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2 Preface

Informatica introduces the latest evolution of its product information management application:

**Informatica MDM - Product 360 (Version 8.1)**

Informatica’s strategy is to strengthen the leading position of our Multidomain MDM solution for consolidating all master data domains and leveraging the potential of relationship insights across that data. Informatica wants to provide the most flexibility to our customers allowing them to adapt to future needs. For that, Informatica offers trusted master data fueled applications for dedicated use cases, industries and roles. One important use case is around enabling collaboration for new product introduction across all channels. Product information management is a mature and important discipline within Master Data Management.

Product 360 leverages the full power and capabilities of the Intelligent Data platform and provides a unified user experience, built-in data quality engine, business process management, search and metadata, all inherited from the MDM architecture it's built on. This allows Informatica customers to start smart and grow fast, making it easy to adapt to both market changes and the competitive landscape.

Product 360 8.1 continues to deliver innovations to support your use cases. The key innovations are:

<table>
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<tr>
<th><strong>GDSN 3.1.3 Certification</strong></th>
<th>Easily exchange high quality and relevant product data via the GDSN with the GS1 accelerator for Product 360.</th>
</tr>
</thead>
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<td><strong>Tasks for Suppliers</strong></td>
<td>Allow external parties to collaborate on product enrichment processes by setting up working tasks for them directly in the system.</td>
</tr>
<tr>
<td><strong>Channel Specific Delta Exports</strong></td>
<td>Speed-up time to value with intelligent listeners for channel specific delta exports that allow data updates to be only executed in context of a specific outbound channel.</td>
</tr>
<tr>
<td><strong>Characteristics &amp; Lookup Lists</strong></td>
<td>Support improved e-commerce and compliance with a dynamic data model providing look up values, a dependency model, dynamic data type support and much more.</td>
</tr>
</tbody>
</table>

3 Business User Benefits

3.1 UI branding update

The user interface of Product 360 does now shine in an updated design with the new Informatica Logo and updated login and splash screens:
3.2 Business process insights

KPI's play a critical role in an organization in providing insights on performance of processes or various tasks. A framework for calculation of Key Performance Indicators (KPIs) is now included which allows to calculate and create custom KPI's and leverage existing widgets for display. API's are also included that allows for calculating, removal, reading and extraction of KPI values that can then be leveraged for feeding 3rd party applications such as Tableau, Qlik etc.

The picture above shows the Out of the box sample widget "workflowProcessKPI". Details on how to set up the widget on user Dashboards can be found in the Configuration Manual. Its major capability is to take a data source and measure the average completion time per object for a given workflow that is setup in Product 360.

3.3 Characteristics

The new "Characteristics" entity has been introduced to Product 360. With that it will become possible to map dependencies between various data fields and their values for individual items. This means that e.g. defining a certain sales channel for an item is automatically triggering the creation of additional fields depending on that selected channel. An example could be that an item can be purchased via "Internet". Based on that selection follow up values will automatically be asked to provide (e.g. the "shipping costs").
3.3.1 Types of Characteristics

Characteristics can be individually created and setup by a business user to map their required purpose. Categories logically group a set of Characteristics that belong together. An individual Characteristic is therefore always Category specific.

Simple Characteristic:
A Characteristic without any child Characteristics defined for it. Regardless of what value a Business User would set for it on an item it will not create any child Characteristics.

Complex Characteristic:
A Characteristic that contains child Characteristics and serves as a parent for them including the possibility of only showing certain child Characteristics when setting a specific value for it on item level.

“Contains hazardous material” could e.g. be a complex Characteristic that allows a business user to enter “Yes/No” on an individual item. “Yes” could append child Characteristics to provide further information on the hazardous material while “No” wouldn’t. Complex Characteristics may only have the data type of “Lookup List” or “No Value”. With “Lookup List” the Administrator can specify the list that controls which child Characteristics should be attached depending on the selected value. With “No Value” it is possible to define a holistic grouping of all child Characteristics without setting a value to their parent.

Data Types and Meta Data Fields for Characteristics

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Language-specific</th>
<th>Default Value</th>
<th>Read-only</th>
<th>Multiple values</th>
<th>Multiple lines</th>
<th>Un it</th>
<th>Format</th>
<th>Pattern</th>
<th>Validation</th>
<th>Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>MIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Date/Time</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integer/Decimal</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Logical</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lookup</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lookup (Complex)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

3.3.2 Modelling UI

The Modelling UI can be made available to administrators by giving their user group sufficient interface visibility and action rights. It serves three major purposes.

1. Define Categories for Characteristics available in the system
2. Define for each Category the Characteristic set and its dependencies
3. Define for each Characteristic its individual type and purpose

The following screen shows the Modelling UI with details on available Categories on the left, a table defining a Category’s Characteristics and their dependencies at the top right and the detail view for a selected Characteristic from that table at the bottom right:
Each Characteristic in the model has its own default access right. Three options may apply:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>every user group has full access to values of items for that Characteristic</td>
</tr>
<tr>
<td>Restricted</td>
<td>no user group can edit or see values of items for that Characteristic</td>
</tr>
<tr>
<td>Inherited</td>
<td>the rights as defined by the parent Characteristic apply</td>
</tr>
</tbody>
</table>

The options of “Open” and “Restricted” allow to define exceptions from the default behavior for individual user groups to have no access, full access or read only access.

3.3.3 Editing UI

The Editing UI allows business users to store values as defined by the overall Characteristics model to individual items in the system. Based on the structure group assignment of a selected item the assigned Categories and contained Characteristics appear in a ranked order and allow the entry of data. The following screen shows the form that allows a business user to work on values. The hierarchies represent the dependency between Characteristics and their specified values:
3.3.4 Complete setup

In addition to the general capabilities the Characteristic entity allows:

- The search of specific values on items
- The import of values
- The merge of values
- The export of values
- Service API based access to values
- The validation of values (e.g. mandatory) in real time on the UI as well as via DQ execution with persisted DQ status management
- Copy and paste of values from one item to another
- The transfer of a Characteristic model between independent Product 360 systems

For more information, the Product 360 Knowledge Base provides various details on the setup of Characteristics and can be found in the Installation and Operation package.

3.4 Lookups

Lookups define a distinguished set of allowed values for a certain data field or Characteristic. They are similar to enumerations but have the advantage that they can be changed during runtime.

It is possible to create lookups and their values in the system via environment transfer. Using Service API WRITE command it's possible to create and modify lookups and their values. Lookup values can also be imported using Product 360 import functionality or created via the UI.
3.4.1 Lookup fields

- unique identifier
- label (language specific)
- description (language specific)
- label pattern

The label pattern
The label pattern will influence the representation of lookup values when used in a drop down list. Options are:

- Name
- Code
- Code - Name
- Name (Code)

3.4.2 Lookup values

Lookup values have a

- unique code (in the lookup)
- label
- description
- external code
- order
- state (active or inactive)

The external code is system specific and allows to reference the lookup value with different labels. This comes in handy when you have multiple different external systems (like GDSN) that have their own names for something in your system.

The active state defines the visibility of the lookup value when used as value list on a field. Objects that have already received a value that became inactive will still hold the value but it is not possible to set it as a new value to a different object anymore.

The deletion of lookups is prohibited when the lookup is used as enumeration outside the characteristics or when it is referenced from the characteristics. The same applies to Lookup values. They cannot be deleted if their lookup is used in data fields or when characteristics or characteristic records exist, that reference the lookup value.

3.4.3 Maintenance of Lookups and Lookup Values

Lookup lists can only be maintained in the Desktop UI. Lookup values can be maintained in the context of the selected lookup also in the Web UI.
3.4.4 Technical details and usage advice

There are some enumerations with a new enum param named "lookupIdentifier". One of these is the Enum.CharacteristicPurposes

```
Enum.CharacteristicPurposes [Characteristic purposes]  
  lookupIdentifier = CharacteristicPurposes
  useForExportDatatype = true
  Webshop (WEBSHOP)
  Print (PRINT)
  BMEcat (BMECAT)
  Defining (DEFINING)
  Descriptive (DESCRIPTIVE)
```

During the server start, the server checks if there is already a lookup with the defined "lookupIdentifier" in the system. If it is already existent no further action will be done. In case it is not existent, a new lookup with the given identifier will be created and all active enum entries will become (active) lookup values in this lookup.

You can add the enum param to your own enumerations as well.

After the initial creation of a lookup, there is no synchronization between the lookup and the enumeration defined in the repository.
To use lookups as enumeration for general data fields an administrator has to create a new enumeration in the custom area of the repository provided with the enum param "lookupIdentifier" and add it to the desired field as usual. This should be followed by creating the enum entries respectively lookup values in the UI.

3.4.5 Transfer of lookups
It is possible to transfer lookup lists between two individual Product 360 deployments by using the environment transfer functionality in the Management menu of the Desktop UI. Furthermore, lookups can be exported and imported with Product 360 similar as other entities.

3.5 Structure group maintenance in Web UI
It is now possible to create and delete structure groups through the Web UI:

![Web UI screenshot showing structure group maintenance](image)

The header tab for a selected structure group furthermore allows to adjust its sequence and the tree view on the left additionally allows to move the group to a different parent via drag and drop.

For this operation, the new action right "Copy and move structure groups" needs to be granted. The permission is also respected in the Desktop UI for drag and drop operations on structure groups. All user groups that are copying or moving structure groups within the systems need to get that new right.

3.6 Supplier catalog merge in Web UI
The Web UI now allows to merge items from a supplier catalog into the master catalog. A user can either execute the merge of a selection of items or of the whole catalog:
This requires that a merge profile has been defined for that catalog first.

After the merge has been executed the pop up will prompt the results from the process overview:

3.7 Export table content as CSV in Web UI

Any set of products, variants or items loaded to the main table can now easily be exported as a CSV file for download. Via the field selection dialog a user can configure the fields that should be shown in the main table and by clicking the "Export to CSV" action in the menu the set of objects as shown with the fields configured in the main table gets transformed into a CSV file for offline access to the user:
3.8 "Entire catalog" option deselected in merge dialog

A couple of users reported that the checkbox activated by default in the "Start merge" pop-up of the Desktop UI could become dangerous to their work processes. Therefore, we have set the default behavior of the "Entire catalog" option to unchecked:

![Merge Dialog]

4 Supplier Portal

4.1 Tasks for suppliers

With this release, the possibility to assign a task in Product 360 directly to a supplier organization has been made available. Tasks assigned to a supplier organization may only contain items of a supplier catalog owned by the respective supplier.

Business users in Product 360 can work with tasks assigned to suppliers in the usual manner once they have the corresponding new action rights granted. With that they have access to supplier tasks:
For supplier organizations, it's possible to work on tasks using the Item Editor within the Supplier Portal of Product 360. All supplier users of the supplier organization have access to all tasks assigned to their organization. They can work on the tasks and then mark them as completed. They can also finish work on objects of workflow tasks or approve/reject them in case of an approval task. However, they cannot create, delete, re-assign tasks or objects in the workflow tasks or open the tasks in the Flexible UI.

For non workflow tasks in Product 360 the email notification is also added by sending updates on individual tasks to the Supplier Portal timeline:
4.2 SAML login for Portal Administrator users

To complete the use cases around user management using single sign on (SSO) via SAML the Product 360 Supplier Portal now also supports the SAML based login of internal users (Portal Administrators).

For a Portal Administrator, single sign on it is mandatory, that the relying party for Product 360 Supplier Portal Portal Administrator SSO and the relying party for Product 360 Server are configured on the same IdP. Also, the same certificates and keys must be used for these two relying parties, so that Product 360 Server is also able to validate the SAML Response, which was initially created for the relying party of Product 360 Supplier Portal Portal Administrator SSO.

For more information on the setup you can refer to the Configuration Manual of Product 360 and look under the SAML Configuration chapter in the Supplier Portal Configuration section.

5 Platform Enhancements

5.1 Channel specific delta exports

To prevent unused data in an export it is now possible to define relevant fields for the delta export. These relevant fields getting defined on a Channel base. Relevant fields for each channel can be defined in the perspective Data quality. Only if a relevant field gets modified the object is part of the next delta export.

Major benefits:

- Only changes to relevant fields trigger export
- Optimize data volume
  - Items without modifications to relevant fields are skipped in the export
- Increase performance
  - Smaller export files are processed faster by downstream systems
When you plan a scheduled export for new or changed objects there is a new selection list named channel where you can select the channel with the relevant fields for this export. The default value is "PIM". If the value "PIM" is selected all field modifications trigger the export. To make use of the channel specific configuration in that export this value needs to be exchanged with the according channel name.

5.2 Search using not fully qualified sub-entities
When adding a field sub entity to the search, it is no longer necessary to specify all of its qualifiers. A known challenge of the past was that a user wants to search for example across all short descriptions of an item regardless of the specific language key. For this the system now allows to keep the keys unfilled when selecting the field for a search query:

5.3 Import enhancements

5.3.1 Date comparison functions for imports
When importing information, a user may have the requirement to compare dates in order to populate information. The new import functions allow to compare date values with each other to make further decisions during the import process in Product 360.

On top the function "now()" has also been added for a convenient way to use the current date and time in an import function.
5.3.2 Sequence function

The purpose of this function is to increment numbers under consideration of one or multiple logical keys (e.g. 'language'). This is especially helpful if a mandatory sequence is required, but not provided by the data source, e.g. GDSN or a supplier.

The function can be used for many areas of the data model, e.g.
- Marketing Messages
- Media Asset Priority
- Attribute Value Identifier
- Ingredients etc.

5.3.3 LookupItemByGTIN function slightly refactored

This function returns the number of an item by the GTIN and the catalog and has been enhanced by the optional parameter "noError" now. This enables an import setup where a mapping is using the function and in case the lookup can't be found there is no error thrown but only an empty string returned. This is useful to make the strictness of system imports more flexible:

Since the new parameter is optional existing import mapping configurations will not be affected.
5.4 Export enhancements

5.4.1 Export media assets from parent objects

A new configuration allows to setup an export template that is capable of exporting media assets from a parent of the data source. This enables for example to include media assets assigned to a parent structure group or product to an item export.

To enable these new data types the following parameters must be added to the plugin_customization.ini:

com.heiler.ppm.article.core.export/DataTypeProductMediaAssetListOfVariants.enabled = true
com.heiler.ppm.article.core.export/DataTypeVariantMediaAssetListOfArticles.enabled = true
com.heiler.ppm.article.core.export/DataTypeProductMediaAssetListOfArticles.enabled = true
com.heiler.ppm.article.core.export/DataTypeStructureGroupMediaAssetListOfProducts.enabled = true
com.heiler.ppm.article.core.export/DataTypeStructureGroupMediaAssetListOfVariants.enabled = true
com.heiler.ppm.article.core.export/DataTypeStructureGroupMediaAssetListOfArticles.enabled = true

The data types added with this are reflected in the data source dialog and can be used within the export template. The following screenshot shows the data type "Product file attachments" for the Item data source as an example:

![Screenshot of the data source dialog](image)

Note that this setting only allows to receive the assets from a direct parent like the product of a variant or the variant of an item.
5.4.2 Language specific export of enumerations

While with previous versions the export of a label for an enumeration value was always defined by the used client language. This function now allows to configure the language that should be picked up explicitly in the export template:

![Image of language specific export of enumerations]

5.4.3 Export of purchase discount data

A new data source has been added allowing to export values from the purchasing discount data entity:

![Image of new data source]

5.4.4 SplitKeywords export function with additional parameter for the split token

The function allows to split string values by a defined character and can be configured to set the separator character individually for an export:
5.5 New DQ rule "Check_isEmpty" on sub entity level
A new DQ rule allows now to setup rule configurations to check whether a field in sub entity level is empty. While running this rule on sub entities the inObjectID needs to be set to a valid object code of the parent.

Note: sub entities need to exist to get evaluated by this rule, if no sub entities exists, this rule will never be executed and status will automatically be set to OK.

5.6 Combine qualified field rights of a user in multiple user groups
The permission "com.heiler.ppm.usermanagement.server/additivePermissions" in the plugin_customization.ini allows to configure whether user rights should be additive (if user has the right in one of its groups it’s granted) or restrictive (if user is at least in one group that doesn’t have that right it’s revoked). This setting has been enhanced with the current release by also incorporating qualified field rights (for example a short description qualified by the language Spanish).

5.7 Specify merge profile via REST API
The REST Merge API does now allow to specify a merge profile with the remote call. Further information is provided in the Service API documentation within the REST Merge API chapter.

5.8 ProposalEnumFormatTransformer for FieldFormatUtils
The handling of repository fields with proposal enumerations has been improved.

- Values of fields with proposal enums are displayed in the Web UI with their corresponding label in the client language now
• If you choose an existing enumeration value from the proposal list shown in the UI, the key of the corresponding enumeration entry will be stored now
• Export functions “EnumerationKey” and “EnumerationKeyStandard” support proposal enumeration fields now

5.9 Units of measure
It is now possible to maintain multiple categories for units:

5.10 Product 360 - Cloud Edition
With version 8.1 of Informatica MDM - Product 360 a cloud edition of the product is available. This edition of the product will be hosted on a cloud environment in the USA initially before being available in other regions of the world, and managed by Informatica Cloud Hosting Managed Services (ICHS).

This edition is available initially for Small and Medium sizing’s with a Large sizing to be made available in the future. ICHS handles the configuration, security, monitoring and software upgrades of the application stack deployed in the cloud environment thereby reducing maintenance cost, eliminate on premise infrastructure and staffing expenses.

Accelerators*

5.11 GDSN Accelerator

5.11.1 GS1 - GDSN 3.1.3 release
The Release of the Global Data Synchronization Network (GDSN) Version 3.1.3 provides participating companies the benefits of sharing more and relevant information with their trading partners. This can be realized by increased attribute lengths, additional attributes and by enabling the possibility to provide multiple values or certain attributes in multiple languages.

At the same time, the release also focuses on improved data quality and more standardized data by new and updated data quality validations and valid value lists.

The Informatica GDSN - 1WorldSync Accelerator has been updated to consider these changes.

In respect to the currently supported modules and attributes there were

• Adjustments to attributes
• Removal, addition and adjustments to valid values
• New, changed and deleted validations (rules and configurations)
• Updates to the export templates, XSDs and Informatica B2B
• New Import function for sequence order

For detailed change information and migration suggestions please read the GDSN Migration Guide for version 3.1.3 and the B2B GDSN Accelerator documentation. In case of using the food and beverage extension, please look at those changes as well, because there are some changes which could affect your current installation.

<table>
<thead>
<tr>
<th>Target market</th>
<th>Organism code</th>
<th>UOM type</th>
<th>Unit</th>
<th>Organism maximum value</th>
<th>Organism reference value</th>
<th>Organism warning value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Milk acid</td>
<td>metric</td>
<td>deqram</td>
<td>5.000000</td>
<td>10.12</td>
<td>0.00</td>
</tr>
<tr>
<td>Germany</td>
<td>Fungi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target market</th>
<th>Language</th>
<th>Sequence</th>
<th>Marketing message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>German</td>
<td>2</td>
<td>Another test marketing message in german</td>
</tr>
<tr>
<td>Germany</td>
<td>English</td>
<td>1</td>
<td>Test Marketing message in English</td>
</tr>
<tr>
<td>Germany</td>
<td>German</td>
<td>1</td>
<td>Test Marketing message in german</td>
</tr>
</tbody>
</table>

Attribute changes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDSN short description</td>
<td>Length changed</td>
</tr>
<tr>
<td>Daily Value Intake Reference</td>
<td>Length changed</td>
</tr>
<tr>
<td>Serving Size</td>
<td>Export template adjusted</td>
</tr>
<tr>
<td>Organism Warning Value</td>
<td>Multi Value enabled</td>
</tr>
</tbody>
</table>
Organism Reference Value | Multi Value enabled
Organism Maximum Value | Multi Value enabled
Physio Chemical Characteristic Value UOM | Export template adjusted
Trade Item Marketing Message | Moved, Length changed, Multi Value enabled
Trade Item Marketing Message Sequence | Added
Special Item Code | Moved
Coupon Family Code | Moved, Multi Value enabled

**Valid value lists**
- Units
- Languages
- Allergen Type Code
- Application Identifier Type
- Grape Variety Code
- Nutrient Type Code
- Nutritional Claim Nutrient Element Code
- Organic Claim Agency
- Packaging Type Code
- Packaging Material Type Code
- Preparation Type
- Organism Code
- Nutritional Claim Type Code
- Nutritional Program Code
- Surface Of Cheese At End Of Ripening Code
- Sustainability Feature Code
- Additional Party ID List
- Physiochemical Characteristic Code

**Validations**

**New configuration**
- Check ‘Effective date’ is not empty
- Check ‘Ingredient Name (en)’ is not empty
- Fish meat poultry type code’ have a ‘Minimum fish meat poultry content’ populated

**New rule**
- Check_MinLengthVariableMessage

**Changed configuration**
- Daily value intake reference’ or ‘Quantity contained’ is not empty if ‘Nutrient type’ is set
- Check ‘Coupon family code’ has max length of 3 characters (TM: US) and Check ‘Coupon family code’ has min length of 3 characters (TM: US)
Changed rule

- Check_MaxLengthVariableMessage

Removed configuration

- If 'Pricing on product is not empty, then 'Is consumer unit' must equal true (TM: US)

**New import function „Sequence”**
We also introduce a new import function called „Sequence“. For further information on this see chapter „Platform enhancements“.

5.11.2 GDSN default unit system
The default behavior for the unit system in use while having GDSN enabled got changed. So far, the default unit system (2 - system units) used by the “Units” repository enumeration got replaced by the “GDSN units” system during the server start. From now on this will not happen anymore. It has to be manually adjusted regarding your needs. This changed behavior provides the possibility to use non-GDSN units for non-GDSN fields.

More details can be found in the GDSN Accelerator documentation.

5.11.3 GDSN export
From now on the packaging hierarchy data sources are available for all scenarios of each 1WorldSync data pool connection. So far, they were only visible for data source scenario of the DSE data pool.

The "Nutritional information" sub module has been changed in the export templates "CIN_CatalogItemNotification" for DSE and "CR_CatalogueRequest Item" for IM. From now on nutritional information will only be output if there are nutrients maintained which are qualified with "by serving" or "by measurement".

5.11.4 GDSN implementation guidelines
There often is a need to adjust the GDSN accelerator for example, tweak validations or to add additional modules, attributes etc. to meet specific business needs. The GDSN implementation guidelines provides detailed technical instructions as well as things to consider as part of an implementation such as list of things one needs to clarify as a prerequisite, information about best practices when testing and information what to consider and think about if a different data pool should be supported.

The implementation guidelines assume certain level of technical skills such as general understanding of GDSN, familiarity with Product 360 repository, import mapping, understanding of export templates, write data quality rules etc. It also refers to existing documentation such as the GDSN Accelerator documentation, Data quality documents etc. A complete list can be found in the GDSN Implementation Guidelines.

5.12 Salesforce Commerce Cloud 17.1 certification
A certified accelerator for Salesforce Commerce Cloud 17.1 is now available with MDM Product 360 version 8.1. The accelerator consists of an export adapter interface for product and category data publication to the Salesforce Commerce Cloud backend. The provided adapter interface exports rich product information from Informatica MDM - Product 360 into files. The output is a catalog feed that can be imported automatically to Salesforce Commerce Cloud using WebDAV. The accelerator supports all scenarios pertaining to Item creation; modify as well the ability to trigger an export on demand or on a scheduled basis for full catalog or deltas. The import in Salesforce Commerce Cloud Business Manager can be started manually. No modifications of the storefront are necessary.

With the availability of the accelerator a storefront can be updated with clear rich, data quality enhanced information created or maintained in Product 360 in an expedient manner.
6 Technical New & Noteworthy

6.1 User Management

⚠️ This change might affect clients working with the Service API or Workflows! Please read carefully!

During the 8.1 development, we've encountered a need for a redesign in the user group area being effective with the release. The unique, language independent identifier of a user group is now used to identify a user group from outside the system. For this the identifier field has been added as visible field to the user group table and can of course be modified. Before this, clients might have used the name of the user group to identify it from outside!

It is important to know that external clients which provide a user group (maybe as a parameter somewhere) with the Service API Entity Item syntax (identifier in single quotes!) might need to be adjusted so they provide the identifier instead of the name.

An easy workaround is to update your user groups identifiers to be identical to the name. This can easily be done in the Desktop UI as the Identifier column for user groups is now available in the Organization perspective.

Apologies for any potential inconvenience that may come with this. This has also been necessary to further improve the capabilities of the Environment Transfer Framework in upcoming releases.

6.2 Tasks

6.2.1 New action right to access a Flexible UI

To work with Flexible UI for tasks or Flexible UI for queries please grant this permission to your P360 user because the default value is "not granted".

⚠️ Important

Supplier users configured in Product 360 to access the Item Editor from Supplier Portal should **not** have this action right.
6.2.2 Support of option group for task assignee

Templates for Flexible Task UI support an option group (radio buttons) for the task assignee as known from the task detail view, now. We suggest using the following xml snippet in the task head data in the templates:

```
<column>
  <fieldGroup>
    <field identifier="Task.User" optionGroup="assignee"/>
    <field identifier="Task.UserGroup" optionGroup="assignee"/>
    <field identifier="Task.Supplier" optionGroup="assignee"/>
    <field identifier="Task.Substitute"/>
    <field identifier="Task.Responsible"/>
  </fieldGroup>
</column>
```

The supplier should be configured in the templates also if the feature “Tasks for suppliers” is not in use. The “Supplier” option will be displayed only if this feature is configured to be used in Product 360.

6.2.3 TaskExecutionContext of workflow tasks will be repaired if incomplete

If any user accepts items from a workflow task initially assigned to a user group, then she/he can give them back to the initial user group using the “Cancel work” or “Assign” action. Now both actions work exactly the same way. Thereto, a tool has been introduced which completes the TaskExecutionContext with the initial user group. You can find further to this in the knowledge base article Knowledge Base -> Business Process Management -> Trouble Shooting

6.3 REST Service API

6.3.1 Improved error reporting in REST Service API

Before this version, in some REST Service API methods, when the REST user was missing a permission, this was reported as a response with status code 500 (Internal server error). This now changed to a response with status code 403 (Forbidden).

Please be aware of this change, when you are using the REST Service API and implement specific error handling mechanisms.

6.3.2 New API Version V2.0

A new API Version V2.0 has been introduced. V2.0 provides the same functionality as V1.0 but comes with different defaults and semantics. Changes have been made based on experiences in the field. Calls to V1.0 end-points work with the same semantics as in the past. In general, clients should consider updating to the latest version.

Clients using the Service API Java RestClient can switch to the new version by calling the new API
For compatibility reasons, the default Version of the RestClient is still V1.0.

List of changes in V2.0

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
</tr>
</thead>
</table>
| formatData | In V1.0, setting formatData to false didn't have an impact on fields with enumeration, like Article.CurrentStatus. When formatData is set to false,  
- In V1.0 the enumeration label is returned  
- In V2.0 the enumeration key is returned. |
| includeLabels | • New default value is false  
- If set to false, root objects in the result also don't have a label anymore. In V1.0 this only affected fields with object references. |
| cacheId | New default value in responses is no-cache for the case, the client doesn't request using caching. |

### 6.4 Default setting in the „Search View“

There is a new server side preference which allows to change the default setting of the „Case Sensitive“ checkbox for searches. You can activate the preference line to the plugin_customization.ini to change the default.

```bash
com.heiler.ppm.search.server/caseSensitiveByDefault = false
```

**Warning**

Please note that executing case insensitive searches can result in long running requests and database load. Always use case sensitive searches where this is sufficient.

The default of this preference is true.

### 6.5 Import

#### 6.5.1 New preferences for Hot folder

There are two new server preferences for the Product 360 Server Hot folder:

- The setting `com.heiler.ppm.importer5.inbox.core/maxNumberOfParallelScheduledInboxJobs` in plugin_customization.ini file specifies the maximum number of Hot folder (=inbox) jobs that are scheduled in parallel.
- The setting `com.heiler.ppm.importer5.inbox.core/intervalFileTrigger.numberOfIntervalsToGroup` in plugin_customization.ini file specifies the number of detection intervals, which are grouped together, in order to process files, detected within these detection intervals, in one step.

For more information see the chapter “Hot folder” of the Product 360 Knowledge Base found in the Installation and Operation package.
6.5.2 Improved performance for Structure Preset Values Import

The import of Structure preset values has been improved in performance. The Structure preset values import now uses multithreading to process the preset values in parallel which provides a tremendous performance benefit. In case you experience any issues which you suspect might arise due to the parallel execution you can disable this feature by adding this line to the plugin_customization.ini file:

```
com.heiler.ppm.structurevalue.dataimport.core/supportsMultithreading = false
```

6.6 Limit scope of item reference resolution for catalog merge

It is now possible to limit the scope of the item reference resolution when merging a supplier catalog.

Usually all supplier catalogs have been taken into account. Now there is a setting in the plugin_customization.ini that allows to limit this to the parent supplier catalog.

```
# Resolves the references between items after the merge. Setting defines the handled supplier catalogs.
# all = All supplier catalogs are considered
# singleSupplierCatalog = Only supplier catalog which contains the merged objects is considered
com.heiler.ppm.merge.server/merge.referenceResolveMode = singleSupplierCatalog
```

6.7 Improved attribute value handling of numeric values

In the past decimal attribute values had a fixed number of decimal places. Now you can define the decimal places for Items, Products, Variants and Structure groups individually by using the scale attribute of ArticleAttributeValue.FirstValue (or corresponding fields for the other entities) in the repository. Since we couldn't think of a use case where it's necessary to have a different number of decimal places for the first and second value, we don't consider the scale of the second value at all.

The "Items with features" view uses the scale of the structure group attribute because the view shows the items in the context of a structure group.

Attribute values in the web client are formatted according to the client locale.

The scale is just a matter of formatting, meaning that whatever you type in is stored in the database, even though the displayed value is rounded to the given scale.

Technical notes:

- `PropertyValidationUtils.isNumericType( long dataType )` is now deprecated. Use `DataTypes.isNumericType(DataTypes datatype)` instead.
- In `FieldTransferBaseImpl` the signature of `ensureFieldRules` has been changed. The additional parameter `EDataObject targetSubEntityDataObject` has been added.

```
protected Object ensureFieldRules( Field targetField, Object sourceFieldValue, EDataObject targetSubEntityDataObject )
```

6.8 Environment Transfer Framework

An environment transfer framework has been introduced to transfer "environmental" data like lookups and characteristic models in the Desktop UI exclusively. A detailed description of the "Environment Transfer Framework" and how to customize it can be found in the knowledge base.

6.9 Media Manager

6.9.1 Refactored update thumbnail mechanism for Classic Provider

Automatic update thumbnail image

From now on the thumbnail image will be automatically updated by the next loading request, if the corresponding media asset file is changed or replaced in the local file system and the updated media asset file has a different modification date.
Forced recreate thumbnail images

If the thumbnail is not updated because of some reason like the new modification date has less time difference than 0.1 second, the user is still able to update the thumbnail images in the following ways:

- Forced recreate for specific media asset file(s): the user should select the corresponding media asset file(s) in the “Documents view” and then run the “Read again” action from the context menu with right mouse click.
- Or forced recreate thumbnail images for its category (recursively or non-recursively): the user should select the corresponding category in the “Document categories” view and then run the “Create preview images” action from the context menu. In the popup dialog, the check box “Forced recreation” should be selected. In this way, the thumbnail images will be always updated for the current version, but it takes more time.

6.9.2 Improved copy function in the views „Media asset file“ and „Multimedia documents“

In previous versions there are two media asset views („Media asset file view“ and „Multimedia documents view“) which overwrite the standard copy function with a special one, it leads to that the user can not benefit from the standard copy function which stores the selected table entries with all field values in clipboard. From now on the copy function in both views is improved for more possibilities:

- the standard copy function is enabled so that the selected table entries can be copied and pasted later to a text editor. This function can be performed with the shortcut „Ctrl + C“ or clicking at the context menu action „Copy“.
- the special copy function is moved to a new action which stores the select media asset in the clipboard that can be assigned to the corresponding media asset attachment. This function can be performed only with clicking at the new context menu action „Copy media asset“.
6.10 Infrastructure

6.10.1 Running Product 360 server behind a Web Reverse Proxy

Starting with Hotfix 8.0.6.02 and 8.1 the flexibility for reverse proxy scenarios has been increased. The integrated Web Server Jetty is now configured to consider the X-Forward-* headers when performing server-side redirects, e.g. after successful login. Please make sure, that these headers are configured in your Reverse Proxy to be propagated to the Product 360 server.

The follow headers are supported:

- X-Forwarded-Host
- X-Forwarded-Server
- X-Forwarded-Proto
- X-Forwarded-For

Apache http Webserver automatically propagates the host header, but not X-Forwarded-Proto. This can become an issue if the protocol scheme changes, e.g. the external interface is https and the Product 360 runs on http only. A valid configuration to fix this looks like this:
6.10.2 Cleanup of problem log entries

It is now possible to clean the problem log entries created by a workflow trigger via the existing cleanup job.

To enable the cleanup, define a lifetime greater than 0 and execute the cleanup job regularly.

```
# Enables the cleanup of the problem log entries created by a workflow trigger. Cleanup will be
done by the cleanup job.
com.heiler.ppm.jobhistory.cleanup.server/ProblemlogEntry.WorkflowTrigger.lifeTime={amount in days}
```

⚠️ Depending on the count of problem log entries and job history entries the cleanup can take some time. Especially for
the first execution.

6.10.3 JDBC connection pool

A new retry mechanism is available now to ensure the planned database requests get a database connection from the pool.

It is possible to adjust the number of retries and the time between 2 retries. Experts only.

```
#Specifies the amount of retries after PoolExhaustedException when trying to obtain a connection
from the connection pool
#Default value: 2147483647
pool.maxRetryCount = 2147483647

#Specifies the wait time in miliseconds before trying to re-obtain a connection from the connection
pool.
#In case the pool is still exhausted the full maxWait time will be utilized before another retry
is being made.
#Default value: 2000
pool.retryInterval = 2000

#Specifies after how many retries to write a warning to the log
#Default value: 15
pool.retryLogInterval = 15
```

6.10.4 JCE configuration

Due to a Java update the JCE configuration has changed.
It is no longer necessary to download the JCE jar files. These files are included in the JRE package now. To use strong cryptographic algorithms, it is now necessary to enable the property `crypto.policy=unlimited` in file `<PIM_ROOT>/server/jre/lib/security/java.security`.

For details please refer to the Product 360 installation guild.

6.10.5 New Garbage Collector Algorithm for Product 360 Server

The Garbage Collector algorithm for Product360 Server was changed from CMS to G1. Therefore the JVM Parameters in `wrapper.conf` were changed. Also the `MEM_NEW` parameter in `_environment.conf` was removed. The G1 algorithm is more appropriate for the common use cases of our customers and the sizing of their Product 360 Server(s). Also, the GC event duration is more predictable, and gauged per default to 200 milliseconds. Thereby very long lasting GC events (>10s) are avoided. These longer GC events caused longer pauses of application threads in Product 360 Server, which in turn caused serious system instability and Hazelcast Exceptions like the following:

- `com.hazelcast.core.OperationTimeoutException: LockOperation invocation failed to complete due to operation-heartbeat-timeout.
- com.hazelcast.core.OperationTimeoutException: UnlockOperation got rejected before execution due to not starting within the operation-call-timeout of: 60000 ms.

Aftereffects were e.g. failing export jobs, failing hotfolder operations or bad response times for user actions.

6.11 Performance improvements

6.11.1 Search and report

To process searches with a big result set faster the reports are created multi threaded.

It is possible to adjust the threshold and the number of parallel threads.

```
# Specifies the size when to start creating a huge report in multiple threads
# Default: 50000
reporting.packageSize = 50000

# Specifies the size of the thread pool that will create huge reports in multiple threads
# Default: 4
reporting.maxReportThreads = 4
```

For huge result sets PIM activates a different processing strategy. By default, the threshold for switching the used strategy is 500,000.

```
# Specifies the result size to indicate creating the report with INSERT INTO SELECT instead of ID list
# Default: 500000
reporting.minSearchResultSizeForInsert = 500000
```

6.11.2 Threshold for ListModel requery

There is a new preference which adjusts the threshold to switch requery between by ListModel and by detail model modes, so that the number of reports generated can be reduced. It is possible for both server and client setting.

```
# Specifies the threshold with an integer value, with which the requery modes switch between "by DetailModel" and "by ListModel".
# E.g. If the number of changed list entries is greater than the requery boundary, ListModels are used for updating(or loading), otherwise detail models.
# In this way the number of reports generated can be reduced to improve the performance, since loading detail model doesn't have to create a report.
# Default value is 5.
# com.heiler.ppm.std.core/listModel.requeryBoundary = 5
```
6.12 Repository changes

Due to the GDSN adjustments, some enhancements of the domain data model have been done. Please take a look at your own custom entities and adjust them accordingly.

6.12.1 ArticleDomainUOMType

A new logical key type "ArticleDomainUOMType.LK.Std_UnitProxy_01" has been introduced. The standard custom entities have been adjusted accordingly.

All existing custom entities which are based on this entity type must be manually extended by corresponding logical key and field.

In case you need to deactivate this additional key use the default value 1 and do not maintain an enumeration:
6.12.2 ArticleDomainLangType

A new logical key type "ArticleDomainLangType.LK.Std_LK_Int_01" has been introduced. The standard custom entities have been adjusted accordingly.
6.13 Enumeration changes

6.13.1 Adjusted enumerations
Following enumerations have been adjusted:

<table>
<thead>
<tr>
<th>AdditionalPartyIDList</th>
<th>Used in field ThirdPartyAdditionalIdentification.Type (Third party is used in Certification.Organisation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Name (en)</td>
</tr>
<tr>
<td>EU_VAT_IDENTIFICATION_NUMBER</td>
<td>EU VAT Identification Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ReferencedFileTypeCode</th>
<th>Used in field CertificateReferencedFile.FileTypeCode(Referenced file type, Typ der referenzierten Datei)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Name (en)</td>
</tr>
<tr>
<td>360_DEGREE_IMAGE</td>
<td>360 Degree Image</td>
</tr>
<tr>
<td>ASSEMBLY_INSTRUCTIONS</td>
<td>Assembly Instructions</td>
</tr>
<tr>
<td>PACKAGING_ARTWORK</td>
<td>Packaging Artwork</td>
</tr>
<tr>
<td>QR_CODE</td>
<td>Link to QR Code</td>
</tr>
</tbody>
</table>

6.13.2 New enumerations parameter useKeyAsSynonym
The default behavior of all enumerations based on com.heiler.ppm.repository.enumerations.StdEnumProvider has changed. From now on the key will be considered as synonym in case no synonym has been fitting to the searched value. Therefore a new enumeration parameter "useKeyAsSynonym" representing a boolean value has been added which defines if the key should be considered as synonym. The default is true. Please note that in case of combination with the baseEnumeration, the baseEnumeration entity parameter for using the key as synonym can differ. This new enumeration parameter will have no effect on the Product 360 Service API.

Discontinued

6.14 Windows 2008 R2
As announced in earlier versions of the Product Availability Matrix Windows 2008 R2 is no longer supported as application server.

6.15 Microsoft SQL Server 2012
As announced in earlier versions of the Product Availability Matrix Microsoft SQL Server 2012 is no longer supported as database server.
6.16 Oracle 11g R2
With version 8.1 we also removed the support of the database Oracle 11g R2.

6.17 JBPM-Workflow-Engine
The support of the deprecated JBPM Workflow engine has ended with MDM - Product 360 8.1.

7 Definitions

7.1 Accelerators*
Accelerators (in this document marked with an *) are functioning implementations which can be used out of the box under specific circumstances only. Usage of these accelerators in context of the concrete customer's use cases and requirements, with the customer's data and within its specific environment might need adaptations like configuration, additional scripting, or programming of add-on functionalities which have to be provided through additional professional services. For example the e-commerce integrations provide the fully functioning transfer of a set of data based on the Product 360's standard repository and according to the selected sample implementation of the Web Shop. As soon as the data set needs to be adapted to the concrete needs of the customer's web shop or to the customer's individual Product 360 data repository additional customizations may be needed.
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