

Angles for SAP Release Notes

Version: 2020SP4

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End user - Highlights

Supply Demand Matching using multiple data sources

Angles for SAP provides unique levels of supply chain insight and intelligence ready to use via Supply and Demand Matching logic that highlights bottlenecks, delays, shortages, excesses, etc. The Supply and Demand smart algorithm is using actual available stock, planned receipt and actual & future material requirements data to calculate an expected distribution of stock. This data has always been based upon data coming from SAP only. When planning and forecasting was supported by different solutions other than SAP, like SAP APO, the value of the Angles for SAP Supply and Demand matching logic could not be utilized without interfacing the external planning results to the SAP planning system first.

We have now added the possibility to directly include also non-SAP ERP data in the Supply and Demand Matching logic. This will provide you with a holistic overview of both your external planning/forecasting data (e.g. APO) and operational planning execution data from SAP. This will give you more insight and control by unleashing all the value from the powerful insights derived from the Angles for SAP Supply and Demand Matching logic.

O2C/P2P – Detailed insight in SD/PP business process flow inefficiencies

In SAP, different process steps are linked to each other by consecutive documents. For example, Sales Order, Delivery Note and Invoice documents. Sometimes, due to administrative mistakes or quality issues, process steps are corrected afterwards. This results in all kinds of corrections affecting your document flow like delivery corrections, invoice cancellations, goods receipt reversals etc.

To get more insight in these inefficiencies in your sales- and purchasing process we have introduced additional SD/PD schedule lines with the execution status Reverted and Reversal:

- Reverted: linked to the original follow-up document that was reverted by the reversal document (e.g. invoice cancelation, correction delivery or good receipt reversal)
- Reversal: linked to the reversal follow-up document (e.g. invoice cancelation, correction delivery or good receipt reversal)

The new Document Schedule Lines with execution status “Reverted” or “Reversal” have a relationship with each other. Where the Schedule Line with execution status “Reverted” is the initial quantity and/or value booked, and the Schedule Line with the Execution Status “Reversal” is the quantity and/or value that is booked back of the “Reverted” Schedule Line. This will enable you to create detailed analysis of inefficiencies in your business process and unlock improvement potential.

O2C Managing your Packing Instructions and Packaging Determination logic in an efficient manner

In SAP, a packing instruction serves as a template for the creation of a handling unit. In packing instructions, the packing materials and related packing instructions are specified. Packing instructions can be maintained for different combinations like material, material-plant and material - ship to parties, while multiple alternative packing instructions may exist per combination. In case automatic packing is used in SAP, pre-defined conditions are used to automatically identify the related packaging instructions.

To maintain and optimize all these details of your packaging instructions and determination logic in an effective and efficient manner we have introduced three new objects in the O2C business process, including all relevant references and sublists.

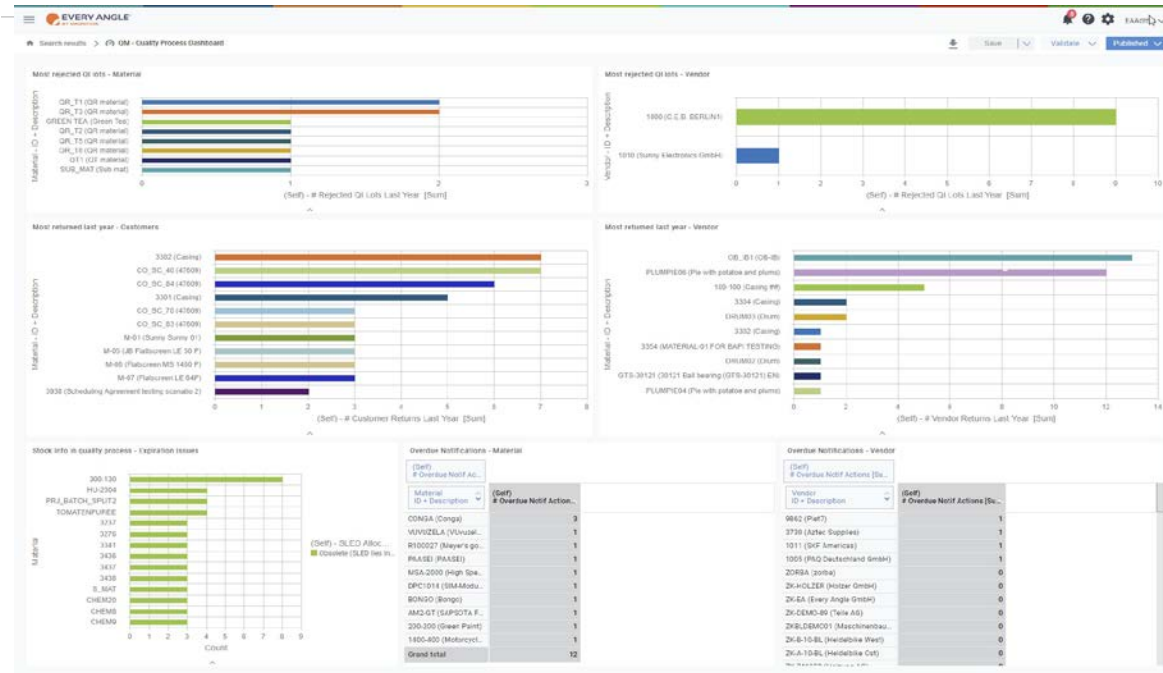
- Packing Instruction Header [PACKKP]
- Packing Instruction [PACKPO]
- Packing Instruction Determination [KONDP, KOTPO01, KOTPO02, KOTPO03, KOTPO04, KOTPO100 and KOTPO200]. Additional Condition tables can be added by your Magnitude Consultant or Magnitude Functional Support.

QM: New Quality Process Dashboard to provide additional insight into your quality process performance

Good insight into the effectiveness of your quality process benefits from a broader view than only the overview on your core inspection process. Also returns, rejections, defects and material expiration tell you something about the quality of your products and processes.

The purpose of this new Dashboard is to provide you with immediate answers to questions like:

- How many Quality inspection lots have been rejected in the last 365 days?
- From which vendors did the most rejected quality inspection lots come in in the last 365 days?
- Which materials have been returned most from customers in the last 365 days?
- Which materials have been returned to vendors in the last 365 days?
- How many materials cannot be used anymore due to batches being expired, or needed dates being later than the expiration date?
- How many materials related defects are still open that should have already been handled?
- How many vendors related defects are still open that should have already been handled?



Note: The standard Dashboards will give you a jump start when creating your own customized Dashboards to stay in control of your own business processes. When creating your own customized Dashboards (adjust/add widgets, customize scaling), make sure you create your own copy of the standard business Dashboard. When opening a Dashboard, it will not, unlike Angle Templates, create an automatic copy (with the prefix 'Based on'). You have to create that yourself.

Overwriting standard business Dashboards can be prevented at upgrade when the Dashboards are authorized as view-only. Authorization can be set by Every Angle Consultancy/Support, or by your system administrator.

End user - Usability improvements

Fix to filter message

The *relative between* text of the WC is set equal to actual query. Thus, when the user sets the upper bound to 0, the date should show the modeldate.

End user - Fixes and improvements

QM: Reference from Quality Inspection result to the related operation added

To be able to get insight into the production stage of a quality inspection result, a new reference has been added from the object Quality Inspection Result to the related Operation. This reference shows the operation from the task list (inspection plan), which is created in SAP to plan and

execute the inspection. This is an operation that has its own description and characteristics. In the SAP transaction QP03 you can see the operations belonging to an inspection plan.

QM/P2P/S2D: Improved analysis on Rejected Quality Inspection lots

The new field *Number of Rejected Quality Inspection Lots Last Year* has been added to the objects *Material*, *Material Plant*, *Vendor* and *Vendor on Purchase Organization*.

This field shows the number of rejected Quality Inspection Lots [QAVE-VCODE] in the last 365 days, based on the Realized finish date. The count is derived from the Quality Inspection Lots sublist. The number of rejected QI lots per Material, Material Plant, Vendor and Vendor on Purchase Organization Level can be used as an indicator (k)pi, for improvement potential.

MDM: Additional Alternative Units of Measure

The following alternative units of measure have been added to the EA model: BAG (Bags), BOX (Boxes), EA (Each), G (Grams), KAR (Kartons), KG (Kilograms), L (Liters), LB (Pounds), ROL (Role), and ST (Pieces). This will enable you to show total quantities in these alternative units of measure as well.

Note: There are two UoM with the same description: Pieces and Carton. However, in the background the UoM is different. For cartons, CAR is used in English and KAR is used in languages other than English. This also applies for pieces (PC and ST). Only one of them will be enabled depending on the customer system language settings.

S2D; Insight in EAN Information for Materials

Material can be carried in different units of measurement. You can create an International Article Number (EAN) as a unique identifier for each unit of measurement. In logistics, if the units to be moved are identified at a company by their EAN, it is important to ensure that the EANs of all units are correct and known to the system. Also, EAN is used to sell in different pack sizes, for example: pallets, cartons, crates, and pieces.

To support the maintenance of this EAN data, the new object 'Material EAN' has been introduced. This object shows the data from the SAP table MEAN, which is used to store International Article Numbers (EANs) for material data. It contains all the EANs assigned to material. References are added to the objects Material and Material Unit of Measure.

The most important insight can be created by starting from the Material or Material Plant object and adding two new fields: Material Main EAN and Material Additional EAN. In one view you can now see all (main) EANs created per material / plant and perform analysis to maintain this important master data. If you want to automate the update of EAN master data in SAP, please ask your Every Angle consultant what the Process Automation Pack can do for your process.

S2D: Showing all Handling Units belonging to a Batch

A new reference from the object *Handling Unit* to the object *Batch* has been added to the EA model. Starting from the object *Handling Unit Item* will allow you to expose the related batch. To easily track & trace all HUs per batch or material and vice versa, additional Displays have been added to the template *Handling Unit Item*. Use the **Go to SAP** transaction on HU03 to see all detailed data for the related Handling Unit.

Note: this logic is effective for both batch plant-dependent and batch plant-independent configuration.

QM/P2P: Improved analysis on Vendor returns

A new field *Number of Vendor Returns Last Year* has been added to the objects *Material*, *Material Plant* and *Vendor*. This field shows the number of purchase document items returned in the last 365 days, based on the creation date of the purchase document. The number of returns can be used as an indicator (k)pi, for improvement potential.

The standard SAP Sales Document (SD) types: CP (Consignment Pick-up) and CPC (ConsignPick-up CompS) are excluded from the calculation, because these returns are often not related to quality issues but related to under-consumption / non-sales.

QM/P2P: Improved analysis on Customer returns

The new field *Number of Customer Returns Last Year* has been added to the objects *Material*, *Material Plant*, and *Customer*. This field shows the number of customer returns in the last 365 days, based on the creation date of the related sales order. The number of returns is derived from the *Sales Order Lines* sublist, where the check box in the field Returns item (VBAP-SHKZG) is selected (true). This field will give insight into your customer returns per material, plant and customers.

QM: Getting control over the open corrective actions

To get control over your planned corrective actions, the new field *# Overdue corrective actions* has been introduced. This field shows the number of overdue corrective actions derived from the *Notifications per Material on Plant/Material*, *Vendor on Purchasing Organization Level*, *Vendor*, *Customer on Sales Area* and *Customer Level*. The corrective actions come from the Notifications that should already have been processed.

P2P: Alternative delivery address

The new reference, *Delivery Address Alternative*, has been added to the object *PD-item*. This reference shows the Delivery Address when the default Delivery Address is manually changed in the SAP Delivery Address tab [ME22N/ME23N].

QM: Insight in due date quality inspection operations

Quality inspection characteristics are checked in the related operation. By introducing the reference from the object Quality Inspection Result to the related Operation, it has become possible to have more detailed insight in the planned due date of the related operation. Therefore, the due date on the inspection result object is now derived from the operation. This will enable you to identify all operations with a due date other than the quality inspection lot due date. Are all inspection operations finished on time?

F2R: Using Company Code / Object Currency in Controlling Cost Analysis

It is now possible to do cost analysis in Company Code / Object Currency. This can be of use when there is a difference between the Controlling Area Currency and the Company Code / Object Currency. For example, if you want to display the costs for a USA plant in USD while the Controlling Area Currency is in Euro. For this purpose, two new fields have been introduced in the object Controlling Cost Totals: Costs in Object Currency and Costs Adjusted in Object Currency.

QM: Reference from Sample Result to Inspection Point, Functional Location, Equipment and Work Order has been improved

The reference from the Sample Result to the related Inspection Point showed the results based on the sample results for inspection characteristics [QASR]. This has now been changed to a reference based on [QASV] sample specification for inspection processing.

Additionally, references have been created from Sample Result to Equipment, Functional Location and Work Order. You can now perform analyses on sample results of all of these different objects.

QM/P2P/S2D: Improved analysis on Quality Inspection Lots

The new fields *# QI Lots Created Last Year* and *% Rejected QI Lots Last Year* have been added to the objects *Material*, *Material Plant*, *Vendor* and *Vendor on Purchase Organization*.

- Number of Quality Inspection Lots Created Last Year: This field shows the number of Quality Inspection Lots created in the last 365 days (model date - 365 days) based on the creation date (QALS-ERSTELDAT).
- Rejected Quality Inspection Lots Last Year: This field shows the percentage of rejected Quality Inspection Lots in the last 365 days, based on the Realized finish date.

F2R: Reference from Actual Costs to Accounting Document Header does not work

The reference to Accounting Document Header has been removed from the objects *Actual Costs Document Header* and *Actual Costs Document Item*, in the module *FiCo Detailed Actual Costs*.

With the introduction of Accounting Documents 2.0 (2018SP1), a single object model has been introduced making it possible to both search on BSEG-based accounting document items or Secondary index-based accounting documents. With this change, the reference had become obsolete and was de-activated, but was still visible. The reference has now been removed completely. In case this reference is still required for your current Angles (specific use cases) it can be added to the delta configuration by your Every Angle consultant.

F2R: Removed tax records from AD Item class for index based accounting

When using index-based accounting, the *accounting document item general* was showing tax records (Indication of Line Item; BUZID = T). This was incorrect and has now been resolved by changing the load filter on AD Index General.

Currency terminology updated: 'Translation Currency' and 'Default Currency' changed into 'User Currency'

To avoid ambiguity, the terms 'Translation Currency' and 'Default Currency' have been replaced by 'User Currency'.

Terminology changes

Angles for SAP uses a Glossary of terminology to define the short and long names of Angles for SAP Fields. This Glossary contains thousands of entries.

For the release 2020 SP4, the Glossary has been reviewed. Changes have been made to correct mistakes and to make the terminology more consistent.

Refer to the document *Overview of Glossary changes* for a list of all updated entries.

Improved performance of getting Angle details

Executing an Angle in the search results now opens the Angle result screen faster, providing an improved user experience.

O2C: Improved analysis on Rebate Agreements

When activating the module *Rebate Agreement*, the field *Total Open Settlement* (sum of the net value of the linked sales document items that are open), was not always available, which could result in an Angle warning. This situation occurred when customer specific types of sales documents were configured in SAP. This has now been fixed.

Scheduling Agreements: Reference added to related Purchase Requisitions

When using scheduling agreements together with related purchase orders, it can be useful to have insight in the related purchase requisitions. This reference has now been added, making it possible to perform a detailed analysis of your scheduling agreements, including both purchase orders and purchase requisitions.

GRC: PD-Item duplicate fields removed for Invoice Receipt Indicator

Duplicate SAP fields existed for Invoice Receipt Indicator [EKPO_WEPOS] and Invoice Receipt Indicator [EKPO_REPOS]. These duplicates have now been removed. If you used either of the removed duplicate fields in your Angle or Display, this could cause an Angle warning. To solve this warning, replace the field EKPO_WEPOS with the field Goods Receipt (Indicator), and replace the field EKPO_REPOS with the field Invoice Receipt (Indicator).

Jump Templates: show all relevant jump fields in case sublist is redirected to multiple objects.

When a sublist was redirected to multiple objects only the first 8 suggested jump fields were shown to the user. This was limiting the functionality in this scenario. This has now been changed to all relevant jump fields in case a sublist is redirected to multiple objects.

Not possible to export modules from Workbench

Exporting modules from the Workbench failed due to explicit encoding when reading the files. Explicit encoding on file read for export is not needed. Therefore, it has been removed, which resolved the issue.

SD 1908 8398 - Future currency rates are now ignored when calculating currencies

SAP system currency rates with a validity date in the future are now ignored when calculating currencies, leading to more accurate calculations.

00185219 - Batch classifications missing for multiobject

When displaying batch classifications sometimes not all values were shown. This was the case for batch classification for multiple objects. This has now been fixed, making all classification values on the batch available again.

00216231 - P2P/O2C - Price per Unit calculation corrected for schedule agreements & contracts where ordered quantity <> target quantity

Price per Unit calculation corrected:

- The price per unit is calculated on the item value and the quantity of the item. The price per unit field is used in other calculation of fields like sales value, purchase value and ordered value for both SD/PD header, SD/PD item and SD/PD schedule line. For some documents, mainly schedule agreements and contracts, this calculated price per unit was wrong, because the unit price was calculated on the target quantity instead of the ordered quantity. This has now been changed to a calculation based on the ordered quantity and the result is available in document, local and user currency.

Optimization of scheduling logic & load:

- Additional schedule lines are created for scheduling agreements and contracts when ordered quantity > target quantity or ordered quantity < target quantity.
- The loading of the SD/PD items has been integrated into the loading of the SD/PD schedule lines. During the loading of the SD/PD schedule lines also the SD/PD items are created at the same time (instead of separately).

For this reason, the status/progress & statistics of the loading of the SD/PD items is no longer shown in the log files.

Improved Application Server login performance

With many concurrent users the Application Server did not scale as intended and users experienced slowness and often the inability to login. This was mostly caused by inefficiencies in the way user sessions were handled and this is now greatly improved.

We addressed the following technical areas about user sessions:

- Reduced cache size on session scope by centralizing the model fields cache.
- Improved garbage collection handling
- Removed unnecessary locking
- Removed a redundant call on login

Reschedule Advice Wds field has been fixed

The field *Reschedule Advice Wds* sometimes showed the wrong number of workdays. This has been corrected.

Fix concurrent login issues

Concurrent logins from users with the same authorization profile could lead to login failures. This resulted in accessibility issues during the 'morning rush' for a large customer. This is now fixed.

Authorization denies Angles with the 'Orders and Stocks' follow-up

The 'Orders and Stocks' and several less used follow-ups wrongly reported that they could potentially deliver all existing classes as the result of the follow-up. This led to denial to execute the Angle when the user has an authorization profile that denies any class. For example, by a widely used authorization profile that denies FiCo classes for a user. This is now fixed, by reporting the correct classes that those follow-ups can deliver.

Filters not visible in export to Excel summary

Filter details were not updated correctly in the exported Excel on the Summary sheet when the Execution Parameter option was enabled. This is now fixed.

Remove WebDavPublishing Module for STS

Solves the problem faced during installation of App server and license upload while communicating to STS. The root cause for this issue is the installed *IIS WebDavPublishing* module. This module will get configured for STS (by default) on STS installation.

Angle execution time displayed as zero seconds

The Angle execution time is always displayed as zero seconds. The *Angle information* popup showed the correct value though. This is now fixed.

Fix for performance degradation of Add/Remove field

This PBI fixes performance degradation for the below Action for an angle display.

- Adding fields
- Removing fields from Angle

Improved speed of Angle execution

Labels were slowing down the Angle execution speed. This is now fixed.

Fix for Active Directory logins

This PBI solves the problem where users couldn't login with their AD credentials, in case the UserPrincipalName in the AD was not in the username@domain format.

HTTP error 400 at login - request header too big

When a user is linked to a large amount of AD groups, an http 400 error can occur in the login process stating that the request header is too big. This has temporarily been resolved by not

including the AD groups as roles in the claims collection of STS, leading to the 'known bug' that the 'sync roles to groups' functionality in ITMC does not work anymore for ADFS users. This will be resolved in a future version.

Creation of new angles was not possible after model instance update.

Fixes the issue of creation of angle when the model instance changed and instance per model is set to 2.

Repository inaccessible when module files contain null characters

When module files contain null characters, the file cannot be imported into the Repository in-memory model, making the Repository fail to start. The import process has been updated to ignore the null characters, which resolved the issue. Explicit file encoding for Repository data files has been added to write & read actions to help prevent null characters being written to the files.

IT user - Highlights

Powershell 5.1 prerequisite in upgrade notes

Powershell 5.1 prerequisite in upgrade notes:

<https://confluence.everyangle.com/display/KB/Release+2020SP3>

IT user - Usability improvements

User Migration Tool

With the Feature SSO we will support multiple authentications providers and in case of the EADemo system we will move from Everyangle.com AD to Okta as default provider. When people start using the Okta Login they won't be owner of angles and will lose their personal settings. This tool allows:

- The ownership of angles can be transferred.
- Personal settings are transferred to a new account.

Manage Model permission no longer granted by Manage System permission

The Manage Model permission was automatically assigned to users with the Manage System privilege. This required explicitly denying the Manage Model permission for some or all models, it was not always clear that this was required.

The Manage System permission now no longer influences the Manage Model permission. This is more transparent, and it reduces the likelihood of an authorization incident. Nobody will be locked out if Every Angle authorization best practices are used.

Enhanced logging for SSO

Logging and exception handling has been improved in App server to identify and isolate logging errors in SSO flow.

Setup error handling on PS failure

Indicate failure on error when a PowerShell script is executed and a check on PowerShell 5.1 prerequisite is done. The documentation is also enhanced.

IT user - Fixes and improvements

Improved data consistency when table fails to refresh

This change will make sure that if non-essential tables fail during download, copy or postprocessing the tables will be copied by the CopyPrevious action preventing the refresh and/or restructure to fail.

Config: Option to dynamically restrict extraction on inverted dates

This Change will enable content developers to use where clauses to download inverted dates from SAP.

Activate multiple packages in one go

You can now activate or deactivate multiple packages in one go in the IT Management Console. This can save you up to 20 minutes compared to activating packages one by one.

SQL exceptions logged for easy troubleshooting

This Change will help the IT users to understand the actual exception triggered by the SQL Server

Improved cleanup of existing content when importing content in the Workbench

If the option **Clean the entire model of all content before importing the Standard Content** was activated when importing Standard Content in the Workbench, existing content was not cleaned up properly. Previously configured entries remained for Controlling Hierarchies, Financial Statement Version and Condition Tables. This has been corrected.

IT: Introducing separate packages for dashboards and separate packages for EA4IT and IT

It is now possible to activate EA standard Dashboards separately from the standard EA business process functionality. By creating a separate package for Dashboards per business process, the Dashboards can now be activated and configured on customer request.

Likewise, the existing IT package has been split into *EA4IT* and *EA4IT_Dashboards* packages supporting the EA4IT model, and *IT* and *IT_Dashboards* packages supporting the SAP model. Creating different packages increases flexibility during installations/upgrades.

The activation of packages in the IT Management Console is now more efficient. Check the boxes for the required inactive packages and hit the "Activate" button. All selected packages will now be activated in one go.

Remove redundant status requests from AS to CMS

The Application Server performed a status request to the Model Server before checking query progress. This is not needed and is now removed to reduce stress on the Model Server.

Model server setup via commandline enhanced for Cloud installation

The second instance of Model server setup via the command line has been fixed.

Failure on fetching files via the model definition client

Fetching files via the model definition client failed due to wrong arguments on the method call to add the files to an archive. The arguments have been corrected, thus resolving the issue.

Set minimum to 1 for setting 'Minimal column width for non-printable character replacement

The IT Management Console setting **Minimal column width for non-printable character replacement** could be set to zero, which the Function Module interpreted as 30 (the default). The minimum configurable value in the IT Management Console is now set to 1, in alignment with Function Module behavior.

Model Server: Increased speed for determination of orphaned fields

The Model Server loading phase to determine orphaned fields has been optimized. Before the change, this phase could take up to 25 minutes. With the new algorithm, it only takes seconds. The more configuration a customer has, the greater the benefit of this change will be.

Fix indexed access for tables with over 2 billion records

The data access layer could no longer use indexed access (aka FindKey) for records beyond the 2 billion range. A noticeable effect was that *EATableRestructurer* could no longer process IBIN classification for one customer. This is now fixed. It is not likely that other customers will encounter this issue soon.

Next to this the *EATableRestructurer* has performance improvements in the area of 5-10%. Your mileage may vary because there are multiple circumstances that determine the net result.

Please note that, when installing this as a hotfix, you also need to **import Standard Content** into the Workbench. This content contains a technical setting for EATableRestructurer (in SAPConversion.ini) and contains **no functional changes**.

[Content Migration Tool] ConditionTables time out setting is configurable

You can now customize the time-out setting for ConditionTables. The default value has been changed from 90 seconds to 500 (8 minutes, 20 seconds). You can edit the time-out period in the file *EveryAngle.ContentMigrationTool.WpfApp.exe.config*. The setting *HttpRequestTimeOutInSeconds* contains the time-out period in seconds. Make sure to restart the application after changing this setting.

Fixed threading issue in Model Agent

Fixed a rare case where the Model Agent API kept returning errors until it was restarted.

Datastore Drop down is greyed out

When creating a new automation action, the Datastore Drop down is greyed out. This is now fixed.

Fixes the action argument changes for SQL data store and SQL data store plugin.

The export type shown was incorrect and this fixes the export type shown correctly after upgrading for SQL data store and SQL data store plugin-based actions.

Fix for model server alive Http connect

This PBI fixes the problem of alive http connection at model server end and improves model server performance.

Installation of SqlServer PowerShell module

If Application Server does not have internet access Install SqlServer PowerShell module before app server installation / upgrade. Please follow the below steps to install SqlServer PowerShell module.

1. download the module from the location:

<https://www.powershellgallery.com/packages/SqlServer/21.1.18235>

2. Follow the steps in the link for SqlServer module manual

installation: <https://docs.microsoft.com/en-us/powershell/scripting/gallery/how-to/working-with-packages/manual-download?view=powershell-7>

This information will be updated in the user manual prerequisite.

Error when adding fields: No Table data to display for the given table

Some customers received the error *No Table data to display for the given table* when adding fields to tables in the Workbench. It appeared that unexpected characters in the description from the SAP dictionary were giving issues in the Workbench screen. This is now fixed by properly escaping the table descriptions.

Server not coming up, due to overload schedule-line creation during in loading phase

An oversight has been fixed in how Every Angle handle purchase order over-deliveries. This fix resolves incorrect and never-ending schedule-line creation during the loading phase, which resulted in the server not coming up.

Fix for action execution - export to SQL with "overwrite" export type

This PBI solves the problem user encountered during the execution of action - export to SQL with "overwrite" export type.

Content Migration tool authentication error

The Content Migration tool did not play well with the new Single Sign-on. This is now fixed.

Fix Application Server 100% CPU usage

Fixed a rare case where the Application Server could reach 100% CPU usage because of a multithreading issue.

Could not install on non-default SQLServer port

The Application Server setup failed once a non-default port was chosen for Microsoft SQL Server. This is now fixed.

Script during Repository setup fails when TLS 1.0 and 1.1 are disabled

Fixes an issue where a script that is run during the installation failed when TLS 1.0 and 1.1 are disabled on the server. We also made sure that script failures will result in a failed installation. This will allow easier root-cause determination in the future.