RELEASE NOTES

Release 9.2

Updated September 27, 2019

StiboSystems
MASTER DATA MANAGEMENT

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9.2 Release Notes

Document Overview

Audience

This document is intended for use by active STEP users and partners. It serves to describe the new and enhanced features provided with the release. It does not serve as a replacement for the STEP Online Help, which includes additional information on previously existing and new system functionality, as well as more detailed explanations and step-by-step instructions for use, when appropriate.

Content

This document describes the changes between the current and previous release.

Some functionality is controlled via component activation, which may include licenses and/or component installations, and may not be available on a particular system. Questions should be directed to your Stibo Systems account manager or partner manager.

Release Overview

A wide variety of Product Master Data Management, Customer Master Data Management, PLM, and STEP enhancements were implemented with the 9.2 release.

Product MDM

- New Search and Product Editor Web UI screens are available for searching, viewing, and editing product details in a modern, user-friendly format. The complete functionality of search includes the use of Elasticsearch, static facet search operations, personalized views by user, and a basket for collecting and exporting search results.
- Product Data Syndication integration enhancements include the ability to export data containers and asset metadata from STEP to PDS. Additionally, product master data can be syndicated from STEP to PDS in selectable languages.
- The ability to measure the quality and completeness of data has been enhanced with the introduction of a new basic object type, which allows users to create sufficiencies that combine basic and aggregator metrics to calculate sufficiency scores. These calculated scores, along with messages that pertain to the scores, are displayed clearly and colorfully within the Web UI's new Sufficiency panel.

PLM

- Reporting capabilities on recipes using new Change Reports functionality enables administrators to identify important information that should be captured during a transition event and displayed to the users.

- An enhanced Multi Reference Editor allows users to add new references by selecting a target object and adding meta data attribute values in one dialog instead of multiple steps.
- Project Navigator enables a simple view of a group of objects that belong to a project and allows easy navigation to any of the objects in the project. For example, if a project contains multiple variations of a product, packaging options, labels, and supplier responses.

Customer MDM

- Centralized B2B CMDM improvements with particular focus on CPG, manufacturing, and distribution verticals.
- References from Data Containers to support Line of Business specific customer relations
- Support matching through configuration alone includes improved setup and configuration of matching, enabling quick time to value and an improved implementation experience.
- Extended Data Profiling to support value and function metrics.

Platform

- An Embedded Analytics Platform (EAP) has been introduced that provides users with a true end-to-end, one-stop analytics solution to capture, analyze, and visualize STEP and external systems' data.
- Configuration management updated to include new functionality that allows for the editing and testing of business rules outside STEP and for governing the lifecycle of business rules in a source code control system (GIT), and the ability to export single configuration objects. There is also a new user guide for maintaining partial data sets on lower level DTAP environments.
- Web UI updates that include a new Multi Context Edit toolbar action, a new Summary Cards concept, screen mapping based on business condition outcomes, updated navigation options including deep linking and back button behavior, and much more.
- JSON-based REST API V2 extended to support for Keys, creation with known identifiers, ability to do multiple updates in a single request, and handlers to access and control integration endpoints, event queues, and background processes.
- Translation functionality has been expanded to LOVs. Additionally, a new processor allows for the batching of translation requests, and a new asynchronous translation service (File Exchange Service) can be used to manually export / import translation files into folders with no translation service API needed.

This document describes the above and other new functionality and improvements, in greater detail.

In addition to the individual release notes, upgrading customers should read the **9.2 Upgrade Guide**.

Installation Recipe

The baseline can be installed using this command:

```
spot --upgrade=step:9.2
```

See the SPOT Program documentation for help doing the STEP upgrade and installing add-on components.

Contact your Stibo Systems account manager or your partner manager for additional information on upgrading or installing the 9.2 release.

9.2 Upgrade Guide

Before upgrading STEP and its add-on components, there are certain system changes that customers need to be aware of when moving to 9.2 from an earlier version. This list may not be all-inclusive; however, along with the full release note set, it provides a starting point for upgrade evaluation.

As with every release, some components are deprecated, removed, desupported, or not backwards compatible for various reasons. Customers should also read the Platform and Software Support Changes release note and each individual release note for items that may not be listed below and to see future updates and software end-of-life notifications.

- Support for STEP 8.1 is ending as of 1-Nov-2019, and STEP 8.2 support ends effective 1-Jun-2020.
- Internet Explorer 11 will no longer be supported with 9.3. Customers should ensure that they are on a modern supported browser to prepare for this change. For more details, see the Platform and Software Support Changes topic.
- 32-bit platforms for the workbench are no longer supported.
- Quicksheets are no longer supported, and all Quicksheet functionality is removed with this release. Customers are encouraged to use Smartsheets instead. Contact your Stibo Systems representative for more information.
- With the removal of Quicksheet functionality, the following action buttons are no longer available in Web UI: QuickSheet Action, Excel Export Action, and Excel Export All Action. These were previously withdrawn, meaning that if configured on your system, they could still be used. Now, they will not appear in any 9.2 system.
- FAB-DIS users should be aware of a new property that was originally announced / introduced in 9.1-MP4. A property must be added to the sharedconfig.properties file upon upgrade of the FAB-DIS component. See the Data Exchange Enhancements and Changes release note for details.
- The Children of Type screen is superseded with the Children of Types screen and will be removed with the next feature release. Users should transition to the Children of Types screen so functionality is not lost with future upgrades.
- Prior to transitioning, if using the Children of Type screen, users should note that the 'New Item Object Type' parameter is deprecated. The parameter is nonfunctional.
- Any Function metrics created prior to 9.2 are not backwards compatible with the new data profiling functionality introduced in 9.2. See the Data Profiling Enhancements release note for important information.
- With 9.2, the XML-based REST API V1 is considered deprecated and no enhancements will be made and no new features added. Customers are advised to start using REST API V2 instead.
- A new 'Hide All Leaves' parameter has been added to the Tree Navigator component (on Stack Panels and Primary Navigation Panels). This parameter is disabled by default, allowing all leaf objects to display in a Tree Navigator component. This is a change in default behavior, and users should validate that the behavior of leaf objects works as expected post-upgrade.

- Entity and Collection Summary components have been replaced with Entity and Collection Summary Card components. Those with Entity and Collection Summary components already configured will see no changes when updating to 9.2. However, when adding new summary components, both Entity and Collection Summaries will display in the component list as superseded.
- The look and feel of the Smartsheet controls are changing. For full details, see the Smartsheet Enhancements release note.
- In the original 9.1-MP3 release notes, it was stated that the behavior for calculated attributes would change with 9.2 so that data, in the domain layer, would be accessed observing standard privileges. 9.2 does not include this change.
- Various branding updates have been done so that users may notice slight changes to their Start Page header and the 'Updated release notes' message that displays when entering workbench after a feature release. Although customers should do upgrades and updates using the spot --upgrade command, it is important to note that the baseline installation recipe format has also been updated: to:step/platform/[baseline].spr.

Additional items to note for Web UI:

- New warnings (orphan attribute values) and pop-up behaviors have changed.
- The Node Picker dialog that displays when initiating a Move Action now shows both the name and the ID of the objects contained in the displayed hierarchy.
- The Workflow State component (now, the Workflow States component) has been redesigned for improved configurability and ease of use.

Customers cannot revert to previous behavior for these types of changes. See the Web UI Enhancements release note for details and to read about additional behavior improvements to Web UI.

New Search and Product Editor Screens in Web UI

Summary

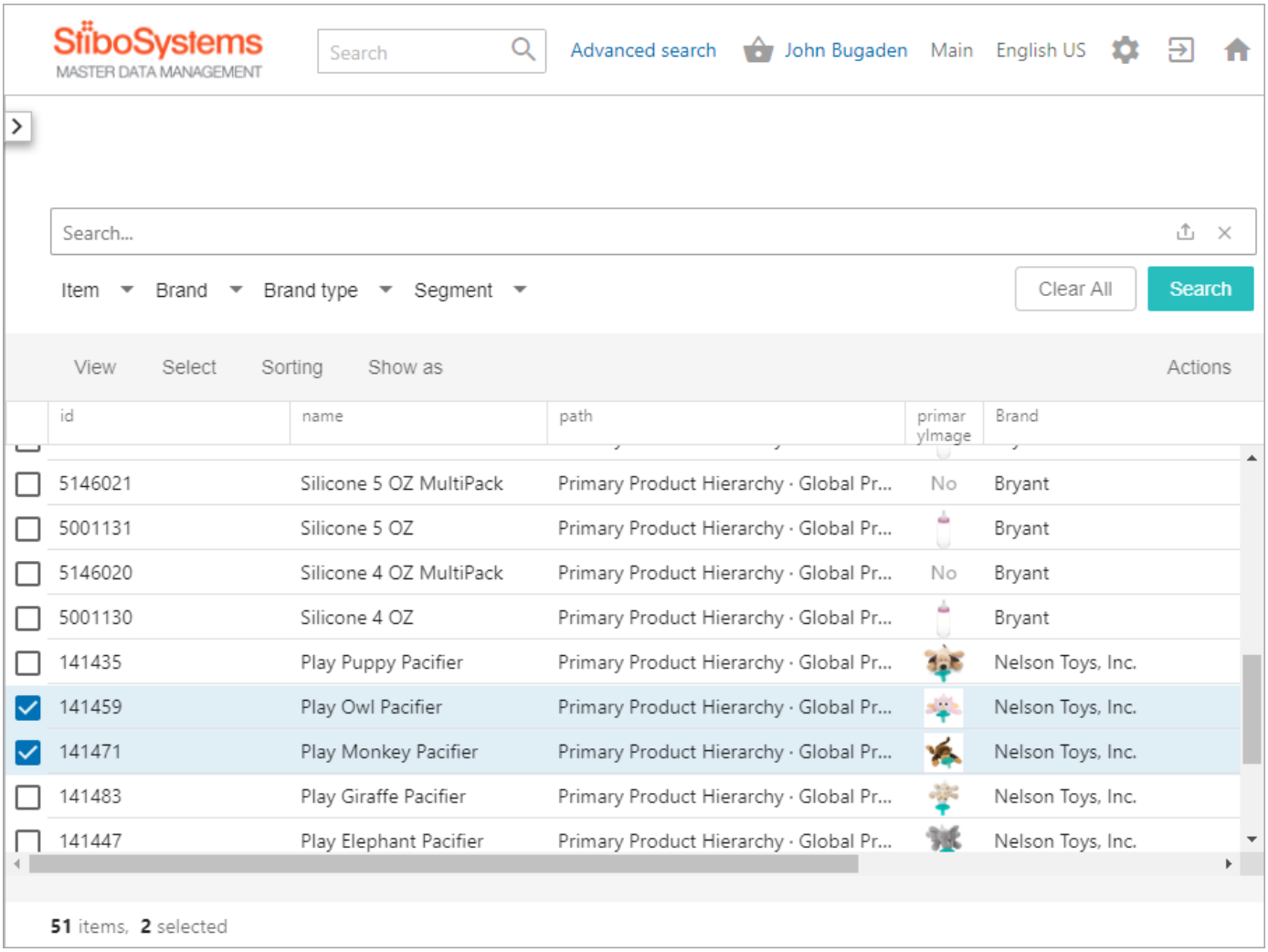
Two new Web UI screens are available for searching, viewing, and editing product details in a modern, user-friendly format.

- The new 'Search' screen combines the power of Advanced Search and the simplicity of the Global Header Search, to allow users to easily find objects by systematically filtering search results.
- The 'Product Editor' screen is optimized to provide a streamlined format for viewing and editing attribute values and images for a selected product. The screen also includes the 'ancestor path' to show the location of the product, the image carousel with referenced images, and a sufficiency indicator to indicate a quick overview of the work required for product completeness.

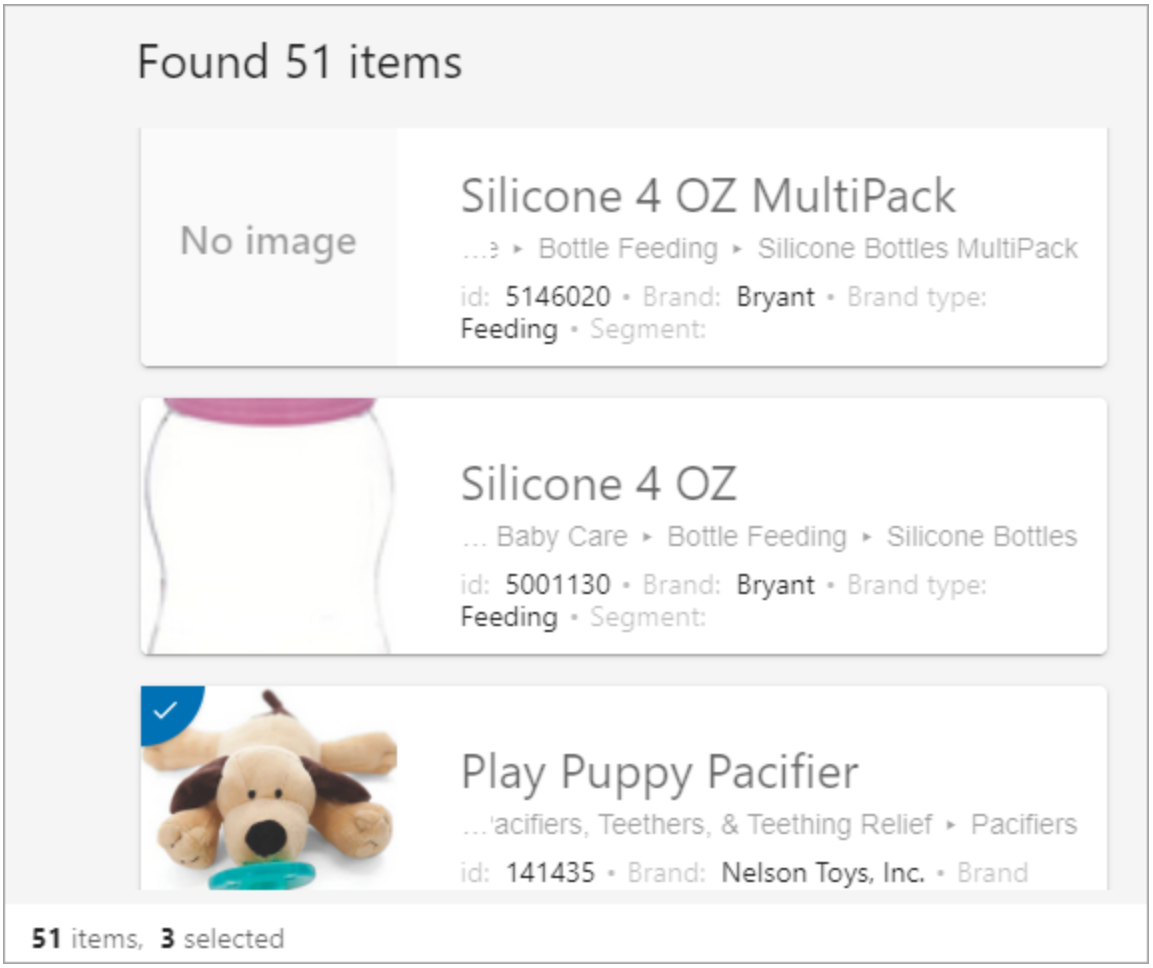
Details

Search Screen

The new Web UI 'Search' screen introduces many elements common in online shopping sites, providing a more familiar search experience. The complete functionality of Search includes the Elasticsearch search engine, static facet search operations, personalized views by user, display results as cards or a table, and a basket for collecting and exporting search results, as well as publishing data to PDS. Contact your Stibo Systems account manager or partner manager to activate and configure the Search screen, Elasticsearch, and the corresponding components / functionality.



The search results can be displayed as a table, shown above, or as cards shown below.



The new Search screen uses Elasticsearch, a third party search engine that provides a variety of automatically enabled search types from the search bar. The available searches include:

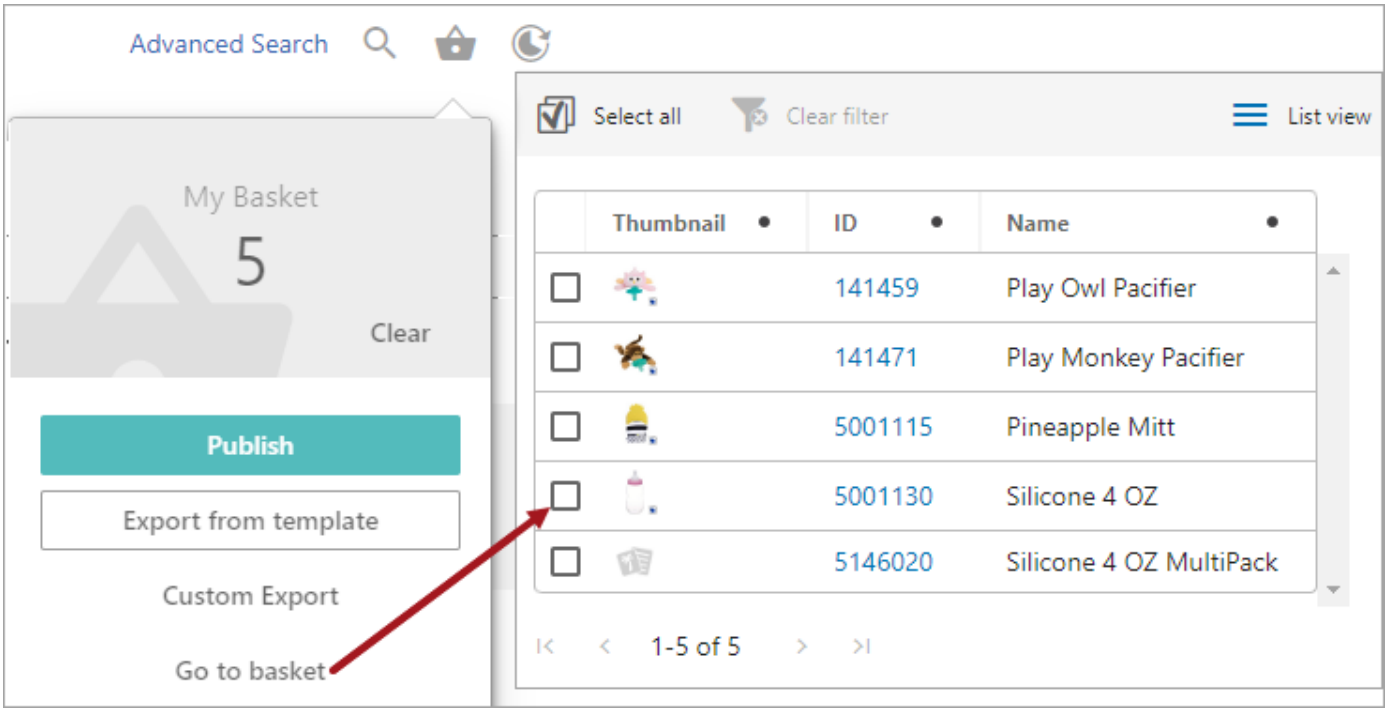
- 'exact match' - for use when the exact search word is known, e.g., ID
- 'fuzzy match' - for use when the exact search word is not known, e.g., product name
- 'match phrase' - for use when more than one word must be included in the result
- wildcards - for use when multiple characters (*) or a single character (?) within the searched value is unknown

The upload option allows a list of IDs in an external file to be displayed in the search bar and then searched.

Static facets on the new Search screen make it easy to perform a complex search without knowing the data model. This is done via multiple filters that can be used to narrow down search results. For example, searching the word 'red' could return results that include red food coloring, a red bicycle, and a red dress. A 'category' facet can allow the user to restrict the search results to include only products in, for instance, the clothing category. Applying

a filter using any of the preconfigured facets will update the search results instantly. Additional facets can be applied to further refine the results. Of the facets shown below, the first is set to include only 'Item' products and the last indicates the 'Segment' category.

The new Search screen also includes individual basket functionality based on the Web UI user. Products added to the basket can be viewed, edited, exported, or published. For example, a sales representative can use the basket to gather various products returned from one or multiple searches to help build a proposal for a prospective buyer. When the group of products is no longer needed, they can be removed from the basket.



The Search screen 'View' functionality gives individual users control of the information displayed on their search result cards. In addition to the default view, views can be created and saved to display information needed for a particular task. Views can be changed on-the-fly to either include additional data in the search results or to exclude data from the current view. For example, a data manager can create one view tailored to working with clothing products that includes sizing attributes, and a separate view designed for working with food products that includes ingredient attributes.

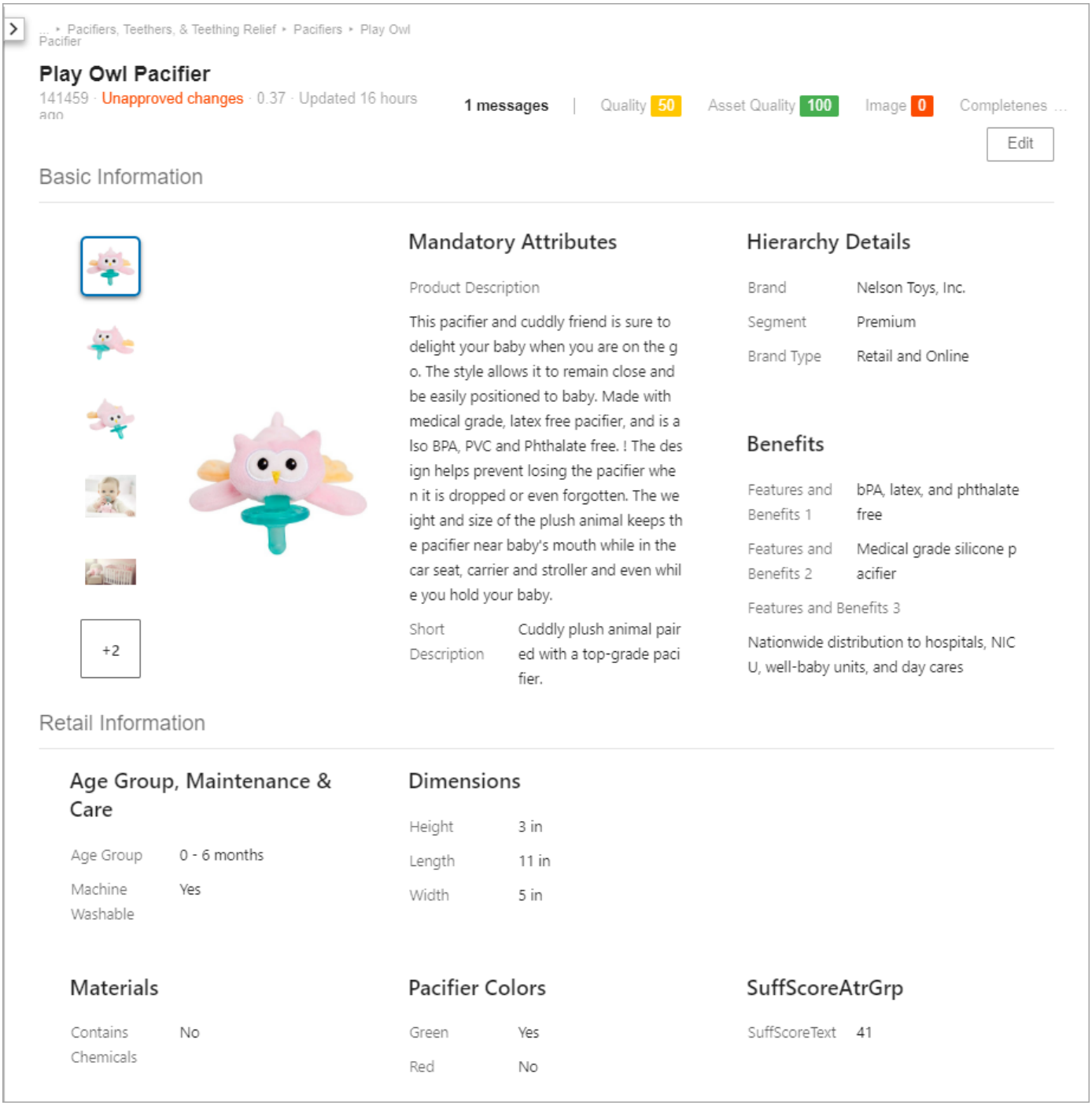
For more information, see the Search Screen topic in the Web User Interfaces / Web UI Setup and User Guide documentation.

Product Editor screen

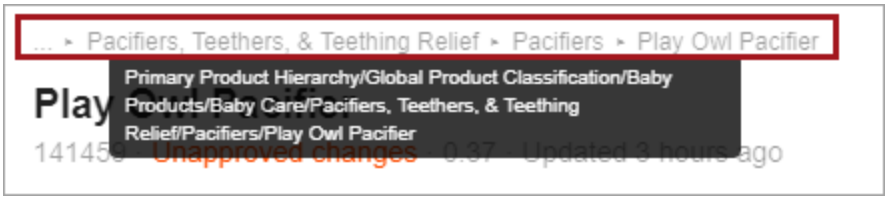
The 'Product Editor' screen enables users to either view or edit attribute values for a selected product based on which of the two modes the user is accessing. The view mode allows a user interested in data review, for example, to easily see what data and images have been supplied for a product. The edit mode gives the user a straightforward way to efficiently update product data.

The Product Editor screen can be configured to provide an intuitive and visually streamlined view of product information. Product data is presented in defined groupings of 'sections' and 'cards'. Cards can contain the referenced product images or a grouping of one or more attributes and their respective values, while sections are made up of one or more cards. Organizing product data in this way allows users to more easily see the relationships between various attribute groups, and between groups of attribute groups. The order of sections and cards mirrors the workbench setup and therefore does not require additional configuration.

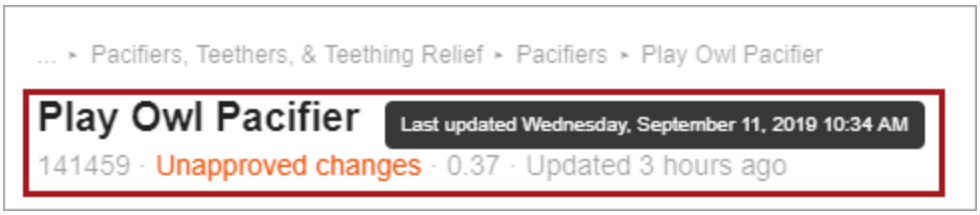
Predefined rules determine how attribute labels and values display in relation to each other in the Product Editor screen. The screen is responsive, meaning the appearance of the on-screen contents adapts automatically based on the entered attribute values and the size of the display. For example, the attribute label will display above long values, allowing more screen space for the value and necessitating fewer line breaks. As the data resizes responsively on the screen it is always correctly proportioned, even when the size or resolution of the display changes.



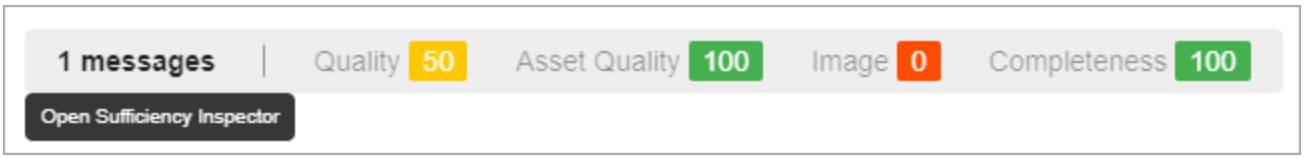
The Product Editor screen also includes a feature called 'ancestor path' that can display the levels of classification, or ancestors, in which the product resides. In the screenshot below, the ancestor path shows three levels of ancestors for the product being displayed. The ellipsis (...) at the start of the path indicates more ancestor information is available. To view a full ancestor path when only a truncated version displays, a user can hover their cursor over the path. As shown in the image below, the full path displays in a gray-shaded pop-up starting with the first classification level, the primary product hierarchy.



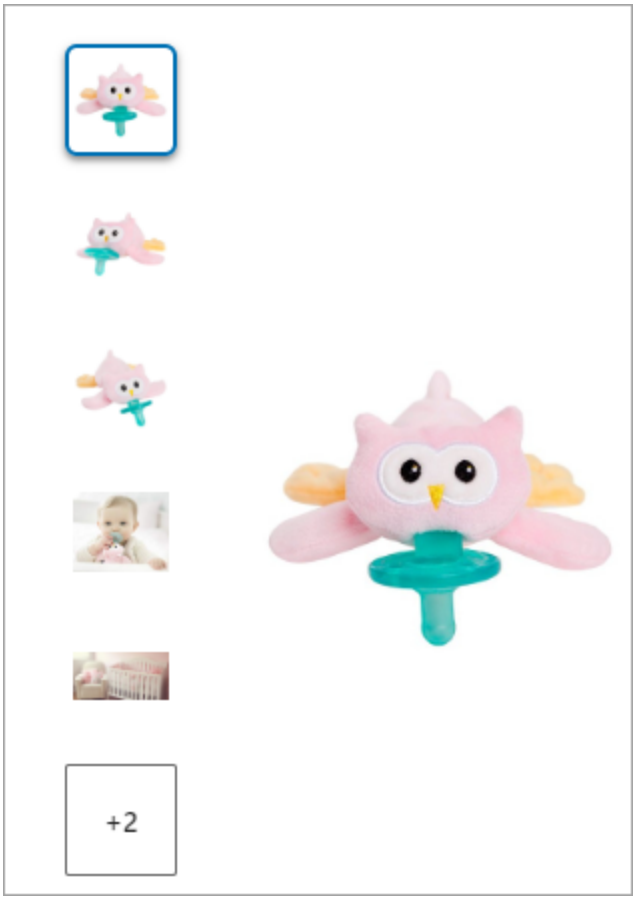
The product name is displayed prominently on the Product Editor screen. The object ID, approval status, revision number, and information related to when the product was last updated is also available. As shown in the image below, hovering the cursor over the 'Updated 3 hours ago' text displays additional details in a gray-shaded box including the day, date, and time of the last update.



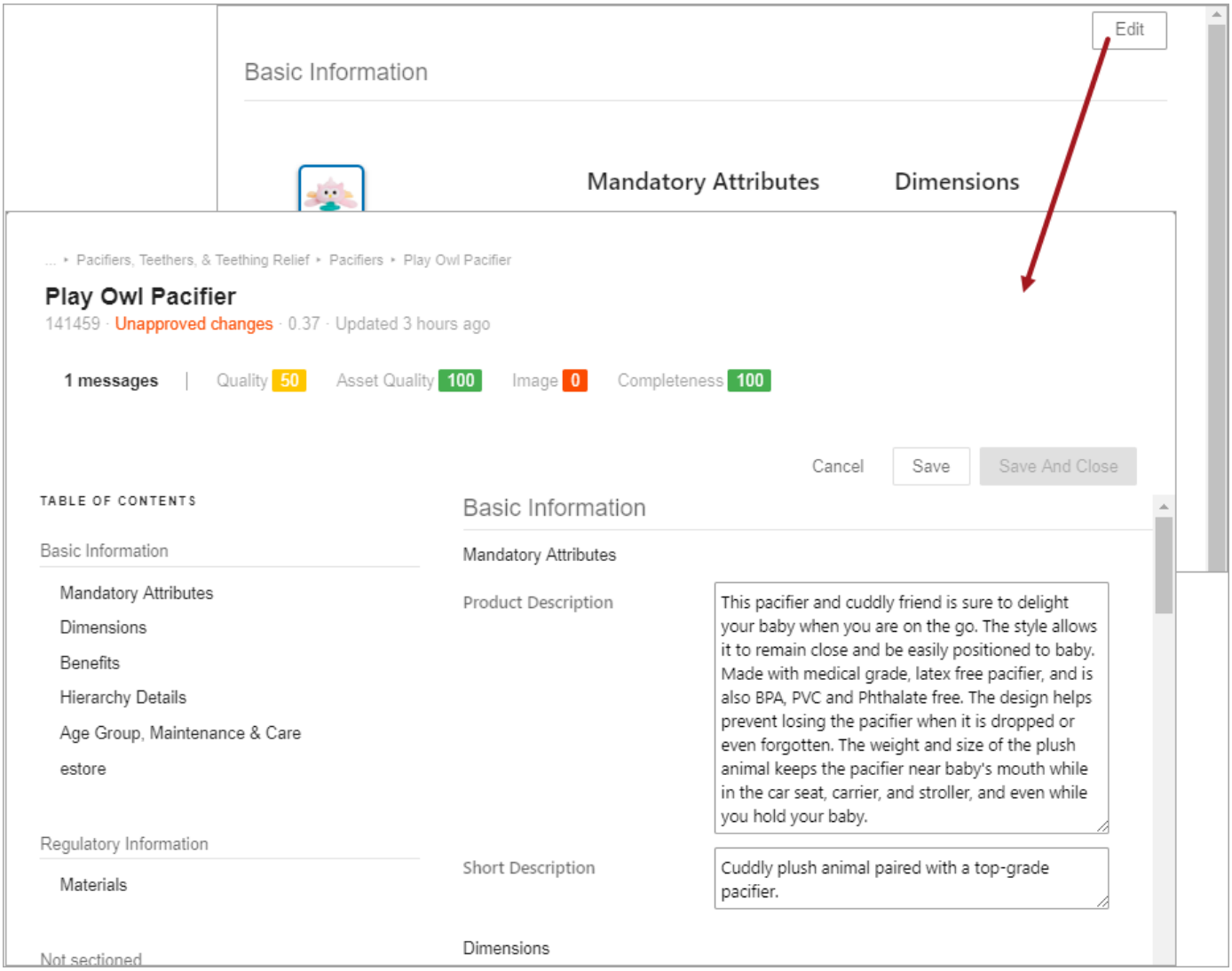
The Product Editor sufficiency indicator displays the configured metrics which indicate the work still required for product completeness. The number of messages indicates how many metrics need attention. Red and yellow indicators show the highest percentages of data required to satisfy the metric. Once all necessary data has been supplied, a metric score of 100 is shown in green. Clicking the indicator opens the Sufficiency Inspector panel. For more information on the Sufficiency Inspector panel and other information related to the sufficiency indicator, and the 'data-sufficiency' component, see the Data Profiling Enhancements release note.



The Product Editor image carousel displays the primary image as well as referenced images. All images can be viewed by scrolling through the available images. Select an image from the carousel to display it as a larger version in the top image location. Click the icon with the number of additional images to see all referenced images on a new screen.



The 'Edit' button on the Product Editor allows users to change product data. The Table Of Contents enables the user to go directly to the section that needs edits, and provides a quick overview of all cards that include attributes valid for the product.



To use the Product Editor, contact your Stibo Systems account manager or partner manager to activate the 'ui-product-editor' component.

For more information, see the Product Editor Screen topic in the Web User Interfaces / Web UI Setup and User Guide documentation.

PDS Integration Enhancements

Summary

The Product Data Syndication (PDS) solution has been updated to include the following new features and enhancements:

- A new channel integration to Kwikee has been implemented for PDS.
- A new channel integration to Brandbank has been implemented for PDS.
- New ability to export selected data containers from STEP to PDS.
- New ability to export asset metadata to PDS.
- Support for multi-language syndication.

Details

New PDS integration to Kwikee

Using the Kwikee API, users are able to send data from a PDS channel to a Brandbank channel and have that data validated.

New PDS integration to Brandbank

Using the Brandbank API, users are able to send data from a PDS channel to a Brandbank channel and have that data validated.

Ability to export data containers of specific types from STEP to PDS

Using the PDS outbound integration endpoint, users are able to export selected data containers from STEP to PDS. By providing instructions within the Advanced STEPXML template, users will be able to export data containers of specified types. For more information, see the PDS Data Container Exports topic in the Product Data Syndication documentation.

Ability to export asset metadata attributes to PDS

It is now possible to export asset metadata attributes referenced by a product that is configured to be or has already been exported to PDS. By configuring the Advanced STEPXML template, users can specify which asset metadata to include with these products. The ability to export metadata attributes is possible through the increased capability of the PDS Outbound Preprocessor. This processor was originally used as a way to enable export of related packaging objects referenced by a product, but with this latest release it can now also export asset metadata referenced by the product. For more information, see the Exporting Metadata Attributes of an Asset to PDS topic in the Product Data Syndication documentation.

New support for multi-language syndication

It is now possible to syndicate product master data from STEP to PDS in multiple languages. This means that when product master data is maintained in STEP in several languages, a configurable set of language versions can be sent to PDS, thus the product master data in PDS will be available in the selected language versions. For more information, see the PDS Outbound Integration Endpoint Configuration topic in the Product Data Syndication documentation.

Data Profiling Enhancements

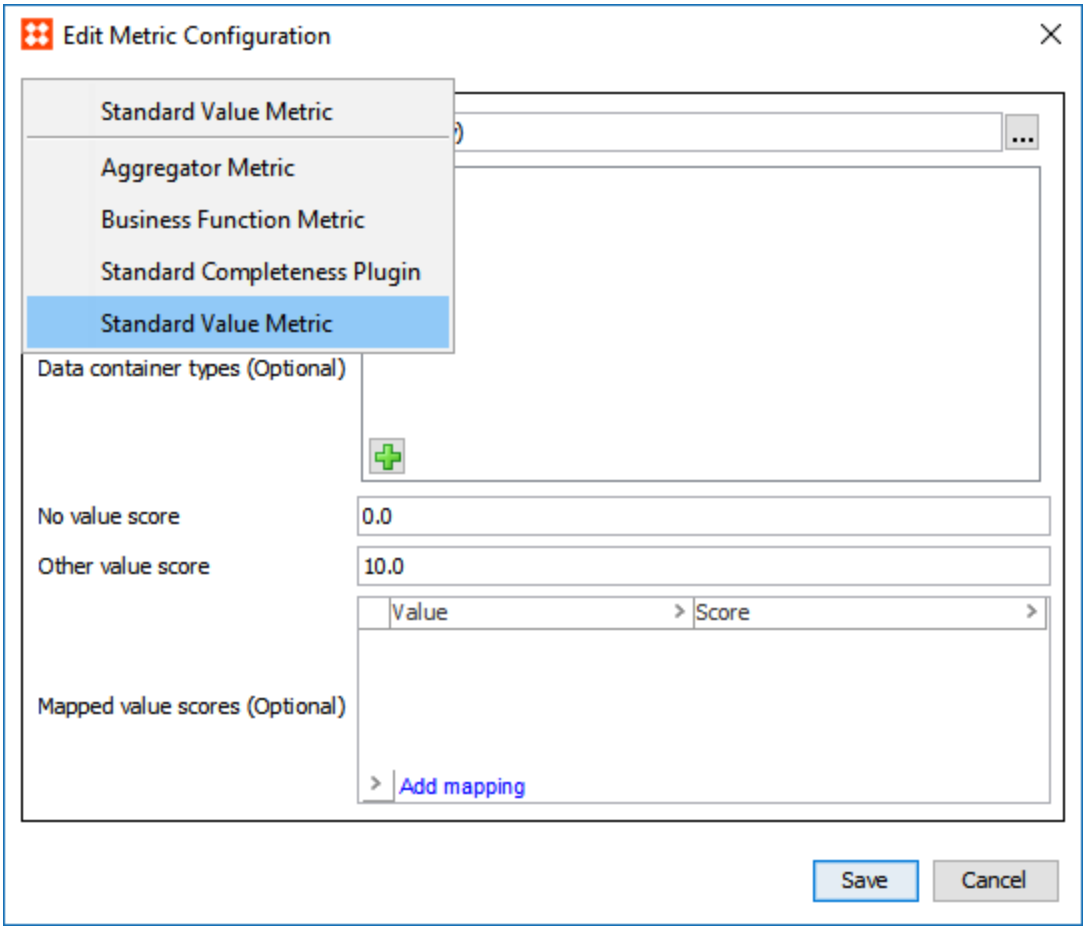
Summary

There are a number of enhancements completed for Data Profiling, including:

- The new Metric Editor allows for more streamlined configuration of metrics across all metric types.
- The new Aggregator Metric allows users to display combined scores from multiple completeness metrics for a given node.
- Value metrics can now evaluate specification attributes.
- The Business Function Metric now includes the option of having a message displayed that details information determined by the metric configuration, if a score is received that is less than a predetermined threshold.
- Data profiles can display metric information for Value and Business Function metrics, both in the workbench and in Web UI.
- The new Data Sufficiency Calculator processor plugin allows users to calculate sufficiency scores for products when a certain event is generated.
- By combining configured metrics, business conditions, and business actions, the new Sufficiency Configuration Type gives users the ability to measure data quality and sufficiency, in the form of a score, on products.

Details

New Metric Editor

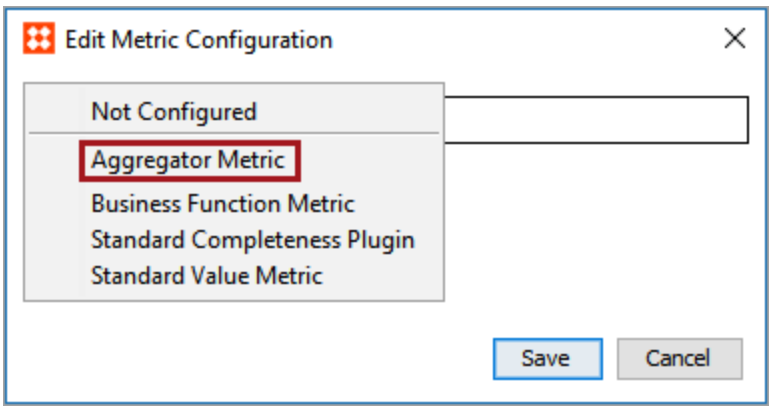


Previously, each metric had to be added to System Setup via its own context menu selection, and once a metric was created as a given type, it could not be changed.

For more information on creating and editing metrics, see the Creating and Editing Metrics section of the System Setup documentation.

New Aggregator Metric

A new option, the Aggregator Metric, is available when selecting a completeness metric in the Edit Metric Configuration wizard. For a given node, the Aggregator Metric allows users to display combined scores from multiple metrics (basic metrics and/or other aggregator metrics). For more information, see the Aggregator Metrics topic in the Data Profiling documentation.



Value Metrics usable with Specification Attributes

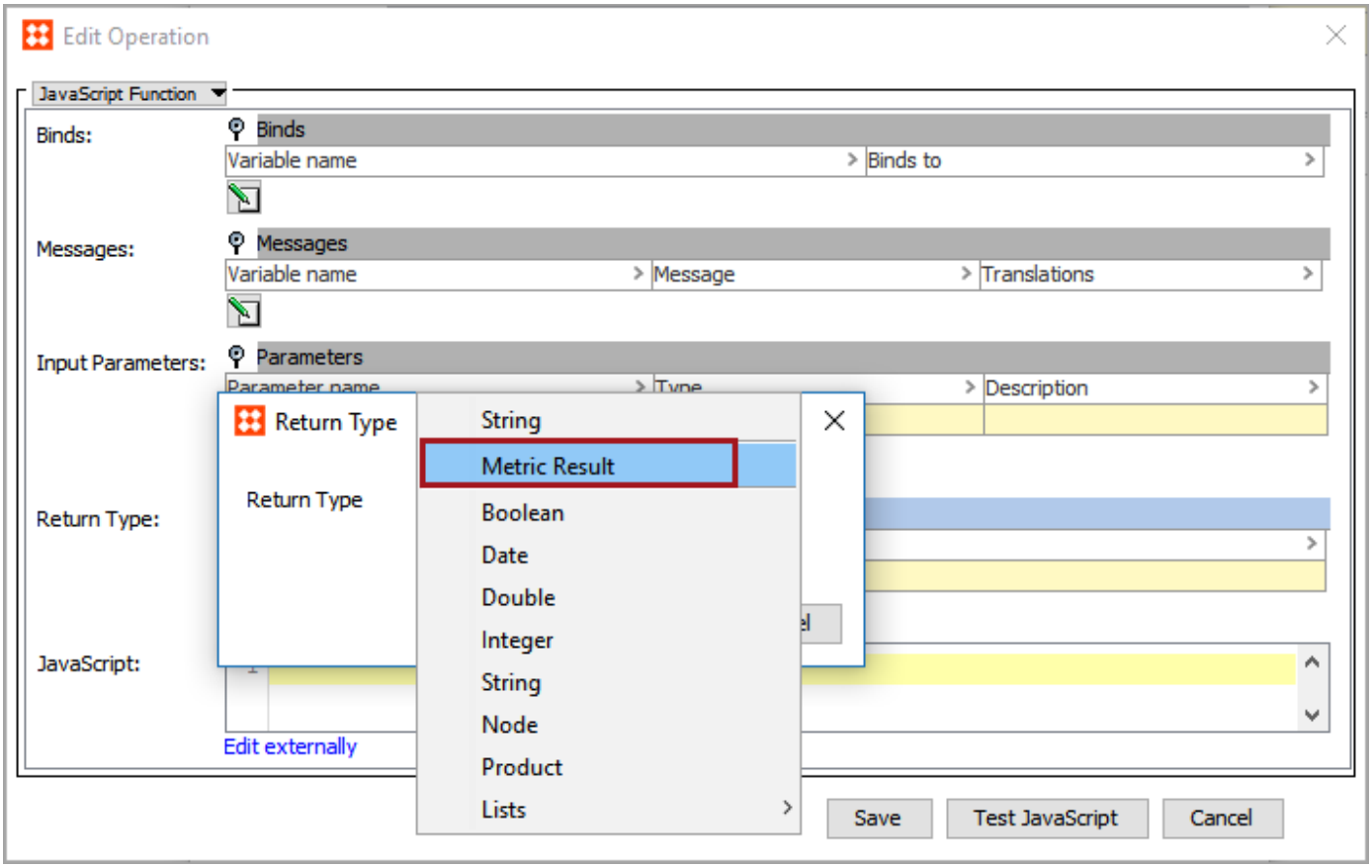
It is now possible to configure a Value Metric to evaluate a Specification Attribute. Previously, it was only possible to configure these metrics for Description Attributes.

During configuration, no distinction is made between the two attribute types.

For more information, see the Value Metrics section of the System Setup documentation.

Updated Business Function Metric

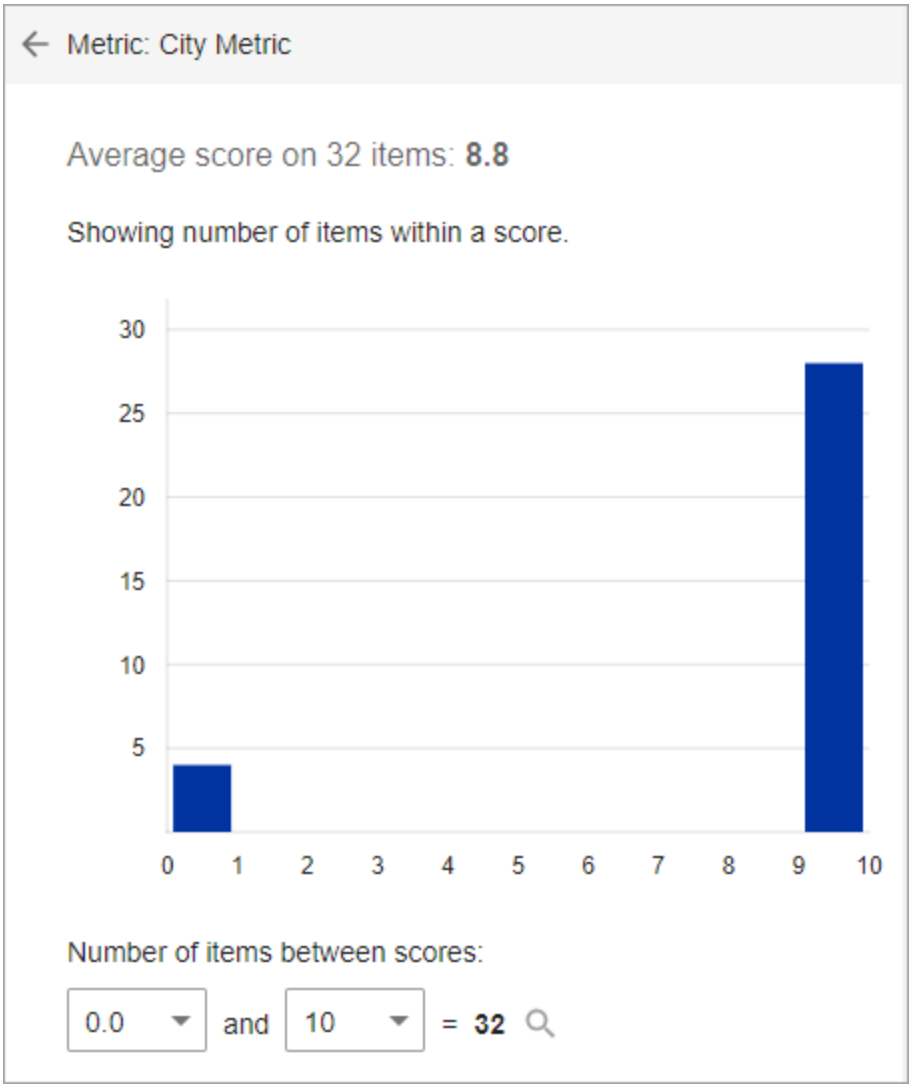
The Business Function Metric has been updated to include the ability to have a message returned with a completeness score when 'Metric Result' is chosen as the return type within the business function. The message, displayed in the Web UI sufficiency inspector, provides users with more information regarding the completeness score, including any error messages. For more information about Business Function Metrics, see the Business Function Metrics topic in the Metrics documentation.

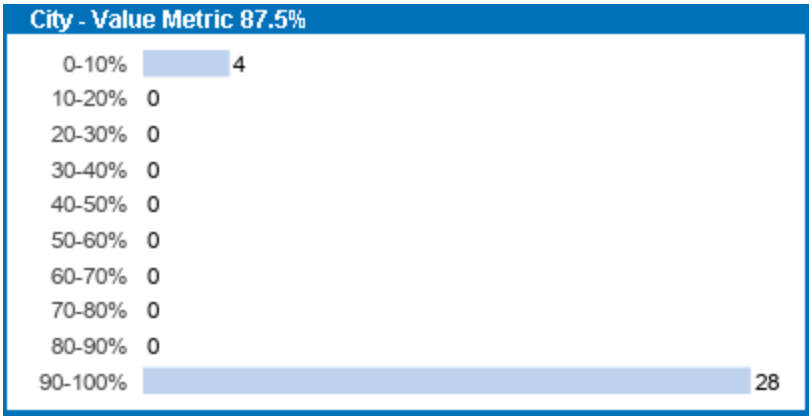


Profiling Value and Function Metrics

Objects can now be profiled using Value and Function metrics, both of which behave in a similar fashion to Completeness metrics. Previously, Completeness was the only metric type that could be profiled.

If specified on a relevant data profile configuration, both metric types can appear on the data profile screen in Web UI, and each can be configured for display on a data profile dashboard in workbench.


Metric: City Metric
Average score on 32 items: 8.8
Showing number of items within a score.
30
25
20
15
10
5
0 1 2 3 4 5 6 7 8 9 10
Number of items between scores:
0.0
and
10
= 32

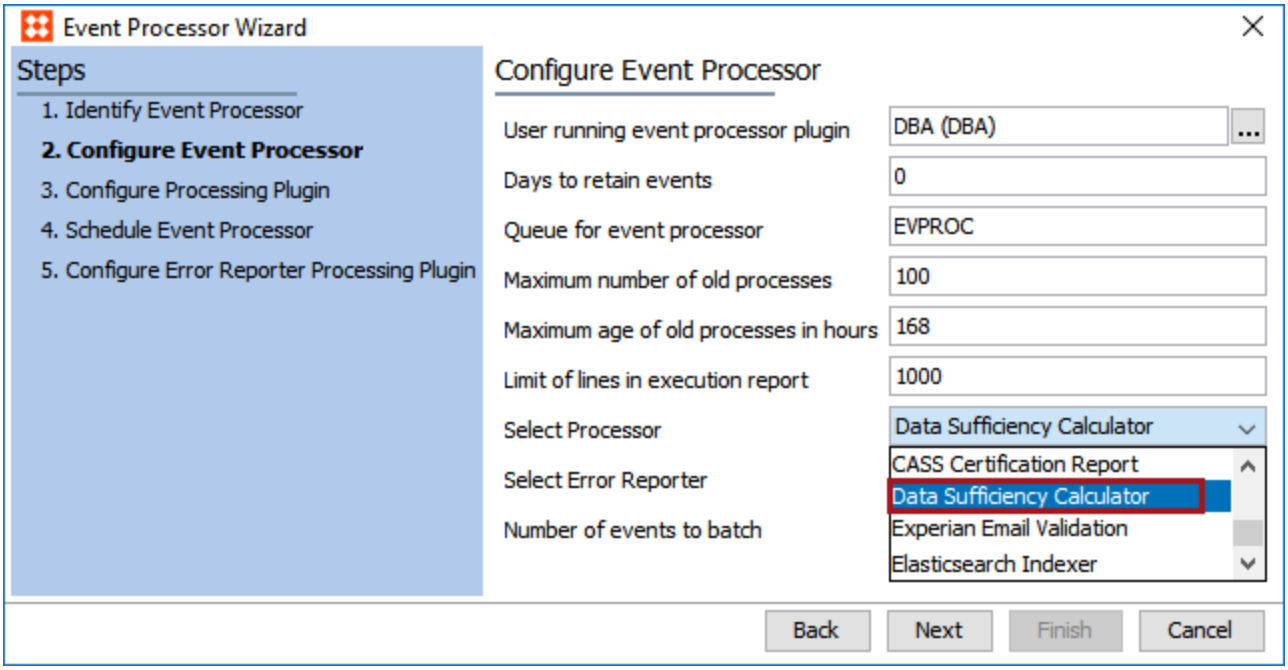

City - Value Metric 87.5%
0-10% 4
10-20% 0
20-30% 0
30-40% 0
40-50% 0
50-60% 0
60-70% 0
70-80% 0
80-90% 0
90-100% 28

Additionally, if set as the default metric, either metric type can be used in place of a Completeness metric for the Completeness Meter. Note, however, that the Completeness Info window is not available for Value or Function metrics.

For more information, see the Metric Visualization section of the System Setup documentation.

New Data Sufficiency Calculator processing plugin

With the new Data Sufficiency Calculator processing plugin, users are able to configure an event processor for calculating sufficiency scores for products when a certain event is generated. The sufficiency score results are stored in a data container and displayed within the sufficiency inspector in the Web UI.

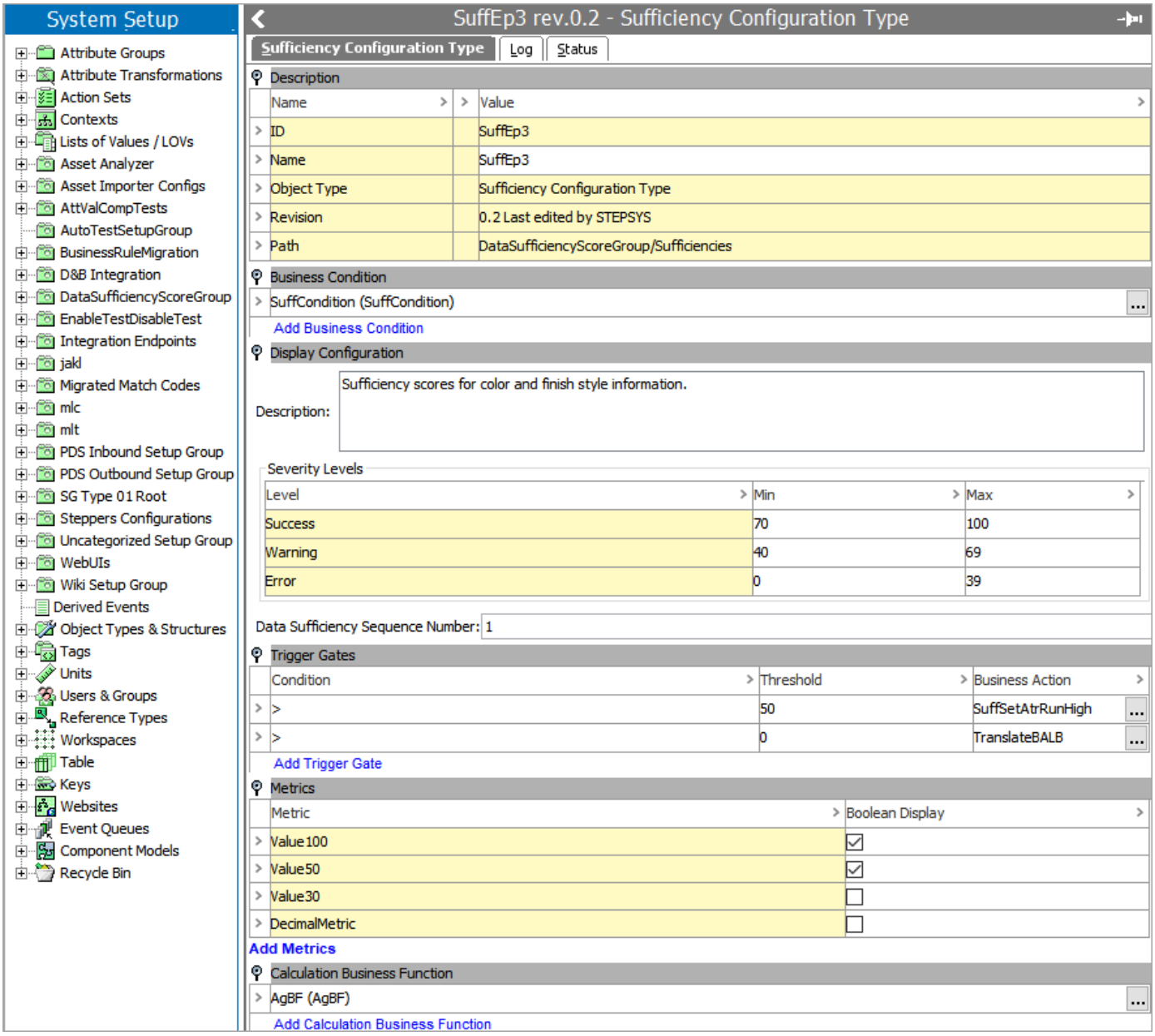


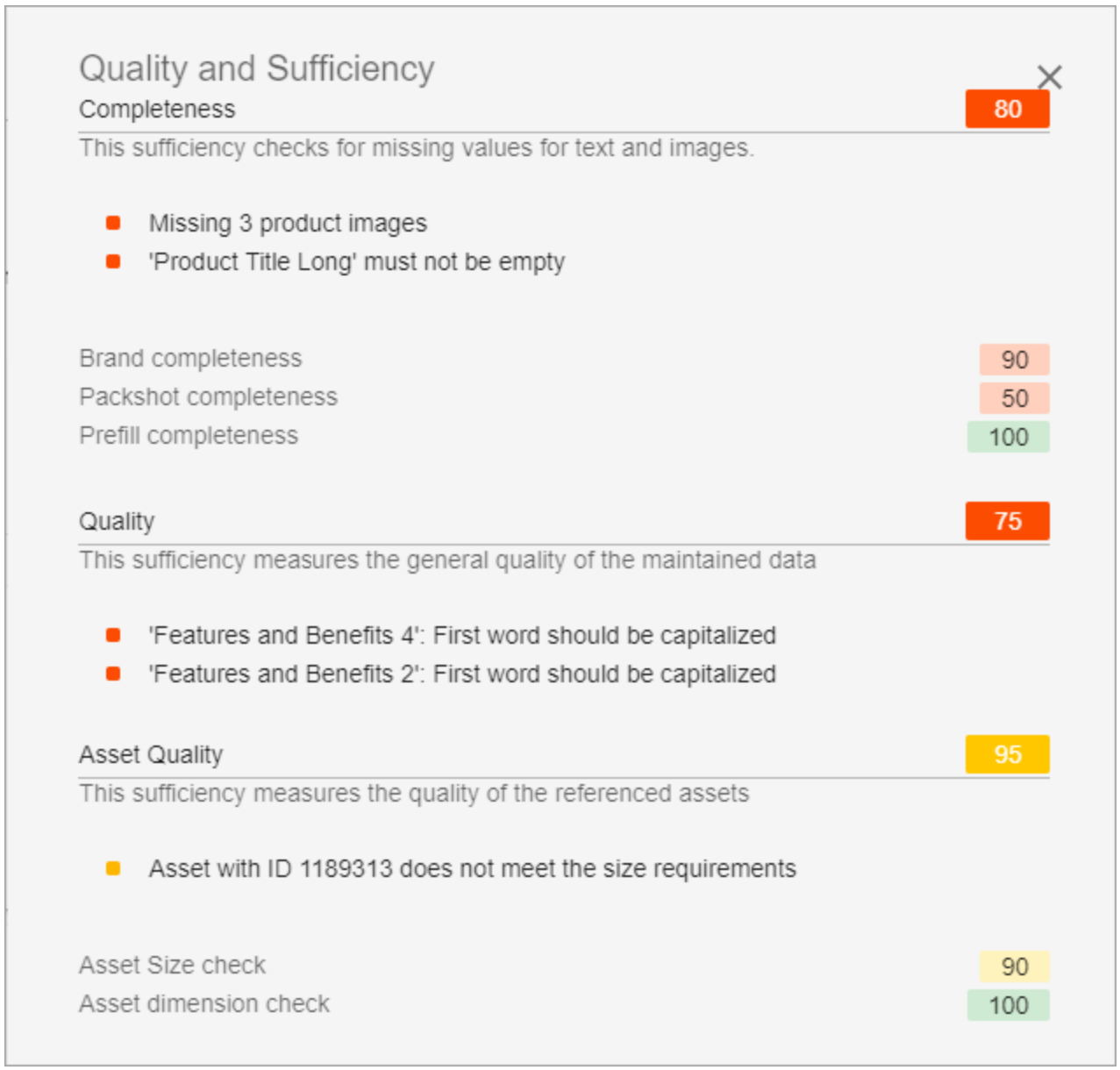
In order to access the Data Sufficiency Calculator Processor plugin, a 'data-sufficiency' add-on component must be activated on your system in addition to the normal update procedures for 9.2. See your Stibo Systems representative for more information.

For more information, see the Data Sufficiency Calculator Processing Plugin Parameters and Triggers topic in the Processing Plugins documentation.

Sufficiency Configuration Type

By combining metrics with several configurable parameters, including (but not limited to) business actions, business conditions, and trigger gates, the new Sufficiency Configuration Type allows users to evaluate the quality and completeness of data on a given product. Additionally, the Display Configuration, Data Sufficiency Sequence Number, and the Severity Levels can be populated to further supplement the information about a product's sufficiency score in the Sufficiency panel located in the Web UI.


System Setup
Attribute Groups
Attribute Transformations
Action Sets
Contexts
Lists of Values / LOVs
Asset Analyzer
Asset Importer Configs
AttValCompTests
AutoTestSetupGroup
BusinessRuleMigration
D&B Integration
DataSufficiencyScoreGroup
EnableTestDisableTest
Integration Endpoints
jakl
Migrated Match Codes
mlc
mlt
PDS Inbound Setup Group
PDS Outbound Setup Group
SG Type 01 Root
Steppers Configurations
Uncategorized Setup Group
WebUIs
Wiki Setup Group
Derived Events
Object Types & Structures
Tags
Units
Users & Groups
Reference Types
Workspaces
Table
Keys
Websites
Event Queues
Component Models
Recycle Bin
SuffEp3 rev.0.2 - Sufficiency Configuration Type
Sufficiency Configuration Type
Log
Status
Description
Name
Value
ID
SuffEp3
Name
SuffEp3
Object Type
Sufficiency Configuration Type
Revision
0.2 Last edited by STEPSYS
Path
DataSufficiencyScoreGroup/Sufficiencies
Business Condition
SuffCondition (SuffCondition)
Add Business Condition
Display Configuration
Description:
Sufficiency scores for color and finish style information.
Severity Levels
Level
Min
Max
Success
70
100
Warning
40
69
Error
0
39
Data Sufficiency Sequence Number:
1
Trigger Gates
Condition
Threshold
Business Action
>
50
SuffSetAtrRunHigh
>
0
TranslateBALB
Add Trigger Gate
Metrics
Metric
Boolean Display
Value100
Value50
Value30
DecimalMetric
Add Metrics
Calculation Business Function
AgBF (AgBF)
Add Calculation Business Function



In order to access the Sufficiency Configuration Type and the Sufficiency panel, a 'data-sufficiency' add-on component must be activated on your system in addition to the normal update procedures for 9.2. See your Stibo Systems representative for more information.

For more information, see the Sufficiency Configuration Type topic in the Metrics documentation.

Considerations

Any Business Function metrics created prior to 9.2 are not backwards compatible with the above data profiling enhancements. To use these new enhancements, create a new Business Function metric that uses the 'Metric Result' Input Parameter.

Customer MDM Enhancements

Summary

- Line of Business customer relations can now be modeled within the Customer MDM solution.
- Data containers can now be used to reference other objects.
- Data container display settings can now be configured in one centralized location in Web UI.
- The Loqate Locate version provided with STEP has been updated.

Details

New Customer MDM data modeling capabilities

Several enhancements have been made to the modeling capabilities of the CMDM solution to better support Line of Business specific customer relations. This solution uses data containers to model Line of Business specific data, which benefits users by providing a centralized revision history of the customer.

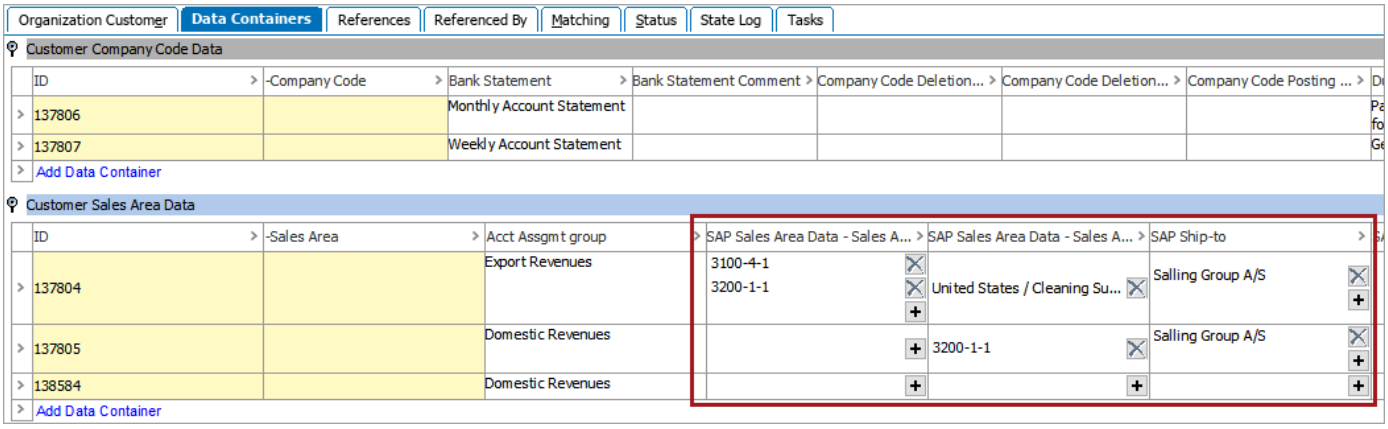
Previously, when modeling customer data (e.g., SAP Company Code or Sales Area data) as a data container, the customer relations that depend on that Line of Business could not be held.

For more information of the enhancements that drive these new modeling capabilities, see the References on Data Containers section below.

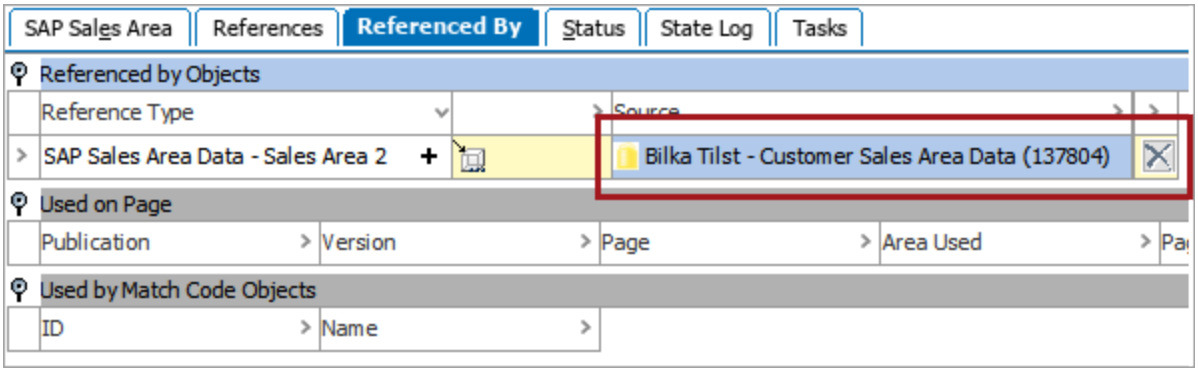
For more information on how this new functionality impacts the Customer MDM solution, see the Line of Business Data Model section of the Customer Master Data Management Solution Enablement documentation.

References on Data Containers

It is now possible to add references to other objects on both single and multi-valued data containers. The supported reference types include: Entity Reference Type, Product Reference Type, Classification Reference Type, and Image and Document Reference Type. In workbench, such references can be viewed and edited from the 'Data Containers' tab of the relevant object.

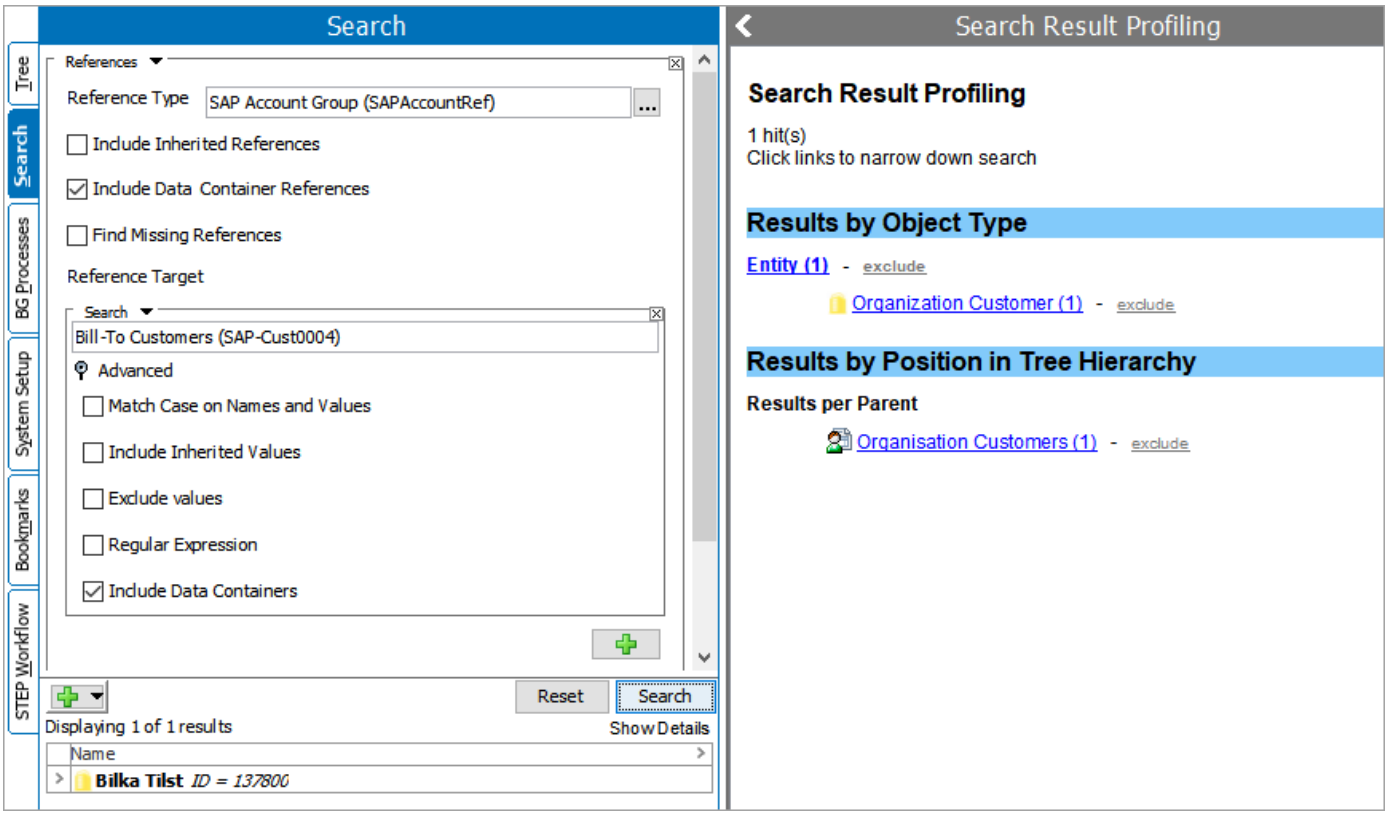


These references may also be viewed on the 'Referenced By' tab of the target object, which includes the name of the data container and the object it belongs to.



For more information, see the References on Data Containers section of the System Setup / Super User documentation.

A new 'Include Data Container References' checkbox has also been added to the 'References' and 'Referenced By' search options in workbench to support this new feature. Checking this box will allow references that appear on data containers to appear in the search results.

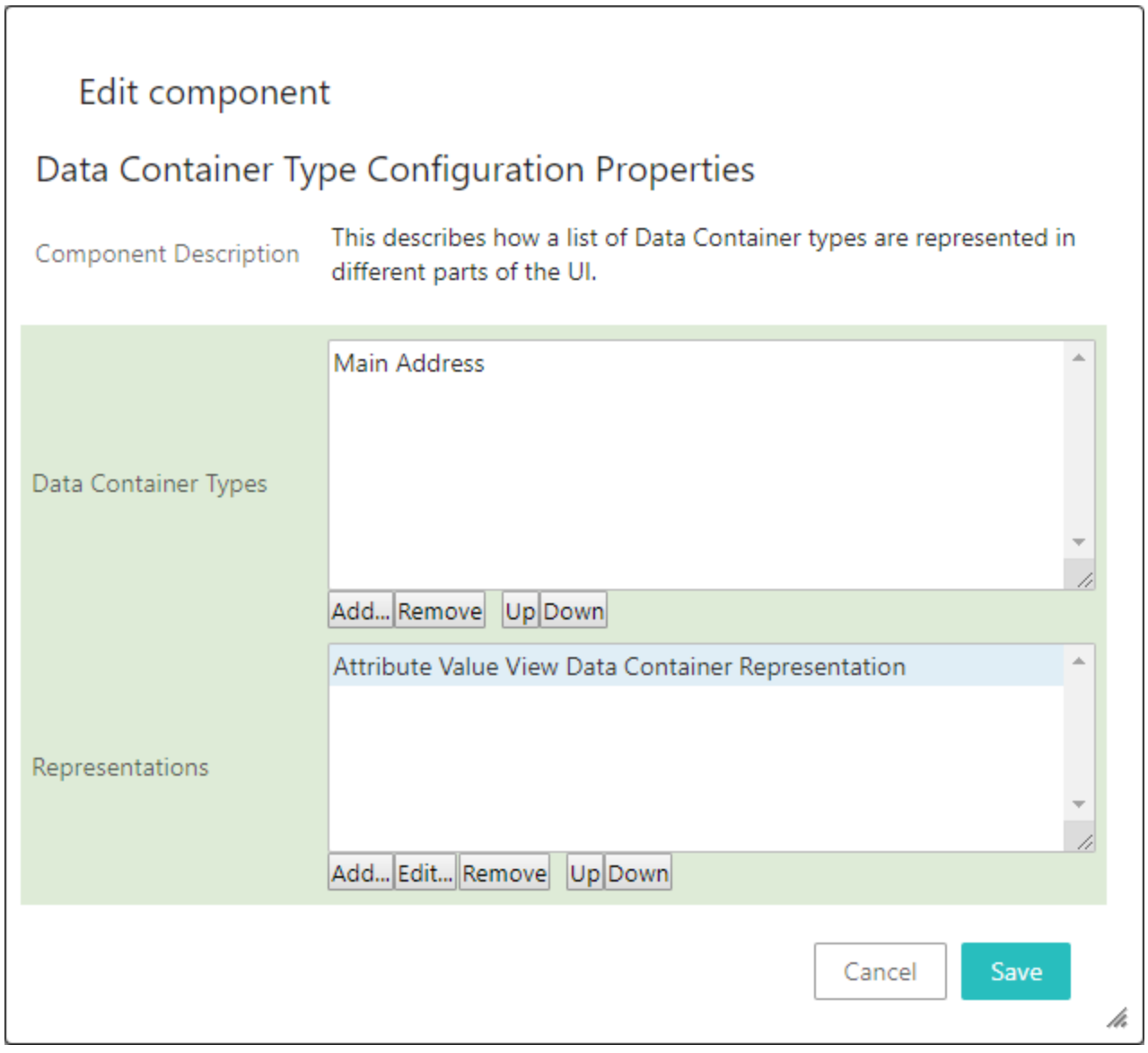


For more information, see the Search: References and Referenced By section of the Getting Started / User Guide documentation.

To access and use the full set of functionality as described above, it must be activated on your system in addition to the normal update procedures for 9.2. See your Stibo Systems representative for details.

New Data Container configuration and display options in Web UI

Data container Web UI display settings can now be modified from a centralized configuration found in MAIN called Global Data Container Configurations. Any number of configurations can be stored within this component, each of which correspond to different data container types and each with their own unique display settings.



Previously, data container display settings were configured directly on the data container component itself, and had to be reconfigured from scratch if the configuration was to be used elsewhere.

Additionally, a new component called Data Container Default Editor is now available. This new component uses the centralized configuration settings mentioned above to determine how it displays data containers. Relying on a centralized configuration makes it much easier to apply the component to additional screens than it is for existing data container components (such as the Data Container Attribute View Editor).

For more information, see the Main Properties section of the Web User Interfaces documentation.

New Loqate Locate version

The Loqate Local server provided when updating STEP has been updated to version 2019Q2.0: 2.31.0.9999.

New Change Reports For PLM

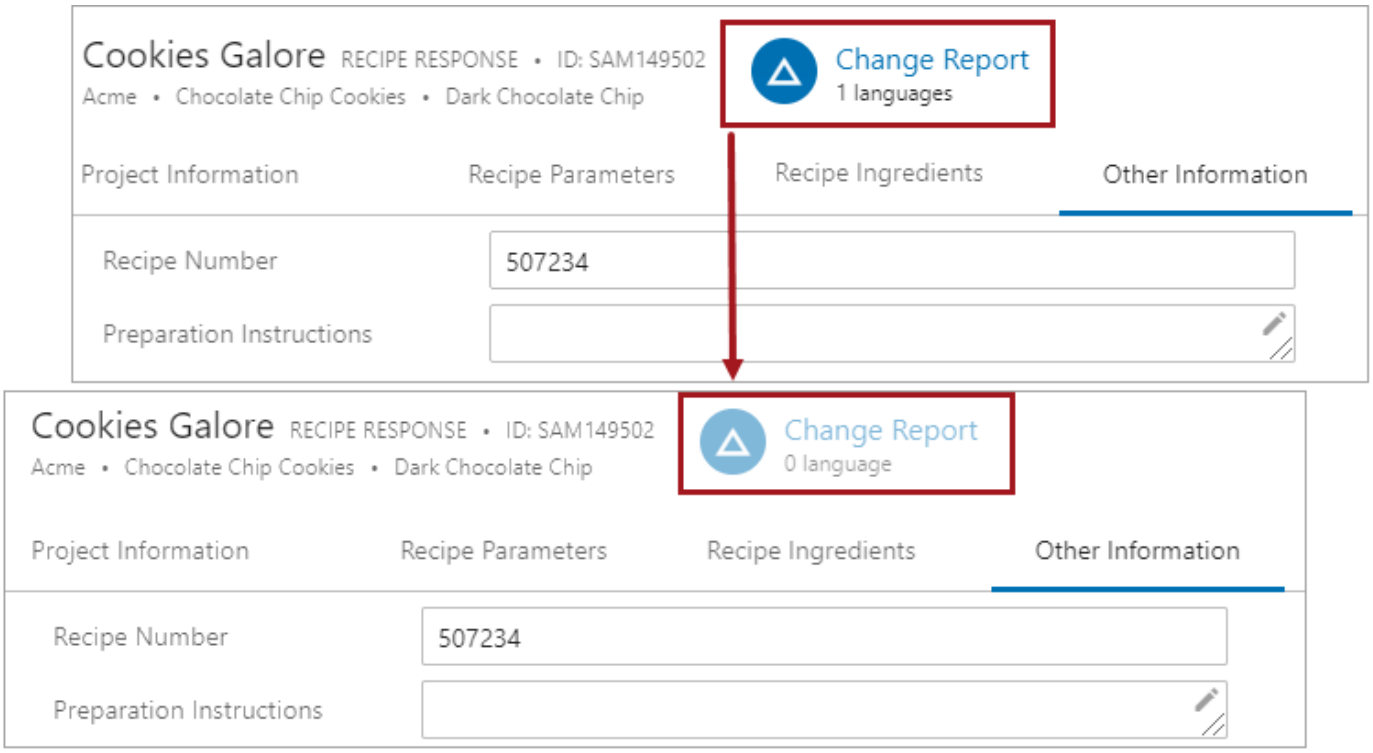
Summary

Users are now able to see a report of changes to data that were made between two events. Change Reports are populated via highly configurable 'snapshots.' These snapshots can take place when there is a change in a workflow state, a trigger by an inbound or outbound integration endpoint, or a change by derived events through an Event Processor. Change reports can be added on a Node Details screen via a Product Summary Card.

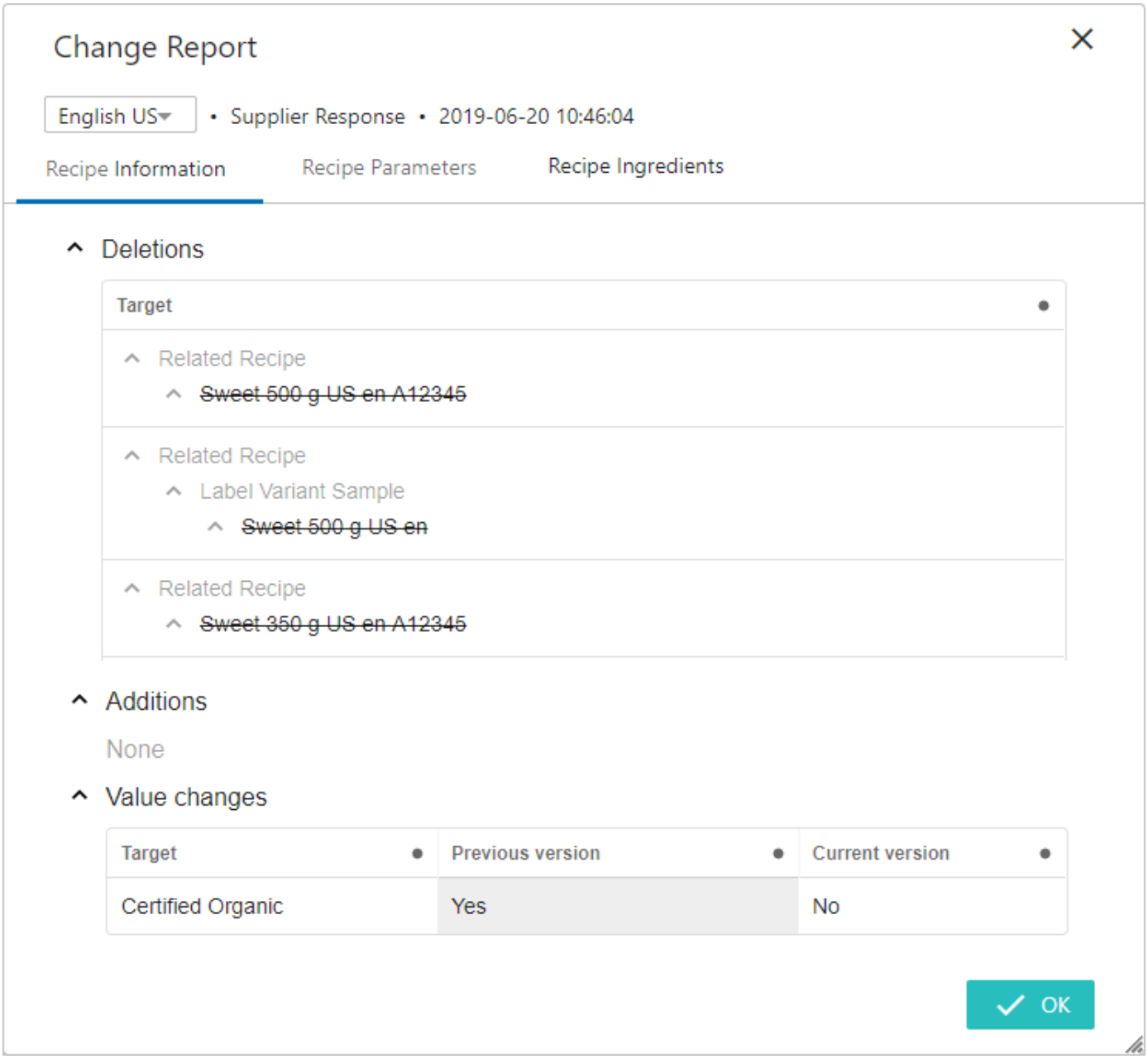
Details

Change Reports highlight any changes that have been made during user-defined events so important changes are not overlooked accidentally. This is different than revision history in that the user has full control of what they want to capture, such as an object structure, attributes, or reference metadata, and when Change Reports are created. Snapshots have the added benefits of not being impacted by changes to the data model. All of this helps product teams notice important changes to the data that may otherwise be overlooked while collaborating with other users.

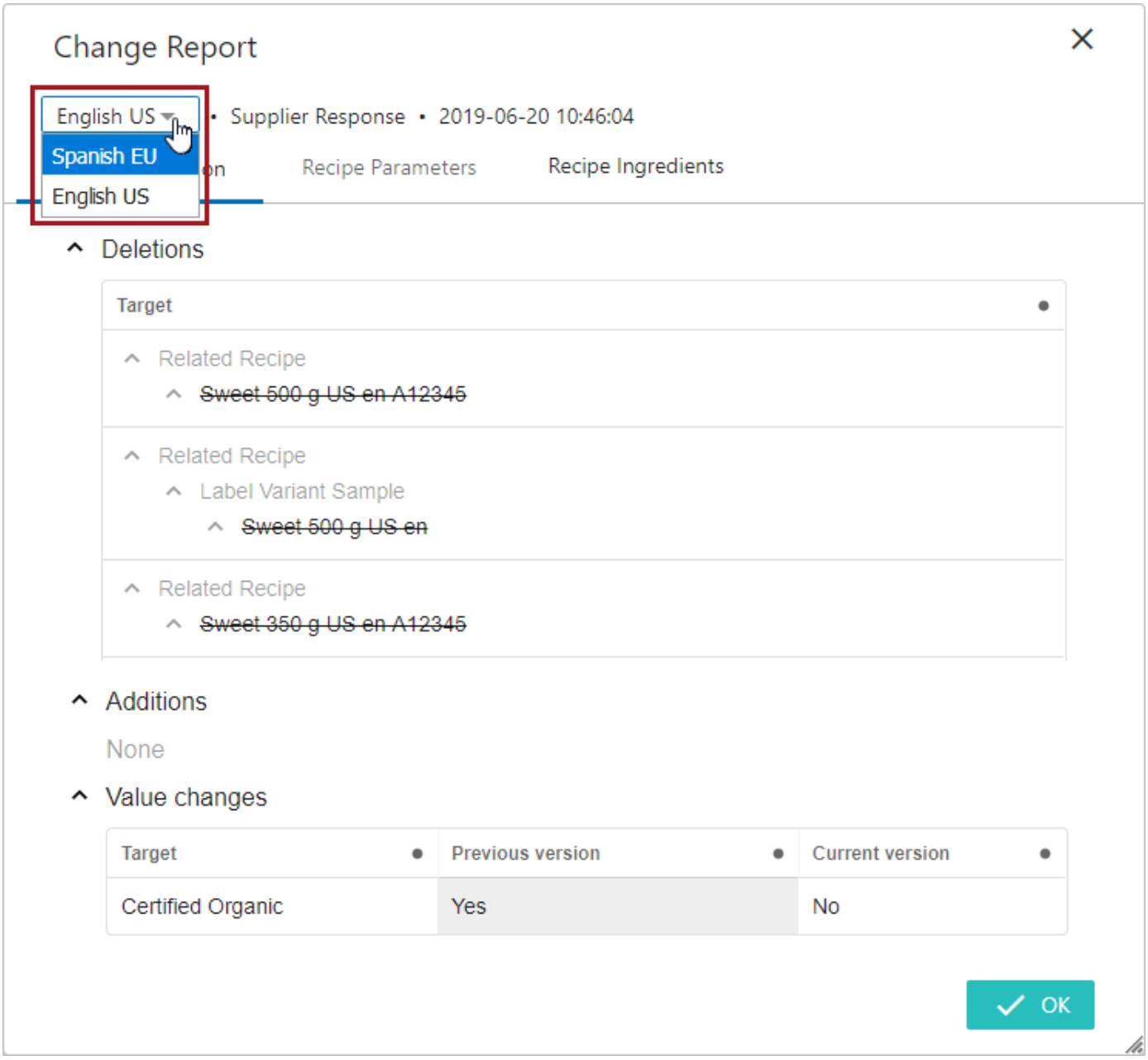
When changes between the snapshot and the current data are detected, a user can click on the Change Report notification at the top of the screen, and it will notify the user if changes were made in one or more languages. If there are no changes, the notification will appear grayed out and is not clickable.



When the notification is clicked, a dialog displays showing a comparison of the changes that have taken place in the user's login context. The dialog displays with a number of tabs, based on the snapshot configuration, with each tab in the dialog grouping the changes by the type of change.



Users can keep the Change Report open, move it around, and resize it as they continue to make edits in Web UI. Users are also able to switch between contexts in the Change Report, and the report will refresh displaying any changes that were made in that context.



Any changes made to the data model will not alter or delete information already captured previously by snapshots.

To access and use the full set of Change Report functionality, including snapshot configuration, a 'change-reports' add-on component must be activated on your system. See your Stibo Systems representative for details.

For more information about the setup of Change Reports, see the Change Reports topic in the PLM for Admins section of the Product Lifecycle Management documentation.

For more information about using Change Reports, see the Using Change Reports topic in the PLM for Users section of the Product Lifecycle Management documentation.

For information about the Product Summary Card, see the Below Title Component topic in the Web User Interfaces documentation.

New Features for PLM

Summary

Using the private label food solution to create recipes from the ground up, collaboration between customers and their suppliers has been streamlined for accuracy and ease. Customers can use this solution to create a recipe specification, decide upon the flavor variations of the product, communicate these specifications with their suppliers, receive supplier recipes, and agree upon a final supplier for a recipe.

The following PLM private label food solution features make it easier to create and compare recipes:

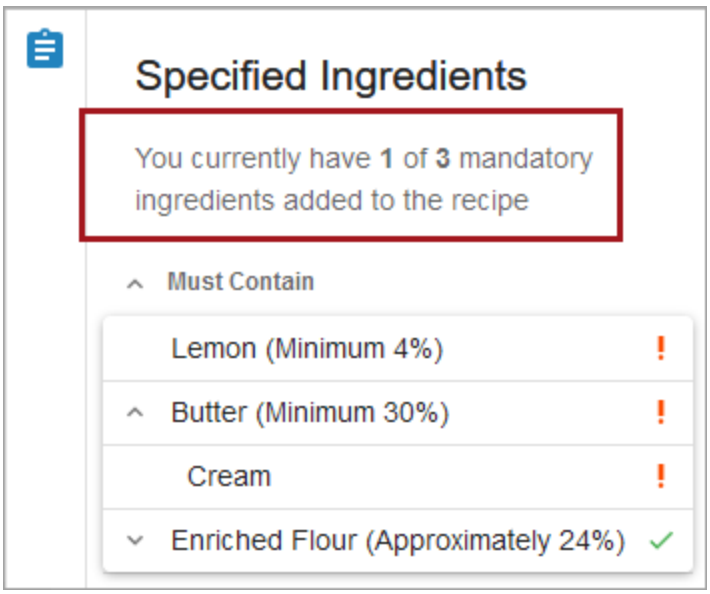
- New Bill of Material (BOM) validations: There are new validation for the Supplier Ingredients Tab which help suppliers when creating recipes for customers.
- Adding an additive class to a specification recipe: Customers are able to add an additive class to their specification recipe enabling suppliers to choose the additive they feel best fits the recipe.
- Enhanced Bill of Materials (BOMs): Updates with automatic validations for compound ingredients were made for the Supplier Ingredients and Compare Ingredients Tabs that help with monitoring the percentage of ingredients, additives, and compound ingredients when creating recipe samples.
- Project Navigator: Users can access design specifications in workflows (active projects) by navigating directly to Tree and selecting the classification folder configured to house these projects.
- New object type for PLM color: The configuration for storyboards has been updated to include PLMColor as a product object type instead of an asset.
- Enhancements to the Multi Reference Editor: Two new actions--creating PLM references and editing these references--were made available to PLM-enabled Multi Reference Editor screens. In addition, multivalued LOVs can now be referenced in these tables with multiple value base types appearing in the same column.
- A new section entitled PLM Solution Enablement has been added to the Solution Enablement documentation.

Details

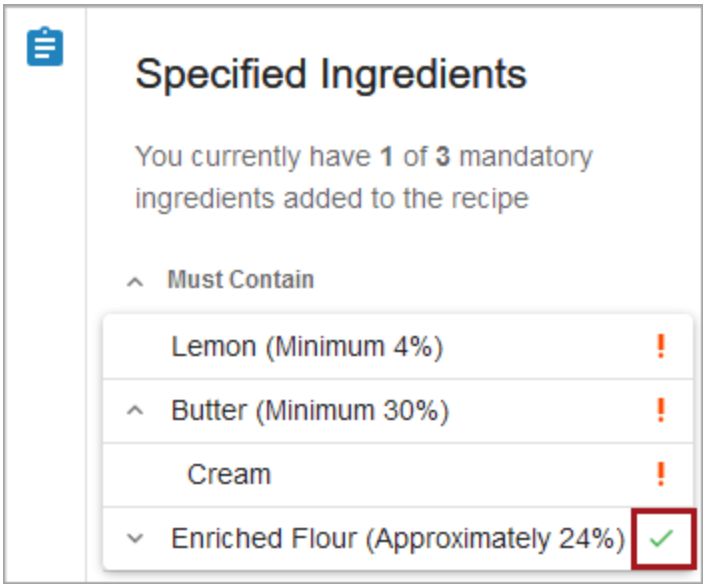
New validation of supplier recipe ingredients against the specified recipe

On the Supplier Ingredients Tab, automatic validations now occur each time an ingredient, additive, or compound ingredient is added, changed, or deleted from the supplier's sample recipe. These validation indicators display on the Specified Ingredients Side Panel and help suppliers create a recipe in accordance to the customer's guidelines.

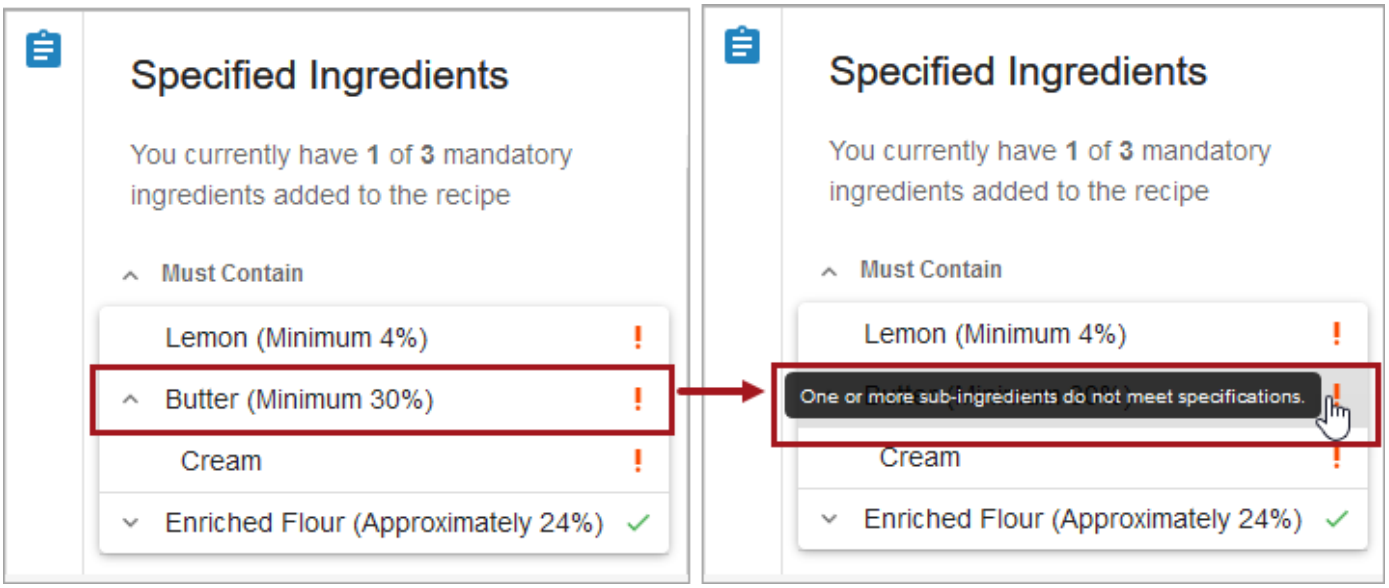
Subtext below the title tells the supplier how many 'Mandatory' / 'Must Contain' ingredients are added to the supplier's recipe.



Checkmarks appear next to ingredients, additives, and compound ingredients that comply with the customer's recipe specification.



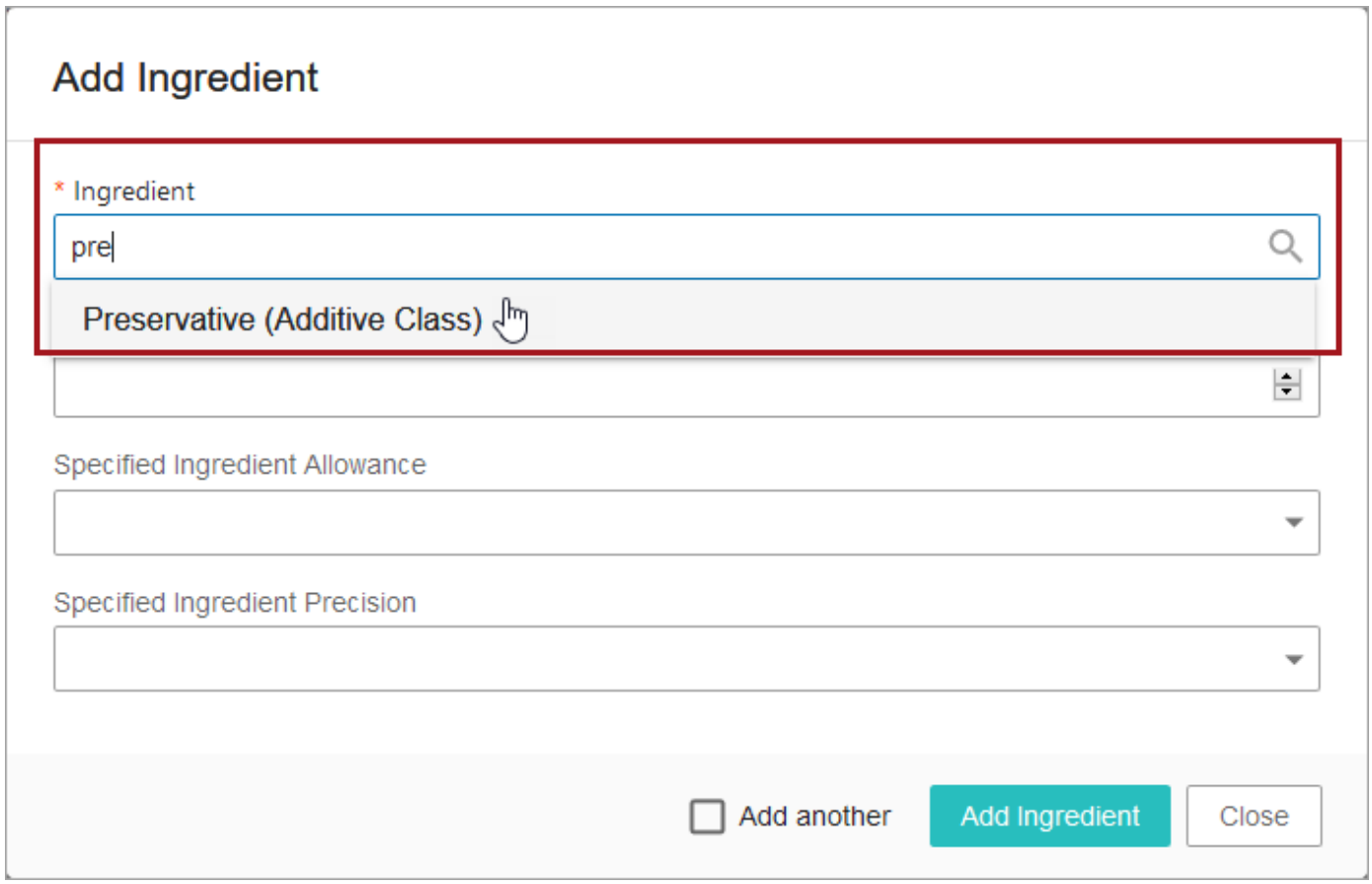
Exclamation points appear next to any ingredients, additives, or compound ingredients that are required by the customer but are missing from the supplier recipe, or have been added by the supplier but do not comply with the customer's specification. For compound ingredients, hovering the mouse over the exclamation point provides further detail as to what is not compliant.



For more information on the Supplier Ingredients Tab and automatic validations, see the Specify Ingredients and Supplier Ingredients Tabs topic in the PLM for Users section of the Product Lifecycle Management documentation.

Ability to select a general additive class

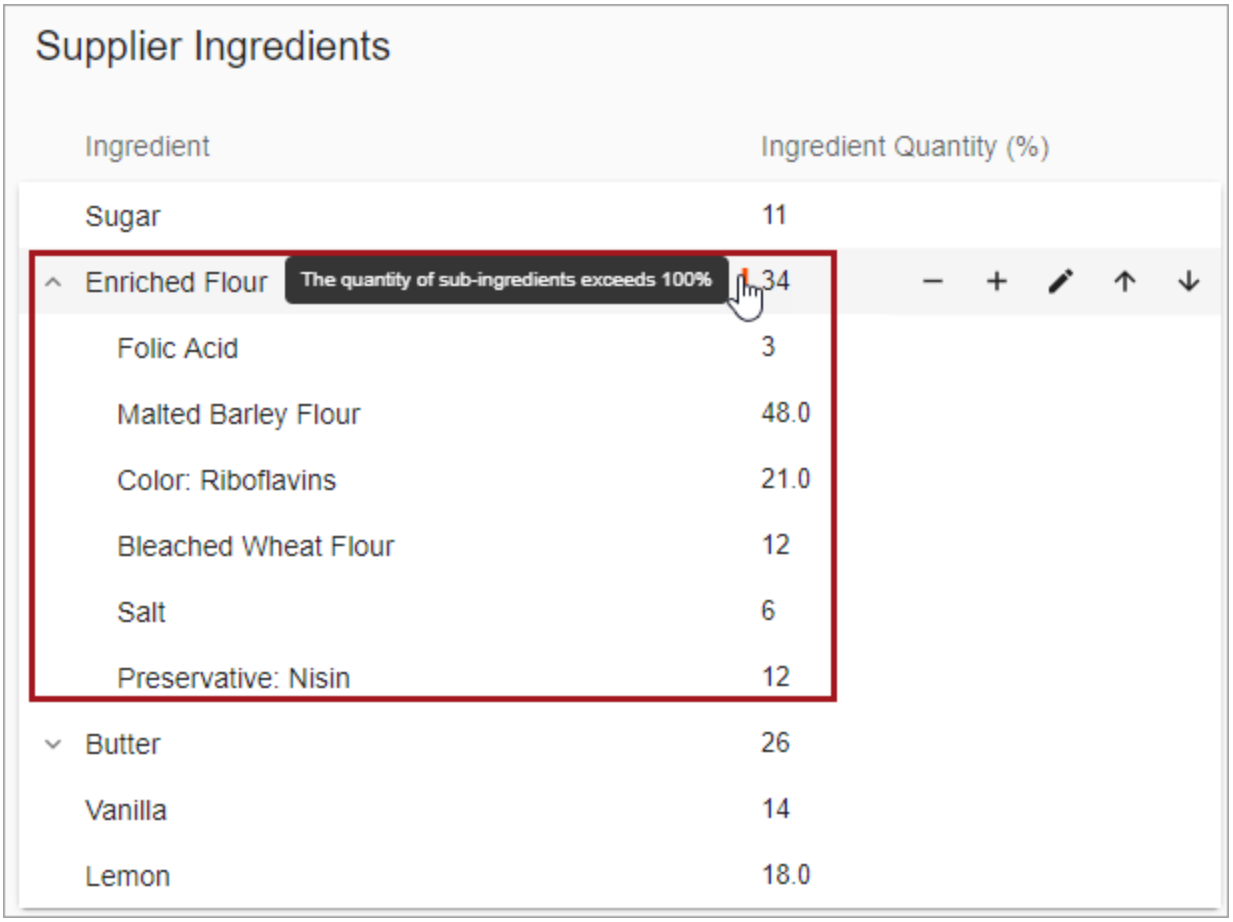
When creating the specification recipe, customers are now able to select an additive class when adding a general independent additive to the recipe specification instead of selecting a specific additive. This gives suppliers more flexibility when creating their recipe sample for the customer, enabling them to select their preferred additive from the specified additive class. For example, instead of telling the supplier exactly what type of preservative to use, the customer can tell the supplier that they want a preservative from the selected additive class. It is then up to the supplier to choose which additive from that class to use.



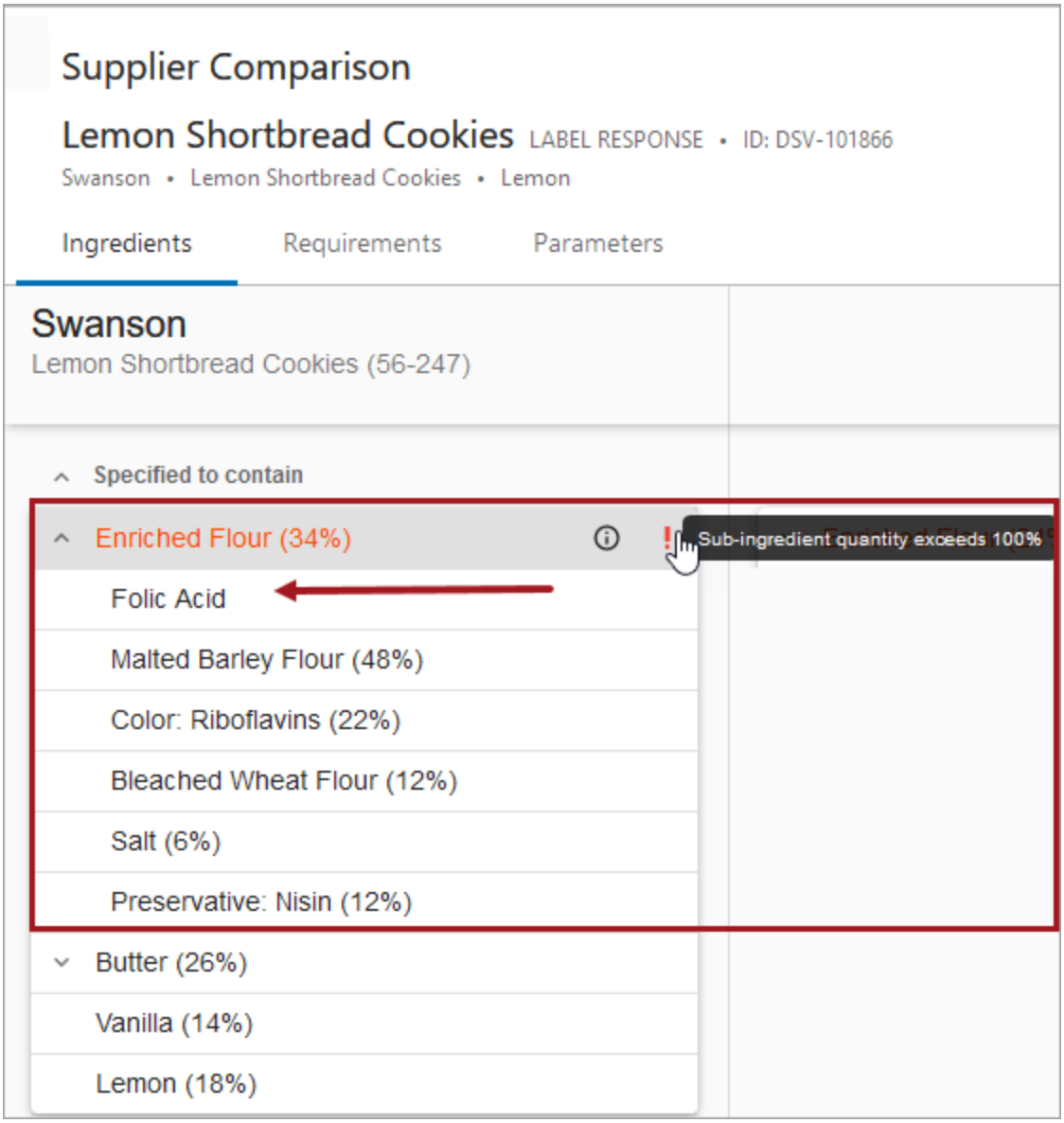
For more information, see the Using the Specify and Supplier Ingredients Tabs topic in the PLM for Users section of the Product Lifecycle Management documentation.

Enhanced bill of materials (BOMs) validations

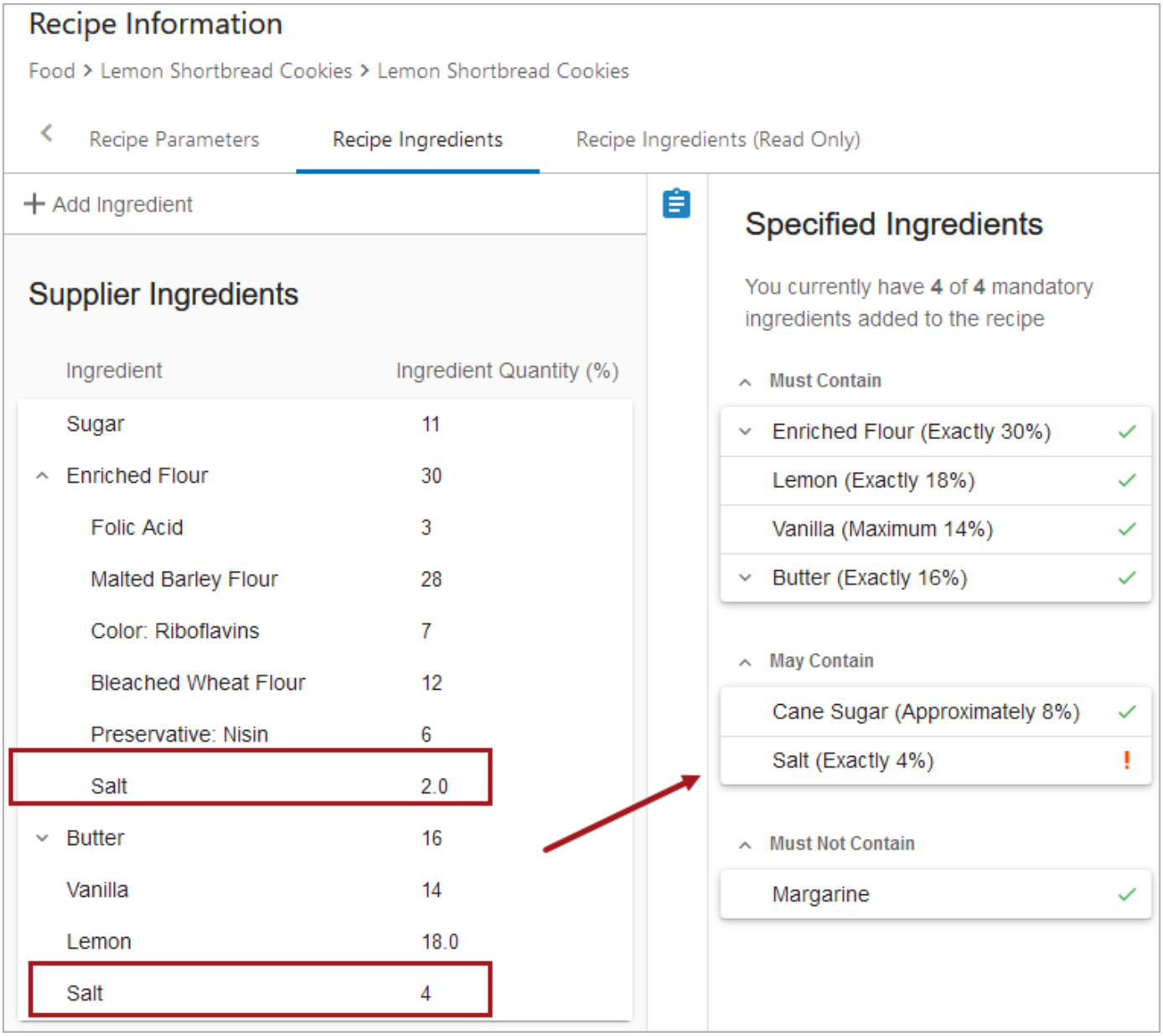
Updates with automatic validations for compound ingredients were made for the Supplier Ingredients and Compare Ingredients Tabs. Compound ingredients are now validated for completeness, and an alert shows if the quantity of its sub-ingredients exceeds 100%. For example, in the image below a supplier on the Supplier Ingredients Tab is notified that the quantity of sub-ingredients added to the compound ingredient in the sample recipe exceeds 100%.



Consequently, if the quantity of sub-ingredients is 100%, but there are additional ingredients without a quantity specified, an alert will also display on both tabs. In the example below, a customer is looking at the Compare Ingredients Tab and is notified when looking at this supplier recipe sample that there is an error in the designated compound ingredient.



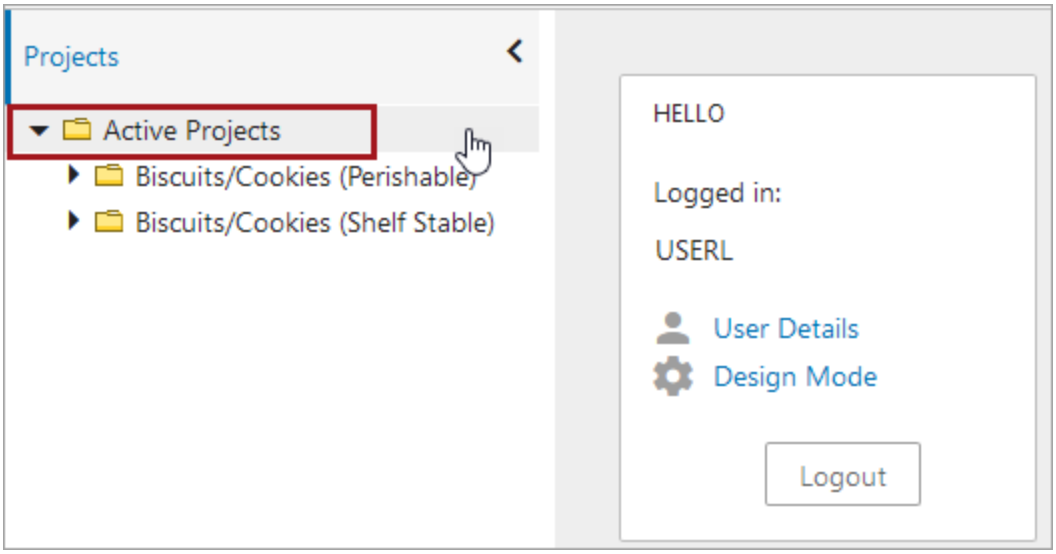
On the Supplier Ingredients Tab, all sub-ingredients are evaluated and counted towards the total specified quantity in the recipe specification. For example, if the ingredient salt is used as a main ingredient but is also part of a sub-ingredient, the automatic validation will ensure that the total amount of salt is acceptable when measured against the recipe specification. If the recipe specification is not met, such as too much salt in the recipe sample, a warning will display.



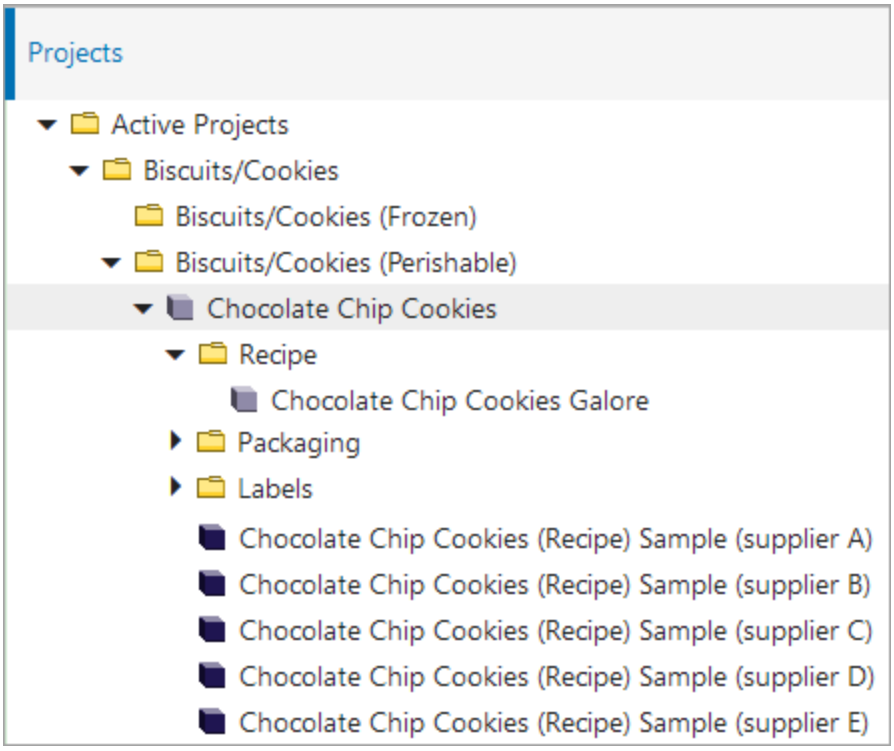
For more information, including any considerations or limitations, see the Specify Ingredients and Supplier Ingredients Tabs and the Compare Ingredients Tab topics in the PLM for Users section of the Product Lifecycle Management documentation.

New Project Navigator functionality in Web UI

There is now a new way in Web UI to navigate to active projects in a workflow. Instead of navigating to a Status Selector widget or a Task List screen, users are now able to access design specifications in workflows (active projects) by navigating directly to Tree and selecting the classification folder configured to house these projects.

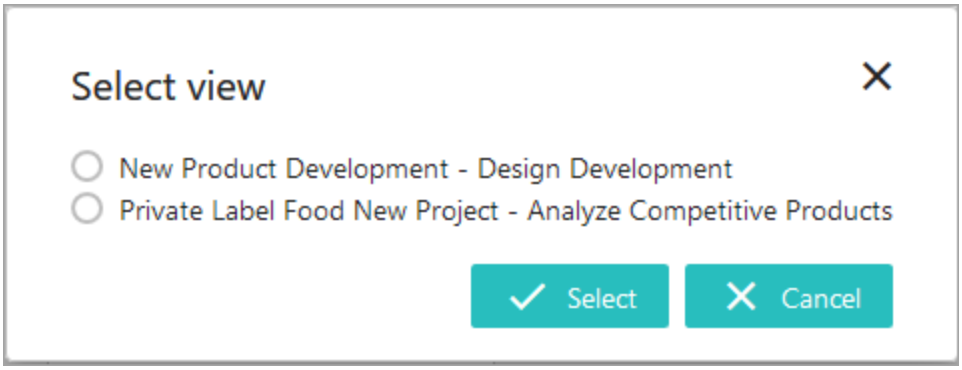


This enables the user to be faster when working on active projects, as there is no need to remember which state in a workflow the design specification is in. Additionally, with this view, users can get a complete view of all recipes, packages, labels, or suppliers associated to the design specification.



The classification folder that houses active projects is highly configurable, allowing customers to determine the desired number of folder levels and supplier categories. Suppliers will only be able to see the active projects that they are a part of.

If the active project exists in more than one workflow, when an active project is clicked on in Tree, a dialog will display, allowing the user to decide which workflow they want to access.



Upon selection of the workflow, the system will direct the user to the appropriate configured screen depending on customer needs, such as a Specify Ingredients Tab.

For more information, see the Configuring Project Navigator topic in the PLM for Admins section of the Product Lifecycle Management documentation, or the Using Project Navigator topic in the PLM for Users section of the Product Lifecycle Management documentation.

New PLMColor object type

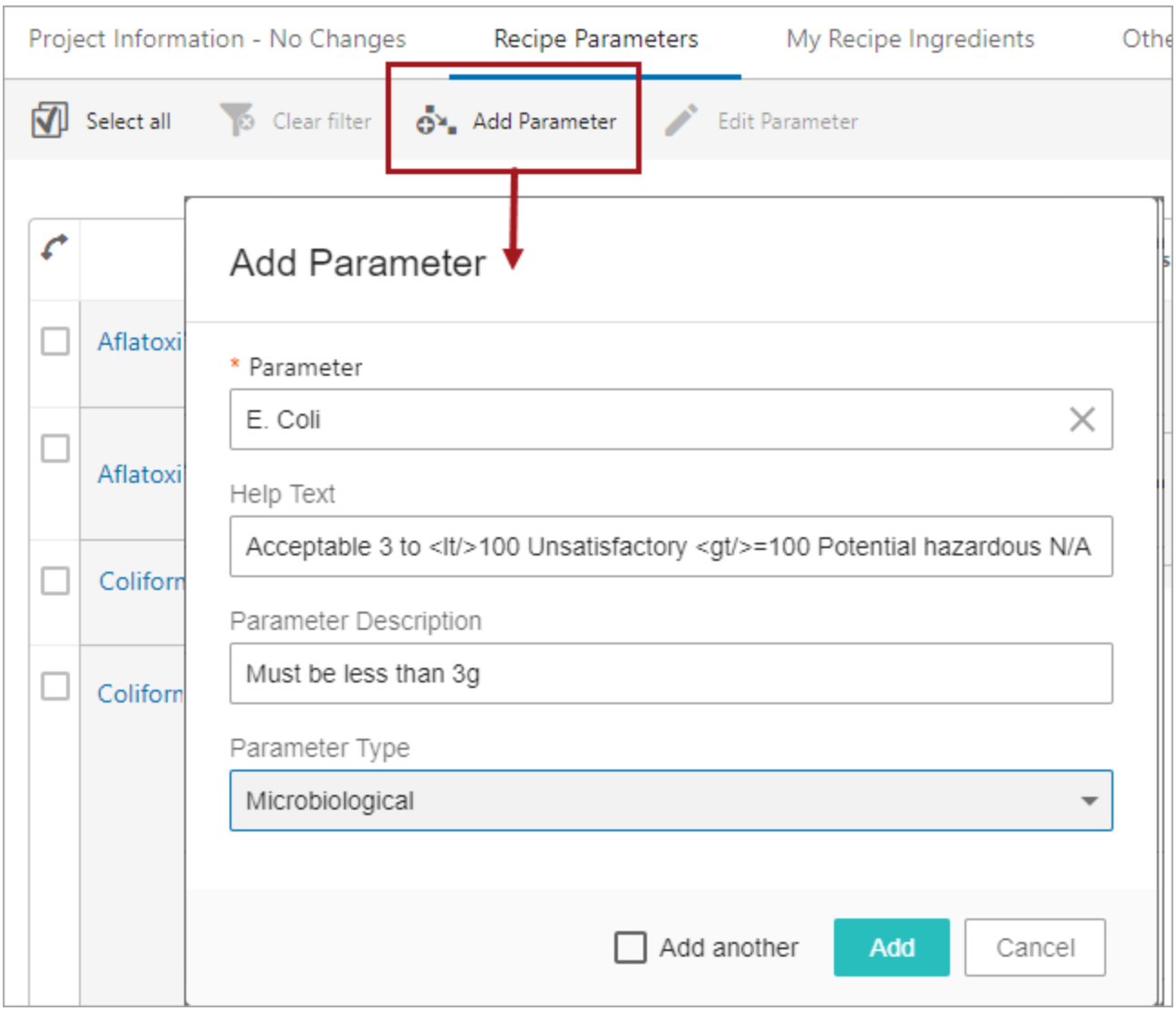
The configuration for handling PLMColor has been updated. PLMColor and its parent object types are no longer configured as assets and are now configured as product object types. Having PLMColor configured as a product object type allows for more flexibility when working with and adding colors to storyboards. For more information, see the Configurations, Object Types, and Business Rules topic of the PLM for Admins section in the Product Lifecycle Management documentation.

Enhancements to the Multi Reference Editor in Web UI

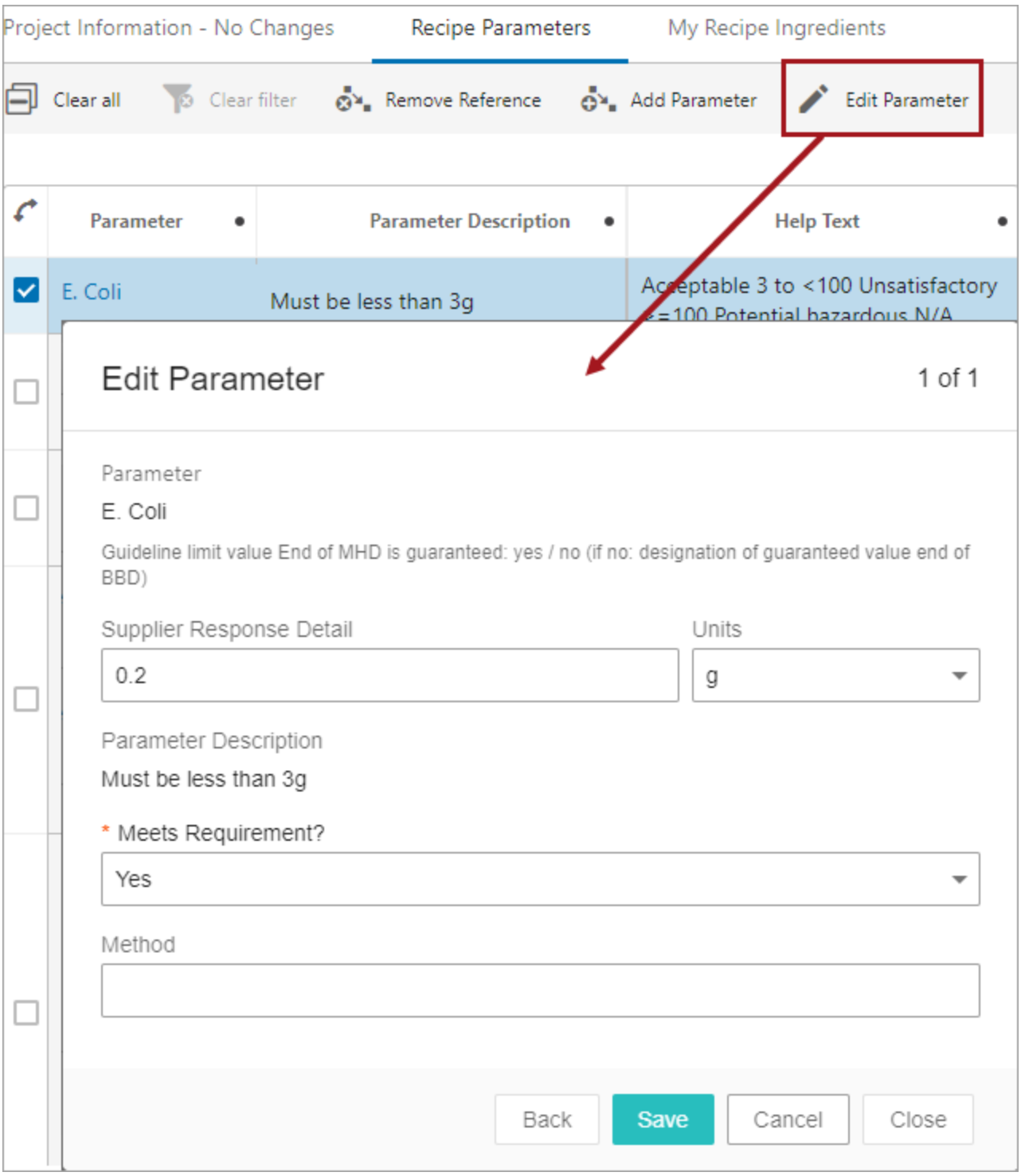
With the addition of the PLM Create Reference action and PLM Edit Reference action, users can add various conditions when creating or editing references on a Multi Reference Editor in Web UI.

These new actions both populate metadata while simultaneously creating any needed reference(s) in one seamless action. Additionally, both actions have customizable labels to meet client needs.

Through the use of business rules, clicking the 'PLM Create References Action' displays a dialog that enables users to create references with configurable fields. In the example below, the 'PLM Create Reference Action' is called 'Add Parameter.'

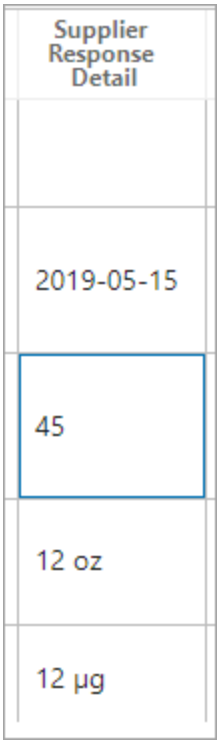


The 'PLM Edit Reference Action' also uses business rules and enables users to select one or more parameters and edit configured fields. In the example below, the 'PLM Edit Reference Action' is called 'Edit Parameter.'



The 'Reference Metadata Flex Value Header' has been expanded to allow multiple value types to display within a single column by using an attribute with a multivalue LOV. Previously, each attribute header in a table could only show one value base type. This flexibility enables users to accept any type of value that may be provided, such as if the field is populated from multiple sources. In the example below, a date, an integer, and weight values all appear

under the same column header. This component is available on Node Lists. To access and use the Reference Metadata Flex Value Header functionality, it must be activated on your system.



To access and use the full set of Multi Reference Editor enhancements, the 'spire-plm' and the add-on component must be activated on your system in addition to the normal update procedures for 9.2 and any other activation noted above. See your Stibo Systems representative for details.

For more information on Multi Reference Editors, see the Multi Reference Editor topic in the Web UI Getting Started documentation. For more on these new PLM-specific Multi Reference Editor components, see the Multi Reference Editor in PLM topic in the Product Lifecycle Management documentation.

New Functionality for Matching through Generators

Summary

With 9.2, the matching functionality has been enhanced with the ability to embed match codes into a Matching Algorithm at the point of creation. These Match Codes use generators to normalize data and automatically create Match Codes that collate party data for matching. At its most basic, the Match Code generator is trying to collect every possible piece of party data into a candidate list to try to match the associated records where possible. Creating match codes has been a highly technical and skilled task that required a software developer with a deep understanding of the matching process, another benefit of this feature is that the Match Code generated is configurable and customizable. This solution allows for Stibo Systems Consultants, partners, and customers to implement matching solutions without the expert developer involvement.

Collating records from a database to match duplicate records for the purpose of attaining data fidelity requires insight drawn from often expansive data sets. Devising the right method to match duplicate records is often a complex task. Previously, users were required to not only understand their data at a granular level but also to create and apply a solution that accounted for the data's inherent complexity.

Through this new computational matching, the matching process consists of three phases:

- Data normalization: To remove trivial semantic differences and classify attributes to ensure objects of the same type are compared
- Candidate list generation: To generate match codes to bring similar objects to together for comparison
- Comparisons: To compare objects for similarity and combine results via a rule set to employ the matching strategy

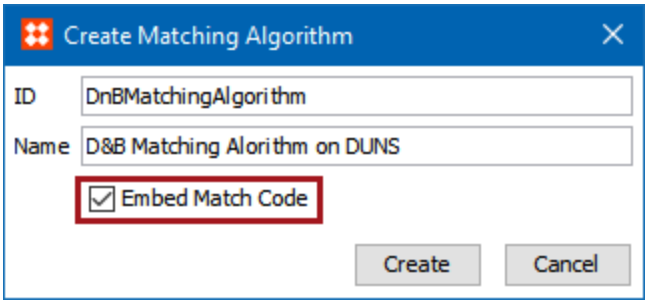
In addition, Business Functions are now usable on decision tables. This enhancement separates development and configuration during the Match Tuning Process and provides a more robust lifecycle around code artifacts.

Details

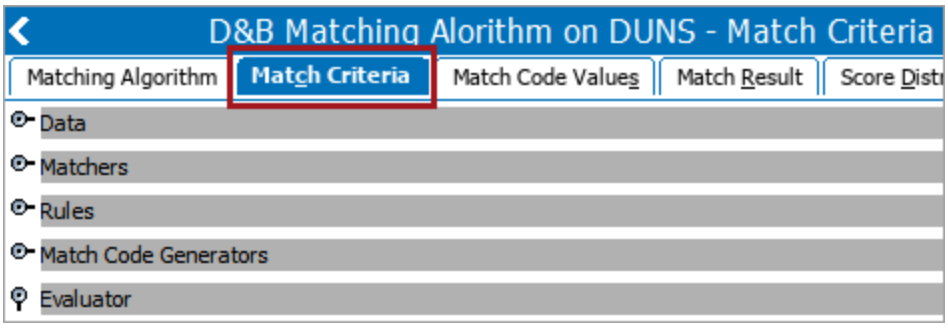
New Match Code generators

Previously, users were required to create custom separate Match Codes, which required scripting knowledge, for each Matching Algorithm and link the codes to the desired algorithm. These Match Codes required either JavaScript code or STEP Function values to create appropriate Match Codes for party data in one place.

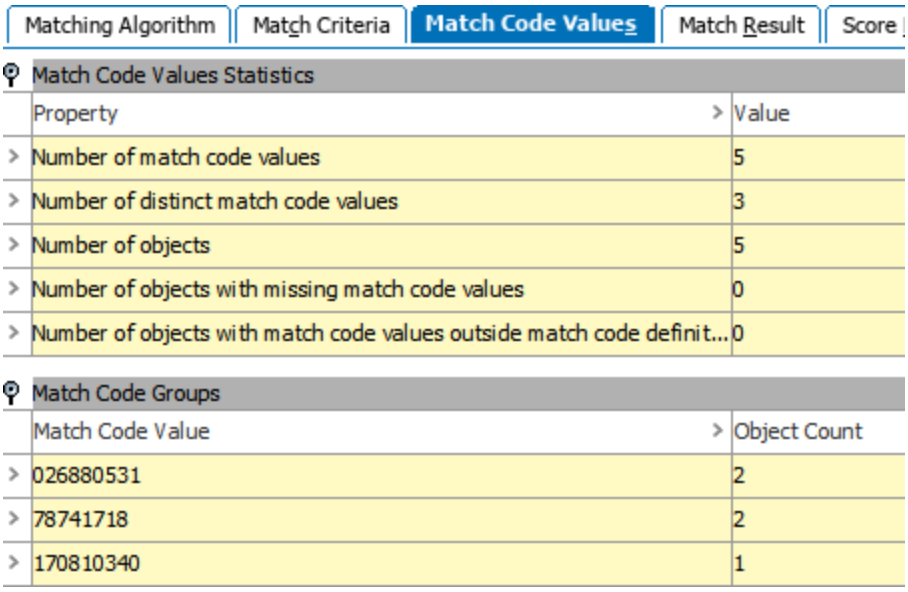
Now, while continuing to support JavaScript and calculated value-driven match codes, Matching Algorithms can be made to include embedded match codes. With embedded Match Codes selected, users will be able to append a Match Code generator to the Matching Algorithm, which will programmatically build a Match Code. Furthermore, these Match Codes will be generated at import since the majority of all objects will be imported into STEP. It should be noted that if the Match Code generator is changed or a new one is added, then users will need to force an update or wait until a triggering event occurs for these records to be processed by the Event Processor.



Once the Matching Algorithm with an enabled embedded Match Code is created, a new Match Criteria tab can be seen.



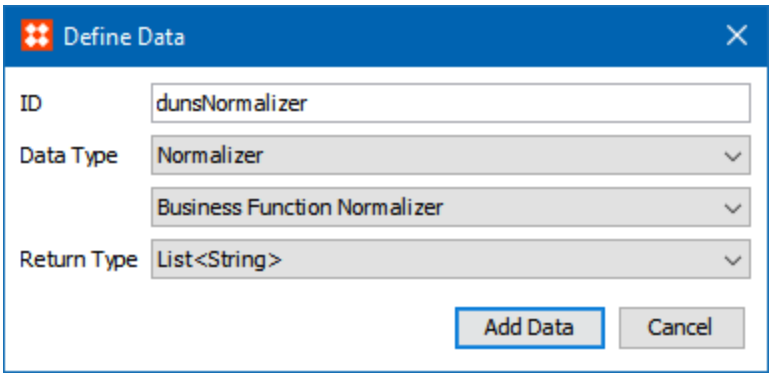
Once created, the Match Code Generators can be added, which will enable matched records to be generated in the Match Code Values tab.



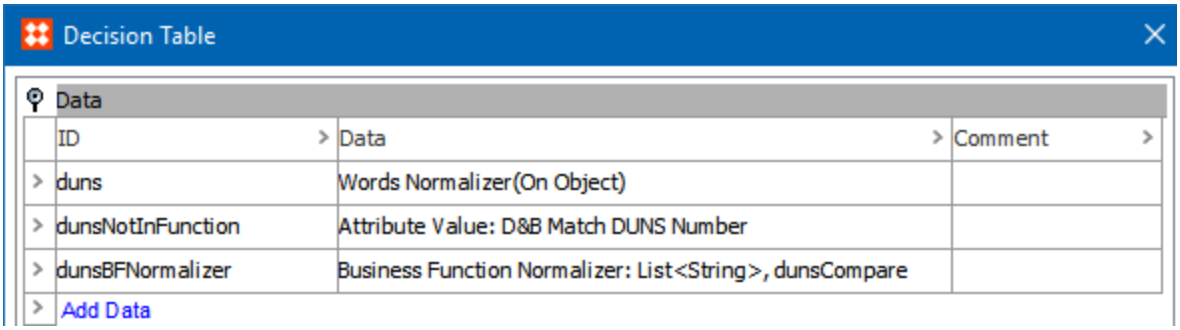
For more information on Match Codes and Matching Algorithms, see the Configuring a Match Code Generator topic in the Matching, Linking, and Merging documentation.

Support for Business Functions in decision tables

With 9.2, when setting the data to normalize into a decision table, users may now select Business Function normalizers, matchers, or match code generators as an option.



Once created, a preconfigured business function is selected, which will normalize the data as specified.

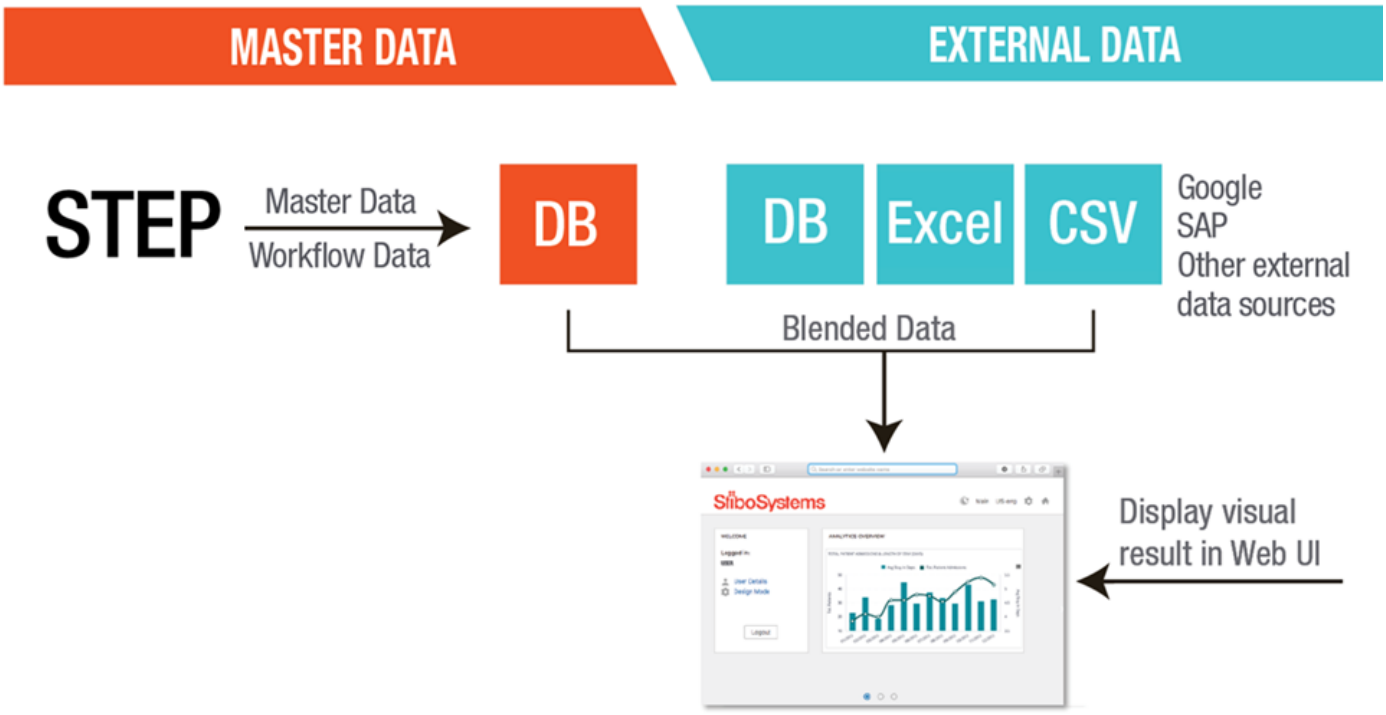


For more information, see the Decision Table Normalizers topic in the Matching, Linking, and Merging documentation.

New Embedded Analytics Platform

Summary

A new Embedded Analytics Platform (EAP) has been introduced in 9.2 that provides users with a true end-to-end, one-stop analytics solution to capture, analyze, and visualize data obtained from a mixture of STEP and external systems. The EAP utilizes the Audit Message Framework (AMF) introduced in 9.1, along with the Export Manager, to embed MDM data and optionally blend external data directly into the Web UI through widgets and screens, eliminating the need to have a separate, external BI tool. Preconfigured default dashboards and widgets will help get users up-and-running quickly, providing valuable insights around workflow and process optimization, vendor performance, and advanced data quality analysis, both at a high-level and detailed view.



Details

The Embedded Analytics Platform takes the value of your master data to a another level by allowing to you explore and analyze it with a robust, embedded BI data analytics tool, providing users with:

- The ability to take business data from outside the STEP platform and blend it with master data to enable better-informed decision making, leading to improved business outcomes
- Quick value with minimal effort through default dashboards and widgets targeted towards specific themes: workflow and process optimization, vendor performance, advanced data quality analysis, and high-level executive dashboards

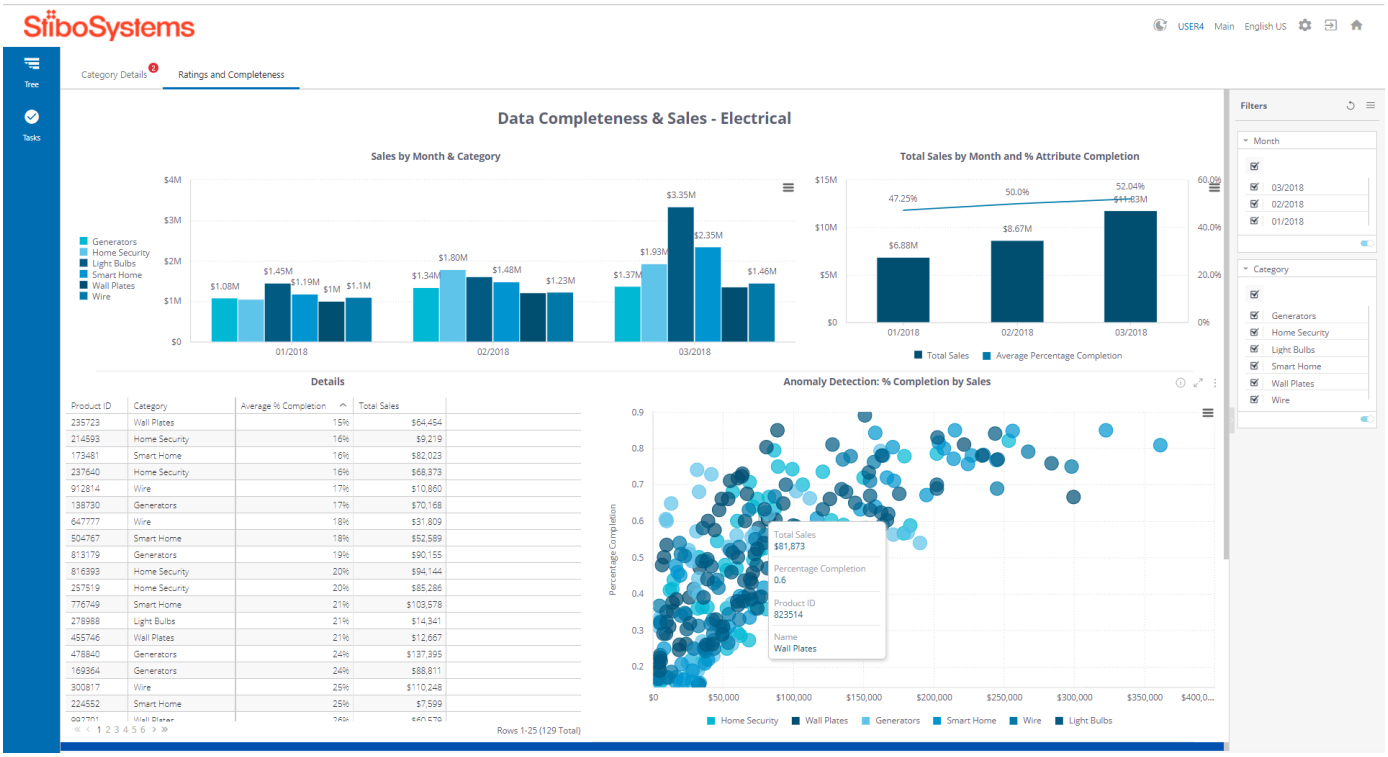
- Out-of-the-box web-enabled data administration and designer tools that can enable your solution to evolve as your business changes, including the ability to modify default dashboards and widgets, build new dashboards on available data, or add new data
- An open plugin framework and community library, allowing you to develop your own widgets and utilize other shared widgets
- Actionable insights and automated alerts, which allow for immediate action to be taken on your data, enhancing the productivity and efficiency of users
- Data security that can be aligned with STEP User Groups to control access to dashboards, and group permissions that can be set to view specific rows in any source data

Analyzed data is embedded within the Web UI through the new Embedded Analytics Platform Screen and Embedded Analytics Platform Widget components, detailed in the following subsection.

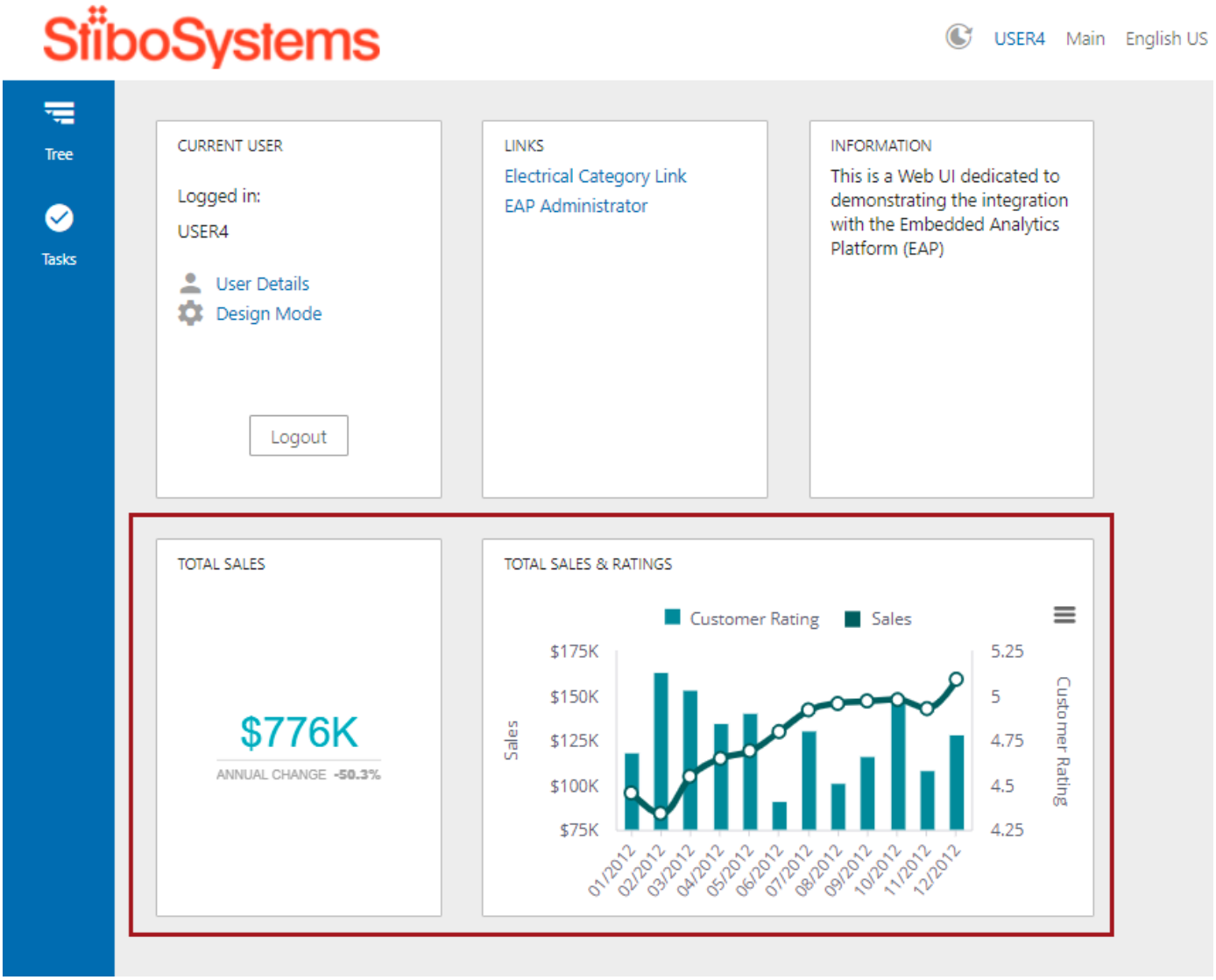
New Web UI screen and widget components to display EAP reports

Two new components have been added to view embedded analytics data in the Web UI: Embedded Analytics Platform Screen and Embedded Analytics Platform Widget.

The following screenshot shows a sample EAP screen displaying a category overview in the Web UI, with an optional filter panel displayed on the right:



The next screenshot shows a Web UI homepage with two sample Embedded Analytic Platform Widgets at the bottom. The EAP Widget component is very similar to the EAP Screen component except it is designed for smaller snapshots of data.



To access the Embedded Analytics Platform, an 'embedded-analytics-platform' add-on component must be activated on your system in addition to the normal update procedures for 9.2. Additional setup tasks and system configurations must also be performed by Stibo Systems' Technical Services team upon initial setup. See your Stibo Systems representative for more information.

For additional information about the Embedded Analytics Platform, including more detailed configuration information, see the Embedded Analytics Platform section of the Resource Materials documentation.

Audit Message Framework Enhancements

Summary

Several enhancements have been made to the Audit Message Framework solution, including:

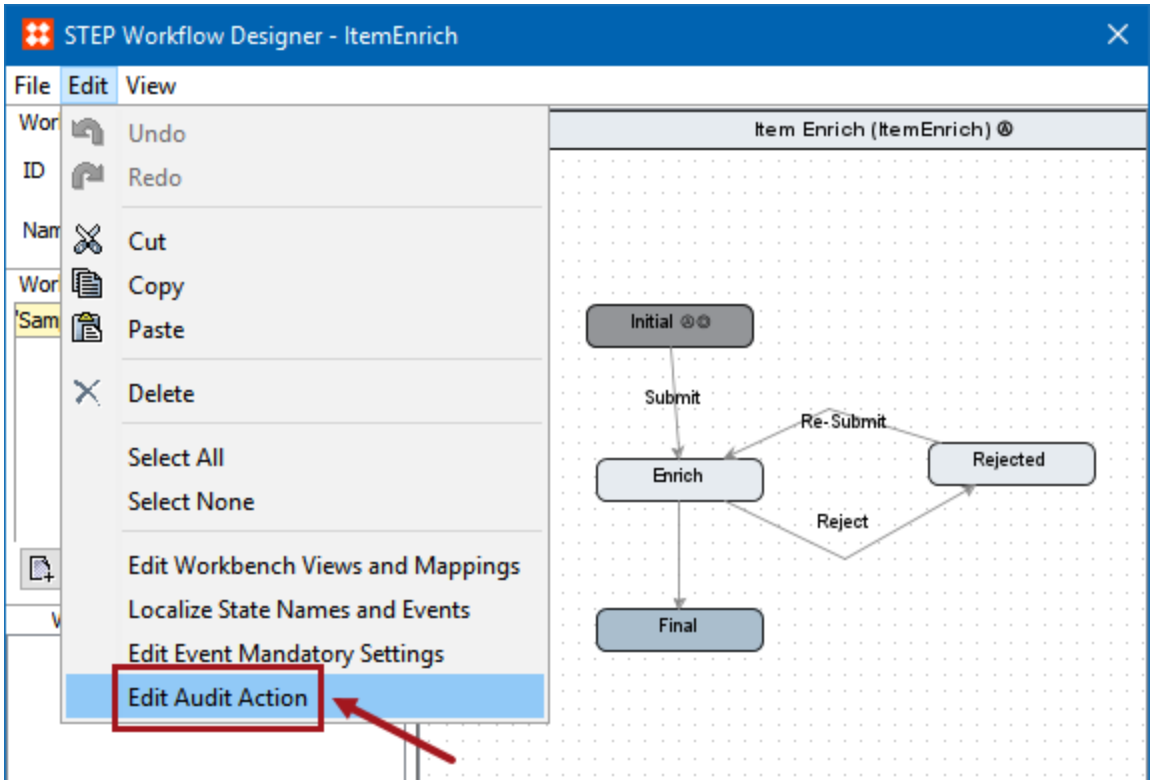
- Expanded workflow event auditing ability, allowing an entire workflow to be audited at once
- Addition of UPSERT support for database table entries
- Updated security, performance, and error handling

Details

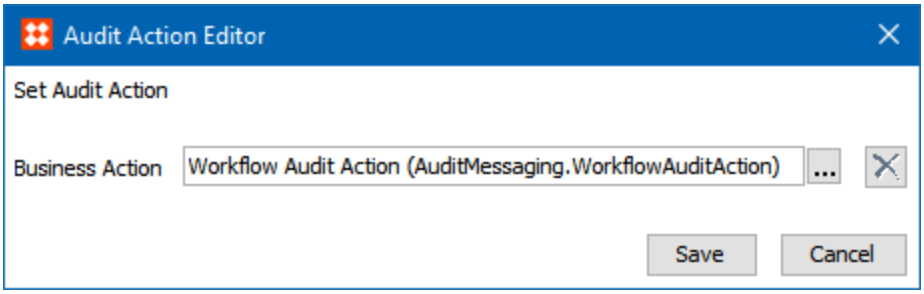
New ability to audit events on an entire workflow

Users who send workflow audit messages using Audit Message Framework can now apply an audit message business action to an entire workflow. Previously, audit message business actions had to be applied to each workflow transition individually, which could become a time-consuming task for complicated workflows. To support this functionality, a global business action named WorkflowAuditAction is now automatically created with Audit Message Framework installations. Users may choose to use this rule for their workflows, or write one of their own.

To apply the workflow-wide audit message business action, a new option named 'Edit Audit Action' has been added to the STEP Workflow Designer in the STEP Workbench.



Clicking 'Edit Audit Action' will display the 'Audit Action Editor' dialog, where users will select the desired audit message business action. This business action is automatically triggered for each transition.



For more information, see the Audit Message Framework documentation in the Resource Materials section of the online help.

New UPSERT support for database table entries

Support for UPSERT functionality has been added for messages written to external databases using the Audit Message Framework JDBC delivery plugin. The UPSERT command allows for existing records to be overwritten if it is determined that a record for the same object has already been written. Previously, a new record was inserted into the external database table every time an event auditing message was written from STEP. The new UPSERT functionality helps to reduce the maintenance and manipulation required to update and obtain the latest status for a dataset that is being queried; for example, to obtain a simple status of workflows.

To support UPSERT, a new '_ID' field has been added to the JSON message that is sent from STEP to downstream systems. To enable the new field, the corresponding table in the users' external database must also have an _ID column defined.

For more information, see the Audit Message Framework documentation in the Resource Materials section of the online help.

Security, performance, and error-handling updates

Several security, performance, and error-handling updates have been made to the Audit Message Framework solution in 9.2, including the encryption and authentication of all audit messages sent downstream from STEP.

Additionally, the delivery of audit messages to Audit Message Receiver Plugins no longer fail if a custom-developed Audit Message Receiver Plugin throws an unexpected exception.

For more information, see your Stibo Systems representative or contact Technical Support.

Data Exchange Enhancements and Changes

Summary

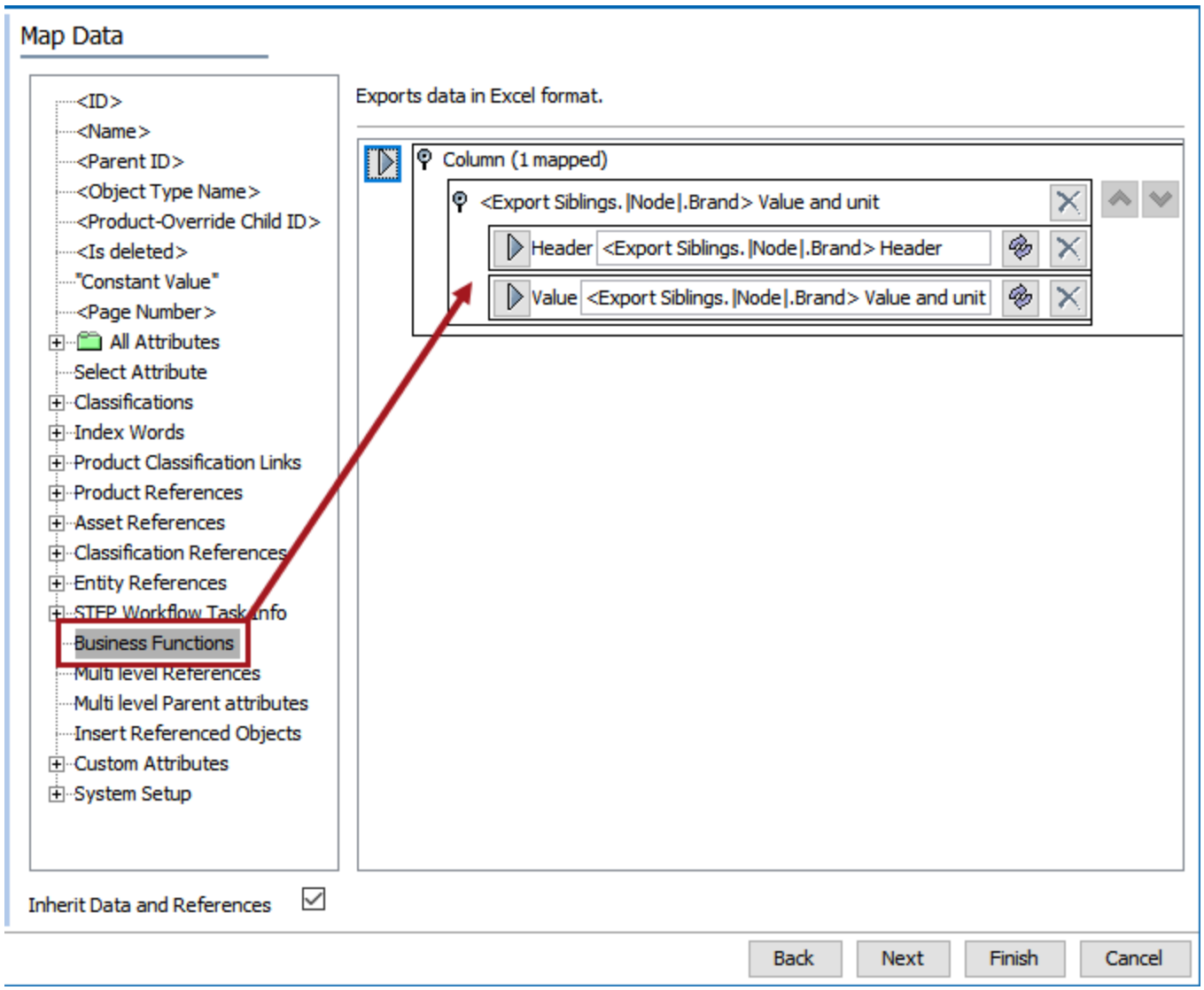
The following updates have been made within the Data Exchange functionality:

- New ability to export product attribute values in Excel and CSV using business functions as a data source.
- New asset importer property enables object type changes; required action for FAB-DIS users.
- New support for UNSPSC version 21.
- The option to import eCl@ss Basic CSV files will be removed with the next feature release.
- Quicksheets, previously deprecated functionality, are no longer supported..
- Updated and enhanced Advanced STEPXML and STEPXML import / export enhancements have been added as part of the Configuration Management Tooling Enhancements project.

Details

New ability to export product attribute values in Excel and CSV using business functions

To add increased flexibility in exporting attribute values from child, sibling, and other groupings of indirectly referenced product objects in STEP, business functions can now be mapped as a data source in Excel and CSV export configurations, both in the Export Manager and in outbound integration endpoints (OIEPs).



Business functions work in a similar fashion to multi-level references in Excel and CSV exports, except the intended use of business functions is to pull values from product groupings that are 'implicitly' connected and not directly linked through references. In the exported sheet, one column is returned per mapped business function. If the business function returns multiple nodes, then the attribute value will be found for each node, and the values will display within the column, separated by a multi separator.

Two simple use cases for this functionality are as follows.

- Return a list of *child* product objects where the 'Brand' attribute equals a specified value (e.g., Brand = Acme). If a price value also exists for these objects, return the attribute value(s) from the node(s) to be used in an export.
- Return a list of *sibling* product objects where Brand = Acme. If a price value exists for these objects, return the attribute value(s) from the node(s) to be used in an export.

The following considerations apply to the use of business functions in exports:

- This functionality is only available for In-Memory enabled STEP systems.
- The business function data source can only be used with Excel and CSV exports, as the intention is for these exports to be 'human readable.'
- This feature only supports business functions where the Input Parameter is a node and the Return Type is either node or a list of nodes.
- Only product objects are supported.

For more information on how to use and configure this functionality, see the Business Functions - Data Source Outbound topic in the Data Mapping section of the Data Exchange documentation.

New Asset Importer property / required change for FAB-DIS users

The case-sensitive property 'AssetImporter.ObjectTypeChange' was introduced with 9.1-MP4 and can be added to the sharedconfig.properties file to enable object type changes. This property is disabled by default, so clients using the importer where object type change is required will have to add the property.

Customers using the FAB-DIS importer should set this property to 'true' or the functionality will not work. This is true even if the functionality worked on a customer system prior to 9.1-MP4.

Industry standard data exchange updates for UNSPSC

STEP now supports UNSPSC version 21. There are no changes to the way version 21 is imported versus previous versions. For more detailed information, see the UNSPSC Format topic in the Data Formats documentation.

eCl@ss Basic CSV import option to be removed

The option to import eCl@ss Basic CSV files will be removed with the 9.3 release. Support for eCl@ss Basic XML imports remain.

Quicksheets desupported

Quicksheet support is no longer available, and all Quicksheet functionality is withdrawn with this release. Customers are encouraged to use Smartsheets instead, and should contact your Stibo Systems representative for more information regarding this option.

Component model STEPXML representation update

When exporting component models with STEPXML, in previous versions of STEP, the definition of referenced objects (reference types, object types, and attributes) were embedded in the component model representation. From 9.2, this has been changed so that the component model representation now instead contains references to the objects.

If customers wish to continue to use the pre-9.2 format with embedded definitions for referenced objects, this can be obtained by setting the configuration property 'Export.ComponentModel.Version' to 'V1' (defaults to 'V2'). For more information, see the Component Models topic in the System Setup / Super User Guide documentation.

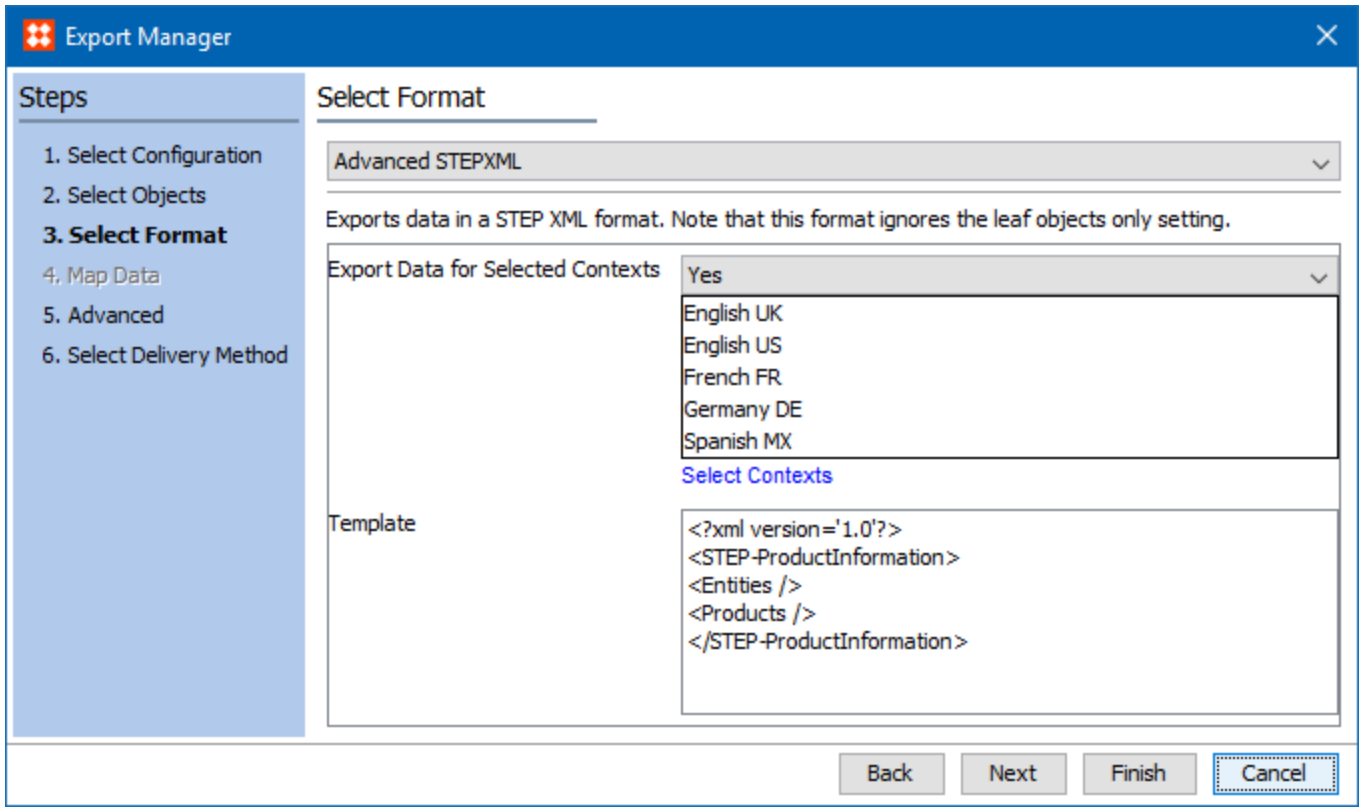
Updates to hierarchical LOV filtering for an attribute via import

It is now possible to turn off hierarchical LOV filtering for an attribute via a STEPXML import using the 'HierarchicalFiltering' and 'ClassificationHierarchicalFiltering' attributes in the Attribute element. When filtering is turned off, all filter values on attribute links from products / classifications to the attribute will be removed. As the attribute link and its metadata is owned by the product / classification side, this means that data objects can be modified when turning off filtering.

For more information, see the 'Importing data for filtered LOVs' section of the Filtering LOVs topic in the System Setup / Super User Guide documentation or click the **STEP API Documentation** button on the STEP Start Page for a link to the XSD file.

Advanced STEPXML cross-context exports

When using the Export Manager to export data, it has previously not been possible to use the 'Advanced STEPXML' format and have data exported for multiple contexts. As can be seen below, with 9.2, this option is now available using the new 'Export Data for Selected Contexts' parameter.



Notice that when the 'Advanced STEPXML' format is used in an outbound integration endpoint configuration, the context setting of the format will be overridden by the context settings of the integration endpoint.

For more information, see the Export Manager - Select Objects topic in Data Exchange documentation.

New attribute to export classifications that assets are linked to

A new 'IncludeParentClassifications' attribute has been introduced for the 'Asset' element in the output template format used for the 'Advanced STEPXML' export format.

When set to true, if the template is configured to export classifications, then for each asset in the exported file, the classifications that the asset is linked to will be added to the export.

The attribute will only impact the domain exporter used per default on systems running In-Memory and will be ignored on systems using the legacy database exporter.

For more information on In-Memory, see the In-Memory Database Component for STEP topic in the Resource Materials documentation or click the **STEP API Documentation** button on the STEP Start Page for a link to the XSD file.

Ability to export / import binary asset content together with STEPXML and fixed OutputTemplate.xsd for asset content

Since 8.2 it has been possible to export binary asset content with STEPXML. From 9.2, unconverted 'Source' data can also be imported via STEPXML, meaning that STEPXML can now be used to create and update asset content. Unconverted binary data in STEPXML is represented in the 'AssetBinaryContent' element with the value for the attribute 'ImageConversionConfigurationID' being an empty string. For more information, see the AssetContent Tag in STEPXML topic in the Data Exchange documentation.

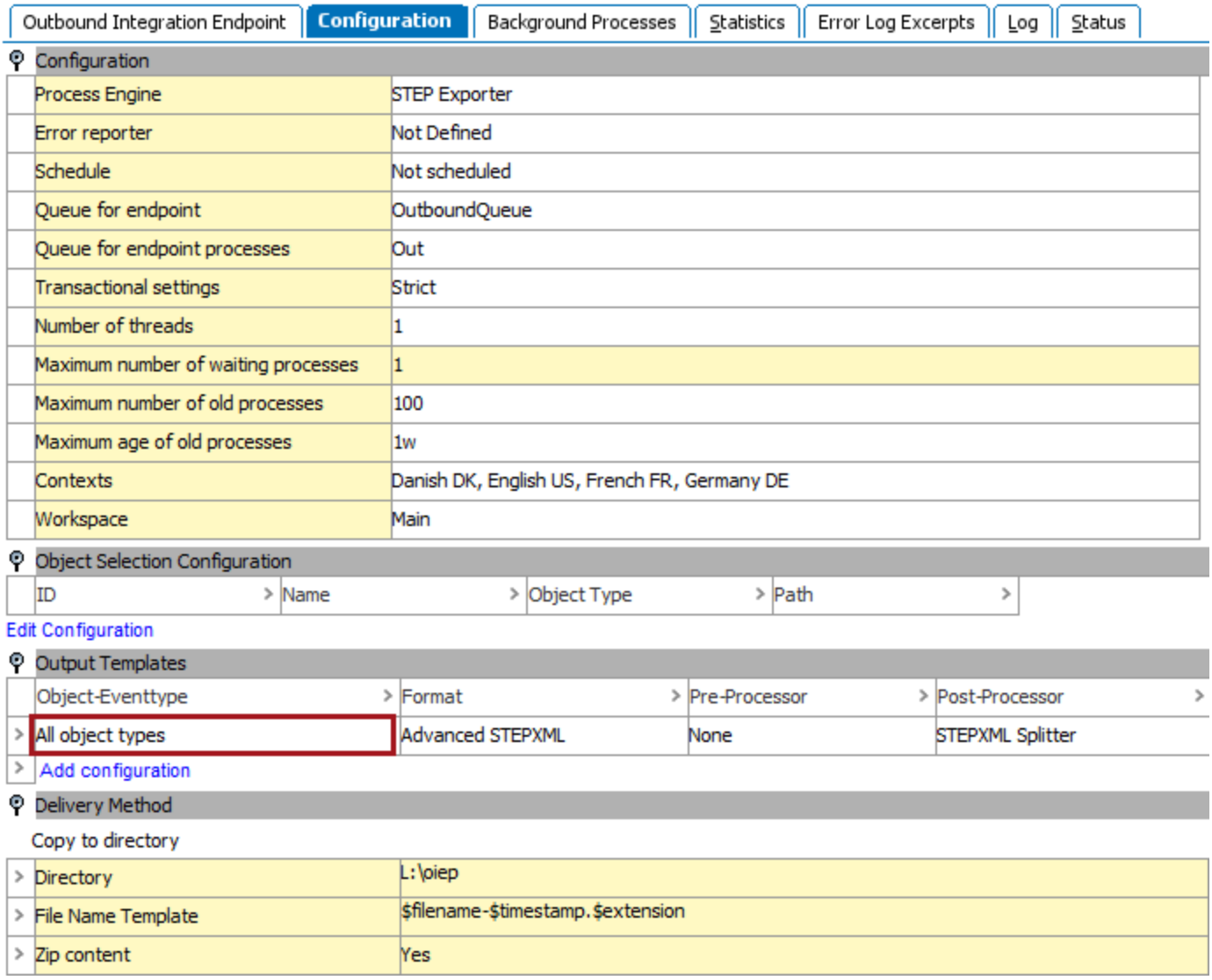
Related to this change, the OutputTemplate.xsd describing the format to be used for Advanced STEPXML specification has been updated to correctly reflect the specification to be used for exporting binary asset content. For more information, click the **STEP API Documentation** button on the STEP Start Page for a link to the XSD file.

Added 'Include Status Flags' export option for STEPXML format

When using the 'STEPXML' export format, it is now possible to specify that workflow status flags should be exported. For more information, see the STEPXML Outbound Parameters topic in the Data Exchange documentation.

Improved selection logic for OIEPs

It is now possible to export via a selection-based or event-based outbound integration endpoint using the 'STEP Exporter' without making an object selection. For this case, an Output Template can be made to match 'All object types' instead of selecting specific ones.

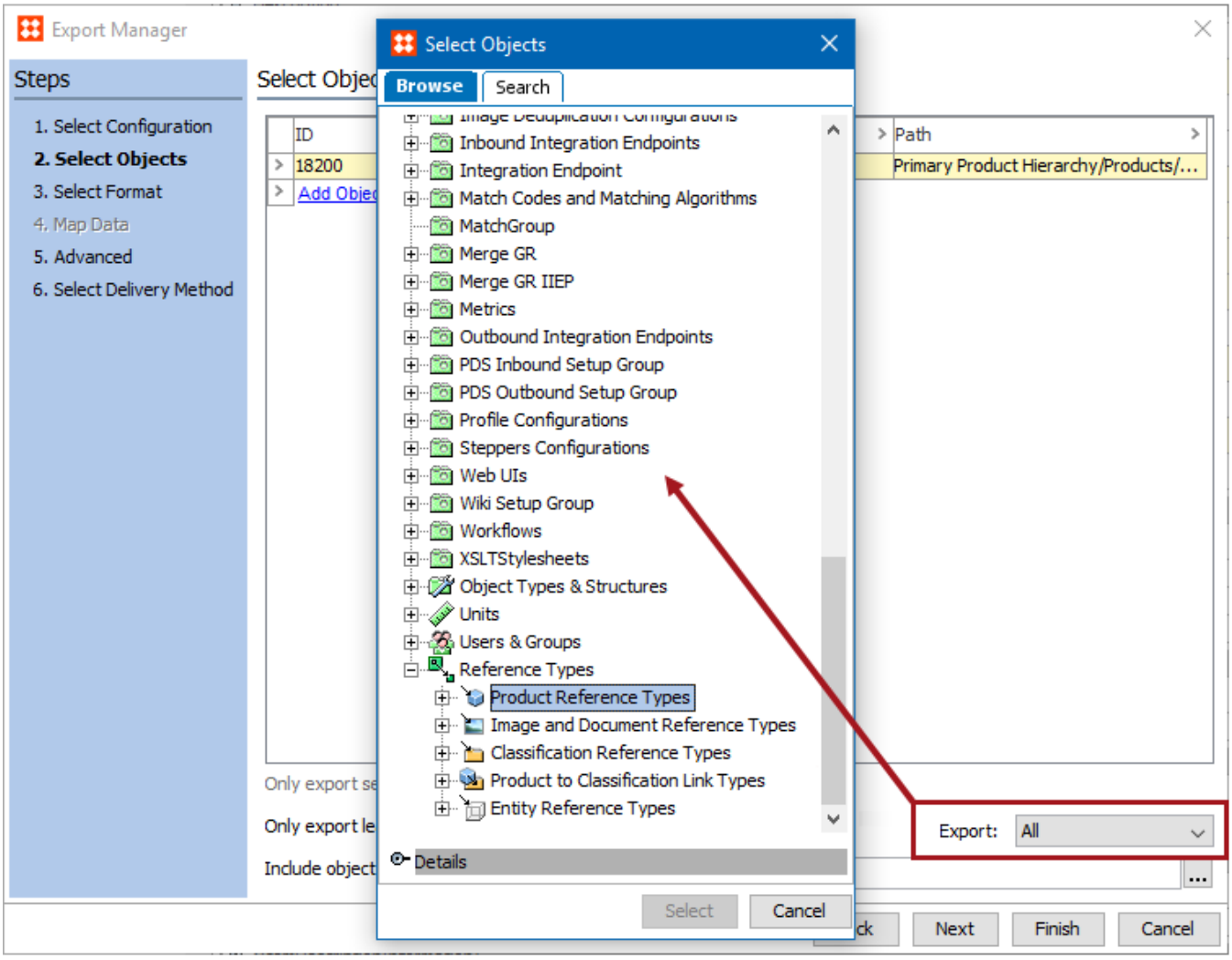


The option is useful in cases where the endpoint, for instance, is to always export all attributes or all object types. For more information, see the OIEP - Event-Based - Output Templates Flipper topic and the OIEP - Select Objects - Output Templates Flipper topic, both in the Data Exchange documentation.

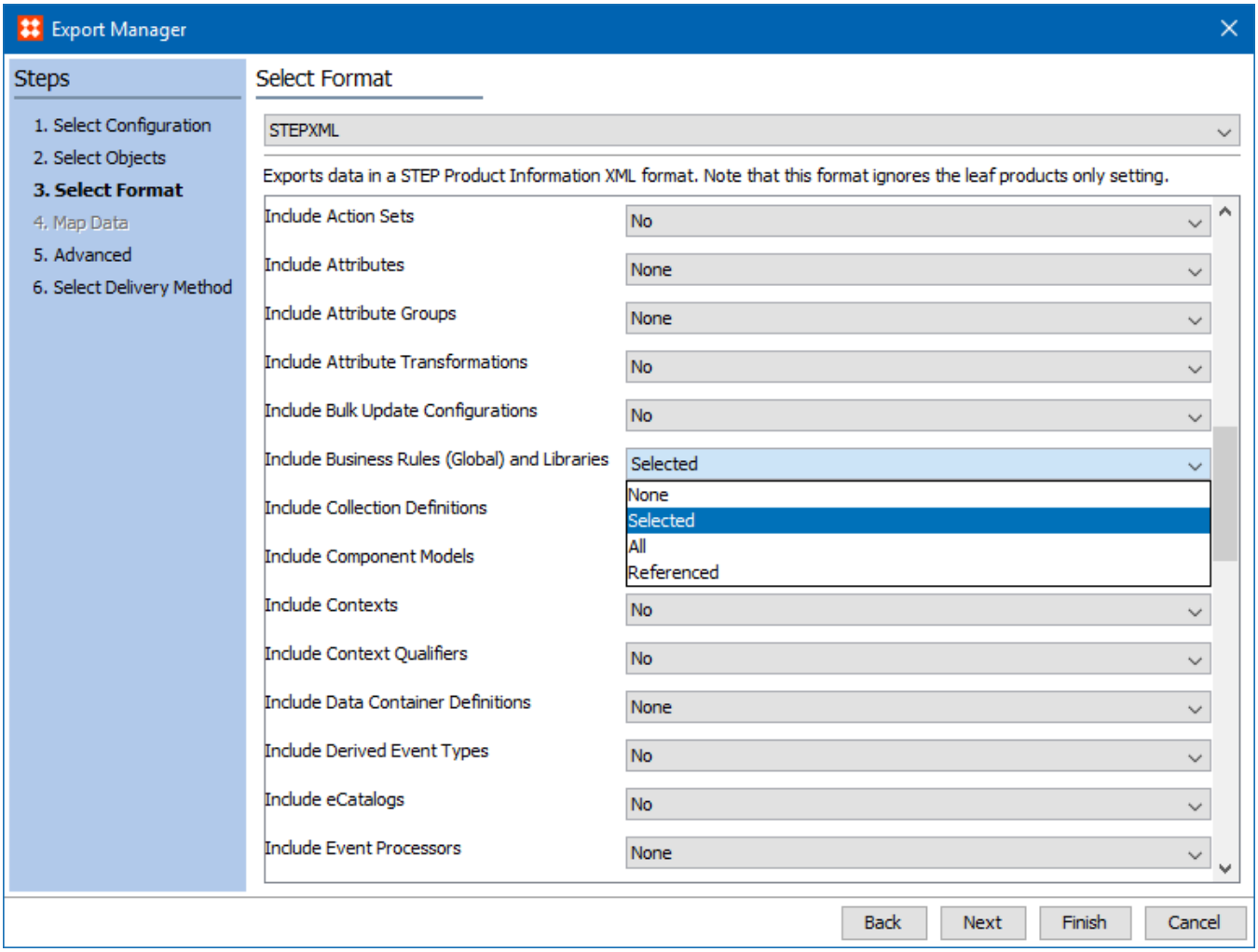
Ability to export specific configuration object(s)

With 9.2, it is possible to export specific configuration objects with STEPXML. For example, a single attribute or reference type definition, or a combination of configuration objects. The option is available via the standard Export Manager on the 'Select Objects' step. Users can select a range of configuration / System Setup objects given that 'All' has been selected in the 'Export' drop-down menu as shown below.

For more information, see the Export Manager - Select Objects topic in the Data Exchange documentation.



Also, the STEPXML format has been extended so that for selectable types, it is now possible to choose the export size 'Selected.'



The 'Selected' export size is also available for the types when using the 'Advanced STEPXML' format.

For more information regarding the Advanced STEPXML and STEPXML formats, see the Data Formats section of the Data Exchange documentation. Users should also be aware of updates outlined in the Configuration Management Tooling Enhancements release note.

Enhanced Translation Functionality

Summary

Translation Services have been updated to include the following new features and enhancements:

- Ability to translate a List Of Values (LOV) using an asynchronous translation service.
- Increased functionality when searching for translation status in both the workbench and the Web UI.
- A new asynchronous translation service option (File Exchange Service).
- Addition of 'List Of Values' option in the Change Translation Setup dialog window.
- Addition of Asynchronous Translation Message Processor, allowing for batching translation requests.
- New mechanism to only send LOV values that require translation.

Details

Translating List Of Values via an asynchronous translation service

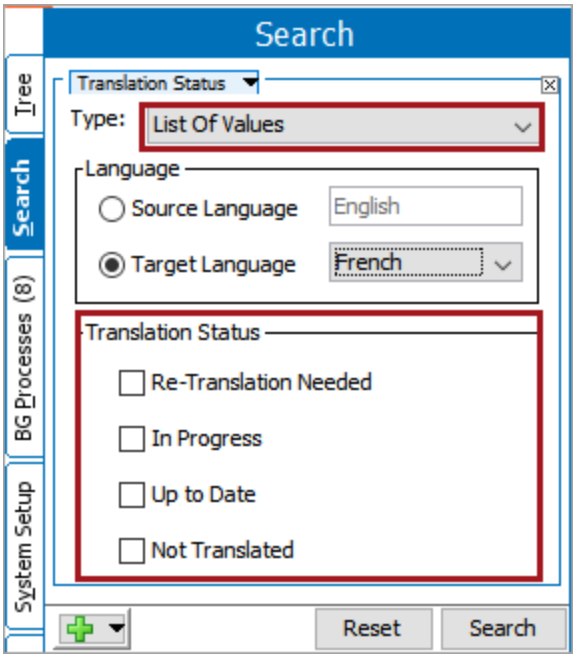
The asynchronous translation framework has been expanded to include support for a List Of Values (LOV), bringing the asynchronous translation capabilities in line with current non-asynchronous translation functionality.

For more information on asynchronous translations, see the Asynchronous Translations documentation. For more information on translations, see the Translations documentation.

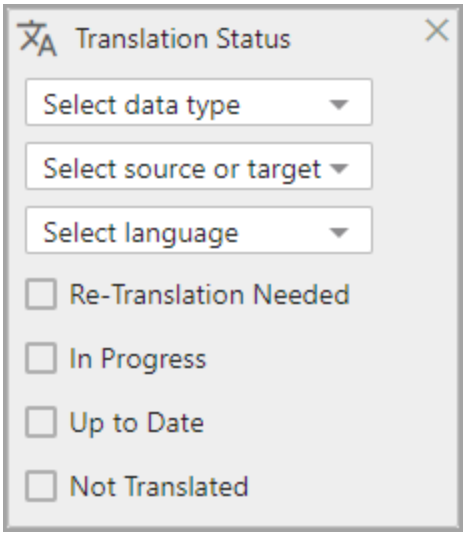
Searching for translation status within the workbench and the Web UI

Users now have the ability to search for an LOV based on the translation status of the LOV values. Previously, the translation search was limited to only those LOV values that had not been translated. Now, when ‘List Of Values’ is selected from the ‘Type’ dropdown on the Translation Status search criteria selector, all language and translation status parameters are available. This change brings LOV into closer alignment with the translation capabilities that already exist for other kinds of data in STEP.

For more information on the searching for translation status, see the Searching for Translation Status topic in the Translations documentation.



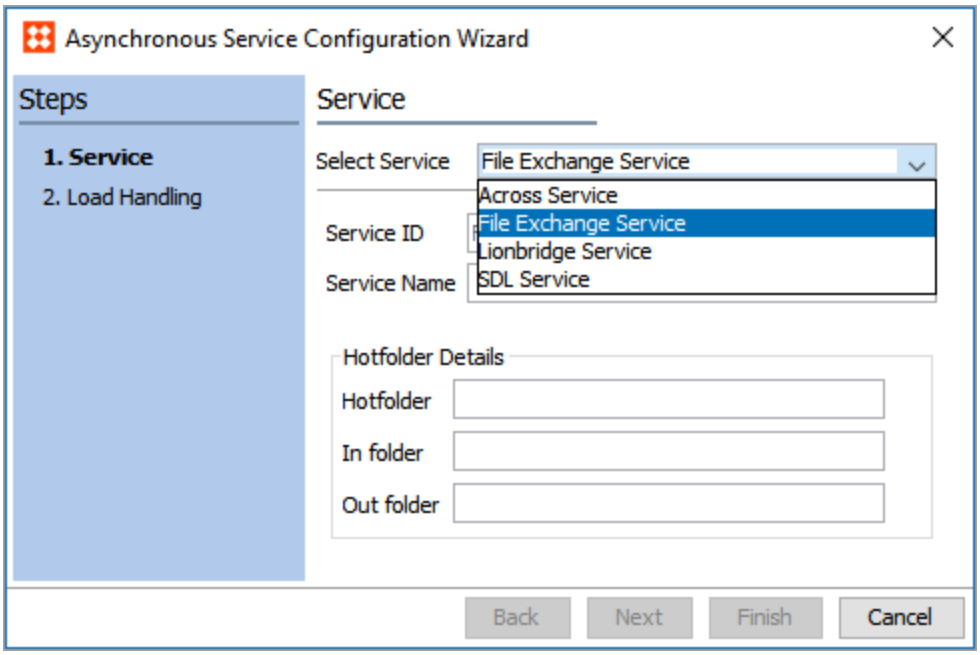
In a related update, users are now able to search for the translation status of products, classifications, assets, attributes, and LOV in the Web UI using the new Translation Status search criteria. Accessible in the Advanced Search screen, the Translation Status search criteria enables users to create granular searches for objects with any of four translation statuses ('Re-Translation Needed,' 'In Progress,' 'Up to Date,' and 'Not Translated'). The searches can be further refined by applying additional criteria like object type and language (source or target).



For more information regarding configuring the Advanced Search screen with Search Criteria, see the Advanced Search Initial Configuration topic in the Advanced Search section of the Web User Interfaces documentation. For more information regarding translations, see the Translations topic in the System Setup documentation.

File Exchange Service

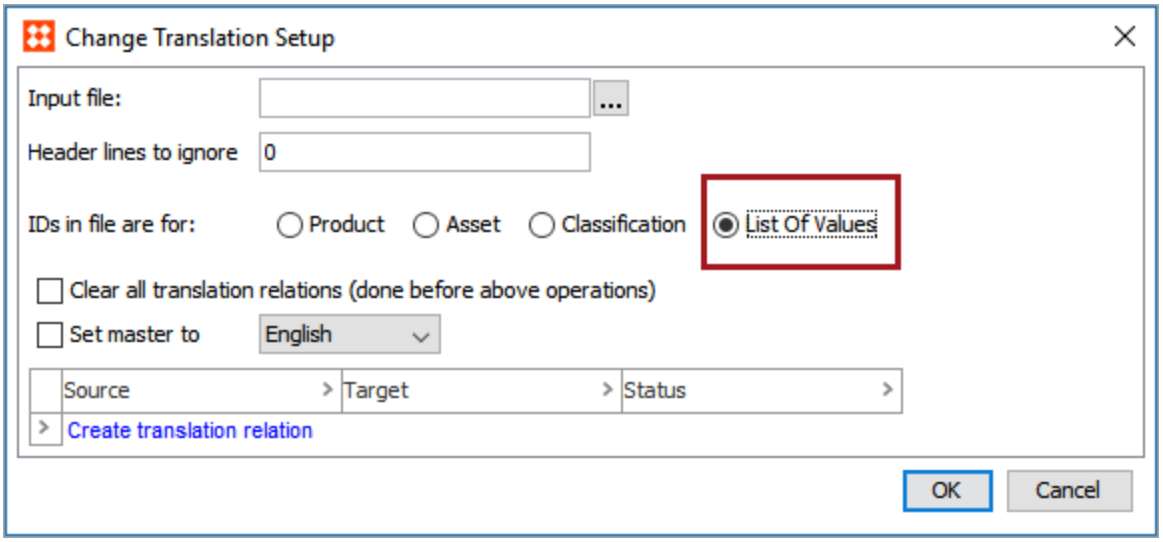
The File Exchange Service is a new asynchronous translation service that can be used to manually export / import translation files into folders; no translation service API is needed. This feature is an excellent option for users that do not currently have a contract with any of the translation services currently supported, such as Lionbridge and SDL, but need a way in which to send and receive files for translation.



For more information regarding the File Exchange Service, see the File Exchange Service topic within the Asynchronous Translations documentation.

List Of Values option included in the Change Translation Setup tool

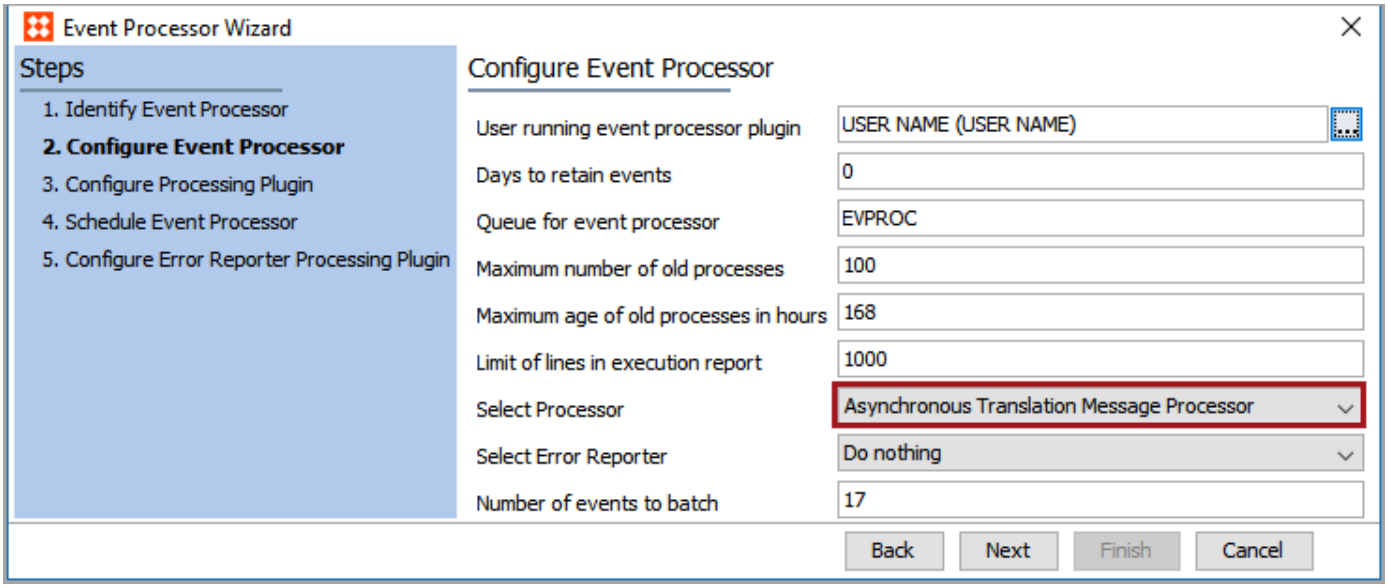
List Of Values has now been added as a selectable option within the Change Translation Setup tool. This allows users to be able to update / override the translation setup for a List Of Values. For more information, see the Changing Translation Status and Setup topic in the Translations documentation.



Asynchronous Translation Message Processor

The new Asynchronous Translation Message Processor plugin will allow those users with the async-translation component installed in their system the ability to schedule a translation job that contains a list of objects that need translation. Scheduling is possible via a bulk update that is executed on a Collection that contains a number of objects. The bulk update is configured with a business action that generates a derived event for each of the objects in the collection.

For more information on the new Asynchronous Translation Message Processor, see the Asynchronous Translation Message Processor Processing Plugin Parameters and Triggers documentation.



Only send LOV values that require translation

LOV submitted by either asynchronous or non-asynchronous translation services will now only send those LOV values that require translation. When an LOV is selected for translation, the new logic will (for each of the values in the LOV) compare the current source value with the last successfully translated source value. If there is a difference, the LOV value will be tagged with <TranslatableText>. The image below shows an example of a LOV taken from an XML file, with the <Translatable Text> tags highlighted for the value within the list.

```
  <ListsOfValues>
    <ListOfValue ID="Desk Materials" ParentID="List Of Values group root" AllowUserValueAddition="false"
      <Name QualifierID="en-US">
<TranslatableText>Desk Materials</TranslatableText></Name>
      <Validation BaseType="text" MinValue="" MaxValue="" MaxLength="100" InputMask=""/>
      <ValueGroup ID="Wood">
<Value ID="Wood" QualifierID="en-US">
        <TranslatableText>Wood</TranslatableText>
        </Value></ValueGroup>
      <ValueGroup ID="Plastic">
<Value ID="Plastic" QualifierID="en-US">
        <TranslatableText>Plastic</TranslatableText>
        </Value></ValueGroup>
      <ValueGroup ID="Fiberglass">
<Value ID="Fiberglass" QualifierID="en-US">
        <TranslatableText>Fiberglass</TranslatableText>
        </Value></ValueGroup>
      <ValueGroup ID="Metal">
<Value ID="Metal" QualifierID="en-US">
        <TranslatableText>Metal</TranslatableText>
        </Value></ValueGroup>
    </ListOfValue>
  </ListsOfValues>
</STEP-ProductInformationTranslation>
```

To access and use the Asynchronous Translation Message Processor, the 'external-async-kernel' add-on component must be activated on your system in addition to the normal update procedures for 9.2 and any other activation noted above.

To access and use the File Exchange Service, the 'file-exchange-translation' add-on component must be activated on your system in addition to the normal update procedures for 9.2 and any other activation noted above.

To ensure that asynchronous or non-asynchronous translation services only send LOV values that require translation, the 'translation-extension-lov' add-on component must be activated on your system in addition to the normal update procedures for 9.2 and any other activation noted above.

See your Stibo Systems representative for details.

Web UI Enhancements

Summary

Enhancements and changes to the Web UI for the 9.2 release include:

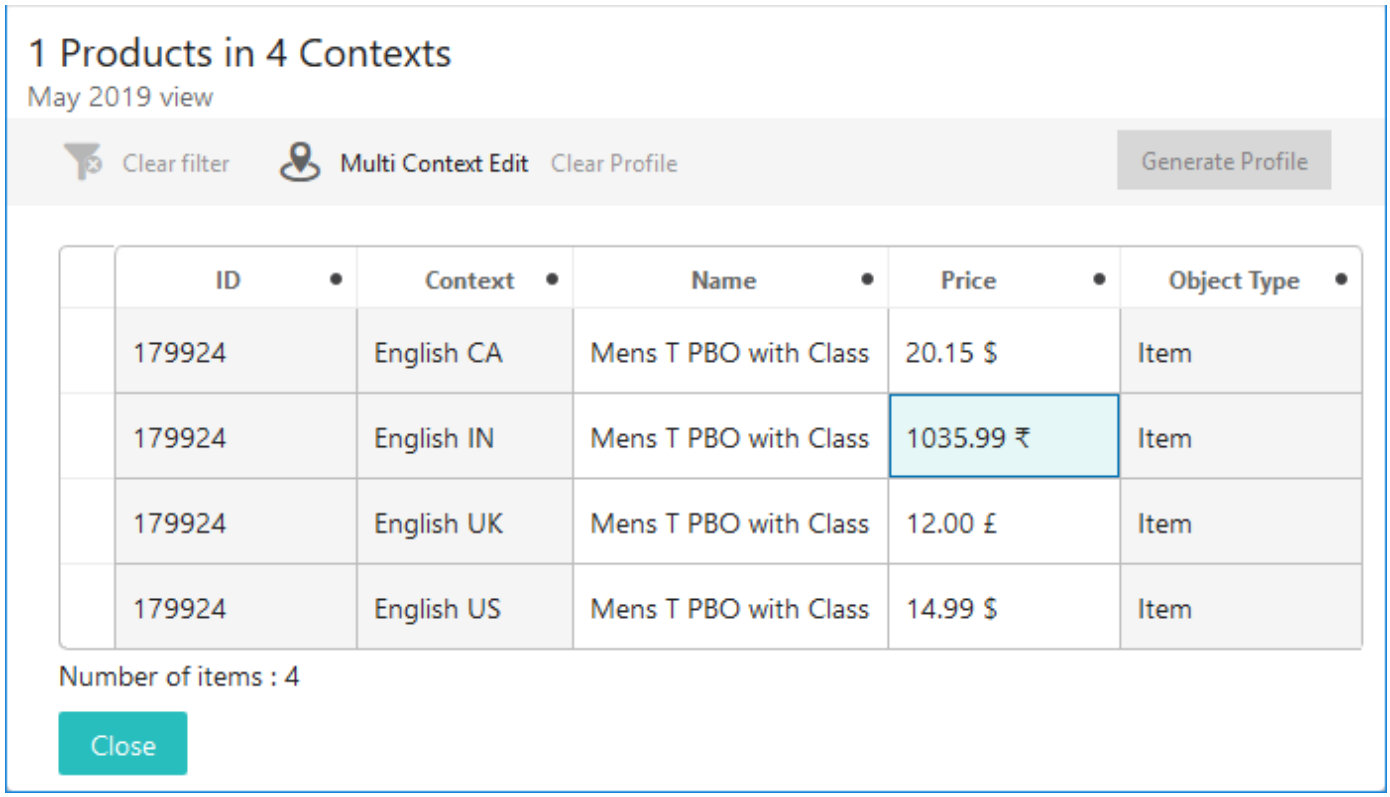
- A new Multi Context Edit toolbar action allows users to view and edit product details for one or more objects in multiple contexts in the same view.
- New summary card component displays important object data for products, entities, assets, and classifications at the top of Node Details screens.
- Views of data in the Web UI, including tab, view, and highlighted attribute, can now be shared via URLs through the implementation of deep linking.
- Tabs and sub screen tabs can now be configured to display based on the outcome of a business condition.
- Screens can now be mapped based on the outcome of a business condition.
- The ordering of confirmation ('OK') and dismissal ('Cancel') buttons have been switched throughout the Web UI, and dialog buttons now align with the primary (shaded) and secondary (unshaded) button handling established by Material Design.
- The Workflow State component is now the Workflow States component, and has been updated for ease of use.
- The File Loading Widget can now be set to record the Web UI user as the IIEP initiator rather than the configured IIEP user.
- Business Action with Web UI Bind component can now be configured to accept user input via attribute-validated parameters and/or a node picker.
- The Assign toolbar action now lists selectable workflow task assignees in alphabetical order.
- The Node Picker Search tab for the Add Reference component can now be configured with headers and search plugins for more detailed searches.
- Orphan attributes are now visually indicated in the Web UI.
- Pop-up dialogs that display based on a click or hover-over actions now end display based on the same action that initiated display.
- The Node Picker in the 'Move Action' component now displays items in the hierarchy with both their name and ID.
- Web UI navigation has been improved when a user cancels out of an object creation task using the 'Create Object' action.
- The Alternate Node Appearance component now enables display of the visual indicator (colored dot) beside configured objects in the Global Header Search results.
- A new parameter has been added to the Tree Navigator to allow all leaf objects to display by default.

- The Children of Type screen has been superseded (as previously announced) and users should move to using Children of Types screens prior to the next feature release.
- Quicksheets are no longer supported and their corresponding actions have been removed.

Details

New tool for analyzing and editing data in multiple contexts

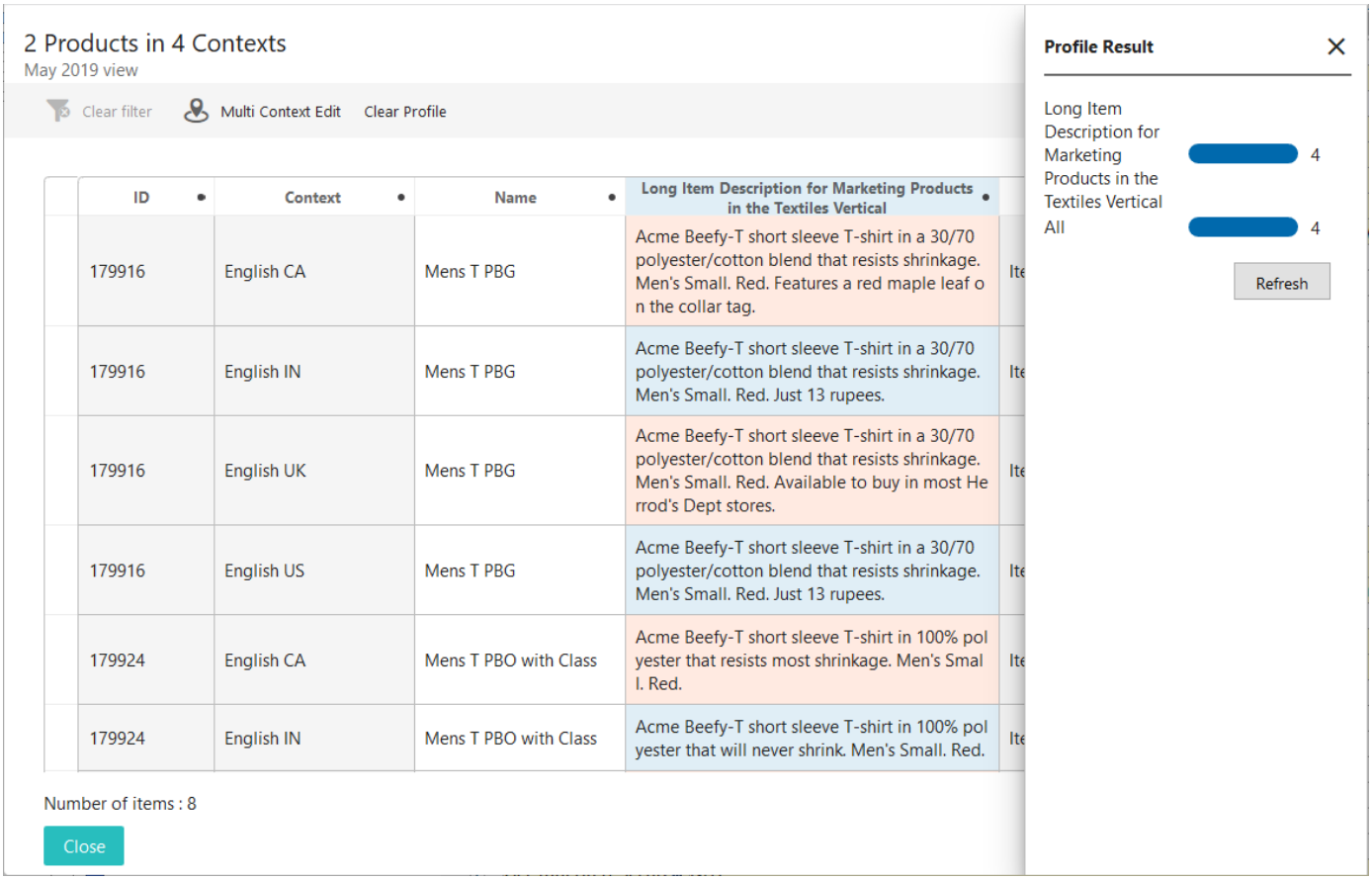
A new Web UI toolbar action (Multi Context Edit) for Node Lists enables users to see more information about product data for multiple products in multiple contexts. Once users select the objects that will be part of a multi-context view, clicking the Multi Context Edit toolbar action affords users a view of those objects with one listing for each item in each of the selected contexts. Information specific to that object and context shows for each of the configured data columns. In the screenshot below, multiple instances of the product '179924' are listed, once for each chosen context. A price relevant to the product in each of the configured contexts is shown.



One of the key aspects of this feature is the ability to quickly analyze, or 'profile', attribute data as it pertains to multiple products in multiple contexts. An example of profiled data is shown in the screenshot below. To profile data using this feature, a user must first select the columns to be profiled by clicking on the desired column headers. Clicking the 'Generate Profile' button directs the system to create a graphical display of how many attributes' values are localized for the selected columns. Attribute values that meet this criteria are shaded red for quick identification.

An example of how profiling could be applied is when a customer wants to review marketing content across multiple contexts covering a series of products. When a product description attribute column, for example, is profiled, users can quickly see which marketing copy was made local for the context via the red-shaded

cells. Further review can determine which content is compliant with marketing standards, and which may need additional review. Clicking on the profile metric in the 'Profile Result' section (located to the right in the screenshot below) will filter the column so only the rows with red-shaded cells will display.



The views for this feature incorporate the user configurable view functionality, which means that the same process used to create and configure views when applying a view is used with the Multi Context Edit component.

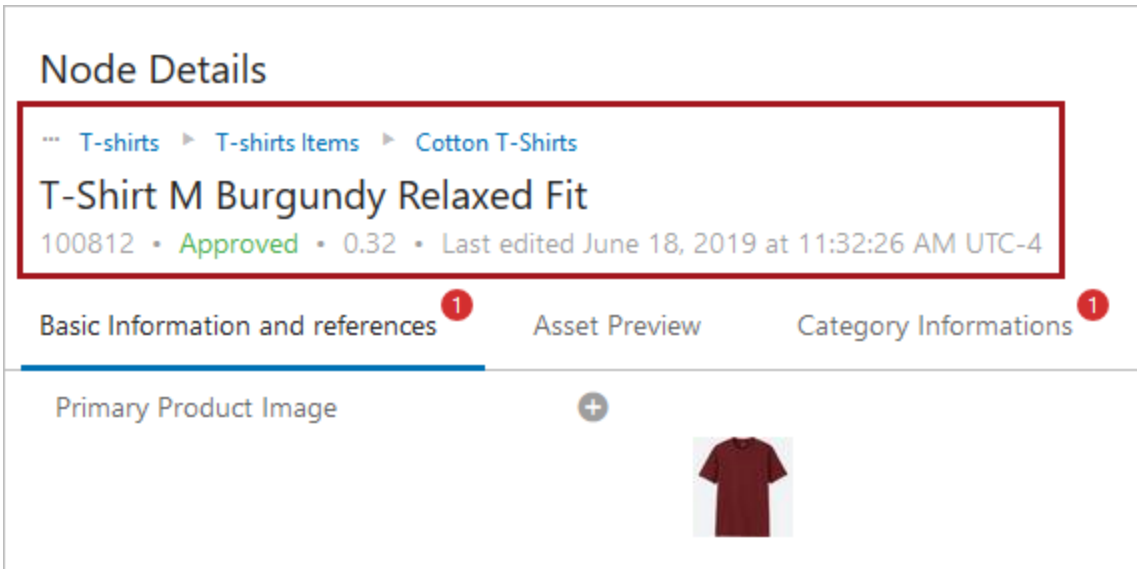
It should be noted that selecting a large number of objects coupled with a large number of contexts can create performance issues when rendering. The system gives admins the ability to display a warning when the number of nodes selected exceeds a configured maximum by adding the property MultiContextEdit.RecommendedMaximumNumberOfNodes=1000 in the sharedconfig.properties file. This property directs the system to display a warning message to the user if more than 1,000 nodes (a combination of objects and contexts) are set to display in the Multi Context Edit component. The '=1000' is the maximum that aligns with Stibo Systems' recommended practices, but can be set higher or lower, depending on customer requirements.

To use the Multi Context Edit toolbar action, contact your Stibo Systems account manager or partner manager to activate the 'multi-context-edit' component.

For more information on the Multi Context Edit toolbar action, see the Multi Context Edit Component topic in the Web User Interfaces documentation.

New summary card component displays important object data for products, entities, assets, and classifications at the top of Node Details screens

A new component called 'Summary Cards' enables users to display a grouping of an object's primary data points at the top of a Node Details screen. These Summary Cards have been made available for products, assets, entities, and classifications. Available as an option in the 'Below Title' parameter in a Node Details' child components, Summary Cards display card content just below the screen title. By grouping information in this way, users can easily locate the name, ID, approval status, and any other pertinent attribute value or data container attribute values specific to the object being worked on.



Two card options are available when applying a Summary Card component to an object information screen: 'Description Card' and 'Attribute Card'. When 'Description Card' is selected, a series of baseline data points about the object will automatically display just below the screen name, like breadcrumb info, name, ID, and time / date information related to when the object was last updated. The screenshot above shows an example of a 'Description Card'.

When 'Attribute Card' is selected, users can configure the card to display which attribute values or data container attribute values should display in the area just below the screen name. Users can select one or multiple attributes or data container attributes to display. As long as all selected attributes and data container attributes are valid for the object's object type, they will display below the screen title.

For implementations in which data profiling is configured, a 'Secondary' card that displays preconfigured metrics can be added to either a 'Description Card' or 'Attribute Card'. This feature is applicable to all summary card components except the Asset Summary Card as assets cannot be profiled.

Additionally, the Entity Summary component has been superseded by the Entity Summary Card component. Those with Entity Summary components already configured will see no changes when updating to 9.2. However, when adding new summary components, the Entity Summary will display in the component list as superseded and Stibo Systems' recommended practice is to use the Entity Summary Card going forward.

For more information on summary cards, see the Below Title Component topic in the Web User Interfaces documentation.

New support for deep linking, browser navigation, and retention of on-screen selections when navigating

Deep linking has been implemented in the Web UI as part of the 9.2 release. Deep linking allows users to share granular views of data in the Web UI via URLs, enabling more effective collaboration. As an example, if a user has navigated to a Node Editor displaying data in a Multi Edit View, and then scrolls down to highlight the 'Brand Name' attribute field, the user can then copy the URL, and send it to a different, properly privileged user. When that user opens the link and logs in, they will see the same data showing in the same view as in the sender's view, and the screen will have auto-positioned to the highlighted 'Brand Name'.

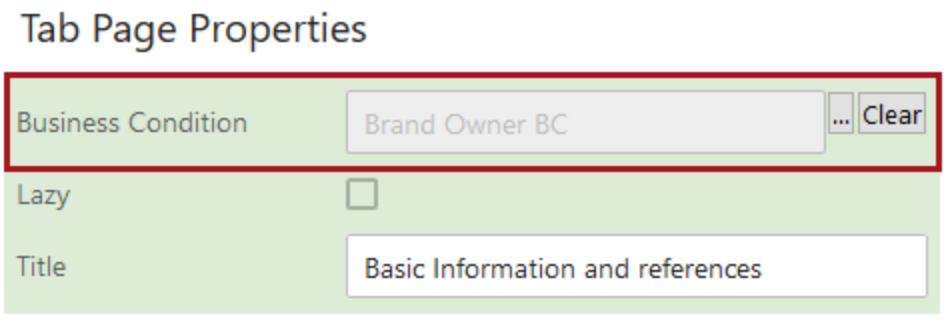
Expanding the linking functionality resulted in another improvement relating to Web UI navigation. Now, when a user hits the 'Back' button in their browser, the screen to which the user returns remembers the settings, search criteria, and various other facets applied to that previous screen. As an example of this ability to 'keep state,' when a user runs a search in the Advanced Search screen, clicks on one of the objects in the search results, and then clicks the 'Back' button, the user is taken back to the search results. Previously, the user was taken back to a blank Advanced Search screen, necessitating redoing the search.

It is important to note, however, that this capability comes with some limitations. Not all possible configurations of a screen will be remembered when sharing a URL. For instance, if a user applies the Freeze Panes functionality to a Node List, a copied and pasted URL will not remember where the panes were frozen.

For more information on the limitations and considerations associated with deep linking, see the Using Web UI topic in the Web User Interfaces documentation.

Control display of tabs with a business condition

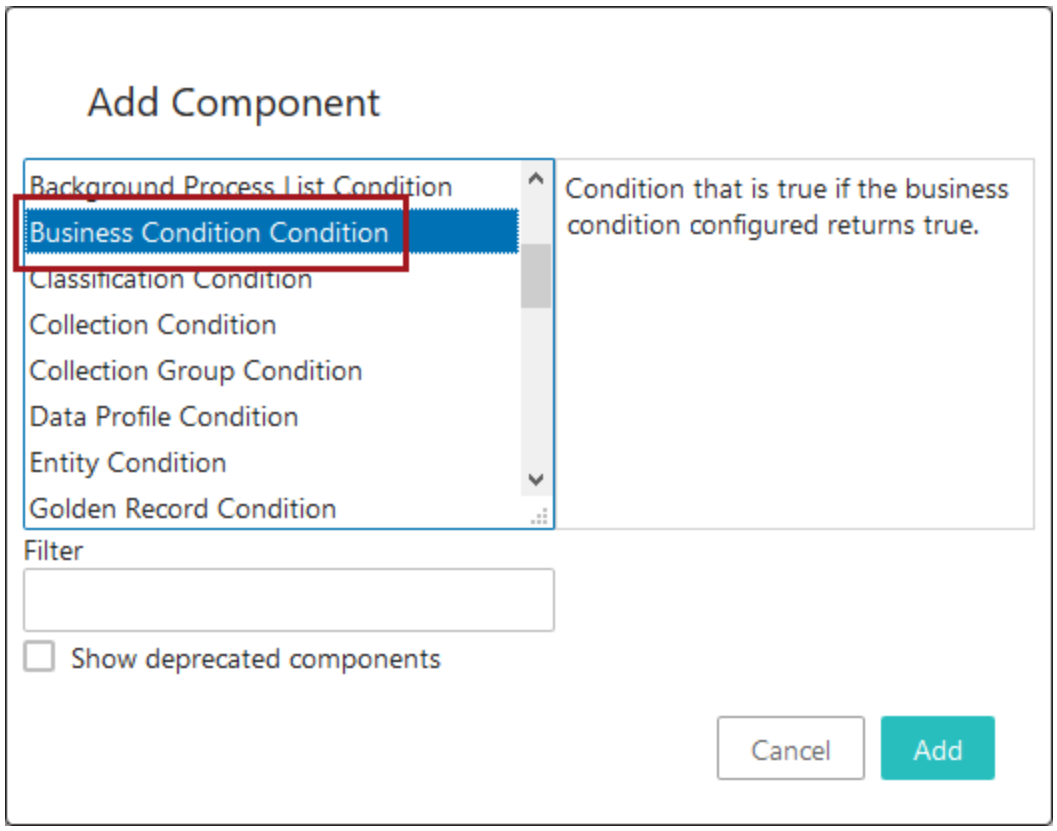
Tab pages and sub screen tab pages in the Web UI can now be configured to display based on whether a business condition has been met. If the selected business condition returns true, the tab displays; if false, the tab is hidden. This feature can be used with an 'Attribute Value Comparison'-type business condition to determine, for example, whether a tab page containing hazmat-related attributes will display based on whether the attribute value for an attribute called 'Hazmat' is 'Yes.' As another example, this feature can be used to restrict display of tabs on objects moving through a workflow. A Task List screen containing multiple tabs can be configured to show only the tab relevant to the state in which the object resides. The business condition for tab display is evaluated when the screen is loaded or refreshed, or when the relevant data is saved. This feature can be used throughout the Web UI to restrict display of tabs to only those needed for the task at hand, reducing the potential distraction and visual clutter of unnecessary tabs and sub screen tabs.



For more information on tab pages in the Web UI, see the Tab Pages topic in the Web User Interfaces documentation. For more information on configuring business conditions, see the Business Conditions topic in the Business Rules documentation.

Screen mapping via a business condition

Screen mapping conditions in the Web UI now allow users to map screens based on the outcome of a business condition.



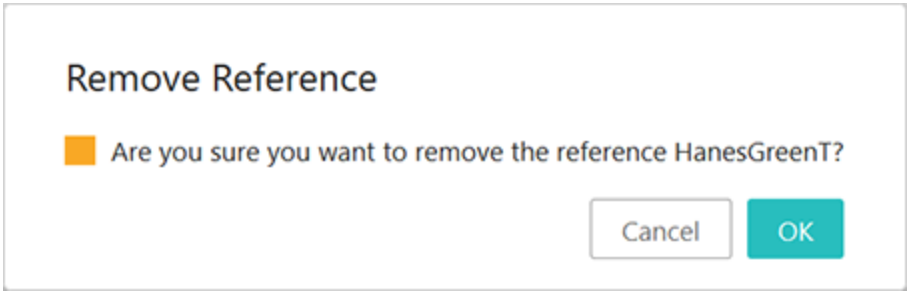
The new mapping condition, 'Business Condition Condition' can be used to set a screen mapping based on criteria described in a selected business condition. If the condition returns true, the screen mapping is used; if it returns false, the system continues to evaluate other mapping options. For example, a 'Business Condition Condition' can be used in conjunction with a Multi Node Selection Condition to allow one screen to show when multiple objects of one object type are selected in the 'Apparel' section of the hierarchy, and an entirely different screen to show when multiple objects of the same object type are selected in the 'Footwear' section.

For more information on mapping screens in the Web UI, see the Mappings topic in the Web User Interfaces documentation.

Update to buttons in Web UI

To improve the user experience and make the Web UI more consistent with Google's design language, Material Design, updates have been made to buttons throughout the Web UI.

- Confirmation and dismissal buttons, like 'OK' and 'Cancel', respectively, are swapping positions throughout the Web UI. Not only does this change make the Web UI more consistent with Material Design, it brings the Web UI into alignment with the standard user experience on the Web.
- The checkmark and 'X' icons that often accompany the button text for confirmation and dismissal buttons have also been removed. The new button look and ordering can be seen in the screenshot below.

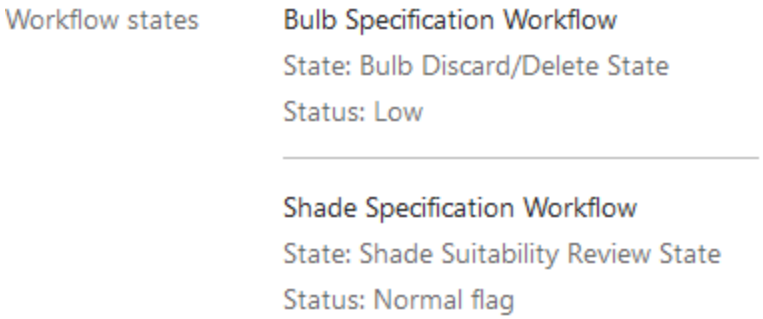


- Finally, to make it visually clear which dialog button should be considered primary, the confirmation button is shaded to make it more prominent, and the dismissal button is unshaded to make it less prominent. This differentiation in button shading is standard on screens throughout the Web UI (e.g., the Advanced Search screen), and this update extends this treatment to dialogs.

Workflow States component redesign and more granular configuration options

The Workflow States component, which allows users to see all workflow states in which a given object currently resides, has been redesigned for improved configurability and ease of use. The updates include these changes:

- The component has been renamed. Previously called the Workflow State component, the updated component is called Workflow States. The name change is intended to more accurately describe the component's ability to list multiple workflow states in which an object resides.
- The full text for the names of both the workflow and workflow state now display with no truncation. Previously, long labels were truncated with an ellipsis with no ability to access the full text in the Web UI. Now, regardless of the length of either the workflow title or the workflow state name, all text displays, breaking to a new line when necessary.



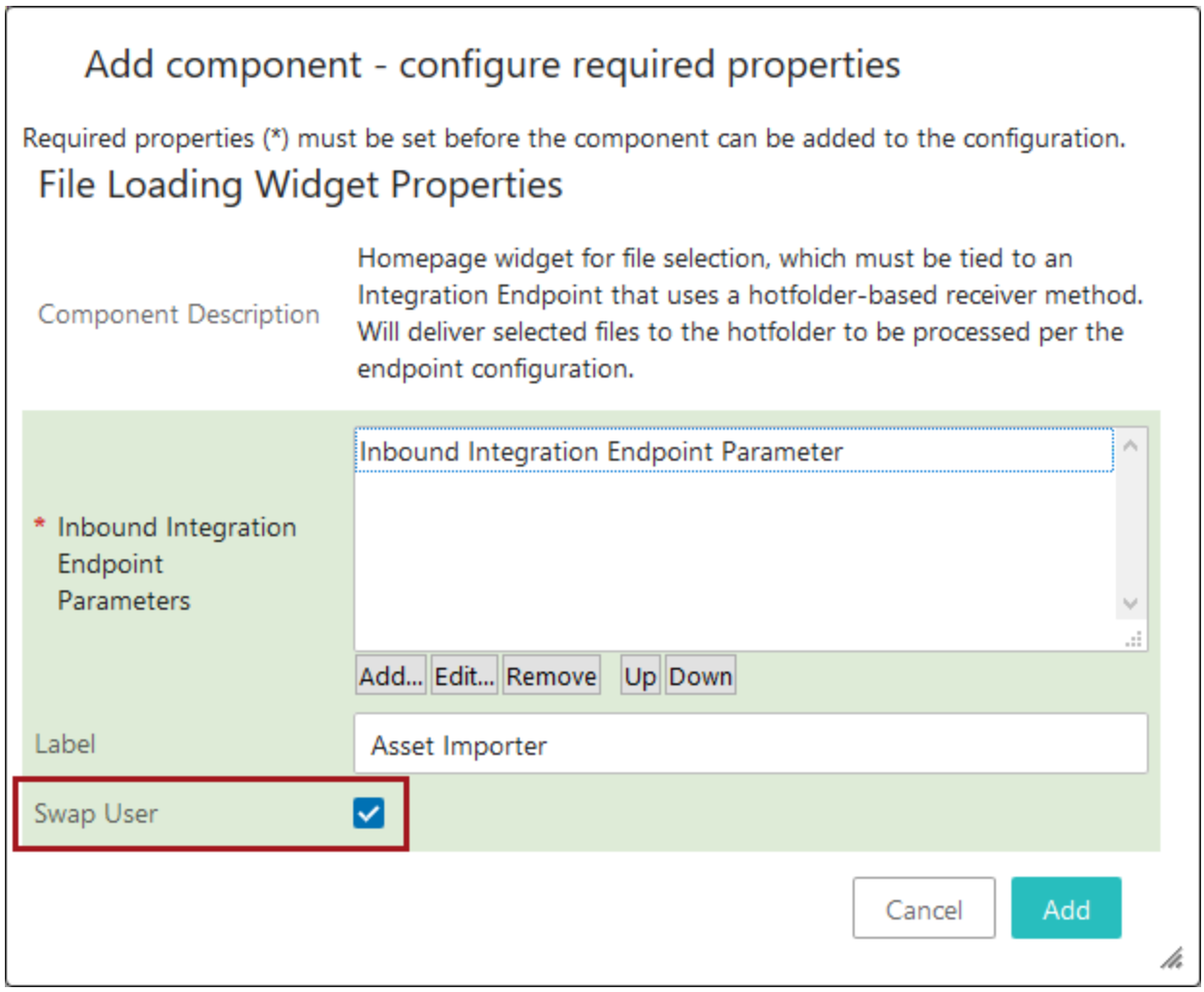
- Users can now configure which workflow states display when the object resides in it. By enabling users to select only the desired eligible workflow states, users can exclude states that are not useful to acknowledge in the component. For example, if an object is in a cluster or parallel state, it is rarely useful to notify the user of this fact as these states do not typically indicate either an actionable task or progress of an object through a workflow. Previous to this update, all states in which the object resides would have displayed, including cluster and parallel states.

For users who have one or more Workflow State components configured, a number of parameters will display but no longer have any bearing on the display of workflow states in this component following an update to 9.2. All three deprecated parameters, 'State Title Label', 'Workflow Title Label', and 'Status Flag Title Label', allowed users to configure the column headers for the display of workflow names, their states, and their status, if applicable. But because workflows, workflow states, and workflow status flags no longer display in a columnar format following this change, these parameters are no longer needed. If users go into the designer and remove the values for the deprecated parameters and save the configuration, the parameters themselves will no longer display once the user exits the designer.

For more information on the Workflow States component, see the Workflow States Component topic in the Web User Interfaces documentation.

Improved File Loading Widget allows users to track the import BGP

When adding a file to the File Loading Widget in the Web UI, users can now track the progress of the initiated background process (BGP). A new parameter has been added in the designer called 'Swap User' that changes which user the system records as initiating a file upload via the widget. Rather than logging the user configured for the widget's Inbound Integration Endpoint (IIEP) as the file loader, the system instead records the user as the logged-in Web UI user. This allows the executing Web UI user to see information about the file processing in the Background Process Notification panel just as they are able to for other BGPs they have initiated. Previously, the user was not able to track the progress of the file import, only the progress of the file upload; no visibility into the file's processing via the IIEP was possible in the Web UI.



When the 'Swap User' parameter is checked, all data changes in the system will record the executing Web UI user in the revision information rather than the IIEP user. However, because the Web UI user loading the file is often more relevant for revision history than the IIEP user recorded for file uploads in system-to-system integrations, this aspect of the user swap is considered not only acceptable but often preferred.

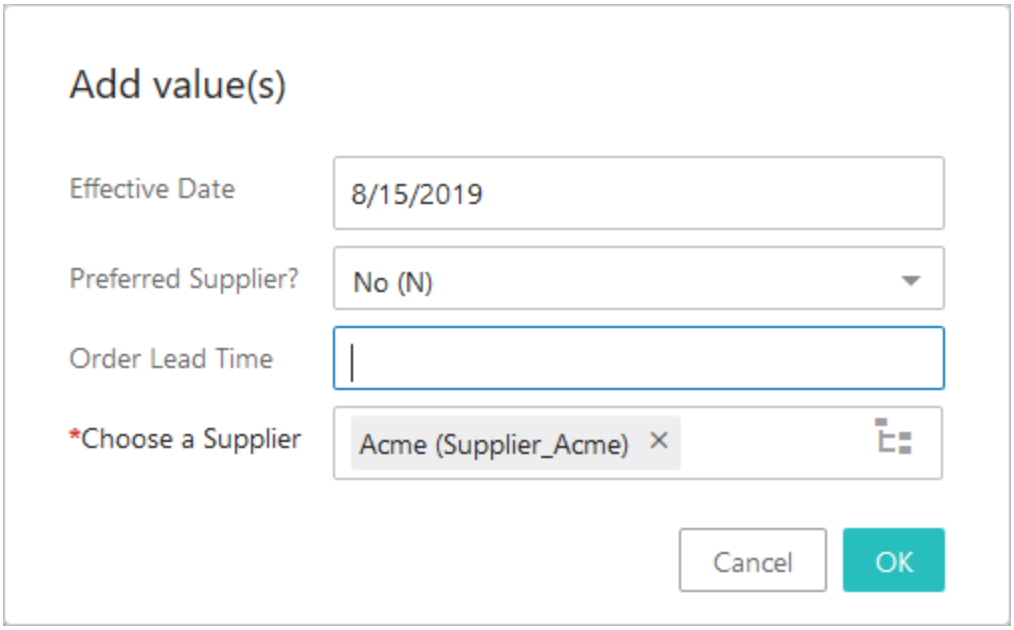
Also note that this functionality is only applicable when the IIEP is configured to use the Web UI File Loading Receiver plugin.

For more information on the File Loading Widget, see the File Loading Widget topic in the Web User Interfaces documentation.

Business Action with Web UI Bind can now accept user input

The Business Action with Web UI Bind component now has the option to accept user input in the form of attribute-validated parameters and/or a node picker. User-friendly input fields are displayed (e.g. dropdowns for LOVs, date pickers for dates, etc.) to enable easy data entry, and the node picker includes standard configuration options to optimize the selection process (e.g. hierarchy restriction, configurable search results table, etc). The data provided via the input fields are then available for use by the associated business action.

The screenshot below is an example of how a user input dialog might display following a click on the configured Business Action with Web UI Bind button.



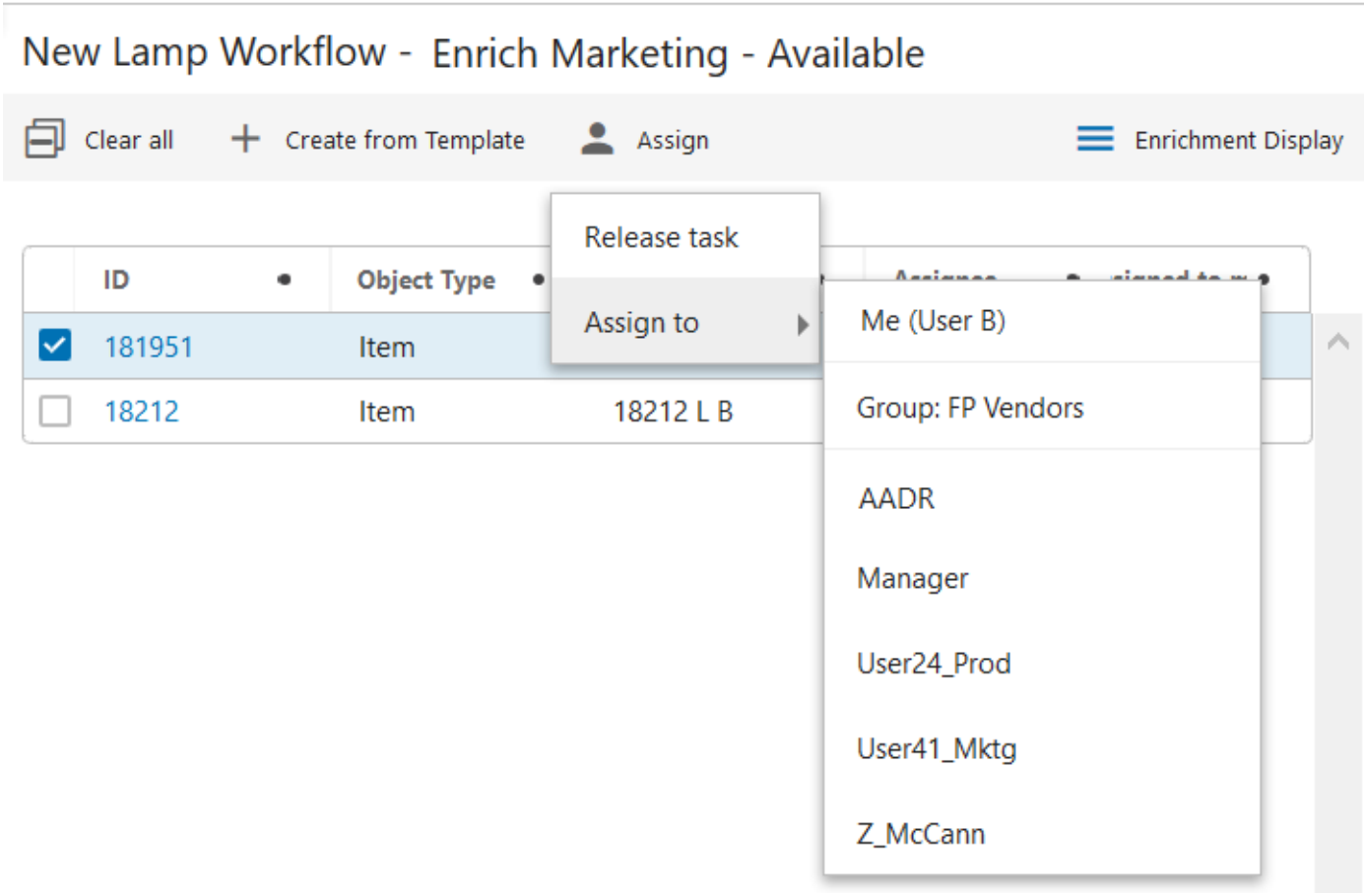
Additionally, an 'Enforce Validity' parameter has been added to the Business Action with Web UI Bind component. When checked, this parameter will disable the Business Action with Web UI Bind button until all data on the screen is valid, including that all mandatory attributes are provided. The 'Enforce Validity' parameter is only applicable for this component when configured on a Node Editor.

With the 9.2 update, the Business Action with Web UI Bind component has been added to the baseline installation.

For more information on the Business Action with Web UI Bind component and examples of use cases that incorporate the user input dialog, see the Business Action with Web UI Bind Component topics in the Web User Interfaces documentation.

Assign Toolbar Action assignees listed alphabetically

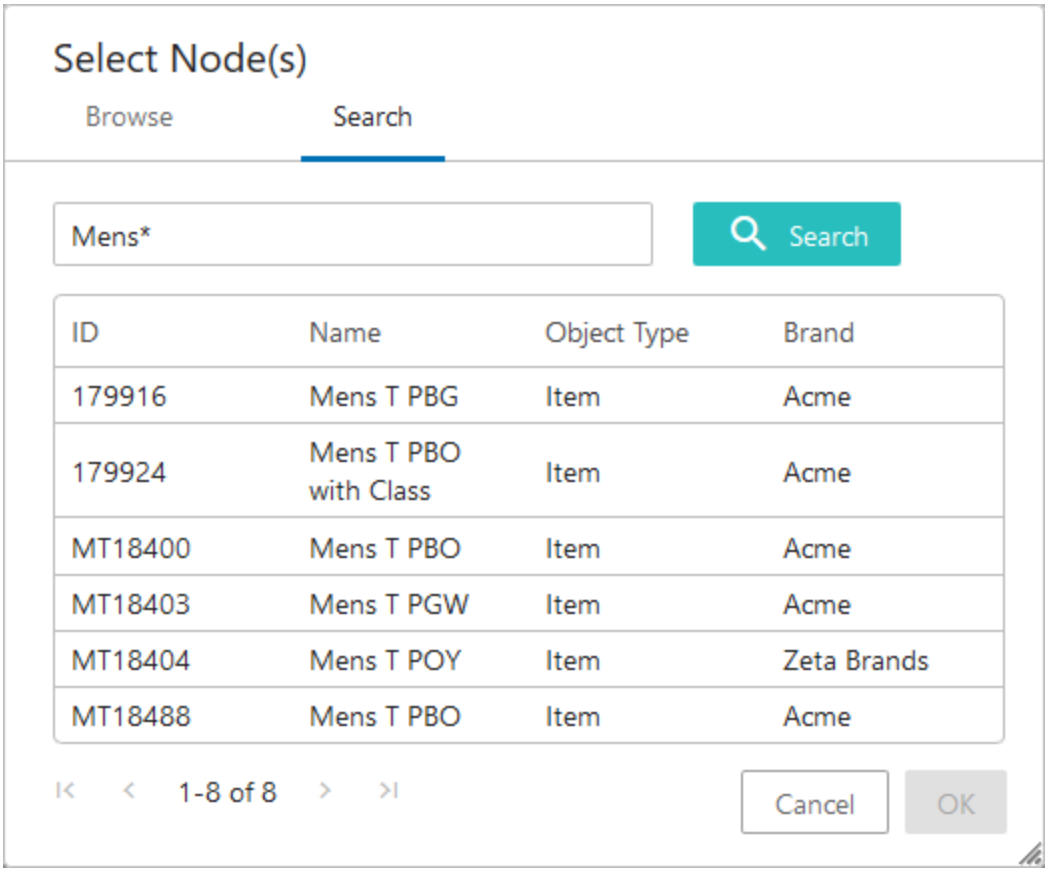
The list of valid assignees that displays when initiating the Assign Toolbar Action on a Task List screen is now shown in alphabetical order, based on the username. Previously, the ordering of usernames displayed unpredictably, making it more challenging to locate and select the right assignee from the dropdown. Now, to determine ordering, the Assign Toolbar Action keys on the first character of the 'Name' value set for the user. This results in an alphabetical display of potential assignees, making assignee selection easier. The current logged-in user and the default user group configured for the workflow always stay anchored at the top of the list for easy identification and selection.



For more information on the Assign Toolbar Action, see the Workflows in Web UI documentation.

Add Reference Action now includes configurable search plugins and results table

The 'Add Reference Action' toolbar action now provides users with the ability to configure more detailed searches when looking for objects to reference. Headers can now be configured in the 'Search' tab for the 'Add Reference Action' Node Picker component. If, for example, a customer needs to see an attribute on an object to determine whether or not to create a reference to that object, an attribute header can be configured to display that attribute value for all search results. Standard Web UI search plugins like 'Search below' and 'Object Type Search' are also available in the Node Picker component, providing users with an added layer of configurability.



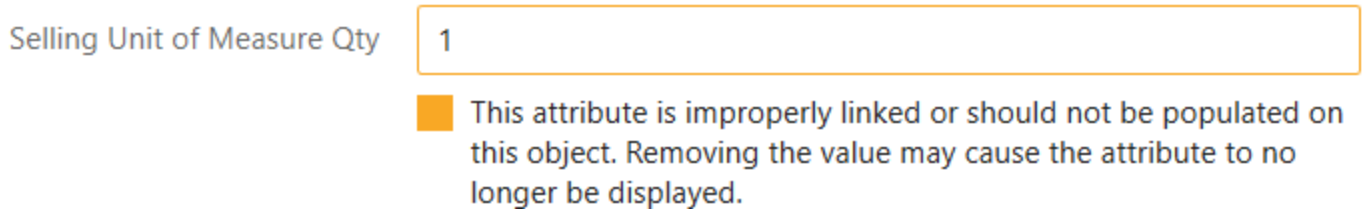
Additionally, the 'Add Reference Action' component's configuration parameters have been reorganized. Most parameters have been grouped under four collapsible / expandable sections: 'Search' (with parameters that accomplish the functionality described above), 'Duplicate', 'Create From', and 'Advanced'.

For more information on the 'Add Reference Action', see the Add Reference Action topic in the Web User Interfaces documentation. For more information on the Node Picker component, see the Node Picker Dialog topic in the Web User Interfaces documentation.

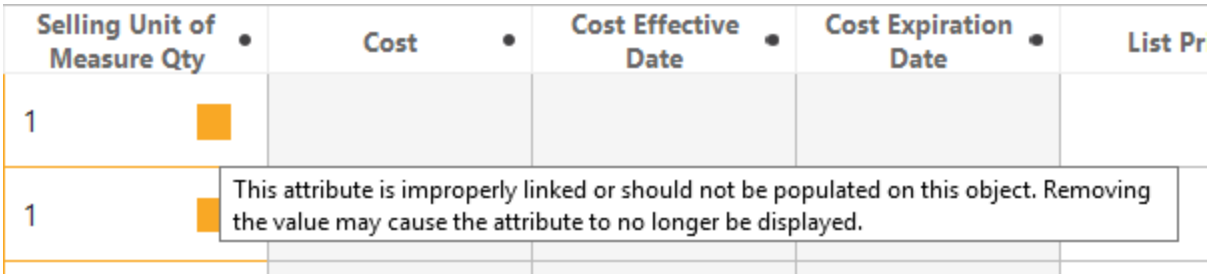
New warning for orphaned attribute values

Orphan attribute values are now visually identifiable in the Web UI. When an attribute value is orphaned, it now displays in a yellow-outlined field with warning text. Previously, orphan attribute values were not indicated visually in the Web UI.

Orphan attribute values configured on a Node Details screen show inside of a yellow-outlined field with the warning text displaying beneath the field.



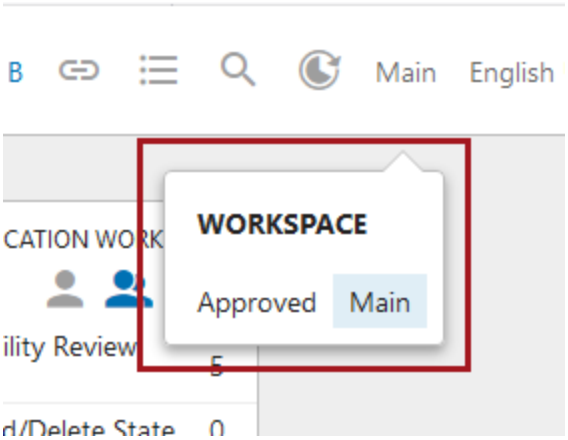
Orphan attribute values configured on a Node List component display in a yellow-outlined cell with a yellow warning square. The warning text is accessible by placing the cursor over the cell.



For more information on orphan attribute values, see the Orphan Attributes topic in the System Setup / Super User Guide documentation. For additional information on linking orphan attribute values see the Linking Orphan Attributes topic, also in the System Setup / Super User Guide documentation.

Pop-up display behavior updates

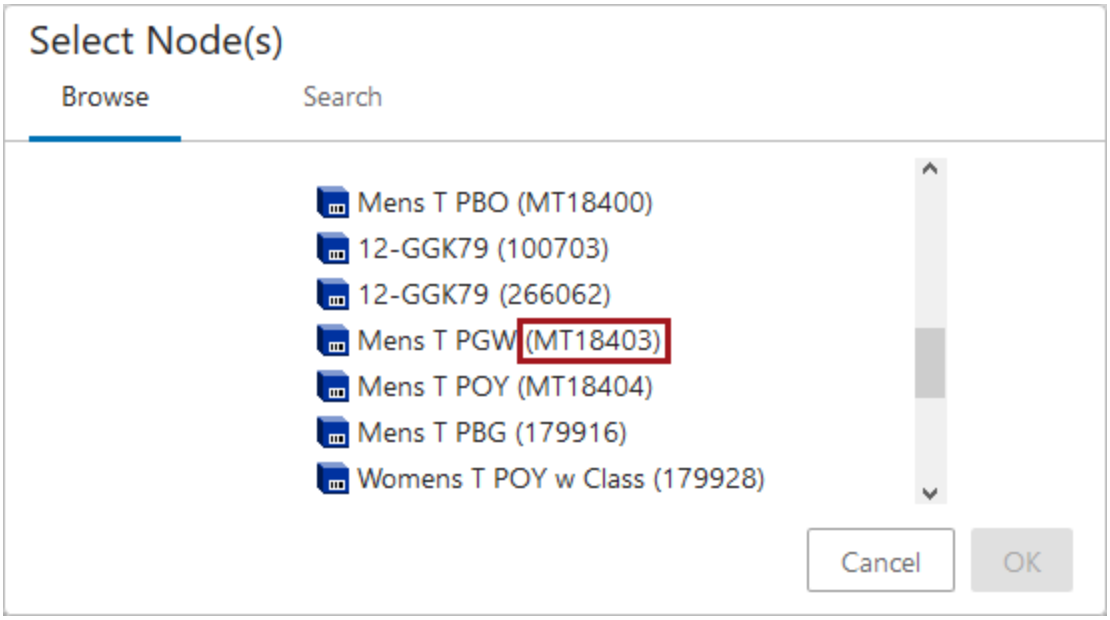
The behavior of pop-ups that display near the point of a user-initiated action has been updated to be more intuitive, consistent, and easier for users to manage. Examples of user-prompted pop-ups would include clicking the 'Context Bar Context Selector' icon in the Corner Bar to see the menu of contexts display in a pop-up, or hovering over a truncated value in a Node List to see the full value display in a small dialog beside the relevant cell.



Now, pop-ups that display when a user places the cursor over an on-screen element can now reliably be dismissed by moving the cursor away from that element. Pop-ups that display when a user clicks an on-screen element now require a second click to end display. Previously, some hover-prompted pop-ups could not be dismissed without a click, and some click-prompted pop-ups would disappear when the cursor was moved away.

Move Action node picker now includes IDs

The Node Picker dialog that displays when initiating a Move Action now shows both the name and the ID of the objects contained in the displayed hierarchy, the ID displaying in parentheses. This change is applicable whether the Move Action was added as a toolbar action button (on a Node List), or a standard action button (on a Node Details screen). Previously, the Move Action Node Picker only displayed the name of the object, which was inconsistent with other Node Picker dialogs in the Web UI.



For more information on the Node Picker component, please see the Node Picker Dialog topic in the Web User Interfaces documentation. For more information on the Move Action, please see Move Action entry in the Action Buttons topic, also in the Web User Interfaces documentation.

Corrected navigation for cancelled initiations in a status selector

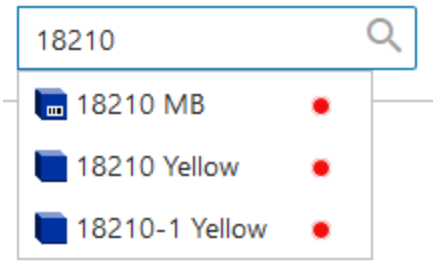
Object creation in workflows via the Status Selector widgets has been updated.

When a 'Create Object in Workflow' screen is configured for the 'Initiate' function on either Status Selector widget and the 'Cancel' option is clicked immediately following a click on 'Initiate', the Web UI now auto-navigates the user back to the previous screen. Previously, a blank screen would display following a 'Cancel' action, requiring users to manually navigate to the desired screen.

For more information on using the 'Create Object in Workflow' screen, see the Bypassing the Initiate Item Screen topic in the Workflows in Web UI documentation.

Alternate Node Appearance indicators now display in Global Header Search

The display of colored dots beside objects enabled by the Alternate Node Appearance component has expanded to include objects appearing in typeahead search results for the Global Header Search component.



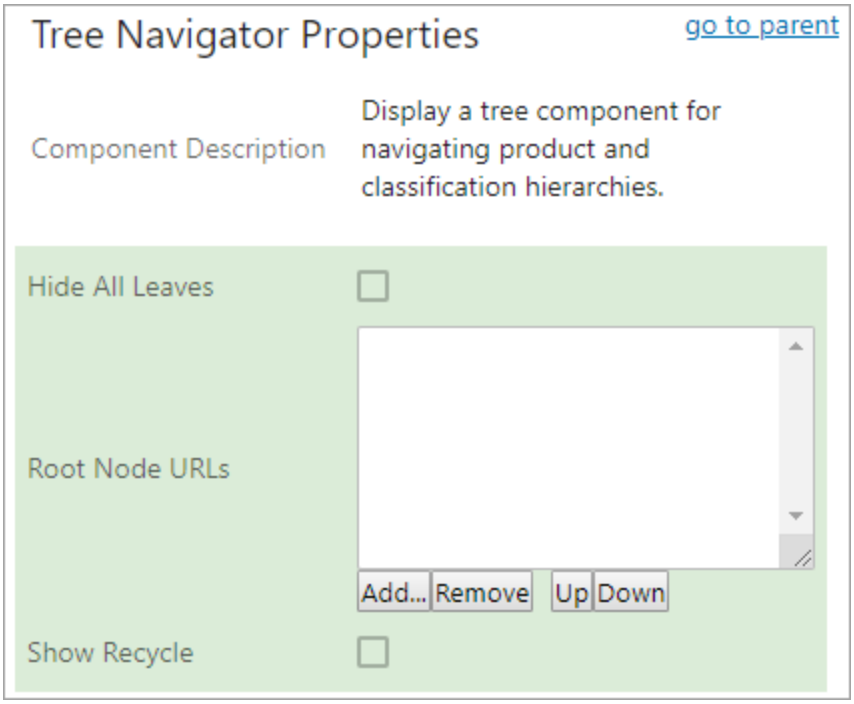
Previously, the colored dots would only display beside objects in the Tree Navigator, as well as the 'Browse' and 'Search' tabs in a Node Picker dialog.

For more information on the Alternate Node Appearance component, see the Tree Navigator Component topic in the Web User Interfaces documentation. For more information on the Global Header Search component, see the Global Header Search Component topic in the Web User Interfaces documentation

Parameter change for showing leaf nodes in hierarchies

A new parameter called 'Hide All Leaves' has been added to the Tree Navigator component (on Stack Panels and Primary Navigation Panels). When this parameter is disabled (the default setting), all leaf objects will display in a Tree Navigator component. When enabled, the 'Hide All Leaves' parameter will hide all leaf objects of any super type wherever they appear in a Tree Navigator component.

Displaying all leaf objects is a change in default behavior. If using either the 'Show Leaves' or 'Show Classification Leaves' parameters, validation should be done following an upgrade to verify the Tree Navigator displays as expected.



With this update, the 'Show Classification Leaves' parameter (formerly the 'Show Leaves' parameter, renamed in 9.1-MP3) has been withdrawn and will not be seen if adding a new Tree Navigator component. If the 'Show Classification Leaves' parameter (displayed with a gray background to indicate it has been withdrawn) is shown on an active Tree Navigator component configured in your Web UI, it will remain until the setting is enabled or disabled. Once changed, the setting for 'Show Classification Leaves' is disregarded in favor of the 'Hide All Leaves' setting, and 'Show Classification Leaves' will not display the next time the Tree Navigator Properties is accessed.

Children of Type Screen withdrawal and parameter update

Users should be aware that, as announced in the 9.0 New and Improved Web UI Functionality release note, the Children of Type screen is to be withdrawn. **It has been superseded and will be removed in the 9.3 release.** If using this screen now, customers should configure and use the Children of Types screen instead.

Although now superseded, if using the Children of Type screen, customers should note that the 'New Item Object Type' parameter was withdrawn with the 9.1-MP4 release. It was nonfunctional. However, if it was already configured, it will display in the Properties screen with a gray background. Once the parameter is changed, it will not display the next time the Children of Type Properties is accessed.

Quicksheet component removal

With the removal of Quicksheet functionality, the following action buttons are no longer available in Web UI: QuickSheet Action, Excel Export Action, and Excel Export All Action. These were withdrawn during the 9.0 release cycle, meaning that if configured on your system, they could still be used (just not added as new buttons). Now, they will not appear in any 9.2 system.

Smartsheet Enhancements

Summary

Two enhancements to existing Smartsheet functionality have been made in the areas of usability and data standards / guidance, making it easier for vendors to onboard and maintain products. These are:

- New 'open format' Smartsheet to enable the use of Excel formulas, cell formatting, and text formatting
- Enhanced controls and copy / paste ability when working with multi-valued LOVs, multi-asset and multi-product references, and parent IDs

Details

New open format Smartsheet to enable formulas and formatting

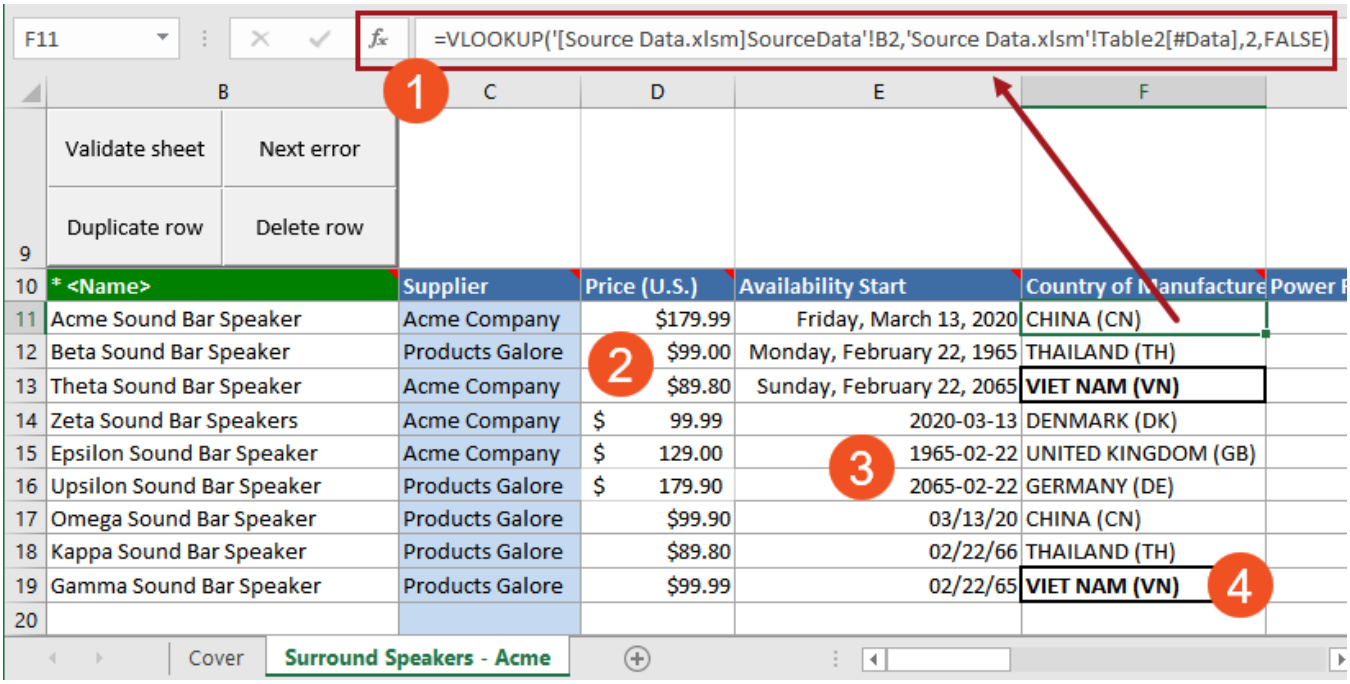
A new option called 'open format' is now available for Smartsheets, which unlocks all cells in the 'working area' of the sheet, i.e., any cells where data can be entered. This expanded functionality provides users with the option to employ Excel formulas, number formatting (e.g., General, Currency), text formatting (e.g., bold, italic), and cell color (background shading). Wrap Text functionality is also supported in open format.

Enabling these features improves the product onboarding and maintenance process for suppliers by allowing more use of standard Excel functionality, as opposed to using non-open-format Smartsheets, which do not allow for formulas or visual enhancements like text formatting.

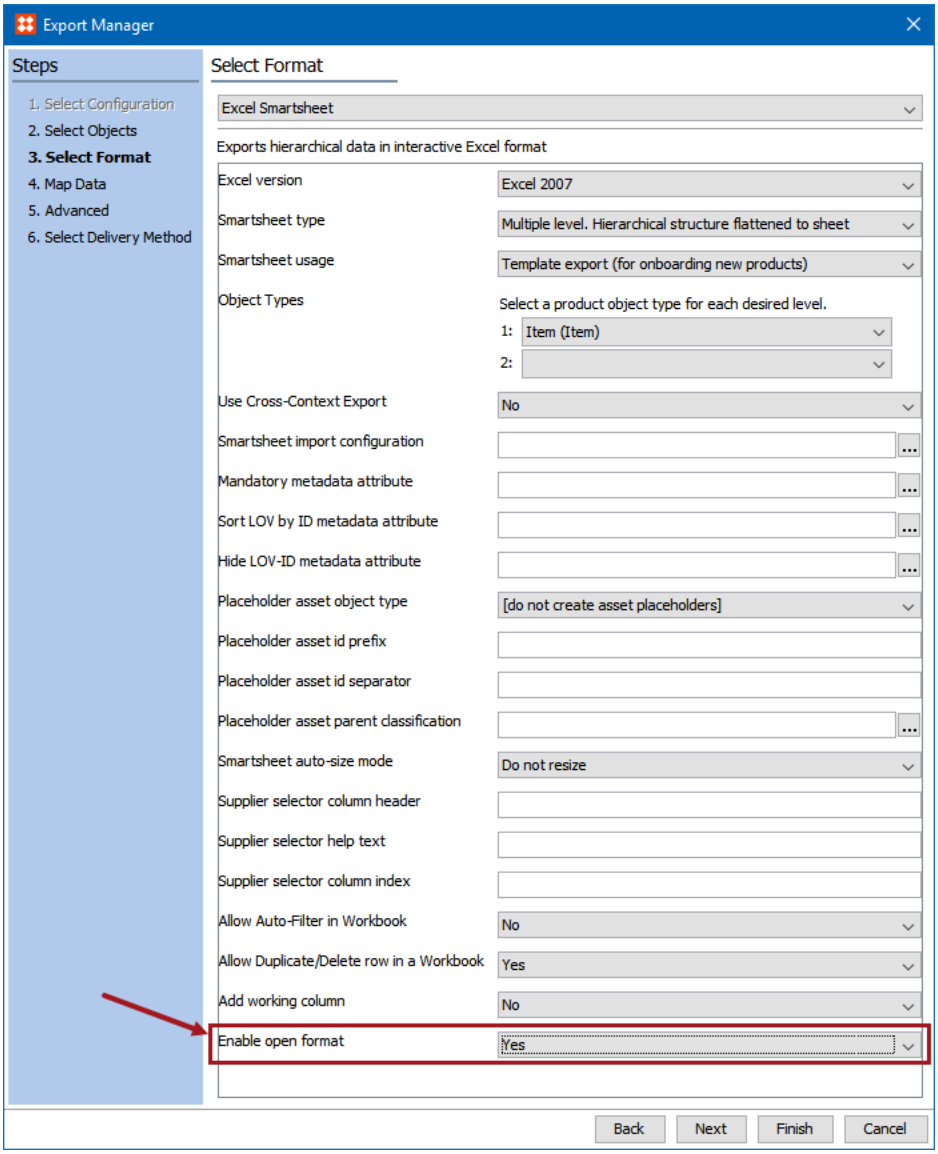
The open format option is available for both data export (product maintenance) and template export (product onboarding) sheets.

The following screenshot shows an open format Smartsheet that employs several features that are unavailable in non-open-format Smartsheets:

1. Excel formulas. In this example, the formula uses a VLOOKUP function to pull data from an external spreadsheet.
2. Currency and Accounting number formats.
3. Various date formats.
4. Text and cell formatting. This example uses bold text and a thick cell border.



The open format Smartsheet is enabled by selecting 'Yes' for the new 'Enable open format' option in the Export Manager. The option is 'No' by default.



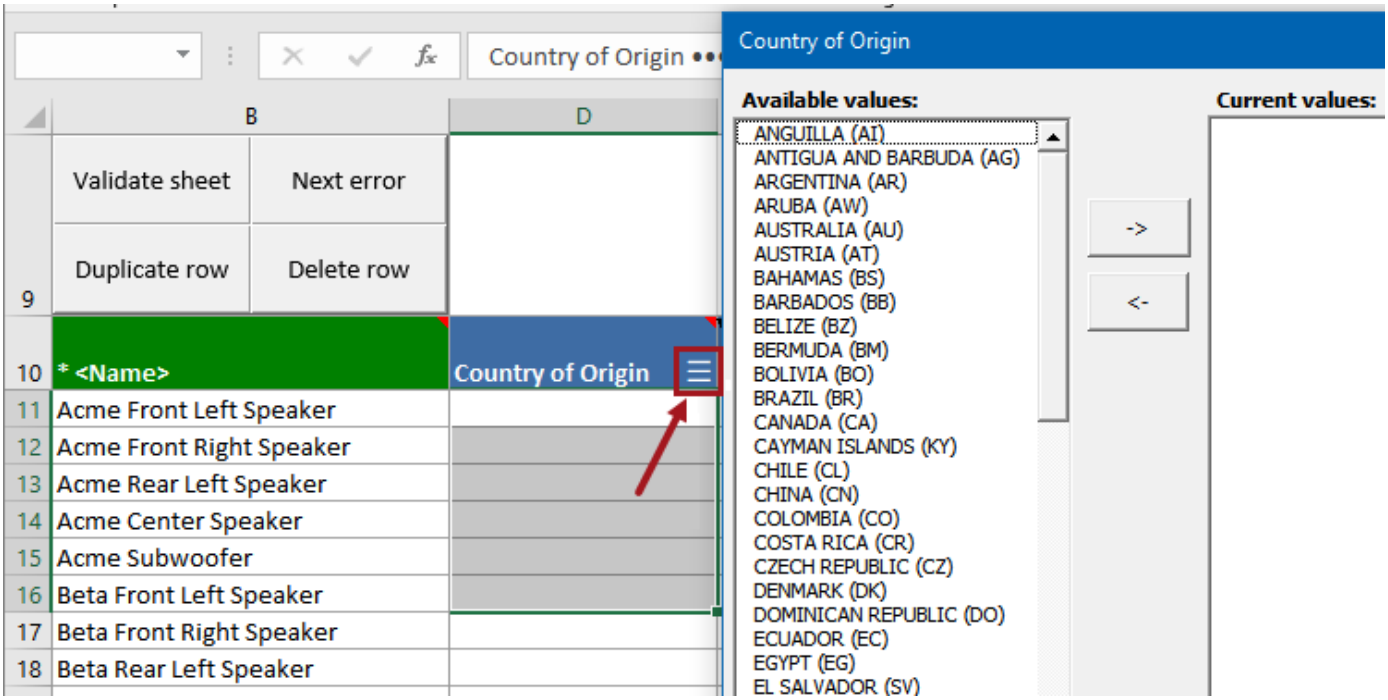
For more information, see the Open Format Smartsheet topic in the Excel Smartsheet Format section of the Data Exchange documentation.

Enhanced controls for selecting, copying, and pasting multiple values

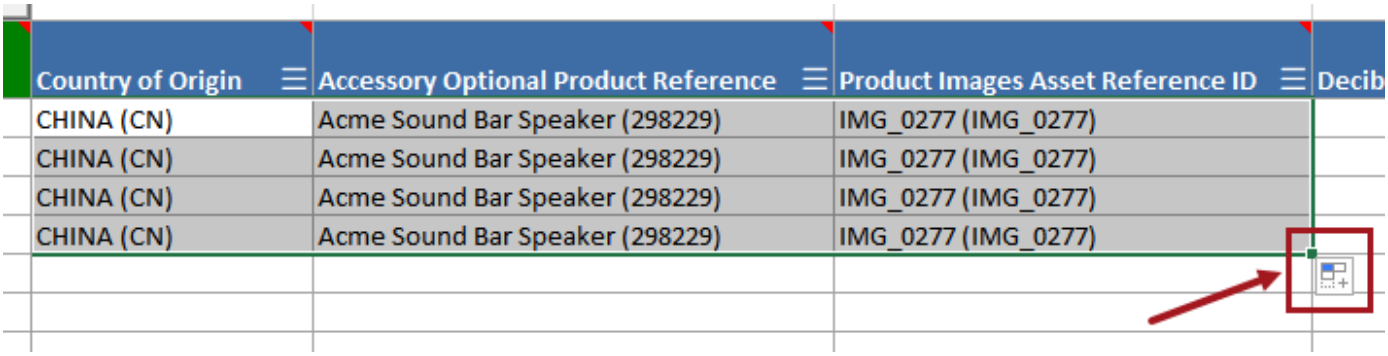
A new method for populating Smartsheet cells with values from multi-valued LOVs, multi-product reference types, multi-asset reference types, and parent IDs has been introduced to improve and simplify the data entry process. This has been accomplished by moving the selection controls for multi-value cells from the *row* level to the *column* level. This change allows for quicker data population and enables copy and paste across columns, which was not possible before.

To enter values from a multi-value dialog, users will now select one or more cells in the column in which they want to add data, then click on the column header, which contains a new collapsed menu icon ('hamburger button'). Clicking the header displays the dialog from which the multiple LOV values, product references, asset references, or parent IDs are chosen.

In the screenshot below, several adjacent cells have been selected in the 'Country of Origin' column, and the LOV value selection dialog has been displayed by clicking on the column header. Users can populate values in all selected cells at once from the dialog. Previously, the initial value selection could only be made on one cell at a time, since the selection button was tied directly to the cell. The new selection feature also allows for values to be populated simultaneously in non-adjacent cells within the same column, which are selected by holding the Ctrl key while clicking the relevant cells.



Moving the selection controls from the row level to the column header also adds the ability to drag values down in adjacent columns using the Excel fill handle, as shown in the below screenshot. This was previously not possible due to the selection buttons for multi-valued cells being in a dedicated column.



For more information, see the Using a Smartsheet topic in the Excel Smartsheet Format section of the Data Formats documentation.

Tables Enhancements

Summary

One new table transformation and three new text transformations have been introduced for tables. The table transformation is:

- New 'Assign Row/Column Types to Row/Column Numbers' transformation

The new text transformations are:

- Sort values within cells
- Range consolidation within cells
- Remove duplicate values within cells

Notice that though these are text transformations, they are intended only for use within tables.

Details

New 'Assign Row/Column Types to Row/Column Numbers' transformation

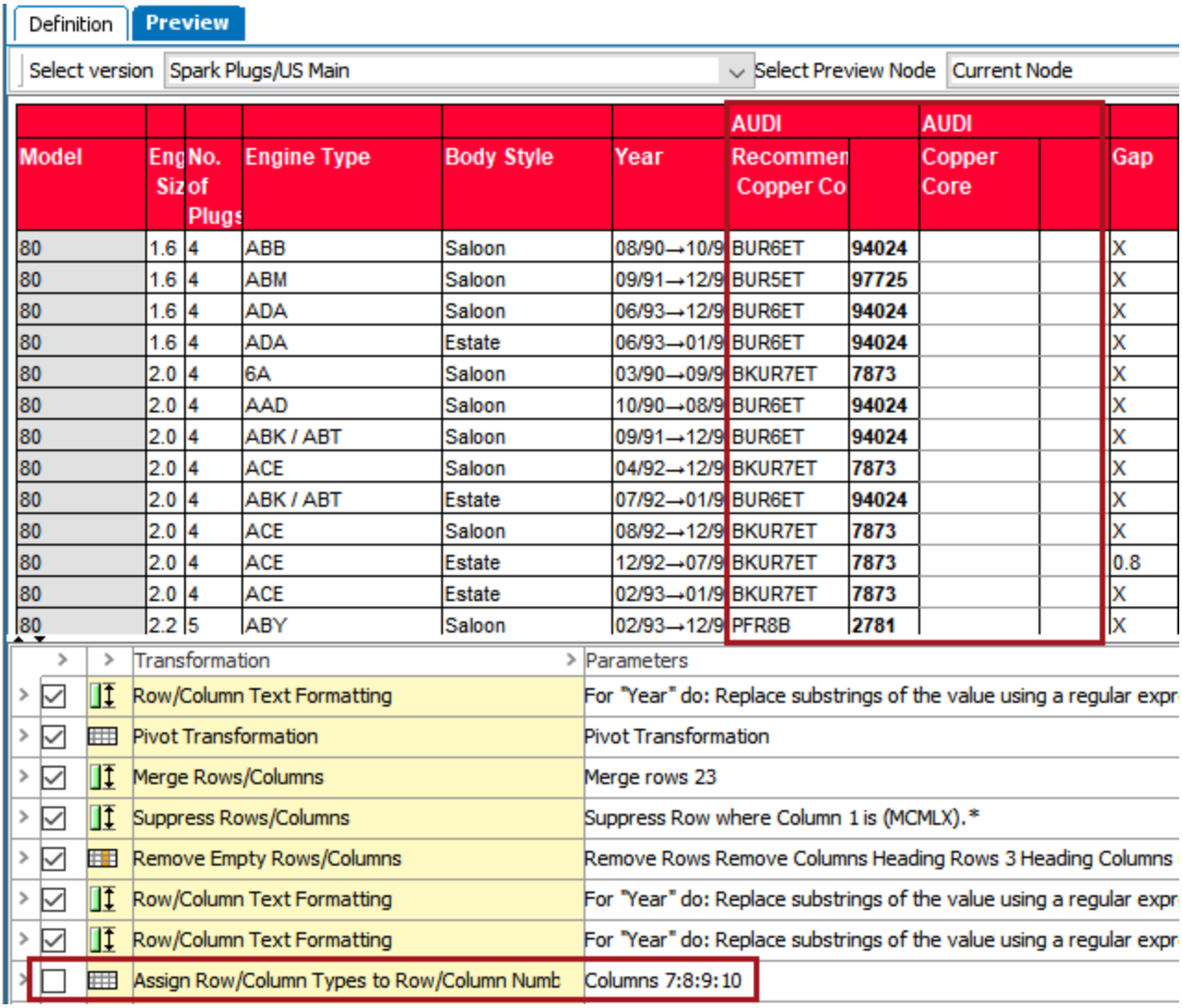
A new 'Assign Row/Column Types to Row/Column Numbers' table transformation has been introduced to allow users to assign row and/or column types to fixed row / column numbers. This new functionality is intended for use after a Pivot Transformation has been applied.

Though available for any table created in STEP, this transformation is especially useful for tables created for the PMDM for Automotive solution. These tables tend to be very structured, using a consistent number of columns with the same attributes in the same order, and have fixed column widths. The number of columns can be quite high—15 or more columns is not unusual. It is also very common that the Pivot Transformation is required in these tables.

The Pivot Transformation does not allow for the assignment of so many different column types to the 'common values' columns. This new transformation solves this issue by allowing users to assign column types to these columns after the Pivot Transformation. Further, it can define the designation of header row types instead of using the Pivot Transformation.

The following example shows a table in which this transformation will be used to apply two different column types to four different columns (columns 7, 8, 9, and 10).

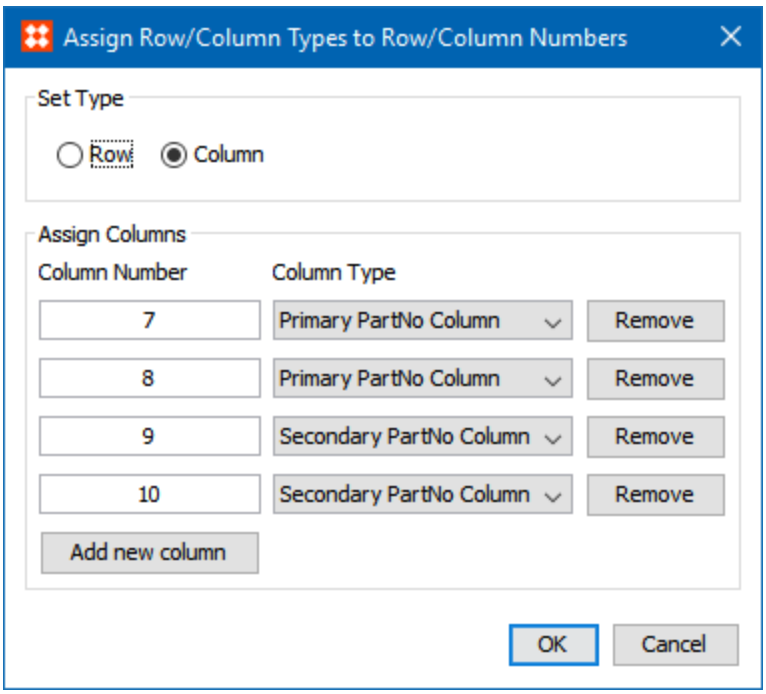
Before the transformation is applied, the columns have no background shading:



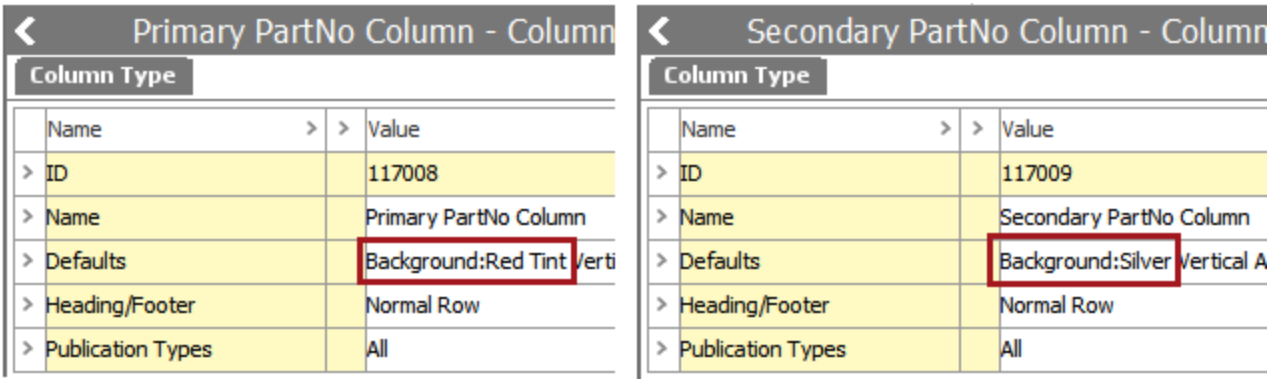
Model	Eng Siz	No. of Plugs	Engine Type	Body Style	Year	AUDI Recommen Copper Co		AUDI Copper Core		Gap
80	1.6	4	ABB	Saloon	08/90→10/9	BUR6ET	94024			X
80	1.6	4	ABM	Saloon	09/91→12/9	BUR5ET	97725			X
80	1.6	4	ADA	Saloon	06/93→12/9	BUR6ET	94024			X
80	1.6	4	ADA	Estate	06/93→01/9	BUR6ET	94024			X
80	2.0	4	6A	Saloon	03/90→09/9	BKUR7ET	7873			X
80	2.0	4	AAD	Saloon	10/90→08/9	BUR6ET	94024			X
80	2.0	4	ABK / ABT	Saloon	09/91→12/9	BUR6ET	94024			X
80	2.0	4	ACE	Saloon	04/92→12/9	BKUR7ET	7873			X
80	2.0	4	ABK / ABT	Estate	07/92→01/9	BUR6ET	94024			X
80	2.0	4	ACE	Saloon	08/92→12/9	BKUR7ET	7873			X
80	2.0	4	ACE	Estate	12/92→07/9	BKUR7ET	7873			0.8
80	2.0	4	ACE	Estate	02/93→01/9	BKUR7ET	7873			X
80	2.2	5	ABY	Saloon	02/93→12/9	PFR8B	2781			X

Transformation	Parameters
Row/Column Text Formatting	For "Year" do: Replace substrings of the value using a regular expr
Pivot Transformation	Pivot Transformation
Merge Rows/Columns	Merge rows 23
Suppress Rows/Columns	Suppress Row where Column 1 is (MCMLX).*
Remove Empty Rows/Columns	Remove Rows Remove Columns Heading Rows 3 Heading Columns
Row/Column Text Formatting	For "Year" do: Replace substrings of the value using a regular expr
Row/Column Text Formatting	For "Year" do: Replace substrings of the value using a regular expr
Assign Row/Column Types to Row/Column Numb	Columns 7:8:9:10

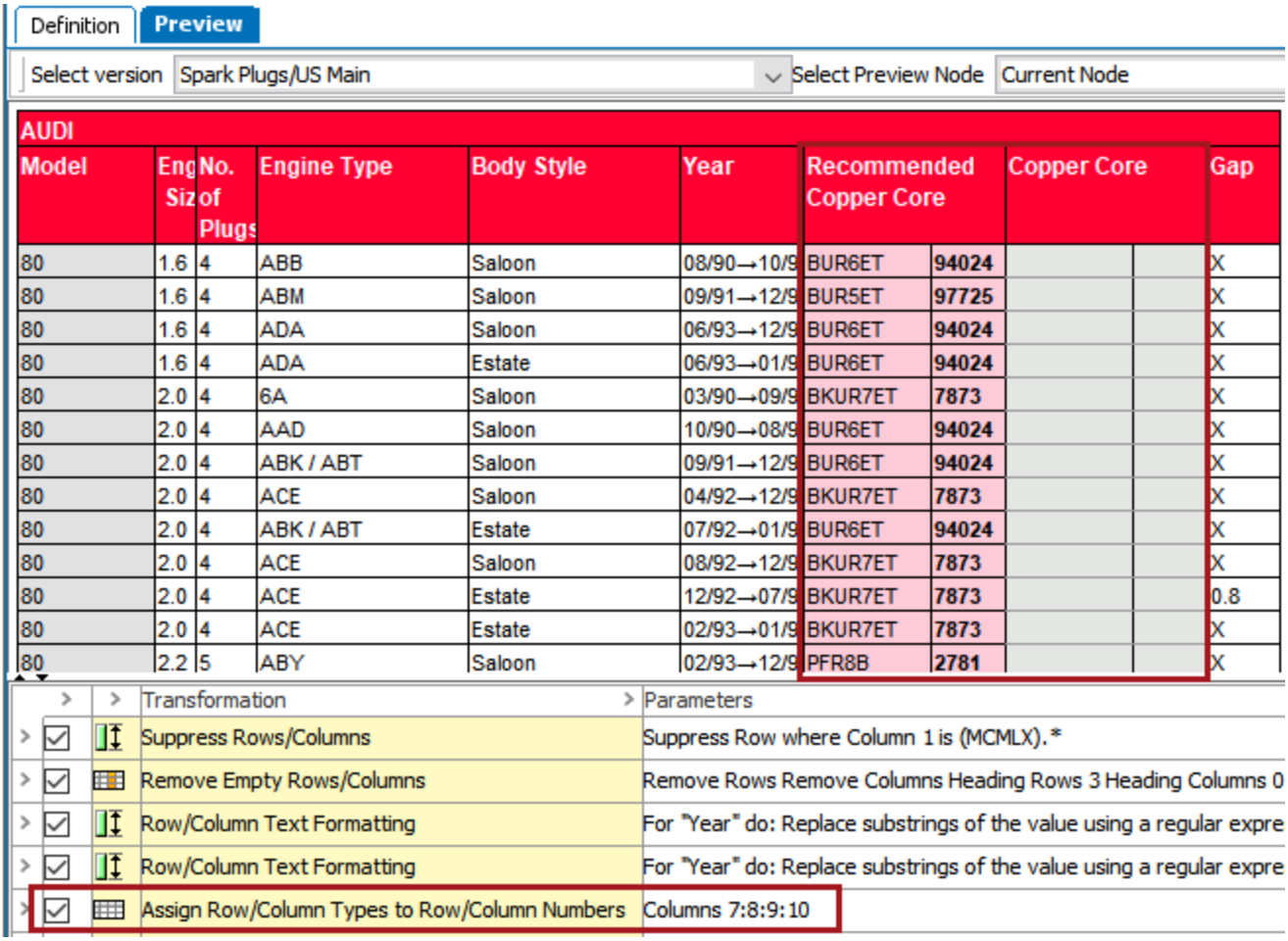
The transformation has been configured to apply the 'Primary PartNo Column' column type to columns 7 and 8 and the 'Secondary PartNo Column' column type to columns 9 and 10.



The Primary PartNo Column type has a 'Red Tint' background and the Secondary PartNo Column has a 'Silver' background.



After the transformation is applied, columns, 7, 8, 9, and 10 reflect the styles of the applied column types.



For more information, see the Assign Row/Column Types to Row/Column Numbers topic in the Tables documentation.

New 'Sort values within cells' text transformation

A new 'Sort values within cells' text transformation has been introduced that sorts multiple values when they are contained within a single table cell. It is available as a selection in the following locations:

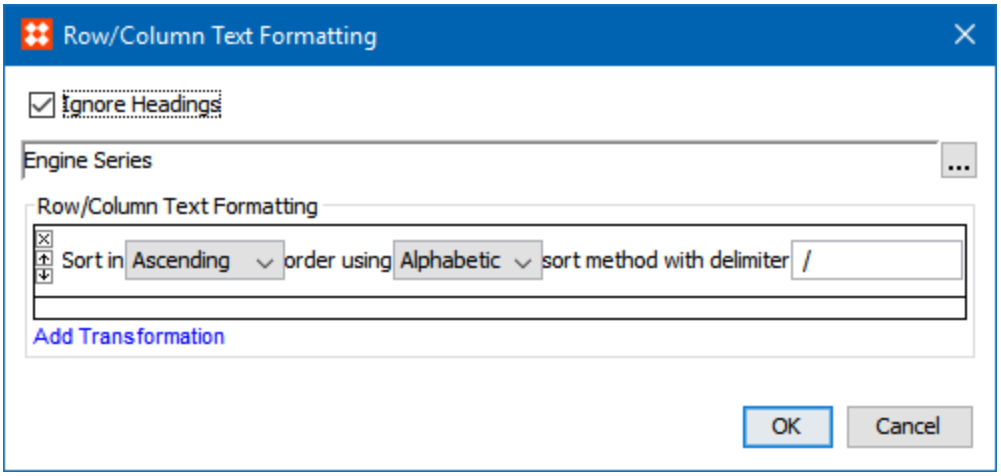
- 'Row/Column Text Formatting' table transformation
- 'Attribute Formatting' table transformation
- Within attribute transformations

Entries within a cell may be sorted alphabetically, numerically, or by fractional values, and in ascending or descending order. Since the sorting affects multiple values within a single cell, a separator (value delimiter) must be placed between the values to differentiate them. If a hard return should separate the entries in a cell, the delimiter of \n should be used.

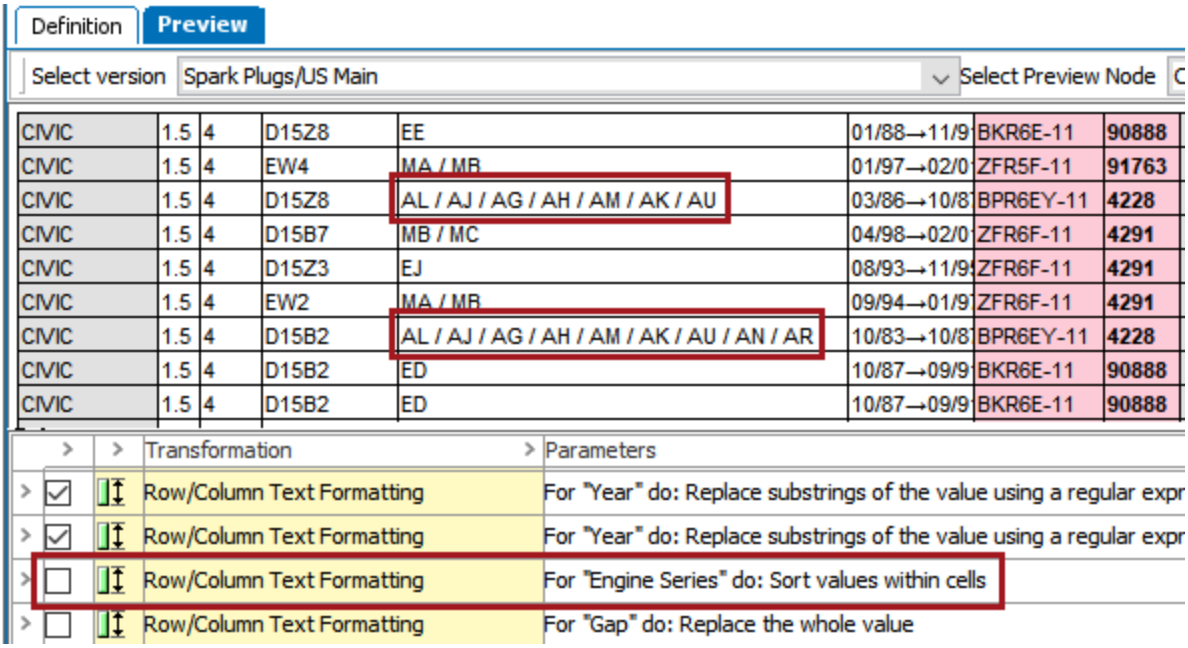
The following examples use the pipe character (|) as the delimiter:

- The value string '2002|2007|2005|2012' becomes '2002|2005|2007|2012' when sorted using the Ascending and Numeric options.
- 'A|C|H|B|G ' becomes 'A|B|C|G|H' when sorted using the Ascending and Alphabetic options.
- 'DC7|DC9|DC13|DC12|DC5|DC6' becomes 'DC5|DC6|DC7|DC9|DC12|DC13' when sorted using the Ascending and Numeric options.

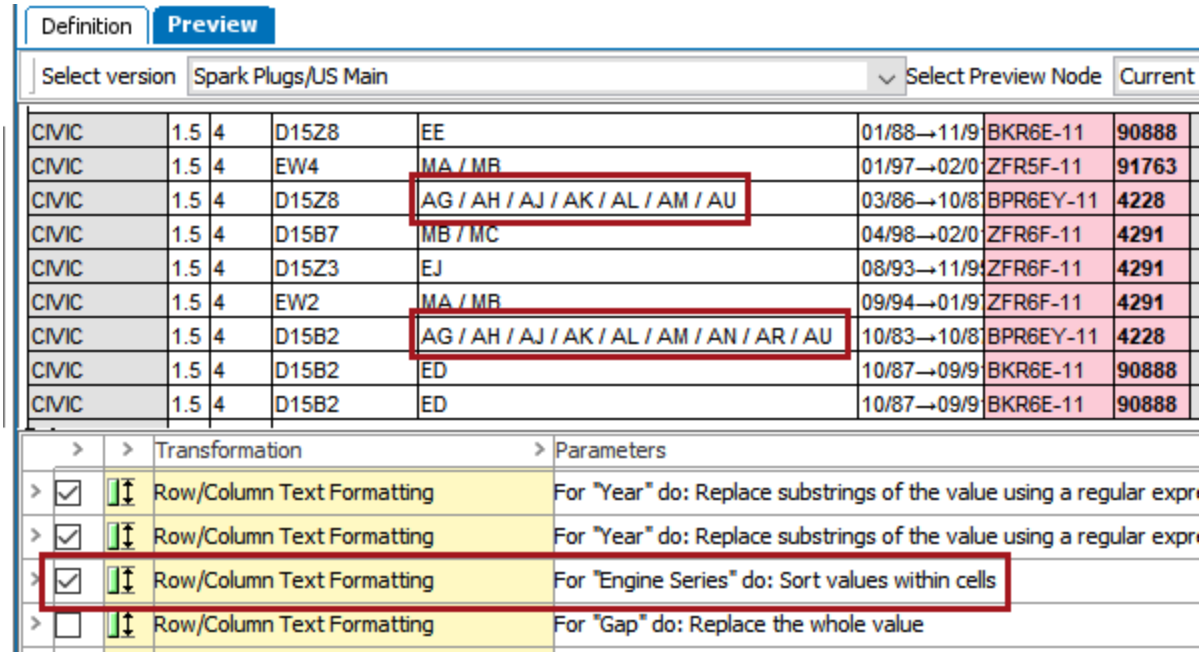
The following example shows a table in which this transformation will be applied to sort values in ascending alphabetic order using the '/ ' delimiter. As shown in the field with the ellipsis button, the transformation has been selected to apply to cells within the 'Engine Series' column.



Before the transformation is applied, the values in the Engine Series column (column 5) display in non-alphabetical order, e.g., AL / AJ / AG / AH / AM / AK / AU.



After the transformation is applied, the values display in alphabetical order, e.g, AG / AH / AJ / AK / AL / AM / AU.



For more information, see the Cell Text Formatting Transformations topic in the Tables documentation.

New 'Remove duplicate values within cells' transformation

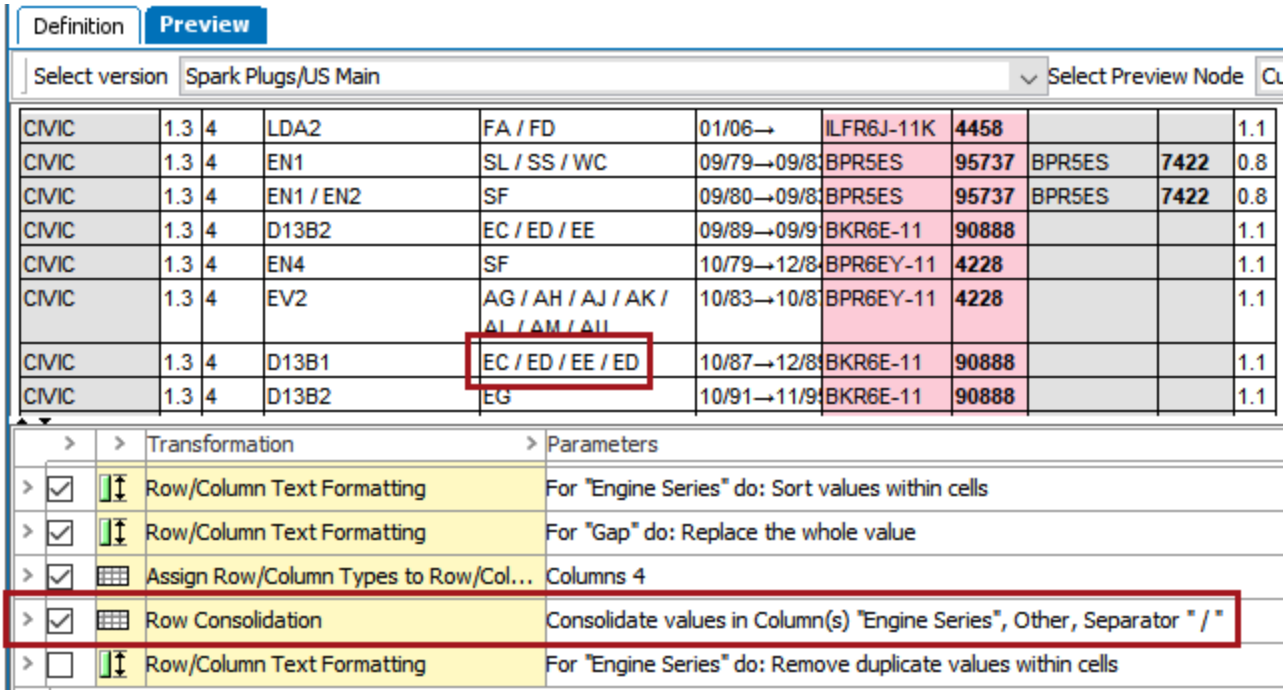
A new 'Remove duplicate values within cells' transformation has been introduced that removes duplicate values when they are contained within a single cell of a table. Like the 'Sort values within cells' transformation, this transformation is available as a selection in the following locations:

- 'Row/Column Text Formatting' table transformation
- 'Attribute Formatting' table transformation
- Within attribute transformations

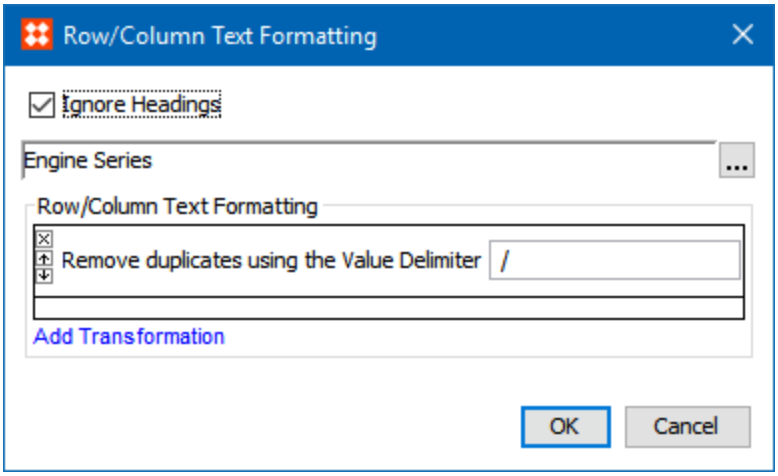
This transformation is useful when consecutive rows in a table have been consolidated into one row. When this is done, the resultant row will often have cell entries of merged data that require some cleanup and/or consolidation.

Duplicates are removed by specifying a value delimiter. For example, using the pipe character (|) as the delimiter, the string 'DC9|DC9|DC7|DC12|DC9|DC7' becomes 'DC9|DC7|DC12'. If a hard return separates the entries in a cell, the delimiter of \n should be specified.

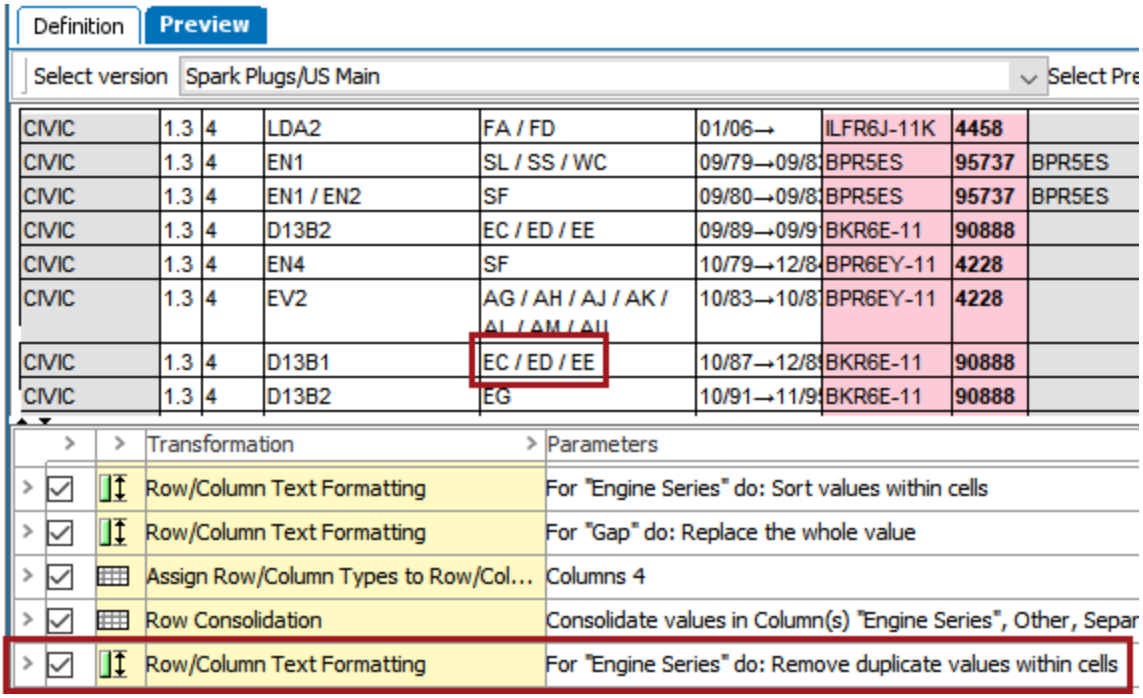
The following example shows a table in which a cell contains duplicate values after a Row Consolidation transformation has been applied. As a result, in the Engine Series column (column 5), the value 'ED' appears twice.



To remove this duplicate value, the 'Remove duplicate values within cells' transformation is applied as part of the Row/Column Text Formatting transformation. It is configured to remove values from the Engine Series column that are separated by the ' / ' delimiter.



After the transformation is applied, the duplicate 'ED' values are removed and consolidated into a single value.



For more information, see the Cell Text Formatting Transformations topic in the Tables documentation.

New 'Range consolidation within cells' transformation

A new 'Range consolidation within cells' transformation has been introduced that consolidates ranges of data that might exist within a single cell of a table. Like the 'Sort values within cells' and 'Remove duplicate values within cells' transformations, this transformation is available as a selection in the following locations:

- 'Row/Column Text Formatting' table transformation
- 'Attribute Formatting' table transformation
- Within attribute transformations

As part of the consolidation process, the transformation allows users to provide delimiter characters to be used between values, as follows:

- Value Delimiter**:** Users may enter one or more characters to indicate the delimiter between the entries in a cell. If a hard return separates the entries in a cell, the delimiter of \n should be used.
- Range Delimiter: Users may enter one or more characters that denote the delimiter. This delimiter is used when ranges are created as the result of this operation. A range can be created that is ascending (low-to-high) or descending (high-to-low). Example: 2007-2012 or 2012-2007 if a numerical range, and A-F or F-A for an alphabetic range.

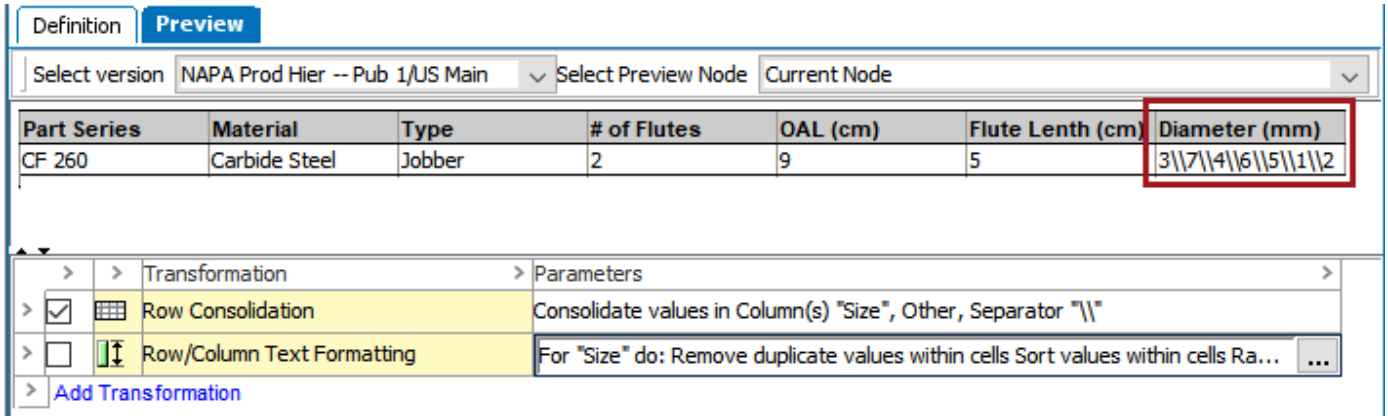
The following examples assume the value delimiter is the pipe character (|) and the range delimiter is a hyphen (-):

- The string '2002|2003|2004|2005|2006|2007' becomes '2002-2007'
- '2015|2014|2013|2012' becomes '2015-2012'

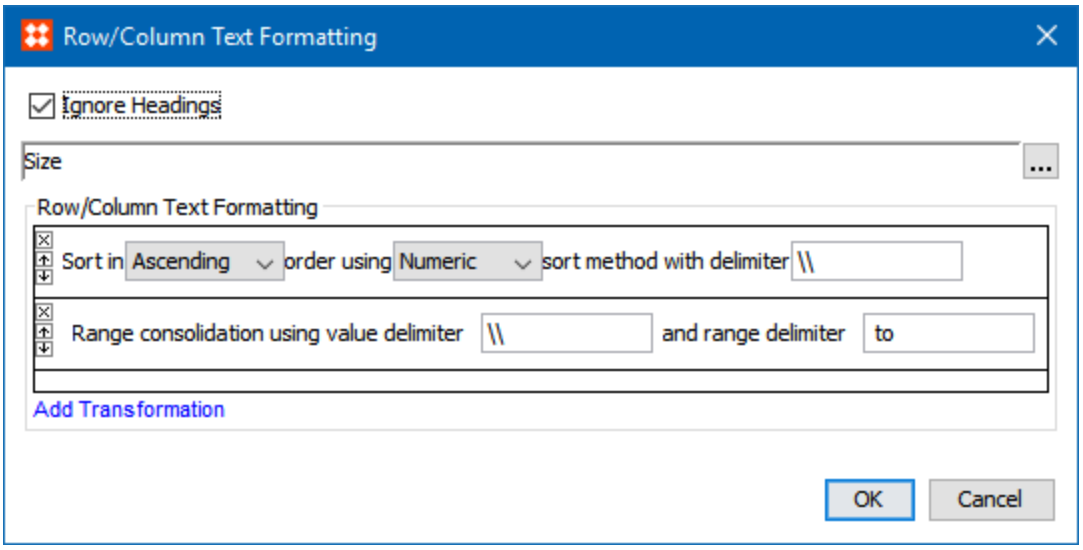
- 'A|B|C|F|G|H' becomes 'A-C|F-H'
- '2002|2003|2004|2005|2007|2008' becomes '2002-2005|2007-2008'

Note: This transformation only operates on numbers or single characters in the ASCII range 'A to Z' or 'a to z.'

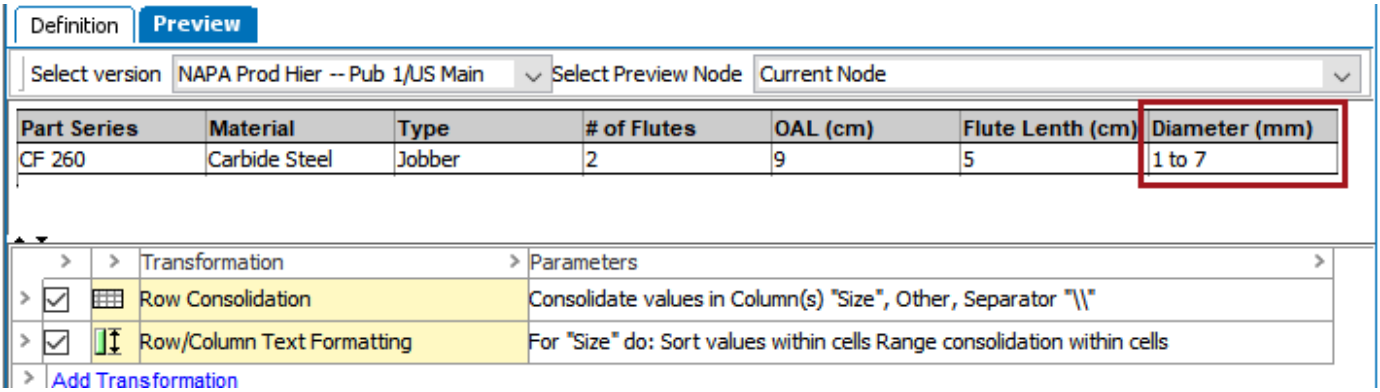
The following example shows a table in which a cell contains a range of values after a Row Consolidation transformation has been applied. The values are both unsorted and separated by '\\ ' as a delimiter.



To sort these values and convert them into a range, two transformations are applied. The 'Sort values within cells' text transformation is first applied to sort the numbers in ascending numeric order. Next, 'Range consolidation within cells' is applied, which has been configured to remove the \\ value delimiters and replace them with 'to.'



After the transformations are applied, the values are consolidated into a range.



For more information, see the Cell Text Formatting Transformations topic in the Tables documentation.

STEP Publisher Enhancements

Summary

Several usability enhancements and functionality improvements have been made to the STEP Publisher component, both in the STEP Workbench and within the InDesign interface.

These enhancements include:

- InDesign CC 2019 support added (as of 9.1-MP5)
- Enhanced splitting for InDesign text frames
- Expanded STEP Publisher support for entities

Details

Updated InDesign version support

As Adobe continually releases new versions of InDesign through its Creative Cloud subscription service, STEP'n'design plugins must continually be updated to support these versions.

- Support for Adobe InDesign CC 2019 is added with this release.
- Support for Adobe InDesign CC 2017 and CC 2018 continues.

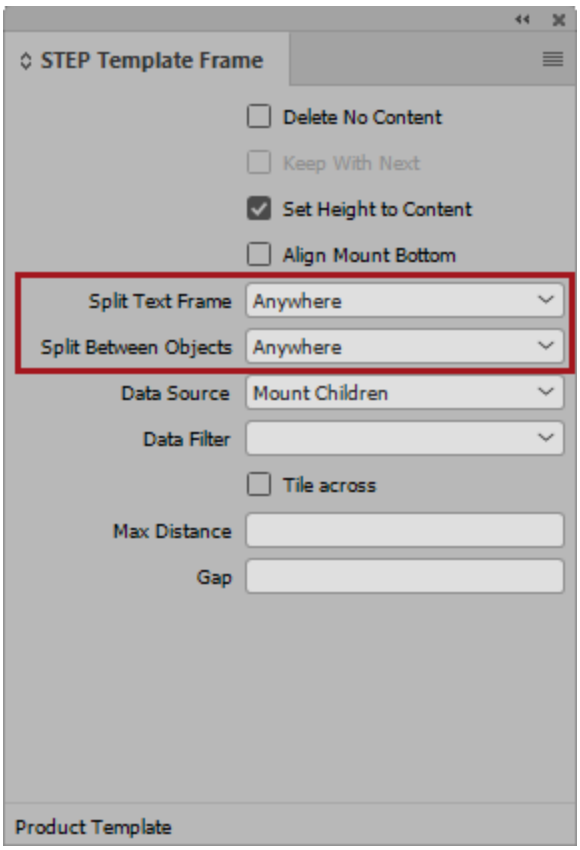
Improved split options for InDesign text frames mounted from children and references

In STEP Publisher, text frames mounted onto InDesign pages from child or referenced objects can now be split across columns or pages, adding a new level of flexibility for users who produce print catalogs. This improved functionality brings the behavior of mounted child / reference text frames in line with frames mounted from the current object.

Previously, if a text frame from a mounted child or reference object was too large to fit on the page, and the 'Split' parameter on the STEP Template Frame panel was set to 'Anywhere' or 'Within Spread,' the text frame would not split. The frame would instead bleed off of the bottom of the page, creating overset text. The 'Split' options only applied to splitting between objects, not to individual frames.

To prevent this issue from happening, the STEP Template Frame panel has been updated by renaming the 'Split' parameter to 'Split Text Frame' and by adding a new parameter named 'Split Between Objects.' The 'Split Between Objects' parameter is activated when a Data Source other than 'Current Object' is selected.

The available options for both split parameters are Never, Anywhere, and Within Spread. In the below screenshot, the selected option for both parameters is 'Anywhere.' This ensures that smaller, repeated frames from child or referenced objects will always wrap to the next column or page, and that large, individual text frames from child or referenced objects will themselves always split between columns and/or pages.

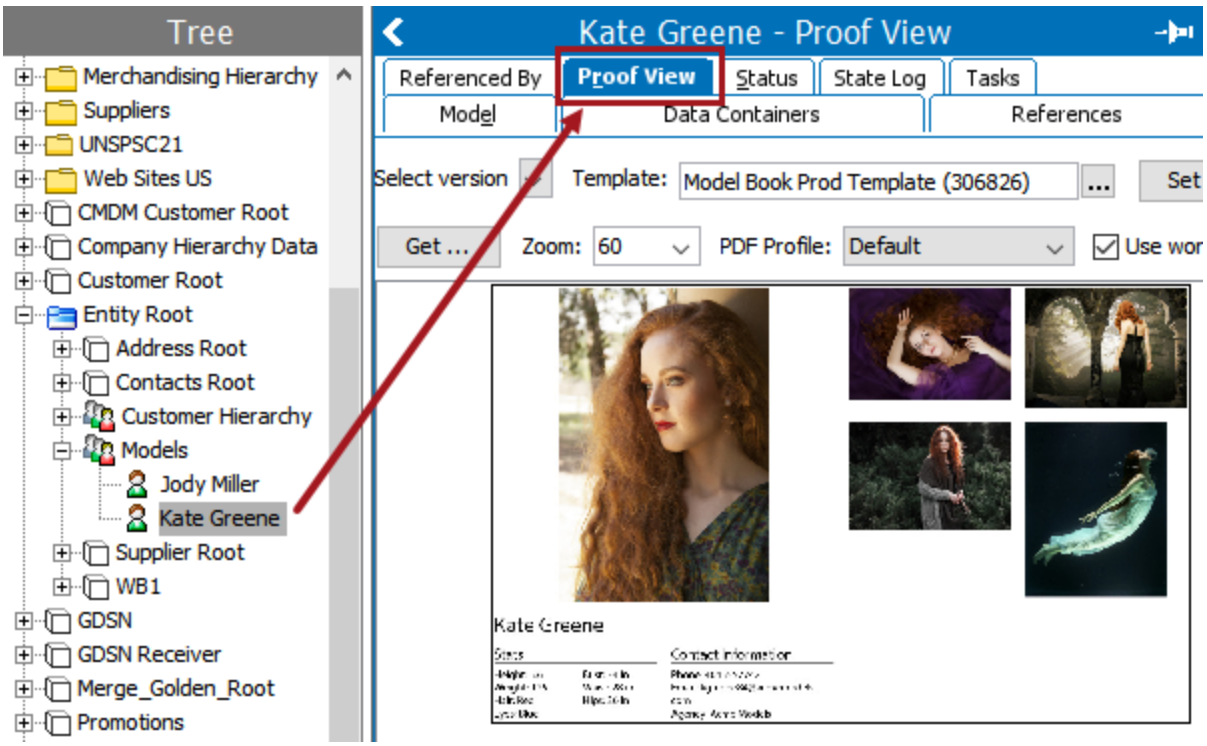


For more information on these new split options, see the Text Frame Parameters topic in the STEP Publisher documentation.

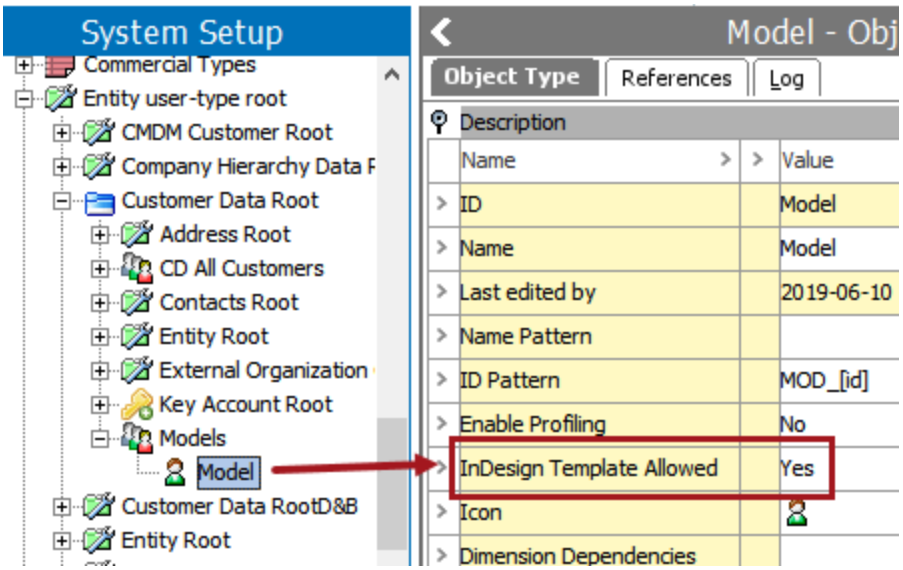
Expanded STEP Publisher support for entities

Functionality for entities in STEP Publisher has been expanded, further allowing entities to be handled in a near-identical fashion to products. The following features have been added for 9.2:

- Proof View is now supported for entities in the STEP Workbench.



- Default InDesign templates can now be applied to entities by the addition of the 'InDesign Template Allowed' parameter to entity object types.



Note that entities are not currently supported in the following areas:

- Proof View in Web UI
- Publication exports and imports

- Tables
- Flatplanner baskets

More information about using entities for print can be found throughout the STEP Publisher (Adobe InDesign Integration) online help.

Configuration Management Tooling Enhancements

Summary

To improve upon the tooling introduced in 9.1, designed to give customers greater STEP configuration management capabilities, additional enhancements have been added to the platform.

Details

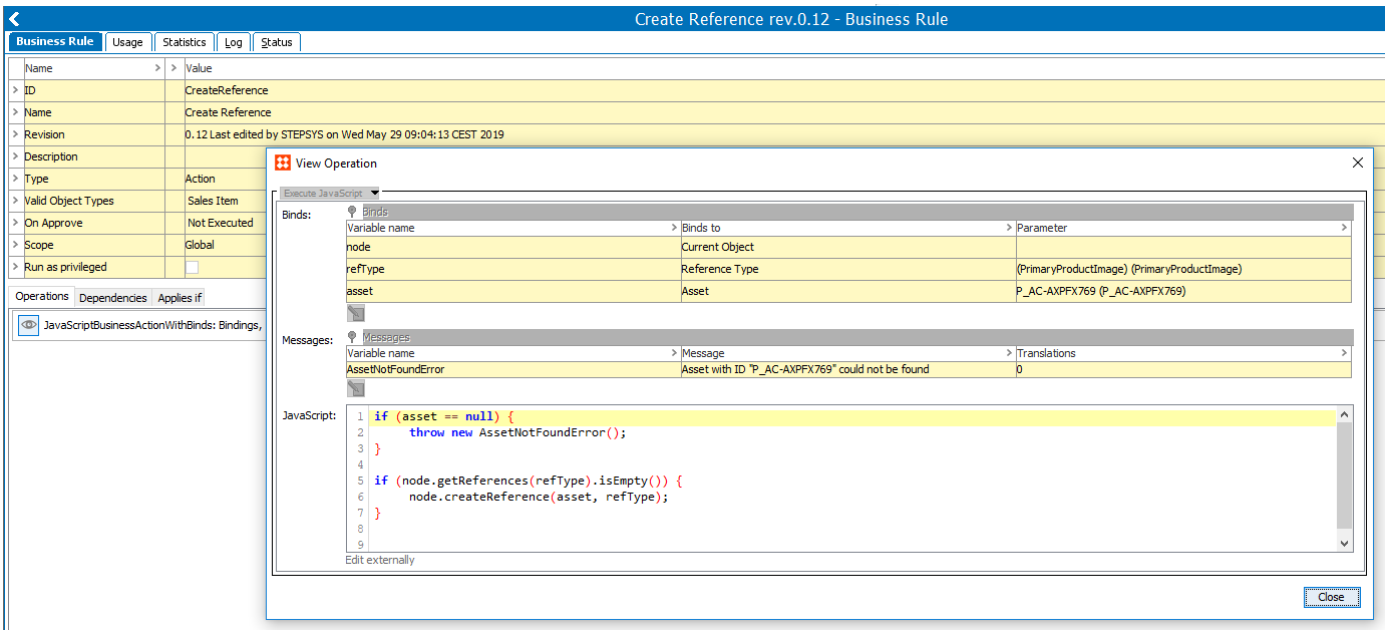
Editable business rule format

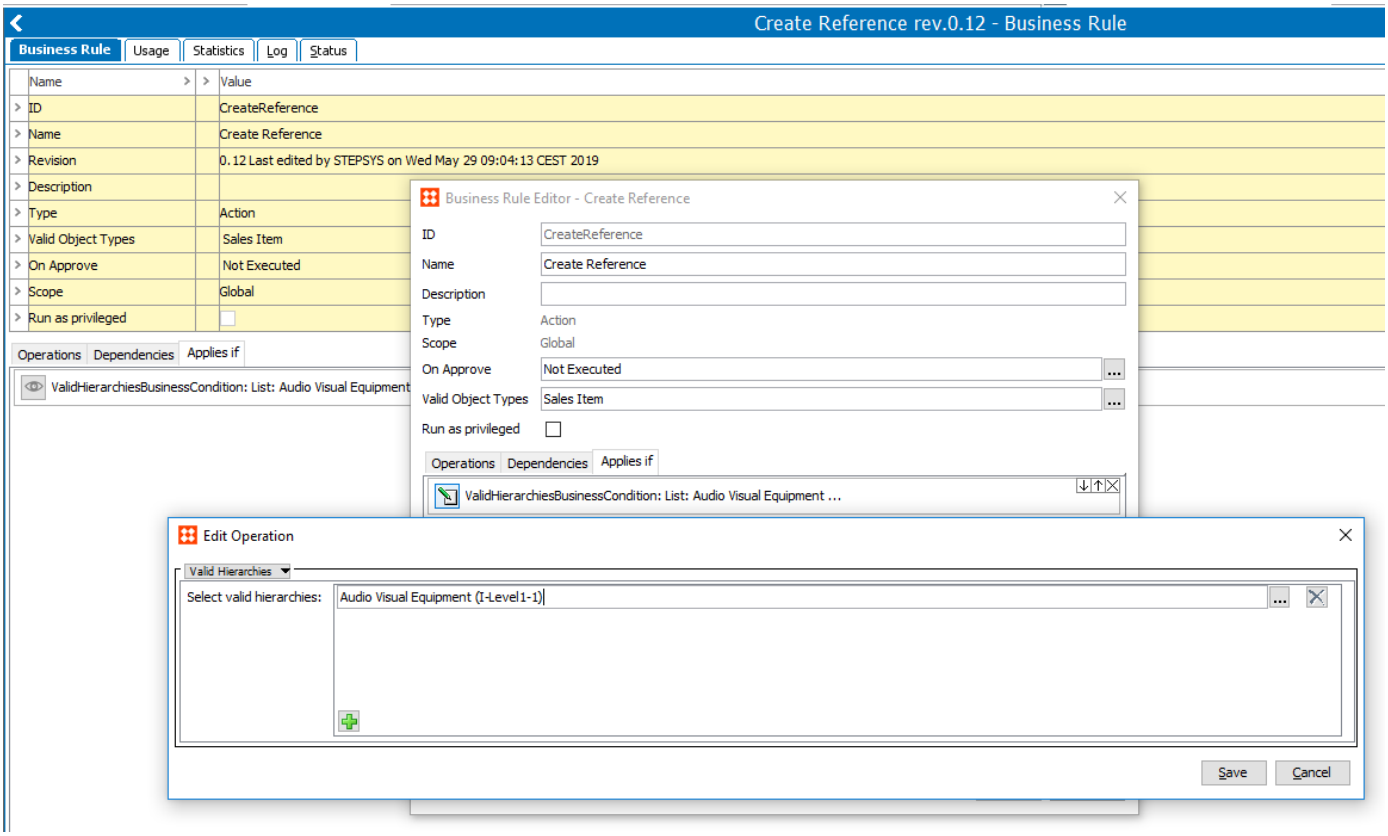
On systems with the 'configuration-management' component activated, from 9.2, business rules can be exported as *.js files that can be edited outside STEP and imported back into a STEP system creating or updating a business rule.

The new format is available for business conditions, actions, functions, and libraries of 'Global' scope created using the business rule format introduced with STEP 7.0. Each file will represent a single business rule and will contain all information necessary to create / update the rule on import.

In the *.js files, metadata and definitions of non-JavaScript operations and preconditions ('Applies if') will be output in comment sections, while the JavaScript for the individual operations and preconditions will be wrapped in functions with objects provided by the execution context as parameters (binds, messages, function input parameters, and referenced libraries).

To exemplify, assume there is a simple business action with one JavaScript operation and a non-JavaScript precondition as shown below.





When exported using the default settings, the business action will be represented as follows in the generated file:

```
/*===== export metadata =====
{
  "contextId" : "Context1",
  "workspaceId" : "Main"
}
*/
/*===== business rule definition =====
{
  "id" : "CreateReference",
  "type" : "BusinessAction",
  "setupGroups" : [ "Actions" ],
  "name" : "Create Reference",
  "description" : null,
  "scope" : "Global",
  "validObjectTypes" : [ "SalesItem" ],
  "allObjectTypesValid" : false,
  "runPrivileged" : false,
  "onApprove" : "Never",
  "dependencies" : [ ]
}
*/
/*===== business rule plugin definition =====
```

```
{
  "pluginId" : "JavaScriptBusinessActionWithBinds",
  "binds" : [ {
    "contract" : "CurrentObjectBindContract",
    "alias" : "node",
    "parameterClass" : "null",
    "value" : null,
    "description" : null
  }, {
    "contract" : "ReferenceTypeBindContract",
    "alias" : "refType",
    "parameterClass" : "com.stibo.core.domain.impl.ReferenceTypeImpl",
    "value" : "PrimaryProductImage",
    "description" : null
  }, {
    "contract" : "AssetBindContract",
    "alias" : "asset",
    "parameterClass" :
"com.stibo.core.domain.impl.FrontAssetImpl$$Generated$$7",
    "value" : "P_AC-AXPFX769",
    "description" : null
  } ],
  "messages" : [ {
    "variable" : "AssetNotFoundError",
    "message" : "Asset with ID \"P_AC-AXPFX769\" could not be found",
    "translations" : [ ]
  } ],
  "pluginType" : "Operation"
}
*/
exports.operation1 = function (node, refType, asset, AssetNotFoundError) {
  if (asset == null) {
         throw new AssetNotFoundError();
  }

  if (node.getReferences(refType).isEmpty()) {
         node.createReference(asset, refType);
  }
}
/*===== business rule plugin definition =====
{
  "pluginId" : "ValidHierarchiesBusinessCondition",
  "parameters" : [ {
    "id" : "HierarchyRoots",
    "type" : "java.util.List",
    "values" : [ "step://product?id=I-Level1-1" ]
  } ],
  "pluginType" : "Precondition"
}
*/
```

As mentioned above, the logic of the JavaScript operation is wrapped in a function. This function is, in the example, exported in line with the Node.js module system convention. A configuration property 'ConfigurationManagement.BusinessRuleConverter.ExportFormat' can be used to change this. The possible values of this property can be 'NodeExport' (default; Node.js module system), 'EcmaScriptExport' (ECMAScript module system compliant format), and 'NoExport' (functions not exported).

The format for business libraries differs somewhat as a library in STEP will already hold a number of JavaScript functions that can be called from other business rules. To make these functions available to other modules, the functions will be exported when the 'NodeExport' or 'EcmaScriptExport' settings are used.

As an example, assume a library has the following content:

```
function isProductBelow(prod, checkProdID) {
	if(!isProduct(prod)) throw "Function only works with Products";
	if(checkProdID == "Product hierarchy root") return true;
	if(prod.getID() == "Product hierarchy root") throw "The top level Product is
never below another Product.";
	var currentParentId;
	var currentProd = prod;
	while (true) {
		currentParentId = currentProd.getParent().getID();
		if(currentParentId == "Product hierarchy root") return false;
		else if (currentParentId == checkProdID) return true;
		else currentProd = currentProd.getParent();
	}
}

function isProduct(obj) {
	return obj instanceof com.stibo.core.domain.Product;
}
```

When exported with 'ConfigurationManagement.BusinessRuleConverter.ExportFormat' set to the default 'NodeExport' value, the following will be appended to the file making it possible to require / import the functions from another Node.js module. Notice that, as stated in the comment, everything below and including the comment will be ignored when the library file is imported in STEP.

```
/*===== business library exports - this part will not be imported to STEP
=====*/
exports.isProductBelow = isProductBelow
exports.isProduct = isProduct
```

It is important to note that while it is possible in STEP to call functions in other business libraries from within a library function, this functionality is not supported when calling the exported library functions from another module.

To have library functions that do call functions in other referenced libraries be executable outside STEP, these can be modified so that it is possible to pass the library as a parameter. To exemplify, assume that there is a library function like the one shown below:

```
//"lib" is alias for a referenced library with a function getUpc()
function setUpc(node, attributeId) {
  node.getValue(attributeId).setSimpleValue(lib.getUpc());
}
```

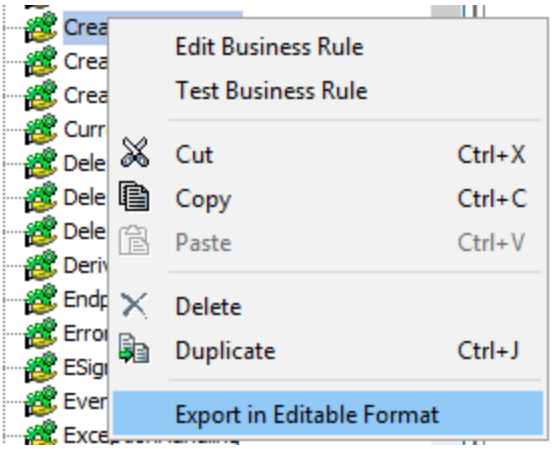
This function could be modified as follows, making it possible to pass the library as a parameter when invoking the function outside STEP.

```
function setUpc(node, attributeId, passedLib) {
  if (lib == null) {
    lib = passedLib;
  }
  node.getValue(attributeId).setSimpleValue(lib.getUpc());
```

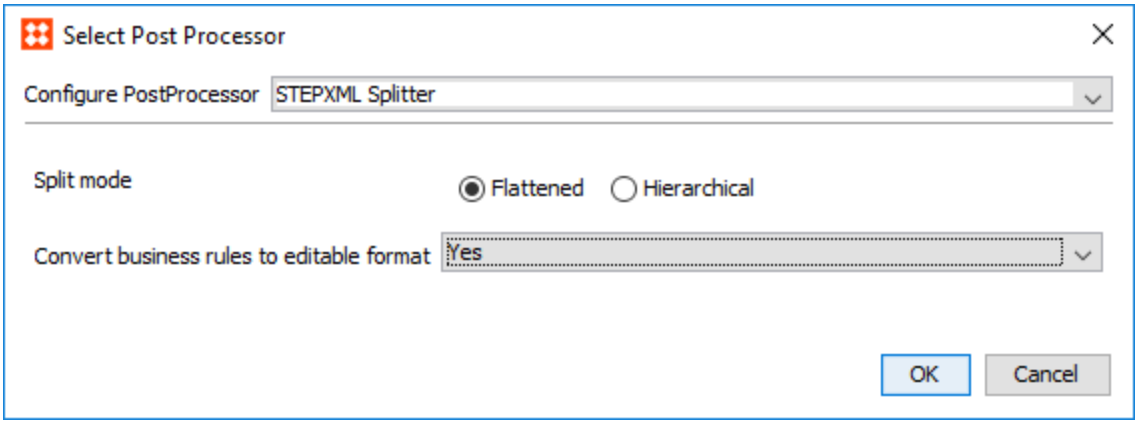
Notice that adding an extra optional parameter will not require that the JavaScript calling the function be modified.

Exporting and importing the editable format

Business rules can be exported to the editable format in two different ways. To manually export business rules individually, use the 'Export in Editable Format' context menu option for business rules as shown below:

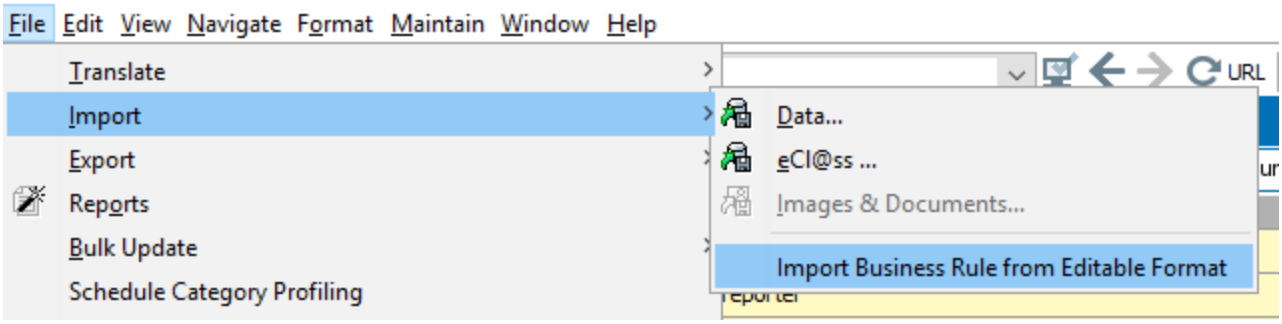


Further, when using the configuration management 'STEPXML Splitter' post-processor plugin for outbound integration endpoints, a new 'Convert business rules to editable format' option has been introduced.



When this option is selected, any business rule in the STEPXML that is fed to the postprocessor will be converted to the editable format and represented in a single *.js file instead of being represented in a STEPXML file.

Import-wise there are also two options. To import a single business rule manually, use the File > Import > Import Business Rule from Editable Format menu option as shown below.



For importing multiple business rules via an inbound integration endpoint, the configuration management 'STEPXML Joiner' preprocessor can be used. Pre-9.2, this preprocesser accepted a ZIP file containing STEPXML files as input. With 9.2, the ZIP file can additionally contain business rule *.js files that the preprocessor will convert to STEPXML and merge into the STEPXML file delivered to the import part of the processing.

JavaScript Test and validation REST resources

From 9.2, for those systems with the 'configuration-management' component installed, two new REST resource operations are available: one for testing JavaScript on a running STEP server and one for validating the syntax of a business rule in the editable format on a STEP server.

The REST resource for testing JavaScript is available at http(s)://[step-hostname]:[step-port]/configuration-management/test-javascript?context=[context-id]&workspace=[workspace-id] and lets clients execute ECMAScript 5 compliant JavaScript on a running STEP server in a non-committing mode with access to a STEP Manager that again gives access to the standard STEP Scripting API. As an example, POST'ing the function shown below to https://[step server]/configuration-management/test-javascript?context=Context1&workspace=Main would return "Context1":

```
function getContextId(manager) {
       return manager.getCurrentContext().getID();
}
getContextId(manager);
```

The resource for validating a business rule definition in the editable format is available at http(s)://[step-hostname]:[step-port]/configuration-management/validate-business-rule. The resource lets clients POST a complete business rule definition and will validate the business rule in three steps:

1. Model validation - validates the overall structure and determines if the business rule metadata is correct (syntax check only)
2. Domain validation - validates existence of the operation and precondition plugin and checks to see if the correct parameters have been supplied (values are not checked)
3. Conversion validation - validates if the business rule definition can successfully be converted to STEPXML

The resource returns a boolean indicating whether or not the business rule is valid and includes a list of errors, if any were encountered.

Example response:

```
{
    "valid": false,
    "errors": [
        "'businessRuleDefinition.id': may not be null"
    ]
}
```

Both REST resources use basic authentication and the user invoking the resources must have a privilege that includes the 'Test JavaScript' setup action. Further, the configuration property 'ConfigurationManagement.TestJavascript.Enabled' must be set to 'true' on systems to be used for tests and validation (defaults to 'false').

Example Node.js module for testing and validating JavaScript business rules

The 9.2 release of the 'configuration-management' component further contains an example 'step.js' Node.js module that can be downloaded from the STEP API Documentation page accessible at [system]/sdk or from the Start Page. The module wraps the test REST resource operation described above and exposes a test function that makes it easy to write and execute integration test-style tests of business rules exported in the editable format.

To exemplify, assume there is a simple business action in STEP that has a single JavaScript operation with the following logic:

```
// "Current Object" bound to "node"
// A reference type bound to "refType"
// An asset bound to "asset"
var existingRefs = node.getReferences(refType).toArray();

if (existingRefs.length == 0) {
       node.createReference(asset, refType);
}
With "ConfigurationManagement.BusinessRuleConverter.ExportFormat" set to
"NodeExport", this operation will be exported as:

// Business rule metadata omitted
/*
{
  "pluginId" : "JavaScriptBusinessActionWithBinds",
  "binds" : [ {
    "contract" : "CurrentObjectBindContract",
    "alias" : "node",
    "parameterClass" : "null",
    "value" : null,
    "description" : null
  }, {
    "contract" : "ReferenceTypeBindContract",
    "alias" : "refType",
    "parameterClass" : "com.stibo.core.domain.impl.ReferenceTypeImpl",
    "value" : "PrimaryProductImage",
    "description" : null
```

```
  }, {
    "contract" : "AssetBindContract",
    "alias" : "asset",
    "parameterClass" :
"com.stibo.core.domain.impl.FrontAssetImpl$$Generated$$7",
    "value" : "P_AC-AXPFX769",
    "description" : null
  } ],
  "messages" : [ ],
  "pluginType" : "Operation"
}
*/
exports.operation1 = function (node,refType,asset) {
  if (node.getReferences(refType).isEmpty()) {
       node.createReference(asset, refType);
  }
}
```

As the operation is exported, it can be imported / required from a test file that could look as follows (name of exported business rule file being 'TestAction.js' placed in the same directory, 'step.js' in parent directory along with configuration file):

```
var step = require("../step.js");
var businessRuleModule = require("./TestAction.js");

console.log("---------------------------------\n");
console.log(">>>>> TestAction.js Test >>>>>\n");
console.log("---------------------------------\n");
step.test(function (manager) {
  var parent = manager.getProductHome().getProductByID("Level3-190702");
  if (parent == null) {
    return "No product object with ID 'Level3-190702'. Test aborted.";
  }

  var product;
  try {
    product = parent.createProduct("TestProduct", "SalesItem");
  } catch(e) {
    if (e.javaException instanceof
com.stibo.core.domain.NodeIdUniqueConstraintException) {
      return "ERROR: NodeIdUniqueConstraintException thrown when creating test
product: " + e.getMessage();
    }
    if (e.javaException instanceof
com.stibo.core.domain.ObjectTypeConstraintException) {
      return "ERROR: ObjectTypeConstraintException thrown when creating test
product: " + e.getMessage();
    }
    throw(e);
  }
```

```
  var referenceType = manager.getReferenceTypeHome().getReferenceTypeByID
("PrimaryProductImage");
  if (referenceType == null) {
    return "ERROR: No reference type with ID 'PrimaryProductImage'. Test
aborted.";
  }

  var asset = manager.getAssetHome().getAssetByID("ProductImage-190703");
  if (asset == null) {
    return "ERROR: No asset object with ID 'ProductImage-190703'. Test
aborted.";
  }

  businessRuleModule.operation1(product, referenceType, asset);

  if (product.getReferences(referenceType).size() == 1) {
    return "SUCCESS: Reference created";
  }  else {
    return "FAILURE: Reference was not created";
  }
}, "businessRuleModule", businessRuleModule);
```

Notice how the step.js test method takes the test function and any number of dependency alias and dependency pairs as parameter, i.e., the test function has access to the businessRuleModule and the alias and the module are passed as parameters.

When the script is run using Node.js ('node TestActionTest.js'), it will output console.log statements from the test script, send the complete script to the server for test, and return the value from the test function. As mentioned above, all changes in STEP will be rolled back when the test completes.

The step.js module also offers a validate(pathToBusinessRuleFile) method that wraps the validation REST resource and can be invoked as shown below:

```
....
var step = require("../step.js");

console.log("---------------------------------\n");
console.log(">>>>> Validate Business Rule >>>>>\n");
console.log("---------------------------------\n");

step.validate("./examples/BusinessAction01.js");
....
```

For more information and examples, see the JavaScript Business Rule Test Functionality section on the STEP API Documentation page accessible at [system]/sdk or from the Start Page.

Also, refer to the Editable Business Rules Format topic in the Version Control System Integration section of the Configuration Management documentation.

Maintaining partial data sets on lower-level DTAP environments

A new user guide for maintaining partial data sets on lower level Development, Testing, Acceptance and Production (DTAP) environment is available within the Configuration Management section.

Other changes

A number of enhancements have been made related to exporting and importing STEPXML (export manager, import manager, and integration endpoints). See the Data Exchange Enhancements and Changes release note for more information about these changes.

Also, event generation for business rule objects has been extended to modify and delete events. Refer to the Additional Enhancements and Changes release note for details.

API Enhancements and Updates

Summary

Information applicable to the enhancements / deprecation outlined below is available in the STEP API documentation at [system]/sdk or access the STEP API Documentation from the Start Page.

- The JSON-based REST API V2 has been heavily extended with new functionality for accessing, creating, and manipulating data objects and new functionality for working with background processes, event processors, and integration endpoints.
- With 9.2, the XML-based REST API V1 is considered deprecated and no enhancements will be made and no new features added. Customers are advised to start migrating to using REST API V2 instead.

Details

REST API V2 Enhancements

The new resource operations are listed below. For detailed information about the new functionality, please see the Swagger and OpenAPI 3.0 documentation available via the STEP API Documentation page on systems with the 'restapiv2' component installed.

Notice that with the introduction of search / query functionality, the 'restapiv2' component now requires that the non-baseline 'query' component also be installed.

Assets

Operation	Description
PATCH /assets/{id}	Partially updates an asset
PUT /assets/{id}	Creates or replaces asset with known identifier
GET /assets/{id}/approval-status	Returns the approval status of the asset with the specified ID / key value
POST /assets/{id}/approve	Approves the asset with the specified ID / key value
GET /assets/{id}/approval-status	Returns the approval status of the asset with the specified ID / key value
POST /assets/{id}/approve	Approves the asset with the specified ID / key value
POST /assets/search	Search for / query assets by simple or compound conditions

Background Processes

Operation	Description
GET /background-processes/{id}	Returns the background process with the specified ID
GET /background-processes/{id}/attachments	Returns information about available background process attachments
GET /background-processes/{id}/attachments/{attachmentId}	Returns attachment metadata for a specific attachment
GET /background-processes/{id}/attachments/{attachmentId}/content	Returns the background process attachment content
GET /background-processes/{id}/execution-report	Returns a streamed array of execution report entries (ExecutionReportEntry)

Background Process Types

Operation	Description
GET /background-process-types	Returns the available background process types
GET /background-process-types/{typeId}/processes	Returns background process IDs for the specified background process type

Classifications

Operation	Description
PATCH /classifications/{id}	Partially updates a classification
PUT /classifications/{id}	Creates or replaces classification with known identifier
GET /classifications/{id}/approval-status	Returns the approval status of the classification with the specified ID / key value
POST /classifications/{id}/approve	Approves the classification with the specified ID / key value
POST /classifications/search	Search for / query classifications by simple or compound conditions

Entities

Operation	Description
PATCH /entities/{id}	Partially updates an entity
PUT /entities/{id}	Creates or replaces entity with known identifier
GET /entities/{id}/approval-status	Returns the approval status of the entity with the specified ID / key value
POST /entities/{id}/approve	Approves the entity with the specified ID / key value
POST /entities/search	Search for / query entities by simple or compound conditions

Event Processors

Operation	Description
GET /event-processors	Returns basic event processor representations
POST /event-processors/{id}/disable	Disables the specified event processor
POST /event-processors/{id}/enable	Enables the specified event processor
GET /event-processors/{id}/execution-report	Returns the execution report for the specified event processor
POST /event-processors/{id}/invoke	Invokes the specified event processor
POST /event-processors/{id}/queue/disable	Disables the event queue associated with the event processor
POST /event-processors/{id}/queue/enable	Enables the event queue associated with the event processor
GET /event-processors/{id}/queue/number-of-unread-events	Returns the number of unread events for the associated event queue
GET /event-processors/{id}/queue/status	Returns the status of the event queue associated with the event processor
GET /event-processors/{id}/statistics	Returns statistics for the specified event processor
GET /event-processors/{id}/status	Returns the status of the specified event processor

Inbound Integration Endpoints

Operation	Description
GET /inbound-integration-endpoints	Returns basic inbound integration endpoint representations
POST /inbound-integration-endpoints/{id}/disable	Disables the specified inbound integration endpoint
POST /inbound-integration-endpoints/{id}/enable	Enables the specified inbound integration endpoint
GET /inbound-integration-endpoints/{id}/execution-report	Returns the execution report for the specified inbound integration endpoint
POST /inbound-integration-endpoints/{id}/invoke	Invokes the specified inbound integration endpoint
GET /inbound-integration-endpoints/{id}/statistics	Returns statistics for the specified inbound integration endpoint
GET /inbound-integration-endpoints/{id}/status	Returns the status of the specified inbound integration endpoint
POST /inbound-integration-endpoints/{id}/upload-and-invoke	Posts message/file to endpoint with REST receiver
GET /inbound-integration-endpoints/{id}/worker-processes	Returns background process IDs for processes started by the endpoint

Outbound Integration Endpoints

Operation	Description
GET /outbound-integration-endpoints	Returns basic outbound integration endpoint representations
POST /outbound-integration-endpoints/{id}/disable	Disables the specified outbound integration endpoint
POST /outbound-integration-endpoints/{id}/enable	Enables the specified outbound integration endpoint
GET /outbound-integration-endpoints/{id}/execution-report	Returns the execution report for the specified outbound integration endpoint
POST /outbound-integration-endpoints/{id}/invoke	Invokes the specified outbound integration endpoint
POST /outbound-integration-	Disables the event queue associated with the outbound integration endpoint

Operation	Description
endpoints/{id}/queue/disable	
POST /outbound-integration-endpoints/{id}/queue/enable	Enables the event queue associated with the outbound integration endpoint
GET /outbound-integration-endpoints/{id}/queue/number-of-unread-events	Returns the number of unread events for the associated event queue
GET /outbound-integration-endpoints/{id}/queue/status	Returns the status of the event queue associated with the outbound integration endpoint
GET /outbound-integration-endpoints/{id}/statistics	Returns statistics for the specified outbound integration endpoint
GET /outbound-integration-endpoints/{id}/status	Returns the status of the specified outbound integration endpoint
GET /outbound-integration-endpoints/{id}/worker-processes	Returns background process IDs for processes started by the endpoint

Products

Operation	Description
PATCH /products/{id}	Partially updates a product
PUT /products/{id}	Creates or replaces product with known identifier
GET /products/{id}/approval-status	Returns the approval status of the product with the specified ID / key value
POST /products/{id}/approve	Approves the product with the specified ID / key value
POST /products/search	Search for / query products by simple or compound conditions

REST API V1 Deprecation Notice

The XML-based REST API V1 is considered deprecated with this release and no enhancements will be made nor will new features be added. Customers are advised to start migrating to using REST API V2 instead.

Additional Enhancements and Changes

The following enhancements have also been made as part of the 9.2 release. These are described below. Users will find more updates in the Enhancement Requests release note that follows.

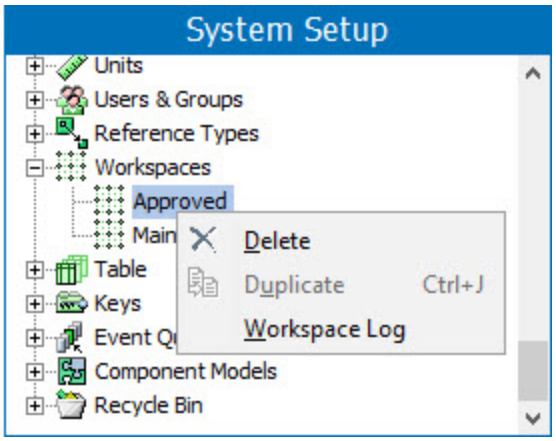
SAP Recertification for STEP 9.x

The SAP® Integration and Certification Center (SAP ICC) has certified that Stibo Systems STEP 9.x has achieved SAP certification and is powered by the SAP NetWeaver® technology platform. Solutions that are powered by SAP NetWeaver can be more quickly and easily integrated into SAP® solution environments. Customers can benefit from improved interoperability with SAP applications and with the large ecosystem of solutions that run on SAP NetWeaver.

This certification ensures our customers that they can confidently exchange product information between the latest version of Stibo Systems' STEP MDM and SAP by leveraging automation capabilities, thereby leading to optimized business processes.

Workspace creation change

In 9.2, it is no longer be possible to create new workspaces. The option has been removed from the context menu and also from the Maintain (Insert) menu. Any workspaces created prior to 9.2 will remain and can still be accessed.



For more information, see the Maintaining Workspaces documentation.

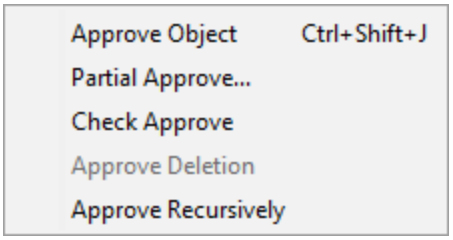
Approval submenu options removed in workbench

In workbench, the functionality behind the last four submenu items for Maintain > Approval is no longer relevant; therefore, these options have been removed:

- Transfer Object To (Workspace)
- Update Object From (Workspace)

- Update Workspace From (Workspace)
- Update Object

All other Approval submenu options remain:

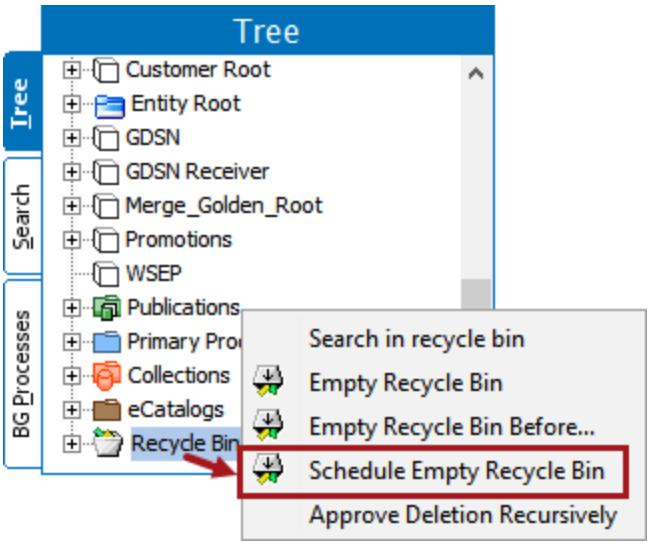


For more information regarding the Approval options, see the Maintain Menu topic in the Menu Items documentation.

New Empty Recycle Bin scheduling functionality

Objects within the Tree Recycle Bin can now be automatically deleted and/or purged on a scheduled basis, similar to how other processes are scheduled in STEP (e.g., data imports, data exports, and bulk updates). The ability to schedule Recycle Bin emptying at designated times, e.g., overnight, will help free users from time-consuming, manual Recycle Bin emptying tasks, which can now be done automatically, with minimal or no user intervention.

The new 'Schedule Empty Recycle Bin' option is available by right-clicking on the Recycle Bin in the Tree.



Clicking 'Schedule Empty Recycle Bin' launches a four-step wizard that walks users through the scheduling configuration. For full details on all screens in the Schedule Empty Recycle Bin wizard, see the Schedule Empty Recycle Bin topic in the Getting Started / User Guide documentation.

Note that scheduling is not available for the System Setup Recycle Bin. For more information on the System Setup Recycle Bin, see the Recycle Bin for System Setup topic in the System Setup / Super User Guide.

In-Memory enhancements

In-Memory users will see acceleration of the following searches:

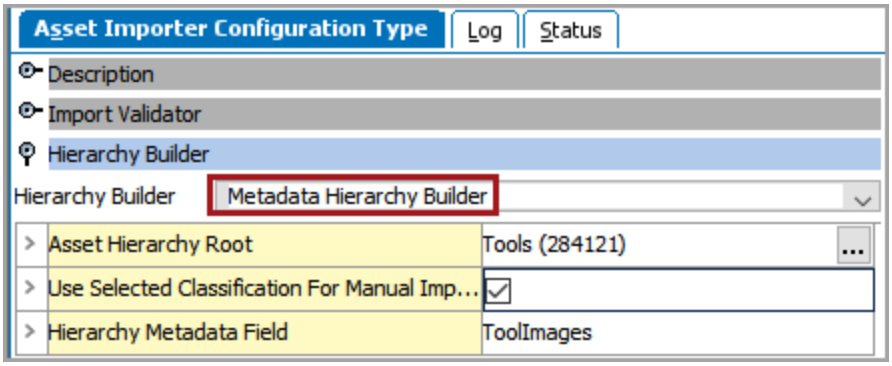
- Translation status
- Search below Attribute Groups

Additionally, a substantial number of queries are now In-Memory based, accessing data directly on the local application server and not directly from the database, therefore, reducing search times.

For more information on In-Memory, see the In-Memory Database Component for STEP section of the Resource Materials documentation.

New Metadata Hierarchy Builder plugin for Asset Importer

A new plugin has been added to the Hierarchy Builder located within the Asset Importer. The Metadata Hierarchy Builder option creates folders in STEP from a metadata file containing the desired file structure for each asset. This new feature allows users even more flexibility when creating folders within a hierarchical root folder and the placement of assets within those folders. For more information, see the Hierarchy Builder topic in the Asset Importer documentation.



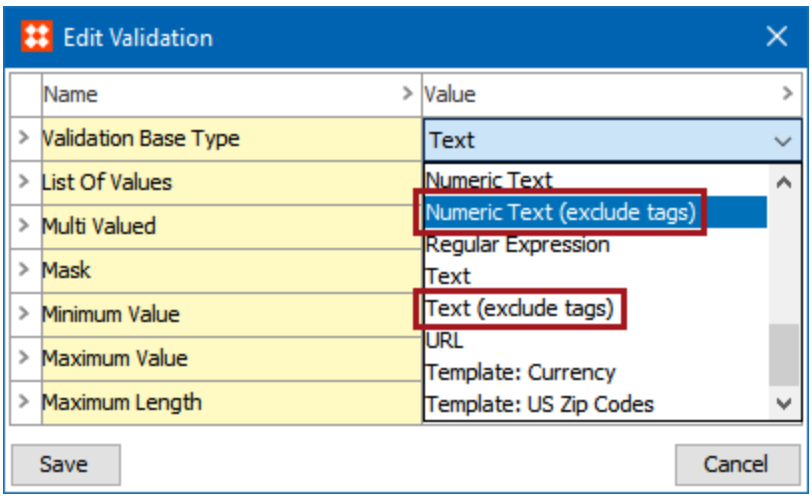
Ping functionality update

To eliminate exception issues within logs, the Oracle ping functionality has been made database-generic to support other database vendors in the future. Also, the Oracle sensor was changed to be a database sensor and the text in the sensor database is now generic.

Within the Admin Portal Activity Dashboards (System) and within the Monitoring tab (Server), the name Oracle / oracle was changed to Database / database, respectively.

New 'exclude tags' attribute validation base types

Two new attribute validation base types have been introduced that exclude style tags, inline references, and hyperlink tags from attribute value lengths and count character tags and footnote tags as only one (1) character. These are 'Numeric Text (exclude tags)' and 'Text (exclude tags).'



By default, each character within a tag, inline reference, etc., is counted as a character itself, which can result in attribute values that exceed the maximum allowed length. For example, the phrase 'This is **important** information' only contains 29 characters on output, which should be acceptable for an attribute with a maximum length of 30. However, the value is stored in STEP as 'This is <bold>important</bold> information', with the bold style tags expanding the character count to 42.

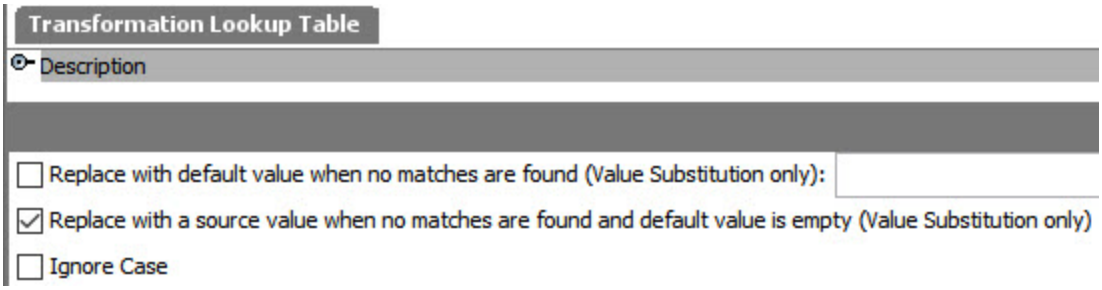
The two new attribute validation base types help to prevent these issues by excluding style tags from character counts and by counting character tags—such as less than (<lt/>) or greater than (<gt/>)—as 1 character. Footnote tags and footnote content are counted as 1 character, inline references are counted as 0, and hyperlink tags are also counted as 0, though the hyperlink text is included in the character count.

For more information, see the Validation Rules topic in the Attributes section of the System Setup / Super User Guide. For more information on STEP tags, see the Tags section of the System Setup / Super User Guide documentation.

Transformation Lookup Table can display empty values

On the Transformation Lookup Table, a calculated attribute can be configured to show an empty value if it uses the lookup table to pull a value from another LOV attribute. In that case, if the user has specified an empty value as a transformed value for one of the LOV values and default transformation is also enabled and set to empty, it will be possible to show this empty value in a calculated attribute.

In 9.2, there is a new checkbox on the Transformation Lookup Table editor in the workbench. The checkbox is called 'Replace with a source value when no matches are found and default value is empty (Value Substitution only).' It has the value checked by default. When unchecked, it allows empty values to be shown as a transformation result if the default value transformation is empty and the transformed value is also empty. When checked, the value is replaced with the source value when no matches are found and the default value is empty.



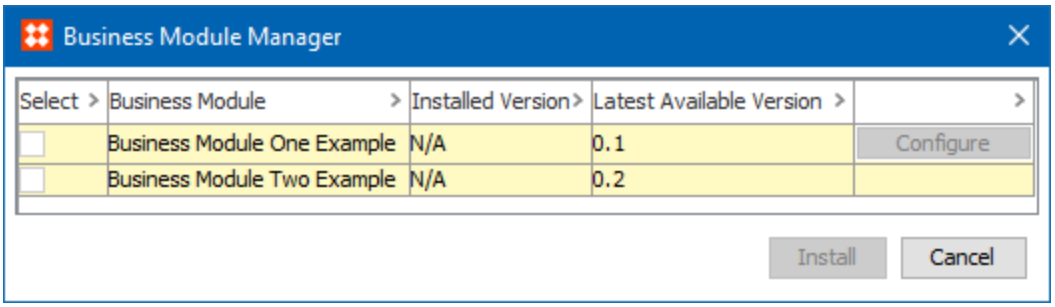
For more information, see the Configuring a Transformation Lookup Table documentation.

Extended event generation for more types

Create, modify, and delete events are now correctly created when business rule objects are created, modified, or deleted. Previously, only create events were generated.

Business Module Manager

A business module is a functional configuration which handles use cases based on common practices observed in the industry. The new Business Module Manager allows an administrator to install a pre-configured data model for a business purpose, such as the 'sell side' of the product enrichment process, or the 'buy side' for the vendor data onboarding process. Business module installation can include the creation of product objects types, classification objects, lists of values types, etc. The workbench 'Business Module Manager' option displays on the File menu for all users. The install functionality is available for users who are assigned the new 'Install Business Modules' setup action privilege.



Only activated modules are displayed in the dialog. When multiple modules are available and selected for install, safeguards ensure the required order is followed when necessary. Information in the Installed Version and Latest Available Version columns indicate if updates are available. The 'Configure' option is enabled when necessary; for example, when a hierarchy node must be specified.

For more information regarding the Business Module Manager, refer to the System Setup / Super User Guide documentation. The PMDM for Retail module will be available soon for activation. Contact your Stibo Systems account manager or partner manager for information and guidance. Also, refer to the Product MDM for Retail section of the Solution Enablement documentation for more details regarding this solution.

Excel-template asset removal from Web UI Settings

The 'Excel-template asset' parameter has been removed from the Web UI Settings within System Setup > User Groups > System Settings in workbench. This option worked with Quicksheet exports. Quicksheets are no longer supported, and all Quicksheet functionality is removed with this release, including the export actions. See the Web UI Enhancements release notes for information on those actions.

Online Help / Documentation updates

- The Solution Enablement section has been expanded and reorganized.
    - Product Lifecycle Management (PLM) Solution Enablement has been added.
    - Automotive has been renamed to 'Product MDM for Automotive' and moved under a new section: Product MDM Solution Enablement.
    - The Product MDM for Retail section (described in the Business Module Manager section above) has also been added and housed under the Product MDM Solution Enablement section.
    - Customer Master Data Management Solution Enablement was shortened to 'Customer MDM Solution Enablement' and now appears as the top subsection.
- Metrics topics have been removed from the Data Profiling section of online help and moved into their own section under System Setup.
- The Version Control System Integration section has been rehoused within the Configuration Management section. It was previously under System Setup.
- The documentation now includes instructions for creating and maintaining an Asset Push Sidecar for using large assets across systems. For more information, see the Asset Push Sidecar topic in the Digital Assets documentation.
- The STEP System Administration documentation now includes an Installing STEP section.
- Information about the Stibo Systems' Community is now in online help. See the Training and Community Resources topic.

Enhancement Requests

Summary

Customer satisfaction is top priority for Stibo Systems. When customers make software enhancement requests, Stibo Systems works diligently to meet these business needs. Many of the changes available in 9.2 are implemented as a solution to these requests.

The list below highlights many of the enhancement requests that were completed in 9.2, but this is not a comprehensive list. Additional customer-requested enhancements were completed as part of previously planned roadmap-driven projects, as well as for specific product lines and/or customers which are not globally applicable.

Details

Solutions are listed below. A cross-reference to more details is provided, if applicable.

- Objects within the Tree Recycle Bin can now be automatically deleted and/or purged on a scheduled basis, similar to how other processes are scheduled in STEP (e.g., data imports, data exports, and bulk updates).
- Two new attribute validation base types have been introduced that prevent STEP from counting style tags as characters when calculating an attribute value's maximum length. These are 'Numeric Text (exclude tags)' and Text (exclude tags).'
- A new plugin, the Metadata Hierarchy Builder, has been added to the Hierarchy Builder located within the Asset Importer. This new plugin creates folders in STEP from a metadata file containing the desired file structure for each asset.

For more information on the items above, see the Additional Enhancements and Changes release note.

- When a 'Create Object in Workflow' screen is configured for the 'Initiate' function on either Status Selector widget and the 'Cancel' option is clicked immediately following a click on 'Initiate', the Web UI now auto-navigates the user back to the previous screen. Previously, a blank screen would display following a 'Cancel' action, requiring users to manually navigate to the desired screen.
- The Browse tab in the node picker of the Move Action in Web UI did not include the ID of the objects, which is inconsistent with other node pickers. This has been corrected so that the object ID is now shown, in addition to the object name.
- It is now possible (as of 9.1-MP1) to configure different default tab pages to display for an object using business functions. This was further elaborated on in the 9.1 release notes. For more information, see the ‘New default Tab Page designation’ section in the Web UI Enhancements release note in 9.1.
- A new mapping condition, 'Business Condition Condition,' can be used to set a screen mapping based on criteria described in a selected business condition. If the condition returns true, the screen mapping is used; if it returns false, the system continues to evaluate other mapping options.

- A new parameter has been added in the designer called 'Swap User' that changes which user the system records as initiating a file upload via the widget. Rather than logging the user configured for the widget's Inbound Integration Endpoint (IIEP) as the file loader, the system instead records the user as the logged-in Web UI user. This allows users to track the progress of the actual import of the file via standard BGP tracking mechanisms.
- The Business Action with Web UI Bind component now has the option to accept user input in the form of attribute-validated parameters and/or a node picker. And, now also includes the Enforce Validity parameter so the button can be disabled until all data on the screen is valid.
- The 'Workflow States' component, formerly the 'Workflow State' component, has been updated to allow for more granular configuration (users can determine which states within workflows can be displayed in the component), and visually redesigned to provide relevant workflow data in a simple display.
- The 'Add Reference' toolbar action now provides users with the ability to configure more detailed searches when looking for objects to reference. Headers can now be configured in the 'Search' tab for the 'Add Reference' action's Node Picker component.
- A new Web UI toolbar action (Multi Context Edit) for Node Lists enables users to see more information about product data for multiple products in multiple contexts. Additionally, this new action enables users to quickly assess, or 'profile,' which values are local to that context.
- Orphan attribute values are now visually identifiable in the Web UI. When an attribute value is orphaned, it now displays in a yellow-outlined field with warning text.
- The list of valid assignees that displays when initiating the Assign Toolbar Action on a Task List screen is now shown in alphabetical order, based on the username. Previously, the ordering of usernames displayed unpredictably, making it more challenging to locate and select the right assignee from the dropdown.
- Tab pages and sub screen tab pages in the Web UI can now be configured to display based on whether a business condition has been met. If the selected business condition returns true, the tab displays; if false, the tab is hidden.
- The display of colored dots beside objects enabled by the Alternate Node Appearance component has expanded to include objects appearing in typeahead search results for the Global Header Search component. Previously, the colored dots would only display beside objects in the Tree Navigator, as well as the 'Browse' and 'Search' tabs in a Node Picker dialog.
- Pop-up dialogs that display based on a click or hover-over actions now end display based on the same user action that initiated display. This update helps make pop-up behavior in the Web UI more intuitive, consistent, and easier for users to manage.
- The Follow Single Reference component in Web UI was missing an arrow icon in the component header to indicate that it could be expanded / collapsed. This has been corrected so that the arrow icon now displays as expected.
- Deep linking and "keep state" behaviors have been implemented throughout the Web UI. This allows users to navigate throughout the Web UI without losing selections. For example, using the browser back button to return to a task list or advanced search will now retain the applied filters and/or search criteria. In addition, users can provide a URL link to a specific object / tab / data point on a screen.

- A new component called 'Product Summary Card' is now available for Node Details screens. Available as an option in the 'Below Title' parameter in the Child Components, Product Summary Cards display a grouping of product data in a templated format at the top of a product details screen, just below the screen title. Additionally, Classification Summary and Entity Summary components have been renamed to 'Classification Summary Card' and 'Entity Summary Card'.

Many of the Web UI changes outlined above are described further in the the Web UI Enhancements release note.

- Previously, when List Of Values (LOV) values were sent for translation, all of the values were marked with the <TranslatableText> tag, even if the translation status was up-to-date for those values. Now, only those List Of Values values that need translation will be marked with the <TranslatableText> tag; this will reduce overall translations costs. For more information, see the Enhanced Translation Functionality release note.
- It is now possible to enable and disable integration endpoints via the REST API V2. Additionally, the REST API V2 has been extended with functionality for getting accurate event counts, and functionality has been introduced for enabling / disabling and invoking endpoints.See the API Enhancements and Updates for details about these enhancements and more.
- Users can now export a subset of all user objects and user group objects. For more information, see the Configuration Management Tooling Enhancements.
- While implemented prior to 9.2 (9.1-MP1), customers should note that a new 'jms-integration' component allows STEP to integrate with external systems. For more information, see the Data Exchange online help documentation.
- Security enhancements were made that, while improving the security of the STEP application, have no impact to end users. These no-impact enhancements are not described in detail in the 9.2 release notes.
- In STEP Publisher, text frames mounted onto InDesign pages from child or referenced objects can now be split across columns or pages, adding a new level of flexibility for users who produce print catalogs. For more information, see the STEP Publisher Enhancements release note.
- Text wrapping in Smartsheets is now supported as part of the new 'open format' option. For more information, see the Smartsheet Enhancements release note.

Platform and Software Support Changes

This section lists current and future planned changes to platform and software support. The complete list of platform and software support is available in the 9.2 Platform and Software Support section of the System Release and Patch Notes documentation.

Current Updates

The changes in platform and software support from 9.1 to 9.2 are listed below.

- Support for Adobe InDesign CC 2019 (Client and Server) began with 9.1-MP5 release.
- The XML-based REST API V1 is now deprecated and no enhancements will be made nor new features added. Customers are advised to start migrating to using REST API V2 instead.
- 32-bit platforms for the workbench are no longer supported.
- Quicksheets are no longer supported, and all Quicksheet functionality is removed with this release.

Customers should read the 9.2 Upgrade Guide for more information and additional details.

Future Updates

The changes in platform and software support expected in the next feature release (9.3) include the following:

- All Red Hat Enterprise Linux / Oracle Enterprise Linux 6 versions will be desupported.
- Oracle Database version 12.1.0.2 will be desupported. Customers using Oracle Database should upgrade to a supported version.
- The option to import eCl@ss Basic CSV files will be removed. Support remains for the eCl@ss Basic XML import. This information is also noted in the Data Exchange Enhancements and Changes release note.
- As of the 9.3 platform release, targeted for Fall 2019, Stibo Systems will align its web browser support with Microsoft Corporations' lifecycle policy for Windows operating systems and Internet Explorer. Stibo Systems' software will be designed exclusively to support modern browser capabilities. Organizations that use Internet Explorer 11 in relation to Stibo Systems' software should adopt a modern browser in order to ensure continued support and the best possible user experience. Additional information on supported browsers can be found in the 9.2 Platform and Software Support section of the System Release and Patch Notes documentation.

System End of Life Notifications

- **Support for STEP 8.2 is ending, effective 1-Jun-2020**
- **Support for STEP 8.1 is ending, effective 1-Nov-2019**

  The purpose of the support notifications above is to officially communicate desupport / end of life for these systems and request that customers update as soon as possible to the latest release of STEP. Please contact

your Stibo Systems account manager or partner manager, or the support department, to receive help and guidance on how to update to a supported release.

Software errors reported on version 8.1 may be rejected after 1-Nov-2019, and software errors reported on version 8.2 may be rejected after 1-Jun-2020. Application support issues in progress for the STEP releases being desupported will be closed on the desupport date. It is not possible to extend the support services for desupported versions.

If you have any questions or would like to be contacted to receive help on updating the STEP application, please reach out to your Stibo Systems account manager or your partner manager.

Miscellaneous Bugfixes

A number of bugfixes have been applied as part of the 9.2 release. For 9.2 maintenance patch bugfixes, see the separate notes generated for each maintenance patch.

BUG FIXES

ISSUE-302836 - Bulk update action buttons disabled in Approved workspace

In the Web UI, all the bulk update action buttons (Run Bulk Update, Bulk Update Action, Bulk Update List Action, and Bulk Update With Template Action) are now disabled in Approved workspace, clarifying that those options are unavailable.

ISSUE-317858 - Optimistic locking errors now logged for FINER and FINEST log events

Previously, optimistic locking errors were not logged for FINER and FINEST log levels. This has been changed so that after the last retry, the exception is logged on an INFO level, in addition to logging the failed node IDs (if available).

ISSUE-341445 - Read-only business rules in JavaScript editor fixed

Fixed a problem in the workbench where the business rules in JavaScript editor were read-only when they should have been editable.

ISSUE-352626 - Node Editor works while Tree structure updates

Previously, users were unable to work in a Node Editor while the Tree structure in the Web UI was updating. Now, it is possible to continue working while the Tree structure updates. There is a hotfix for step-9.1-mp5 available.

ISSUE-352749 - Read only fix

Fixed a problem where references under the read-only Attribute Value Group Component on a Web UI Node Editor were not marked as read only.

ISSUE-353372 - Unexpected error fixed when using streaming mode and Use Details Overlay on Web UI Task List screen

Previously, an unexpected error was thrown when working with 'Use Details Overlay' on a Web UI Task List screen with the streaming mode property enabled (TaskList.Streaming.Enabled=true). This has been corrected so an error no longer occurs.

ISSUE-353866 - Regular expression operator on Web UI Advanced Search fixed

Previously, the regular expression operator was not working correctly on the Web UI Advanced Search screen when searching for References or Referenced By. This has been corrected.

ISSUE-354191 - Tab order maintained after closing LOV editor in Node List cells

In Web UI, the tab order is maintained after closing the medium LOV editor in Node List cells.

ISSUE-352306 - Background process scheduling now accounts for seasonal time changes

Fixed a timing issue where scheduled background processes were starting one hour before intended due to seasonal time change.

ISSUE-357536 - Fix for error when deleting a dimension point created on or prior to STEP 6

In some very rare situations, deleting a dimension point that was created on or prior to STEP 6 could make the dimension point relationship inconsistent (duplicate dimension point qualifier) and cause an error. This has now been fixed.

ISSUE-357856 - Bulk Update template fixed

There was an issue with the Attribute Validate Parameter binding component and the bulk update process. When two or more Attribute Validate Parameter bindings are configured and the attribute values are added separately, when a bulk update is attempted, an error for the first attribute was thrown. This has been fixed so that no error is thrown when a valid attribute value exists.

ISSUE-358117 - Web UI Node List column view resizes correctly

On the Web UI Node Details screen, the components inside the column view will now automatically resize to fill the space needed.

ISSUE-358375 - Fix for Excel file import error file

When importing a multi-sheet Excel file in the Web UI, the importer could produce a garbled error file where the rows from other sheets were merged into the same row on the error file. This has now been fixed so that the error file lists the rows from the first sheet in the source file where the errors occurred.

ISSUE-359995 - Error when editing attribute on Multi Workspace Screen in Web UI fixed

There was an unexpected exception error on the Multi Workspace Screen component, shown as a details sub-screen on the Web UI Node List, when a user was editing any attribute. This has been fixed.

ISSUE-360179 - Fix for Excel file import error file

When importing a multi-sheet Excel file in the Web UI, the importer could produce a garbled error file where the rows from other sheets were merged into the same row on the error file. This has now been fixed so that the error file lists the rows from the first sheet in the source file where the errors occurred. There is a hotfix available for step-9.1-mp5.

ISSUE-360207 - Web UI design mode error fixed

An issue was occurring in Web UI where an unexpected error would be thrown when navigating to Task List screens from within design mode. This has been fixed.

ISSUE-360342 - Removed double loading of items when applying filters on the Task List

There was an issue on the Web UI when accessing the Task List from the workflow widget or Advanced Search screen. When the user added a filter on the Task List page and clicked on apply filter, the page rendered the data twice. This has been fixed so that the page is only loaded once when applying a filter.

ISSUE-360904 - Packaging Metadata Header exception fixed

Fixed a problem in the Web UI where the Packaging Metadata Header on the Packaging screen was throwing an unexpected exception when the screen was reloaded after executing the Save & Approve action. There is also a hotfix available for step-9.1-mp5.

ISSUE-361110 - Asset download fix for Windows clients

Fixed a problem occurring in Web UI when assets with an asterisk in their title downloaded by a Download Asset Action could not be unzipped on a Windows client system. A step-9.0-mp5 hotfix is also available for this solution.

ISSUE-361197 - Globally revisable entity correctly displays under parent in Approved workspace

If a globally revisable entity under a parent had been deleted into the Recycle Bin, and then, the entity had been imported again, the imported entity was not showing as a child of the correct parent in the Approved workspace. This has been corrected. A hotfix is also available for step-9.0-mp5.

ISSUE-361338 - Excel import fix

Fixed a problem where workbench was not recognizing Microsoft's Excel format when uploading asset content to STEP. A step-9.1-mp5 hotfix is available.

ISSUE-361582 - SOAP 'setReferencesValue' error fixed

Fixed a problem occurring when calling SOAP method 'setRefencesValue' with an incorrect reference type. It caused a NullPointerException to appear. Now, 'setReferencesValue' also supports Classification

to Product Links. There is a hotfix available for step-9.1-mp5.

ISSUE-361718 - Fixed issue when selecting LOV attribute on Variants List Tab Page

On the Variants List Tab Page in the Web UI, an unexpected error was being thrown when attempting to select values from a LOV attribute with more than 5,000 values. It is now possible to set the value by typing the characters and pressing the 'Enter' key. Hotfixes are also available for step-9.1-mp5 and step-9.1-mp4.

ISSUE-361724 - XSRF exception causing STEP log error messages corrected

In the Web UI, when an XSRF exception was thrown, outdated client sessions were not always closing, thereby causing multiple error messages in the STEP log. This has been corrected. Fixes for step-8.3-mp3 and step-9.1-mp4 have also been created.

ISSUE-361770 - Delete From Grid Action enabled on Background Processes Screen

It is now possible to use the Delete From Grid Action on the Web UI Background Processes Screen to delete BGPs.

ISSUE-361804 - Workbench LOV deletion fix

There was an issue in the workbench where LOV values could not be deleted under certain circumstances in the database. This has been corrected. A hotfix is also available for step-8.3-mp3.

ISSUE-361872 - Meta attributes from classifications now marked as changed in STEPXML exports

Previously, changing a meta attribute on a classification would trigger a STEPXML export, but the meta attribute was not marked as changed in the export itself. This has been corrected, and there are hotfixes available for step-9.1-mp5 and step-9.1-mp3.

ISSUE-362110 - Exception fix for missing Primary Image reference type

When a Primary Image reference type was missing, it caused the Variants Matrix to throw unexpected exceptions in Web UI. This has been resolved.

ISSUE-362596 - Submit Action on Node Details screen fixed in Web UI

Fixed a problem in the Web UI on the Node Details screen where the Submit Action was unavailable if the Navigate To Handler parameter in the Web UI design mode was configured to navigate to a certain screen after submit.

ISSUE-362884 - Warning added for invalid context in Proof View

Added a warning and additional logging when Proof View of products is called from workbench with an invalid context in a version.

ISSUE-363121 - Reference cap at 10,000 to correct memory issues

Previously, if the Web UI Multi References component showed more than 10,000 references, the application server's memory was exhausted. This has been fixed by capping the number of references shown at 10,000. There is a hotfix available for step-9.1-mp5.

ISSUE-363143 - Web UI Multi Edit Reference component allows new characters

When using a Multi Edit Reference component in Web UI, the validation of the value was failing if the value contained the characters '<' and '>.' This has been corrected to allow the characters '<' and '>.' There is a hotfix available for step-9.1-mp5.

ISSUE-363199 - Web UI Variants List Tab Page LOV deletion error fixed

In the Web UI, when deleting a LOV value from the Variants List Tab Page, the user was experiencing a 'Value is not valid' message. This has been corrected so that the value can be deleted. Hotfixes are also available for step-9.1-mp4 and step-9.1-mp5.

ISSUE-363535 - Typeahead filters duplicate nodes from list

On the Web UI Node Details screen, when searching for a node that is already on the list, the typeahead filter no longer allows the user to select that same node again.

ISSUE-363271 - Fixed split panel collapsing issue in widgets

In Web UI, Homepage widgets were collapsing when configured as split panels. A minimum width has been added to correct this issue. A hotfix for step-9.1-mp5 is available.

ISSUE-363414 - Table cell inheritance fix for workbench

In the workbench, there was an issue in a table where, if a row is defined to retrieve data of a certain object type from two levels below and within the cell is set back to retrieve data from a parent level, this parent level retrieves data from above the current object and not from the level where the row gets the data from. This has been resolved so that the row retrieves data from the appropriate level.

ISSUE-364721 - Add Reference Action fix

Made sure that the type ahead text is removed upon selection in the Add Reference Action component and fixed the error that forced users to click twice to select element in dropdown.

SDL translation unexpected character error fix

When trying to execute a Business Rule to start an SDL translation process, STEP could return an error about an unexpected character. This has been corrected. Now, the execution of that Business Rule should not return an error.

Asynchronous translation export status fix

Previously, after an unsuccessful asynchronous translation export, the node translation status was still displayed as 'In Progress,' so the user was unable to attempt translation again. This has been fixed. There is a hotfix available for lionbridge-7.0.2.

File size issue between asynchronous translation and Lionbridge fixed

There was a problem with the asynchronous translation framework and Lionbridge translation service where the endpoint URL provided from Lionbridge was not supporting files larger than 4MB. Lionbridge has provided an endpoint URL that allows larger files.

Error on Background Processes screen fixed

In the Web UI, when the user selected a non-asynchronous translation on the Background Processes screen, an exception was raised in some instances. This has been fixed so that the error is no longer thrown.

Performance fix for CIN Import

When importing CIN files where there were many products for a subscription, linking the imported products to their subscription took a long time. Performance has been improved and a hotfix is also available for gdsn2-receiver-7.0.45 and to gdsn2-receiver-7.0.44.

Logging added to script on MongoDB server

Logging has been added into the script that is executed on the MongoDB server. There is also a hotfix available for mongodbadapter-7.0.53.

Fixed issue with In-Memory revision comments containing non-ASCII characters

There was an In-Memory component issue when custom revision comments more than 128 bytes contained non-ASCII characters. This has been fixed.

API EXTENSIONS

ISSUE-360656 - API Extension now allows custom Toolbar actions to be displayed on Node Lists

An Extenstion API has been extended with a new method that will allow custom Toolbar actions to be shown only if a user has selected a node on a Node List.
com.stibo.portal.widget.action.toolbar.ToolbarActionButton now has 2 new methods:
- requiresNodeSelection() - Returns true, if a node selection is required to display this action.
- setRequiresNodeSelection() - Determines whether Node List selection is needed to display this action.

When set to true, this action will not be displayed if the user did not select a node on a Node List. Notice that Node List checkboxes will only be displayed if at least one ToolbarActionButton, for which requiresNodeSelection is true, is configured (or any other core actions are added in Design Mode). Default value is false (selection is not needed).