wrong enumeration of dimension values during report generation.

If two dimensions with identical dimension values should be displayed in a cross table report,

an index was added to the identical dimension values.

ACS-8819 (Pivotal ID 5315395, Fix 3)

Error Message importing favorites.

When importing favorites via the UI and some favorites have changed during the import, an error message (ClassCastException) occurred during the transfer of the import result.

ACS-8805 (Fix 3)

NPE in SQL Server DB layer during calculation of favorites.

Using an old JDBC driver of MS SQL Server (version 4.x) leads to a NPE using the most recent SQL Server version 2016.

This issue can be avoided by using the most recent MS SQL Server jdbc driver version 6.x.

ACS-8720 (Fix 3)

Runppmconverter: infinite loop when conversion is not successful.

In case the converter run could not be completed the DB Version table is not updated correctly. This could lead to an infinite loop starting the migration process again.

ACS-8890 (Fix 3)

EPC visualization of Function flow changed due to new ARIS Infrastructure.

Due to a change of the graph layout component in the ARIS Infrastructure the structure and layout of a Function flow changed with regard to the positioning of edges and functions in the EPC view.

ACS-8620 (Fix 2)

Wrong character in database_settings.

If a client was created with "French" for configuration-independent items in the process tree, a wrong value was specified in property "ERROR_NODE.STR" in the "Database_settings.properties" file. If a client, created with a previous version, was migrated manually or if a new client with encoding "ISO-8859-1" was created and these clients use "French" for configuration-independent items in the process tree, this could lead to issues with visibility and typification/calculation of error instances. The wrong property value in the "Database_settings.properties" file, used for creation of new clients, is corrected now, i.e. reset to the original value. Additional checks were implemented in PPM Import and start of PPM Server to log an error message. If PPM Import logs, that the Analysis Server doesn't know the process type of the error instance, or if PPM Server logs, that the process type of error instances has changed, please contact our product support, which will support you to correct this. To prevent encoding inconsistencies as described above with new clients, database initialization is no longer possible with incorrect encoded values for error instance process types. If this occurs, you have to correct the values of the properties in the "Database_settings.properties" file.

Important notes: If a client is migrated manually, i.e. if migration is not done with CTK, or if a new client is created based on an existing PPM database, the

values of NOT_TYPIFIED.STR, ERROR_NODE.STR and WRONG_TYPIFIED.STR configured in the "Database_settings.properties" file of the current PPM version have to be replaced by the values of previous version as well.

ACS-8639 (Fix 2)

[Linux] Unable to execute UMC command y-tenantmgmt.sh.

The tenant management tool in the UMC could not be executed on a Linux based system.

ACS-8646 (Fix 2)

Jump to UMC from PPM GUI doesn't work.

ACS-8737 (Pivotal ID 5309856, Fix 2)

Client server startup fails when analysis server startup takes too much time.

ACS-8468 (Fix1)

New Functionality (YF-3518).

JDBC-2-PPM Process Extractor is now able to extract timestamps to the nanosecond. This can be configured for JDBC data source in CTK via additional settings "JDBC Extractor settings" or by setting "precisionofime" to "NANOSECOND" in XML

"<JdbcDataSourceName>_System.xml".

ACS-8500 (Fix1)

MZNG Widget: Sorting in advanced properties is not updated when dropping the relevance column.

The sorting option is not available in the advanced properties menu of the PPM Widgets for MashZone NG after dropping the relevance column into the relevance field.

ACS-8519 (Fix1)

URL for Favorites are not created correctly

If the loadbalancer was configured to use port 80 for http or port 443 for https, the UI action "Use in Dashboard" on favorites created a URL with port "-1" .

ACS-8590 (Fix1)

CTK adapts the memory for analysis server when migrating from PPM 9.6.

The adaption of the memory settings for analysis server is only necessary when migrating an older PPM version to PPM 9.6. But CTK is changing the values all the time, independent from the version and also if they were already adapted by CTK in the last version. It might happen that the memory values can become smaller when they are adapted by CTK.

ACS-8071 (Fix1)

Rollback with the SUM fails.

The reason for this error was a missing change back of the key local.repository.only in

agent.user.cfg after rollback was performed.

ACS-8248 (Fix1)

Fix installation: Error handling in case of deactivated runnables.

In case a runnable in PPM installation is deactivated the installation of a fix failed. Especially if one or more runnables of the ARIS infrastructure were affected. The error message was not helpful to determine the reason for the failure. A new error message was introduced to make the customer aware of the fact, that all runnables need to be enabled before a fix can be applied.

ACS-8450 (Fix1)

"collectlogfiles.bat" changes timestamps of log files in ZIP.

Timestamps of logfiles were changed to the current creation date and time while running the tool collectlogfiles on Windows and Linux.

ACS-8350 (Fix1)

Security Update: the used Tomcat version in PPM was updated to version 8.5.20.

ACS-8354 (Fix1)

Security Update: the used apache-batik library was updated to version 1.9.

ACS-8353 (Fix1)

Security Update: the used springsource-spring-security library was updated to 4.2.2.

ACS-7932 (Fix1)

Security Update: the fasterxml-jackson library was updated to version 2.8.7.

ACS-8459 (Fix1)

MashZone Function Flow Widgets: Misleading error dialog in case of Read Only permission on dashboards.

In this case a widget configuration change might produce a misleading error dialog, where the user is asked to save the dashboards although without permission.

ACS-8537 (Fix1)

Misleading error message during DB-Precondition check.

If a user was trying to run an invalid combination of JDBC-Driver vs. database version while initializing the PPM database a wrong error message was displayed which was misleading and not correct.

ACS-8452 (Fix1)

Incorrect Docking Framework behavior on certain actions.

The visibility and positioning of controls (Settings, Process tree, Filters, Variants, etc.)changed

during analysis without dedicated user interaction under certain conditions.

ACS-8499 (Fix1)

MashZone Function Flow Widgets: Certain tool tips not available.

The following tool tips are not available for the PPM MashZone Function Flow Widget

- assessment in assign data
- disabled relevance slider in config panel
- interactive mode
- scrollbar checkbox in config panel
- wordwrap checkbox in config panel.

ACS-8546 (Fix1)

Fix uninstallation fails with nonzero exit code.

It was not possible to uninstall a fix from a PPM installation.

ACS-8447 (Fix1)

Refresh problem in EPC Resources panel of Process structure discovery exception.

The EPC Resources tab for the process structure discovery function is not properly refreshed if the displayed panels are resized or moved.

ACS-8412 (Fix1)

Closing GUI while execution of a query leads to exception.

During the execution of a long running query an error message occurs in the PPM master server logs when closing the PPM GUI.

The error message was updated accordingly.

ACS-8370 (Pivotal ID 1199809)

Closing GUI while execution of a query leads to exception.

During the execution of a long running query an error message occurs in the PPM master server logs when closing the PPM GUI.

The error message was updated accordingly.

ACS-8211 (Pivotal ID 5290951)

Misleading error message when report execution was aborted.

If a manual report execution is terminated manually a non-corresponding error message appeared in the log file.

ACS-8149 (Pivotal ID 5289379)

Misleading error message regarding interruption of cache calculation.

In master subserver scenario a misleading error message occurs during the favorite calculation. The error message was updated accordingly.

ACS-8019

Different behavior of filter dialog in single server and scaled scenario.

If in master/subserver scenario a filter dialog for a dimension is opened which has more values than configured in FILTER_SHOW_LIST_THRESHOLD (Keyindicatore_settings.parameter), then "Select values" tab is opened in the dialog and an empty list is shown. This is different to the single-server scenario, where in such a case the tab "Define expression" is shown and by "Select values" all dimension values are loaded and shown in the dialog.

ACS-7951 (Pivotal ID5282367)

Initialization of scaled PPM system failed.

The initialization of a scaled system failed under certain conditions if a firewall has been in place between the master and the subservers.

ACS-7919 (Pivotal ID 5278163)

Misleading message for refined steps of 1- and 2-level dimensions.

During the refining of "other values" step for 1- and 2-level dimensions an incorrect error message occurs.

The expected error message was updated accordingly.

8.6.3 Documentation changes

- PPM Compendium in PPM 10.1
- PPM Online Help in PPM 10.1
- PPM Embedded Help in PPM 10.1
- PPM Migration for former versions PPM 9.x, 10.0 to 10.1.
- System Architecture in PPM 10.1
- PPM Operation Guide in PPM 10.1
- PPM Installation in PPM 10.1
- ARIS PPM Query Interface in PPM 10.1
- PPM Database Systems in PPM 10.1
- PPM Data Import in PPM 10.1
- PPM Customizing in PPM 10.1
- PPM Process Extractors in PPM 10.1
- PPM Function Flow Widget for MZNG in PPM 10.1

8.6.4 Terminology changes

Old Term	New Term
ARIS Process Performance Manager 10.0	ARIS Process Performance Manager 10.1

8.6.5 Added, removed, deprecated or changed items

Added Item	Description
Jump from MashZone Next Gen to PPM incl., SSO	It is now possible to jump from MashZone NextGen to PPM including SSO (Single sign-on). A new custom widget is provided for this functionality.
Jump from PPM to MashZone Next Gen incl. SSO	It is now possible to jump from PPM to MashZone NextGen including SSO (Single sign-on). The target URL for MashZone has to be added in the client setup in CTK.
Integration of PPM in ARIS AWARE	With this version PPM can be integrated in ARIS AWARE via MashZone NextGen.
Variant dimension	A new dimension type "variant" has been added to PPM for variants (classification of process instances).
Database platform Microsoft SQL Server 2016	The Database platform Microsoft SQL Server 2016 is supported with this version of ARIS PPM.
New format XLSX for report automation	The XLSX format is available for report automation with this version of ARIS PPM.

Removed Item	Replacement, if any
Process Import component and tool	runxmlimport followed by runppmimport
Database platform Microsoft SQL Server 2008	
Database platform IBM DB2 V9	
HTTPS configuration option removed from SAG Installer panel	To enable it again after installation, the Customer needs to provide its own certificate and activate it using ACC commands (see Operations Guide for details).

Deprecated Item	Replacement, if any
WM_BPMS Template	
Server processes will no longer be bound to specific network adapters	So far the RMI ports of some server processes can be bound to specific network adapters. This had been implemented for a specific use case that became obsolete when we introduced http-based communication between client and server. The functionality is now deprecated and will be removed with a later release, ports will be opened on all network addresses of the server machine.
Data Input component (PIKIs) data input component for process instance-independent measures in the analysis UI	
Process Instances, UI component (located in Administration) used for aggregated paramsets.	
Export component (configured in the configuration part of the analysis UI)	
SAP Systems SAP ERP/ECC < 6.0	
CPI (Continuous Process Improvement)	
Calculation of internal database statistics ("-genstats" option of "runppmimport")	
Jump to SAP Transactions in SAP Interface via SAP GUI context menu on Process Instance Tables	
Six-Sigma integration with Minitab Support	

Java Applet

Replaced by Java Webstart.

Command Central Support

Will be replaced by the ARIS Tenant Management tool.

Changed Item	Description
Visualize function measures in MashZoneNext Gen widget	It is now possible to visualize a function measure in the function flow graph.
Update timestamps in UMG_EN demo client	The timestamps of the umg_en demo client has been updated to 2016/2017
Vulnerable 3rd party springsource-spring-security replaced	<p>The query API used an outdated framework. This framework has been updated to the latest version. The latest version also contains several other security fixes. If an Axis-Framework is being used to communicate with the query API, the RPC-call needs to be enhanced with the method namespace (QName) and parameter names:</p> <pre>call.setOperationName(new QName("http://service.softwareag.com","getDa ta")); call.addParameter("favoritename", null, ParameterMode.IN); call.addParameter("favoritefolder", null, ParameterMode.IN); call.addParameter("globalFilter", null, ParameterMode.IN); call.addParameter("filterFavorite", null, ParameterMode.IN); call.addParameter("filterFavoriteFolder", null, ParameterMode.IN); call.addParameter("language", null, ParameterMode.IN);</pre>

8.6.6 Added, Removed, Deprecated, or Changed Built-In Services

Changed Service	Description
ARIS PPM/ MashZone Cloud Agent 10.1	<p>The service was renamed from Software AG PPM/MashZone Cloud Agent 10.0. New default port: 17009.</p> <p>The new name of Cloud Agent runnables is composed as in the following example: 20170227.085637_ppm-web-run-prod-10.1.0-runnable.zip</p>

8.6.7 Added, Removed, Deprecated, or Changed Parameters

In this version, no changes were made to parameters.

8.6.8 Added, Removed, Deprecated, or Changed APIs

Deprecated API	Replacement, if any
SOAP service of PPM Query API (context: */ppm/API_<PPM Client>/services/*) External Query-API	The external Query-API (http://<host>:<port>/ppm/API_<PPM Client>) is now deprecated and will be replaced by a different web service in a future version of PPM.

9 Copyright information

Copyright © 2022 Software AG, Darmstadt, Germany and/or Software AG USA Inc., Reston, VA, USA, and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software AG product names are either trademarks or registered trademarks of Software AG and/or Software AG USA Inc. and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software AG and/or its subsidiaries is located at <http://softwareag.com/licenses>.

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software AG Products / Copyright and Trademark Notices of Software AG Products". These documents are part of the product documentation, located at <http://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

10 Support

Visit the [Empower Web site](#) to learn about support policies and critical alerts, read technical articles and papers, download products and fixes, submit feature/enhancement requests, and more.

Visit the [Software AG TECHcommunity Web site](#) to access additional articles, demos, and tutorials, technical information, samples, useful resources, online discussion forums, and more.

YPI-RM-1054-20220104.