STIBO SYSTEMS
MASTER DATA MANAGEMENT

SOLUTION ENABLEMENT

Data Management Accelerator for Retail

2024.3 – September 2024

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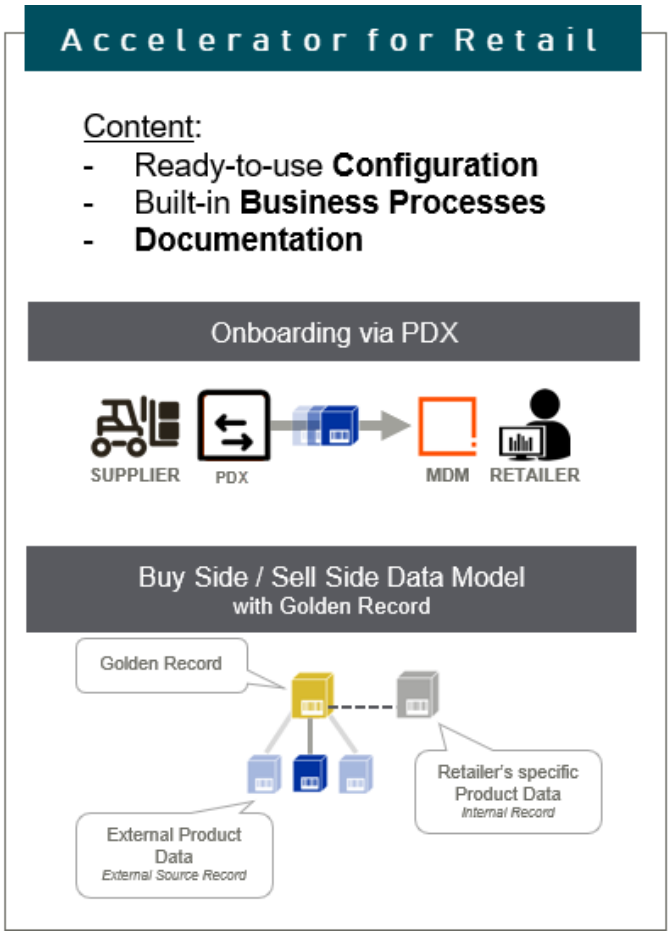
Accelerator for Retail

Data Management Accelerator for Retail is a starter pack that allows you to bootstrap your PIM project. It is a ready-to-use solution, based on the most commonly observed features in the market, and it can be customized to meet your requirements.

The functionality described in this section is accessible on systems with the Accelerator for Retail commercial license activated, and it includes:

- A workable configuration (data model, Web UI, workflows, business rules, IEP, etc.)
- Documentation



Each business is different — your processes, your products, your organization, etc. Implementing an MDM (Stibo Systems' Product Master Data Management solution) raises a lot of questions and can seem challenging.

As multidomain MDM specialists, Stibo Systems has studied customers' business processes and configurations and has identified patterns that frequently occur in the retail industry.

Accelerator for Retail Getting Started

The following topics include the basics of Accelerator for Retail:

- Accelerator for Retail Features
- Accelerator for Retail Key Concepts
- Accelerator for Retail Products and Product Data
- Accelerator for Retail Product Data Lifecycle
- Accelerator for Retail Data Onboarding

Making Changes Post-Installation

Once configured and installed, the Data Management Accelerator for Retail solution is designed to speed business processes with minimal maintenance. But as business requirements change, Accelerator for Retail users may require aspects of their solution to change as well.

In this topic, common change scenarios encountered by customers post-implementation will be listed and described, including guidance on how to make a change without adverse consequences to the solution. Also covered in this topic are scenarios where a desired change should not be attempted without the assistance of a Stibo Systems-certified representative.

It is important to note that when an Accelerator for Retail solution is altered from base configuration to the point it no longer takes full advantage of the Accelerator for Retail solution design, the solution will no longer be supported as an Accelerator for Retail implementation. In general, users can confidently add attributes, users, and privileges as needed, but removal or modification of objects in the base configuration without first consulting a Stibo representative will shift responsibility for any potential negative outcomes from Stibo Systems to the entity making the modifications. When making changes, be sure to consult with your Stibo representative about how the requested changes might affect how Stibo supports your implementation.

Product hierarchy maintenance

There may be instances where the customer's internal categorization structure may need to differ from how the products are categorized externally. This section describes how best to think about the two categorizations, and how to ensure both are in sync.

In Accelerator for Retail, the primary product hierarchy is organized into two areas:

- "External data source," where the external sources are stored
- "Internal data sources," where the internal sources and golden records are stored.

The structure of the external and internal hierarchies is identical.

For more information on this concept refer to the **Accelerator for Retail Data Model** topic in the Accelerator for Retail documentation

To keep these two structures in sync, Accelerator for Retail is delivered with an event processor called ‘Synchronize EXT to INT Hierarchy Node’ (PMDM.EP.SyncExtToInt). When product category nodes in the external data sources hierarchy are added or modified, this event processor duplicates those nodes to the internal data sources hierarchy.

The duplication is also applied when:

- A new attribute is linked to a product category node in the external data sources hierarchy.
- A metadata attribute on an existing attribute link is modified on a product category node in the external data sources hierarchy.

The solution also allows users to add product category nodes directly to the internal data sources for category nodes without having those nodes mirrored in the external data sources hierarchy.

Managing attributes and Lists of Values (LOVs)

Changes to an Accelerator for Retail solution that involve attributes and LOVs can, in some instances, be made by the user without risk. However, there are certain attributes and LOVs that, if removed or amended, can affect proper functioning of the solution.

For instance, it is safe, broadly speaking, to change attributes in or add attributes to attribute groups beneath the 'PMDM Display' (PMDM.ATG.Display) and 'PMDM Category Specific Attributes' (PMDM.ATG.CategorySpecificAttributes) attribute groups because these groups contain product and packaging-related attributes like 'Description,' 'Width,' etc. The reason it is generally safe to add or change attributes within these attribute groups is because they are primarily for display purposes and are not tied directly to business rules or workflow functionality.

Conversely, if a user deletes, for instance, an attribute called PMDM.AT.ProposalStatus which is contained in the PMDM.ATG.BuyerModify attribute group, the External Record Handling workflow would stop working. The reason for this is that the PMDM.AT.ProposalStatus attribute, and all others contained within the PMDM.ATG.BuyerModify attribute group, is directly tied to the business-rule logic that directs proper flow of products through the External Record Handling workflow; removing the attribute would disrupt that. Other attributes that would cause problems if deleted include any in the following attribute groups: PMDM Data Model Attributes, System Attributes, PMDM.ATG.Workflows, and the PDS Status Attribute Group.

Additionally, (most) attributes added to the "safe" attribute groups mentioned above will be displayed automatically in the Web UI and be included in product exports because, in most cases, these attribute groups are being referenced rather than the individual attributes.

For more on how to add and otherwise manage attributes, refer to the **Attributes** topic (and those nested beneath it) in the System Setup documentation.

Managing workflows

During the initial implementation phase of an Accelerator for Retail solution, the core workflows must often be amended to suit the customer's needs. This work is done in close consultation with a Stibo representative as the workflows are central to the correct operation of the solution. Any missteps that occur during this phase of configuration can negatively affect the solution.

If a workflow must be amended after implementation—requiring additional states, editing or removing user groups, amending conditions on products before they can move into the next state, etc.—it is recommended that the user seek consultation with a Stibo representative before proceeding.

Managing translations

Certain changes to a translation setup configured for Accelerator for Retail can be safely undertaken by the customer without adverse consequences.

For example, users can change the translation agency configured for an Accelerator for Retail solution. If the destination of translation data gathered as part of your Accelerator for Retail implementation should change (e.g., changing the hot folder from which your translation vendor collects the to-be-translated content to a hot folder from which a new translation vendor can collect content), the user can make that change safely.

For more information on how to make this change, refer to the **Configuring an Asynchronous File Exchange Service** topic in the Data Integration documentation.

Managing integration endpoints

Integration endpoints, both inbound and outbound, are an important part of the Accelerator for Retail solution. Each endpoint configured for the Accelerator for Retail solution has been engineered to ensure the solution works with minimal configuration and setup. For instance, the Accelerator for Retail solution makes use of three outbound integration endpoints:

- "Products Outbound - Ecommerce" -- This outbound integration endpoint (OIEP) exports a file in STEP XML format that contains relevant information for the products on the sales side.
- "Products Outbound - ERP" -- This OIEP publishes golden records, Internal Source Records, External Source Records, and Packaging objects to the Enterprise Resource Planning (ERP) system.
- "Web Classification Outbound" -- This OIEP extracts a file in STEP XML format that contains the information of the web hierarchy.

If users make changes to these OIEPs, the OIEPs can no longer be supported by Stibo Systems. Inbound integration endpoints (IIEPs) are even more central to the proper functioning of the Accelerator for Retail solution and changing these can also break the Accelerator for Retail base configuration.

Updating matching and linking

By default, Accelerator for Retail is configured to match on Global Trade Item Number (GTIN) only.

This setup can be extended to match additional information, like the combination of Manufacturer Name and Manufacturer's Part Number, for example. But modifying the matching algorithm requires deep knowledge of matching and linking and should not be attempted without the assistance of a Stibo Systems-certified representative.

User privileges attribute groups

The Accelerator for Retail solution is designed to tailor the Web UI to each stakeholder role. For instance, a Marketing role charged with adding marketing copy for an incoming product in the Internal Record Creation workflow is empowered to accomplish the tasks associated with that role, but not, for instance, allowed to access the ‘Buyer Review’ workflow state, as the work done there is handled by a different role. These privileges are set up through configuration of user groups and the actions assigned to (or withheld from) those groups.

The way the various stakeholders interact with the Accelerator for Retail solution can certainly change post-implementation and making the required changes to the Accelerator for Retail configuration is achievable without the assistance of a Stibo representative or partner.

If, for example, a user in the Buyer user group should be allowed to create a reference of a specific reference type, the admin user can add that reference type to a list of allowed reference types (in the 'Buyer, Create' setup group) from which a 'Buyer' role can create references. Or if a user in the Buyer user group must be allowed to approve a new attribute, the relevant attribute can be added to the 'Buyer, Approve' setup group.

In general, adding to setup groups to expand the tasks user groups can perform will not cause breakages in the solution. However, removing items from setup groups to restrict the tasks user groups can perform may have downstream impacts that can negatively affect the solution's performance. For instance, if it is determined that an existing attribute should no longer be viewed by a user in the Buyer user group, the attribute can simply be deleted from the 'Buyer, View' setup group. But if that attribute is mandatory, the buyer does not have access to the attribute to know that a value must be entered for it. While this deletion will not break the solution, it has the potential to slow down the flow of products through the workflows.

Other operations that can be done safely

There are several simple actions related to attributes that will not interrupt the proper operation of the Accelerator for Retail solution.

- Attributes which should be promoted to Golden Record must be linked to the Promote To Golden Record (PMDM.ATG.PromoteToGoldenRecord) attribute group.
- Attributes whose values should be copied from the Golden Record to the Internal Source Record on creation of the Internal Source Record must be linked to the Copy To Internal Source Record (PMDM.ATG.CopyToInternalSourceRecord) attribute group. Without these linkages being established, the matching and linking process will not function.
- Attributes which values should be copied from the external packaging object to the internal packaging object on the creation of the Internal Source Record must be linked to the Copy To Internal Packaging (PMDM.ATG.CopyToInternalPackaging) attribute group.

Golden Record Gating

As part of the matching and linking process, the golden record is validated against a set of validation rules to check if the product is ready to be sent to downstream systems.

The golden record gating workflow first runs the product though a common validation (validation gate) to check for attribute values and references that are mandatory across all channels. If passed, it will continue with channel-specific validation in parallel to check if specific validation rules for ERP and e-commerce are fulfilled.

Additional information about the golden record gating process can be found in the **Onboarding 7 - MDM Checks that the Data is Ready to be Presented to Other Systems** topic in the Accelerator for Retail documentation.

Adding new nodes and attributes to a GPC hierarchy

The Accelerator for Retail solution provides GS1 GPC as the foundational product hierarchy to give the retailer a starting point if no other hierarchy is available (or preferable) to use. Once the system is delivered, the customer manages and maintains the product hierarchy, and they are free to add, delete, and change a known and

replicable GPC hierarchy into a customer-specific hierarchy. It is because, in part, the hierarchy is customized and independently maintained so soon after implementation that Accelerator for Retail does not have a GPC update process in place.

Modification of the hierarchy after installation presents no special challenges for the user. Additionally, if nodes are modified or new attributes linked into the External Product Hierarchy, then an event processor is applied that reflects the user-made modification in the Internal Product Hierarchy.

GS1 Changes

The version of GS1 mounted on the primary product hierarchy can be found on the entity with the ID “GPC”, provided the system is already deployed and GPC was included in the installation.

The most current version of GS1 GPC is included in the auto-installer package; the website at https://gpc-browser.gs1.org/ can be used as reference and for downloading GPC.

If GPC is deleted from your Accelerator for Retail solution, the latest version can often be mounted by the customer without the aid of a Stibo Systems representative, provided no existing hierarchy will conflict with the incoming hierarchy, and that the customer is knowledgeable about using the standard STEP Import Manager. It should be noted that if a new or different version of GS1 GPC is needed on a fresh installation of Accelerator for Retail, it will be easier to omit the GS1 GPC hierarchy from being installed and, in so doing, avoid conflicts with the to-be-mounted hierarchy, by including the following property in the sharedconfig.properties file before applying the pim-for-retail component:

```
PIMForRetailAutoInstaller.GPCClassification.Needed=false
```

Accelerator for Retail Features

Features include:

- Product data model with multiple supplier-side products for one retailer-side product

- Onboarding workflow — pre-defined tasks and logic for product data creation, wherein product data is onboarded by the suppliers
- Collaboration workflow — pre-defined tasks and logic for collaboration inside the retailers team
- Product data onboarding via PDX, wherein the supplier uses PDX to manage its products and syndicates them to a dedicated retailer's channel
- Variant handling

Accelerator for Retail Key Concepts

Data Management Accelerator for Retail is a solution that manages product data across your company. But who creates, enriches, and classifies this product data? Even if the answer varies for each organization, the following standard actors are typically involved in Master Data Management:

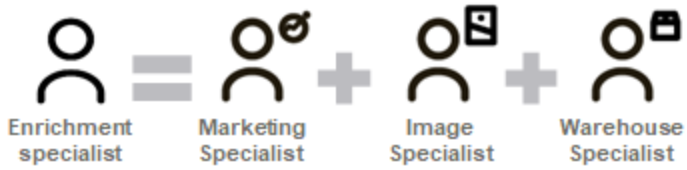
	User	Role
	Retailer	Buys products from suppliers and sells them to customers.
	Supplier / Vendor	Sells products to retailers.
	Data Provider	Produces product data as a service.
	Customer	Buys products from the retailer.

The retail's actors are discussed below.

Retailer's Actors

From the retailer's perspective, the following tables show the users and roles involved in the Accelerator for Retail solution:

	User	Also Known As	Role
	Buyer		Negotiates and buys products from the supplier.
	Quality Assurance Expert	QA Specialist	Ensures the quality of the data.

	User	Also Known As	Role
	Marketing Specialist	Copywriter	Writes copy and manages the product's marketing data.
	Image Specialist	Digital Asset Manager	Maintains the images and assets of the product.
	Warehouse Specialist	Logistics Manager	Manages warehouse-specific product data.
	Enrichment Specialist		In smaller organizations, the Enrichment Specialist can cumulate the work of the Marketing Specialist, the Image Specialist, the Warehouse Specialist. 
	Data Steward		Performs data governance tasks in the PIM UI to manage category-specific attributes, LOVs, primary product hierarchy, and classifications.
	Translator		Translates product content to the required language, either directly in PIM UI or via an external translation service.
	Translation Reviewer		Reviews product content translations completed by the translator.

Technically, MDM also involves machine-to-machine (M2M), where exchange and automation happen between the systems. This means the external systems must also be considered as actors.

	System	Role
	ERP	Optionally sends data to STEP, including a unique SKU ID, and a value used to classify the product automatically (the 'ERP line' attribute).
	STEP	Master Data Management
	E-Commerce Platform	Receives the MDM product data to be used on E-commerce channels.
	PDX	Product data exchange is a simple, fast, cost-effective way for manufacturers and brands to share and update product data with retailers, data pools, and content service providers. The suppliers and manufacturers use PDX to publish their products to Accelerator for Retail.

Accelerator for Retail Product Data

A product data is an item that you, the retailer, buys from a supplier, and that you sell to a customer. In PIM terminology, it can be called a 'sell side product data' or 'sell side item.'

Various types of product data should be considered:

- **Product data** is any of the items that you sell.

- Other product types depend upon your data model as defined during your STEP implementation. For example:
  - Samples: items that are not sold but are distributed.
  - Kits: a repair kit that links to other products.
  - Packs: a group that contains a selection of other items.
  - Bundles: a set of products plus the installation service delivered by a specialist.

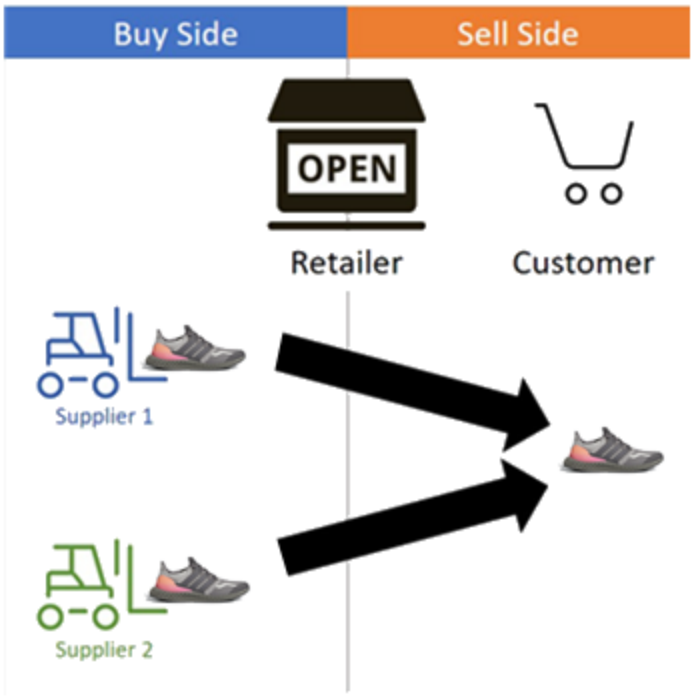
Buy Side and Sell Side

It is common practice to make a distinction between products being bought and products being sold as follows:

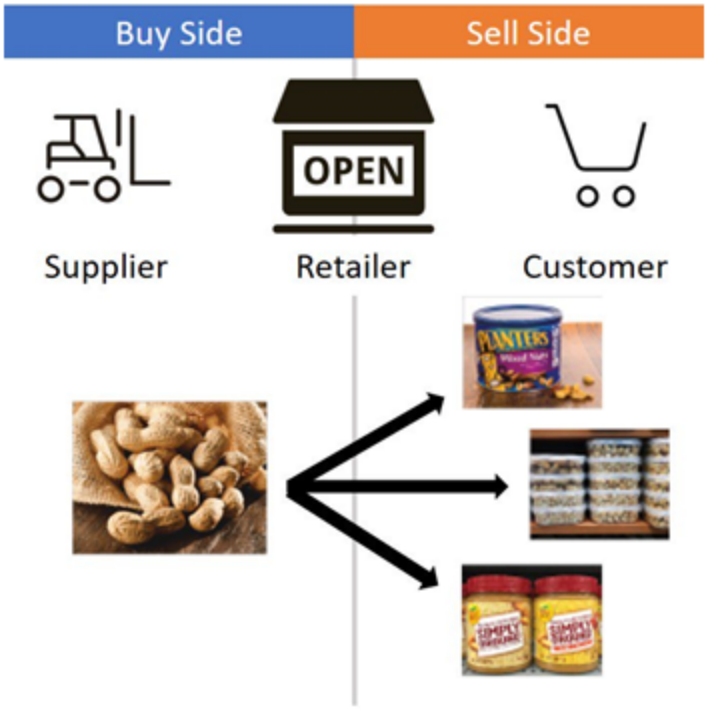
- The 'buy side' product is what you, the retailer, buys from a supplier.
- The 'sell side' product is what you, the retailer, sells to your customer.

Consider the following scenarios:

- **Multiple products are sold as the same product** - You buy equivalent products from several suppliers and you sell them as the same product.



- **Single product is sold as different products** - You buy one product from a supplier and you sell it as different products.



Product Data

Often the terms 'product' and 'product data' are used interchangeably. In PIM, 'product' refers to the item being bought and sold, while 'product data' is the supporting information about the item being bought and sold.

Product data is any data that describes it: its name, identifiers (GTIN, EAN, SKU id), product description (such as GPC attributes, marketing texts), pictures, links to other product data, link to a classification, etc.

Data for a product data is held by the following elements:

- **Attributes** hold characteristics about the product data. For more information, refer to the **Attributes** topic in the **System Setup** documentation.
- **References** hold links to other product data, such as cross-sell items, up-sell items, packs, etc. For more information, refer to the **Reference and Link Types** topic in the **System Setup** documentation.
- **Assets** are digital items such as images, specifications, instruction manuals, etc. For more information, refer to the **Digital Assets** documentation.

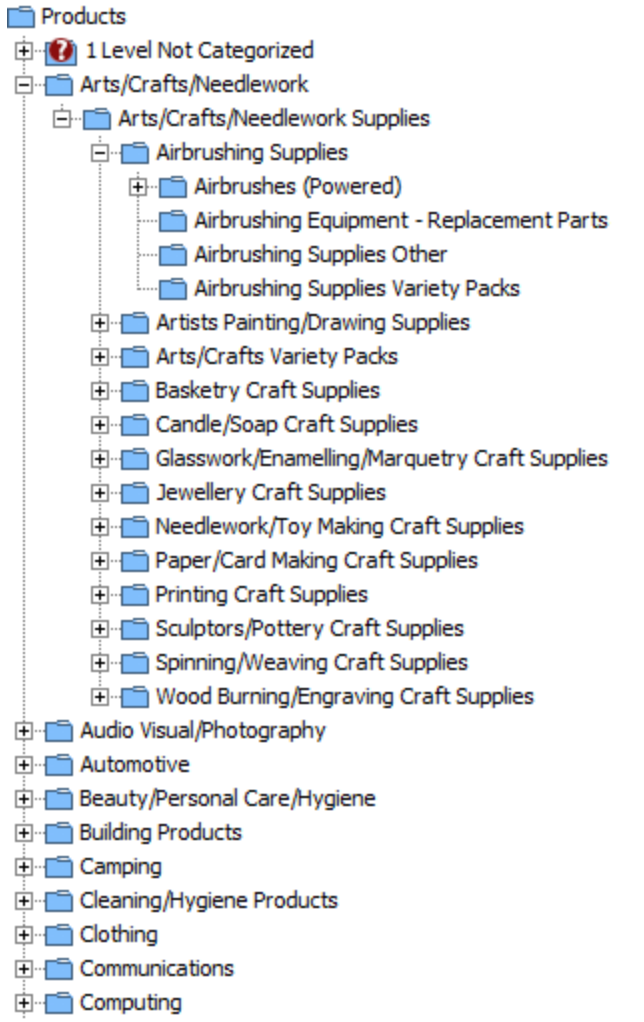
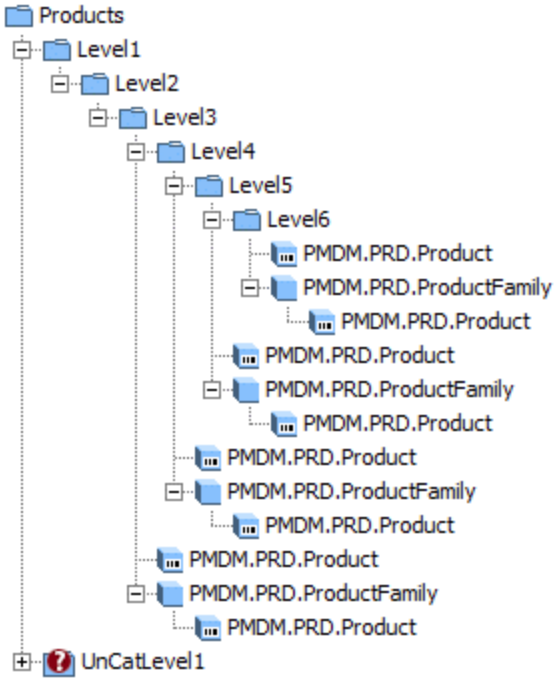
Product Data Hierarchy and Classification

The primary product data hierarchy is a type of classification used to manage product data and identify product data families. For more information, refer to the **Product Data Hierarchy** section of the **Products** topic in the **Getting Started** documentation.

The product data is classified in a unique location in the primary product data hierarchy. 'GPC' classification and 'open' classification are two types of classification 'content' that can be used, as defined below.

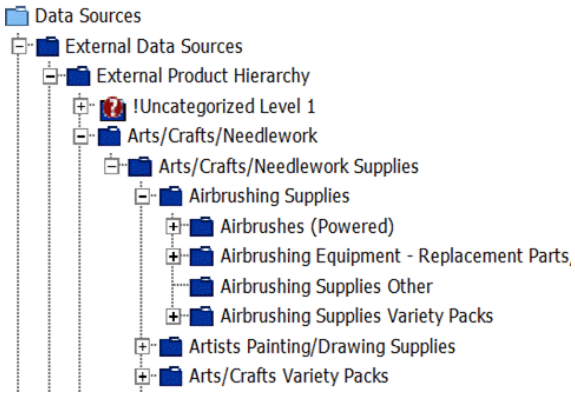
- **GPC classification** allows the standard GPC attributes to be automatically attached to each relevant 'level'.
- **Open classification** allows you to manually define the attributes needed for each node of the classification.

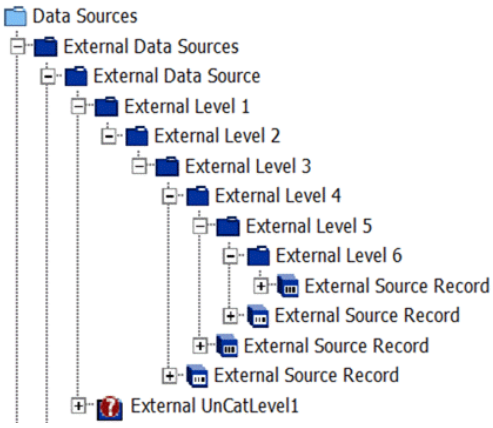
The possibilities of product data hierarchy as implemented in Data Management Accelerator for Retail:

Below is an example of populated GPC hierarchy:	Below is the data structure:
	

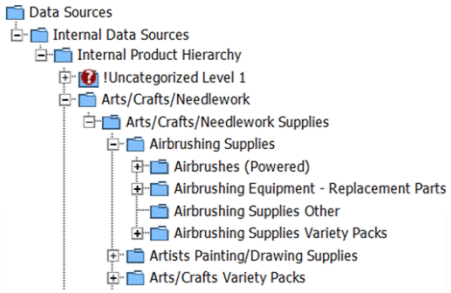
In Accelerator for Retail, there is a primary product data hierarchy for the purchased product data (referred to as 'external data source') and sold product data (referred to as 'internal data source'). The logic is the same, but there are two hierarchies instead of one.

Below is an example of populated GPC hierarchy. The 'external data source' hierarchy:	Below is the overarching data structure. For external data sources:

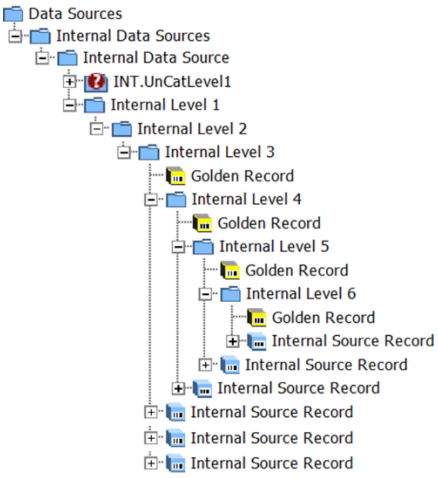




The 'internal data source' hierarchy:

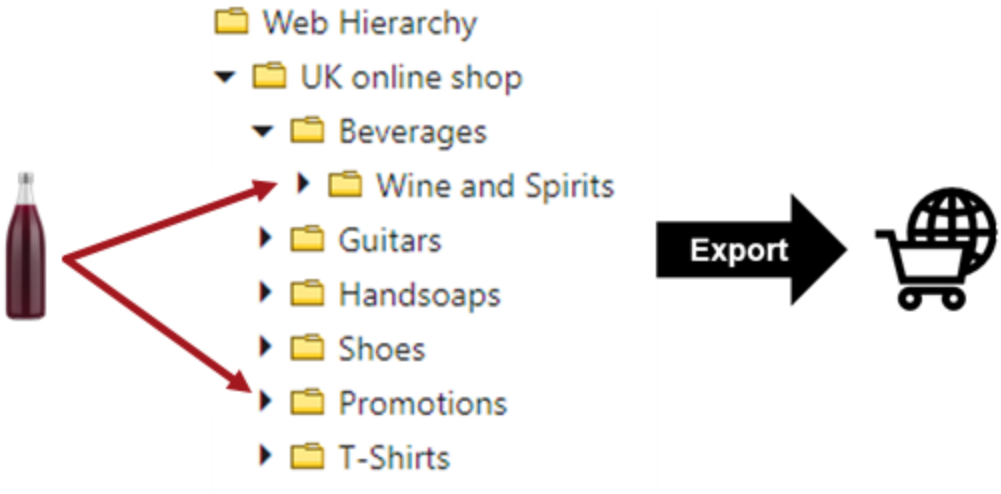


For internal data sources:



Another classification type is the web classification, as illustrated in the 'Web Hierarchy' classification shown below. A common practice is to use an 'alternate' classification to export data to the E-commerce platform.

In the example web classification, the bottle of wine product data can be placed at several locations, for instance, in the 'Wine and Spirits' folder, as well as in the 'Promotions' folder.



Product Data Distribution Channels

The retailer can distribute its product data in different ways:

- **Directly** through its own shops (physical stores), online channels (site, app), distance selling (phone and mail, paper catalogs, TV shopping as showcases, etc.).
- **Indirectly** through marketplaces such as Amazon, eBay, Walmart, Wayfair, BOL.com, CDiscount, PriceMinister, Google Shopping, Etsy, Facebook, etc.
- **White label** for another brand. The retailer sells its own product data, but with a different brand, operating this brand's channel.

Each of these 'channels' can have different assortments. For example, stores in one area will not have the same assortment as stores in another area. The product data available in a physical store may not be available online (for instance, because home delivery is not possible), and vice versa. There can also be online-only product data.

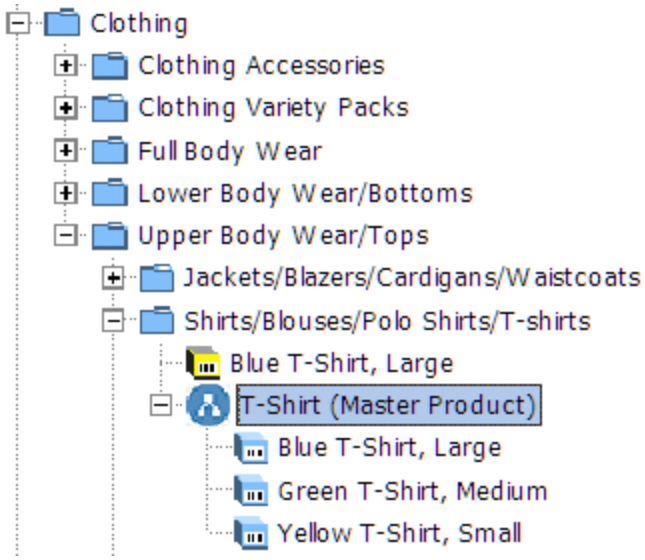
Multi-channel or omni-channel scenarios are common practices in retail. The idea is to have a continuity of purchase experience through the different channels. The most common example is 'click and collect' where you buy a product data online and pick it up in a shop. Another scenario is the other way around where you buy a product data in a store and it is delivered to a home. This requires the capacity to manage product data across these channels.

To cover these distribution needs, a common practice is to use one 'alternate classification' per channel, such as the 'Web Hierarchy' classification mentioned above. The retailer creates dedicated alternate classifications for each of its channels.

Accelerator for Retail Product Variants

Product variants are versions of a single product, such as a shirt that is available in a variety of sizes and colors.

In Data Management Accelerator for Retail, a 'variant' is an internal source record which has a 'master product' for parent.



Implementing the product variant concept is most useful in cases where you have groupings of sellable items that are basically the same product, save for a few variations such as ‘size’ and ‘color’. The majority of the product information can be maintained at the ‘master product’ object level, which inherits down to all of the ‘variations’ (internal source records) beneath it while the ‘variant’ information (e.g. size, color, etc.) can be maintained directly on each individual ‘variation’. This approach eliminates the need to maintain duplicate information on each individual sellable item.

Process

The product variant process involves the following steps, each of which is described in the topics shown below.

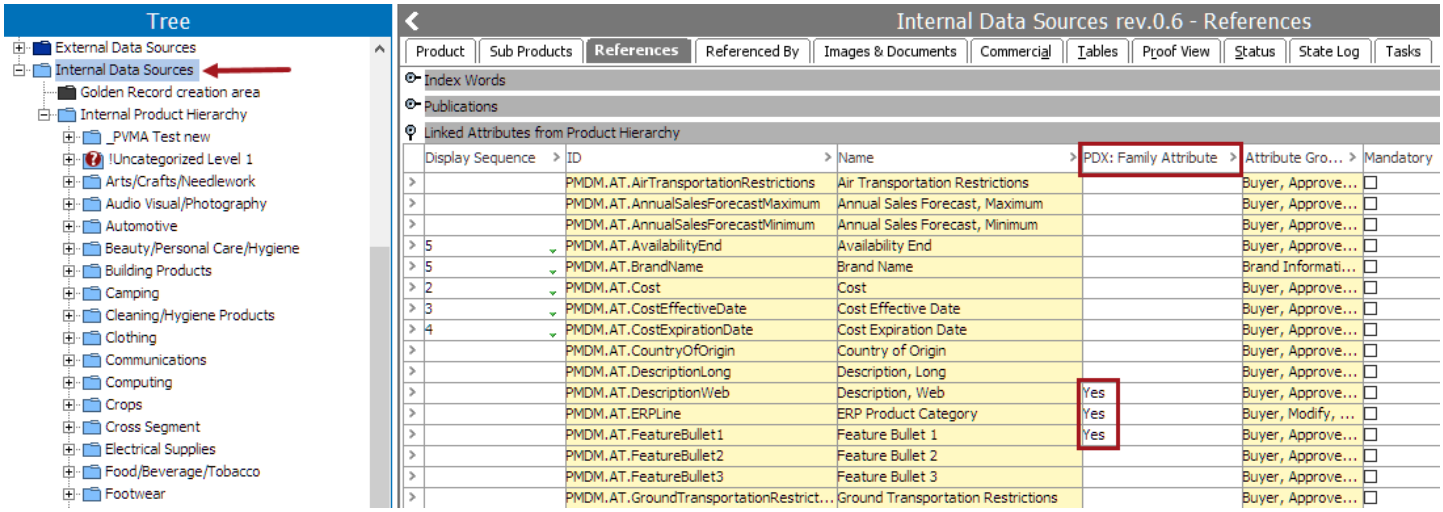
1. Setup
2. PDX
3. Creation
4. Translation

Variant 1 - Setup

Setup involves determining which attributes should be designated as ‘family’ attributes and which attributes should be designated as ‘variant’ attributes.

Family Attributes

Data Management Accelerator for Retail defines family attributes using the 'PDX: Family Attribute' metadata attribute. This attribute sits between each attribute and the category level in the hierarchy where it is linked.



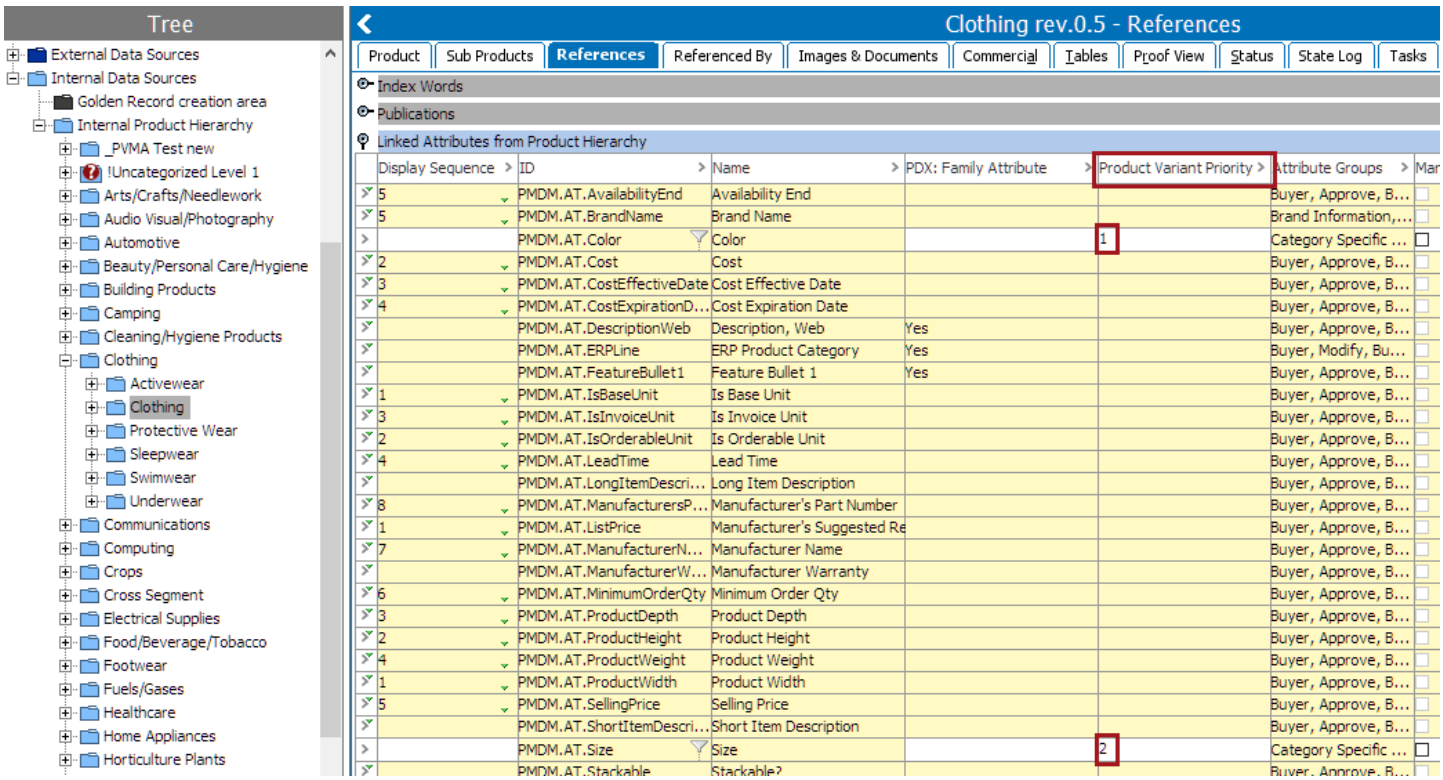
Attributes having 'PDX: Family Attribute = Yes' on the attribute link are intended to always be family-level attributes in PDX and must be maintained in PDX on the family level only.

When a variant product is submitted to STEP from PDX, it also includes the values of the family attributes.

For products that are not represented as a variant in a family grouping, Users should ignore the 'PDX: Family Attribute' value and consider the attribute a non-variant attribute.

Variant Attributes

Accelerator for Retail defines variant attributes on the 'Product Variant Priority' metadata attribute. This attribute sits between each attribute and the category level in the hierarchy where it is linked.



For products below a variant family in PDX, users should consider attributes having a numeric product variant priority value (1,2,3) as variant attributes in PDX. These attributes can only be maintained on the ‘variant’ level. The product variants must have values for those attributes and the combination of the values for those attributes must be unique within the family.

For example, if the attributes size and color are defined as being variant attributes (they have product variant priority '1' and '2' for the current product category) then there can only be one item with 'Size = Medium' and 'Color = Blue'.

For products below a variant family in PDX, attributes not having a product variant priority value and not being family attributes are valid and maintainable on both the family level and the variant level in STEP.

Consider products not belonging to a variant family in PDX as non-variant products, even if variant attributes are defined for the specific category.

In cases where there are conflicts, the product variant priority value wins. If product variant priority has a numeric value for an attribute, this attribute is a variant attribute no matter the value of the PDX: Family Attribute.

Setting the Family Grouping in PDX

In PDX, the family grouping attribute designates a product to a particular product family. If the family already exists, you may assign a product to it by simply populating the family grouping attribute on the product with the ID of the family to assign it to. It is also possible using the 'Group into family' functionality in PDX to convert a non-

variant product into a product family and then assign multiple product variants to it. If the 'Group into family' functionality in PDX is used, then PDX will automatically populate the family grouping attribute on each variant with the ID of the newly created family.

Each supplier can decide which of their own internal attributes to designate as the family grouping attribute for their individual supplier channel. This is configured in the settings section of the administration panel in PDX.

Variant 2 - PDX

When users submit products below a product family from PDX, the family grouping attribute value will be mapped in Data Management Accelerator for Retail to the supplier's master product ID attribute on each external source record object when it is created. The value will be dynamically constructed using the following format convention:

[PDX client ID]_[Family Grouping attribute/ID value]

Although products might be grouped as product families in PDX, they are exported to Accelerator for Retail in a flat structure in the same way as all other external source records are exported.

All newly created external source records enter the external record handling workflow to be accepted, rejected, or sent back to PDX for rework, and events are generated per individual external source record.

Variant 3 - Creation

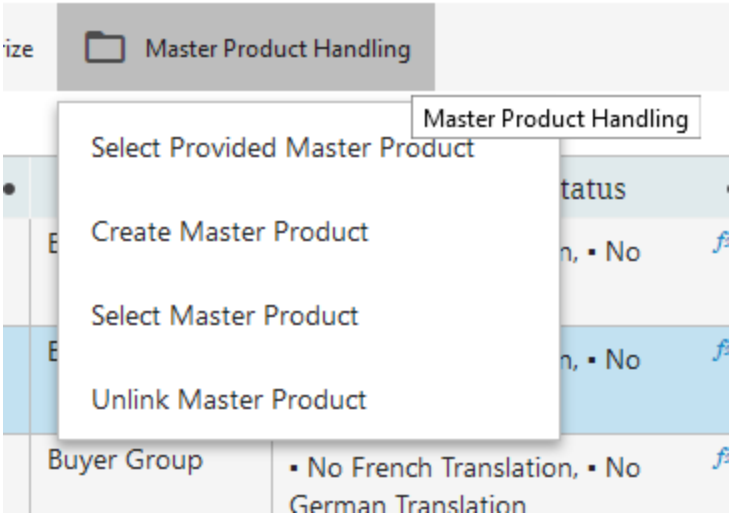
Once the buyer accepts each external source record product proposal, the external source records exit the external record handling workflow and advance through the matching and linking process, golden record and internal source record creation, and into the internal record creation workflow.

Master Product Creation

In this step in the process, users can determine the master product/variant relationship for all incoming products.

Use the following steps to create master products:

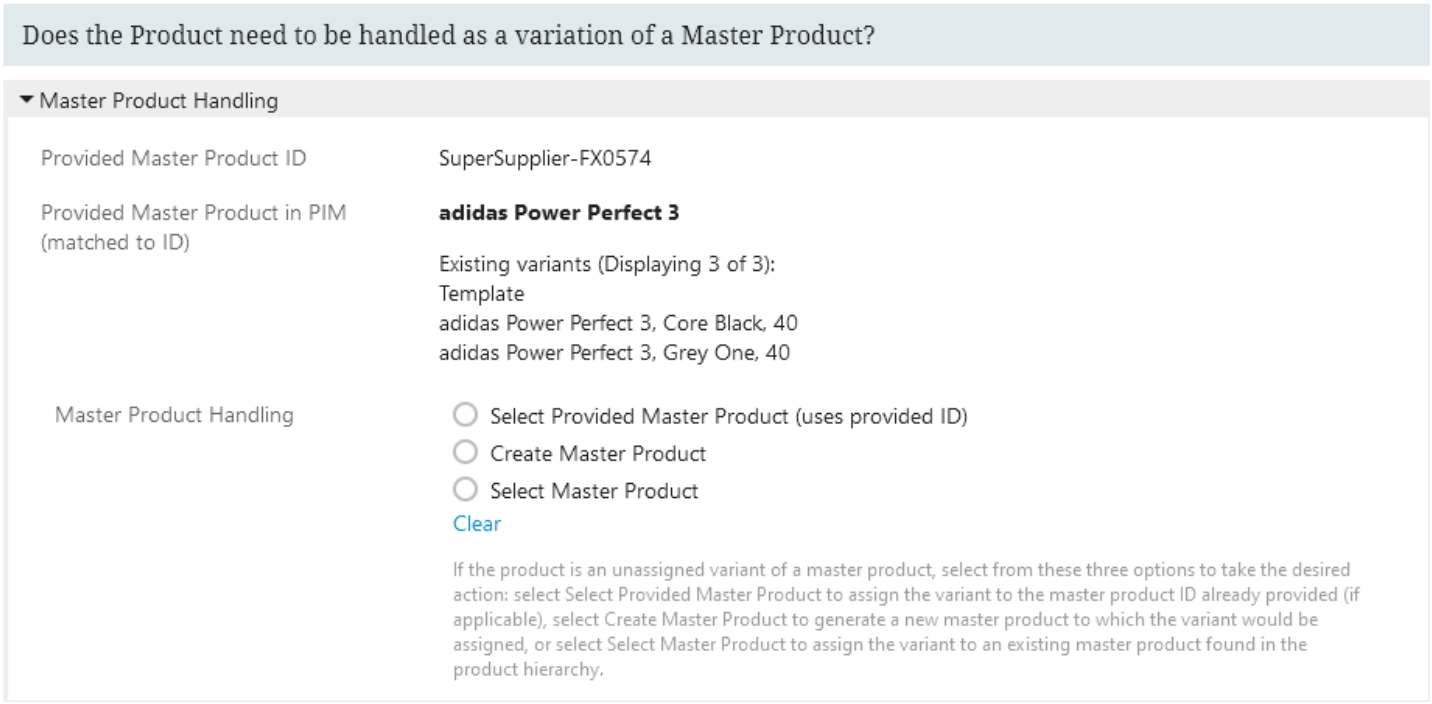
1. In the internal record creation workflow, navigate to the buyer review screen. This can be done by clicking on the 'Buyer Review' state in the 'Internal Record Creation' widget on the home page.
2. In the task list that displays, a list of onboarded products is shown. In this screen, the buyer can manage the products and correctly determine the master product/variant relationship for all products listed. To do this, the user makes a selection and then clicks the **Master Product Handling** button. A dropdown displays showing four options:



- **Select Provided Master Product** - Designates each item in the selection as a variant and places it beneath the master product whose ID was provided by the supplier. (If there is no provided master product ID for the selected item, the system will display an informational error). If no master product exists in the system with the same ID as the supplier-provided master product ID, a new master product is created and the provided master product ID is copied to it.
- **Create Master Product** - Creates a new master product and places any products included in the selection beneath that master products as a variant. Selecting this option disregards any master product ID provided with any onboarded variant included in the selection.

- **Select Master Product** - Allows the user to browse the internal data source hierarchy and select an existing master product to which the items included in the selection may be assigned as a variant.
- **Unlink Master Product** - For any variants in a selection assigned to a master product, this option clears that link which then allows the user to assign the relevant variants as per their requirements.

3. Additionally, users can also manage the master product/variant relationships on a product level. Appropriately privileged users can access the products listed in the 'Buyer Review' and 'Product Review' workflow states, and scroll down to the **Master Product Handling** parameter.



4. On the **Master Product Handling** parameter, select a radio button to determine the master product/variant relationship:
   - **Select Provided Master Product (uses provided ID)** - Designates the selected item as a variant and places it directly beneath the master product whose ID has already been provided. If no master product exists in the system with the same ID as the master product ID provided, a new master product is created, and the provided master product ID is copied to it.
   - **Create Master Product** - Creates a new internal master product and places the viewed product beneath it as a variant. Selecting this option disregards the master product ID provided with the onboarded variant.

> **Note:** If a new internal master product is created by clicking the 'Run Master Product Handling' button and all values for the attributes linked to the 'Copy to Internal Master Product' attribute group are copied from the internal source record to the newly created internal master product object, then the name is also copied and appended with 'Master Product' in parentheses. The STEP ID of the new internal master product object is auto-generated by STEP.

- **Select Master Product**- Allows the user to browse the internal data source hierarchy and select an existing master product to which the viewed product may be assigned as a variant.

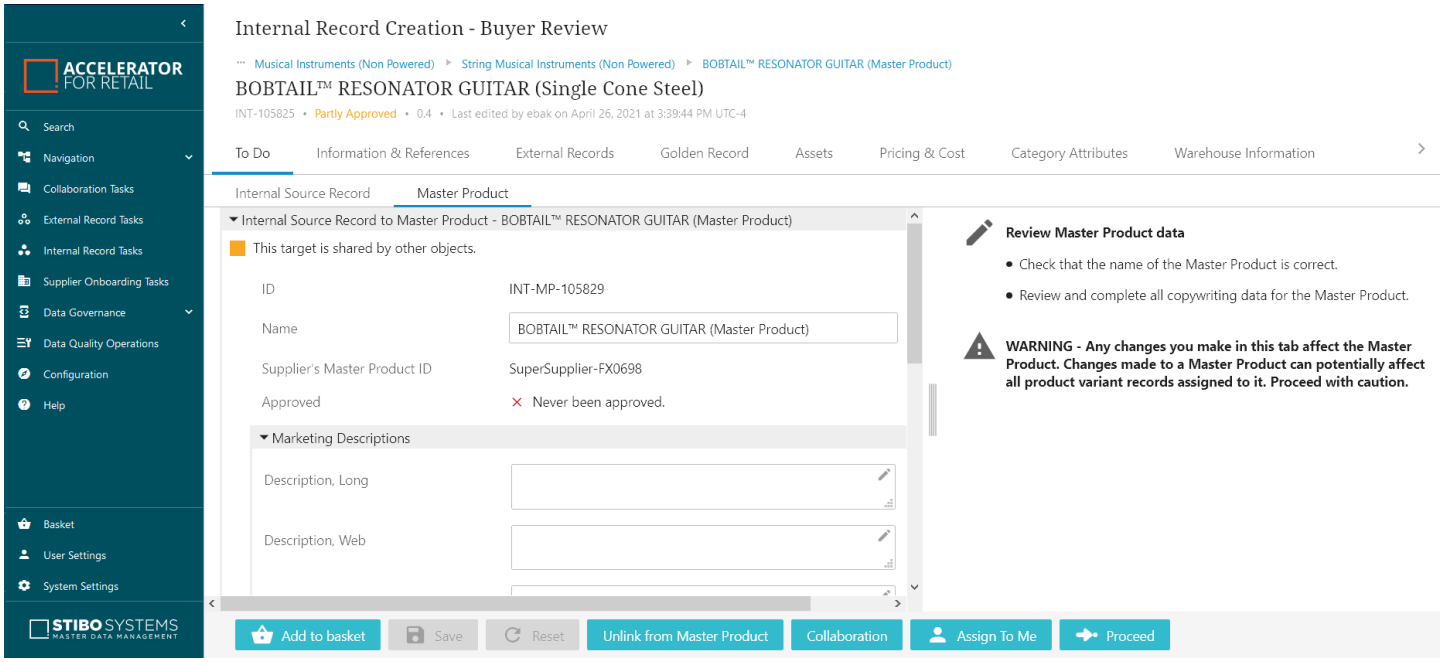
- **Clear** - Removes all radio button selections.

5. Click the **Run Master Product Handling** button.

6. If available, continue to the master product editor tab defined below for necessary updates.

Master Product Editor

When viewing variant products assigned to master products, the 'Master Product' tab page displays for privileged users (buyer, copywriter, QA, and enrichment). During the course of the internal record creation workflow, the master product page allows privileged users to edit internal master product information while still on the internal source record object screen.



Important: Use caution when changing data on the master product editor tab page. Changes made affect the internal master product and can potentially affect all product variant records assigned to it.

After the internal source record goes through the master product handling process, it will continue on through the remaining states of the internal record creation workflow.

Variant 4 - Translation

Once the product variants exit the internal record creation workflow, they are evaluated for translation just as other internal source records. If either the 'Start translation into French?' or 'Start translation into German?' attributes on the record have a value of 'Yes,' then the record is initiated into the translation workflow for that language.

Data Management Accelerator for Retail checks the translation status of the parent internal master product.

- If the internal master product for a variant has never been translated into the target language, the internal master product is initiated into the translation workflow along with its variant child.
- If the internal master product has been previously translated, only the internal source record is initiated into the translation workflow.

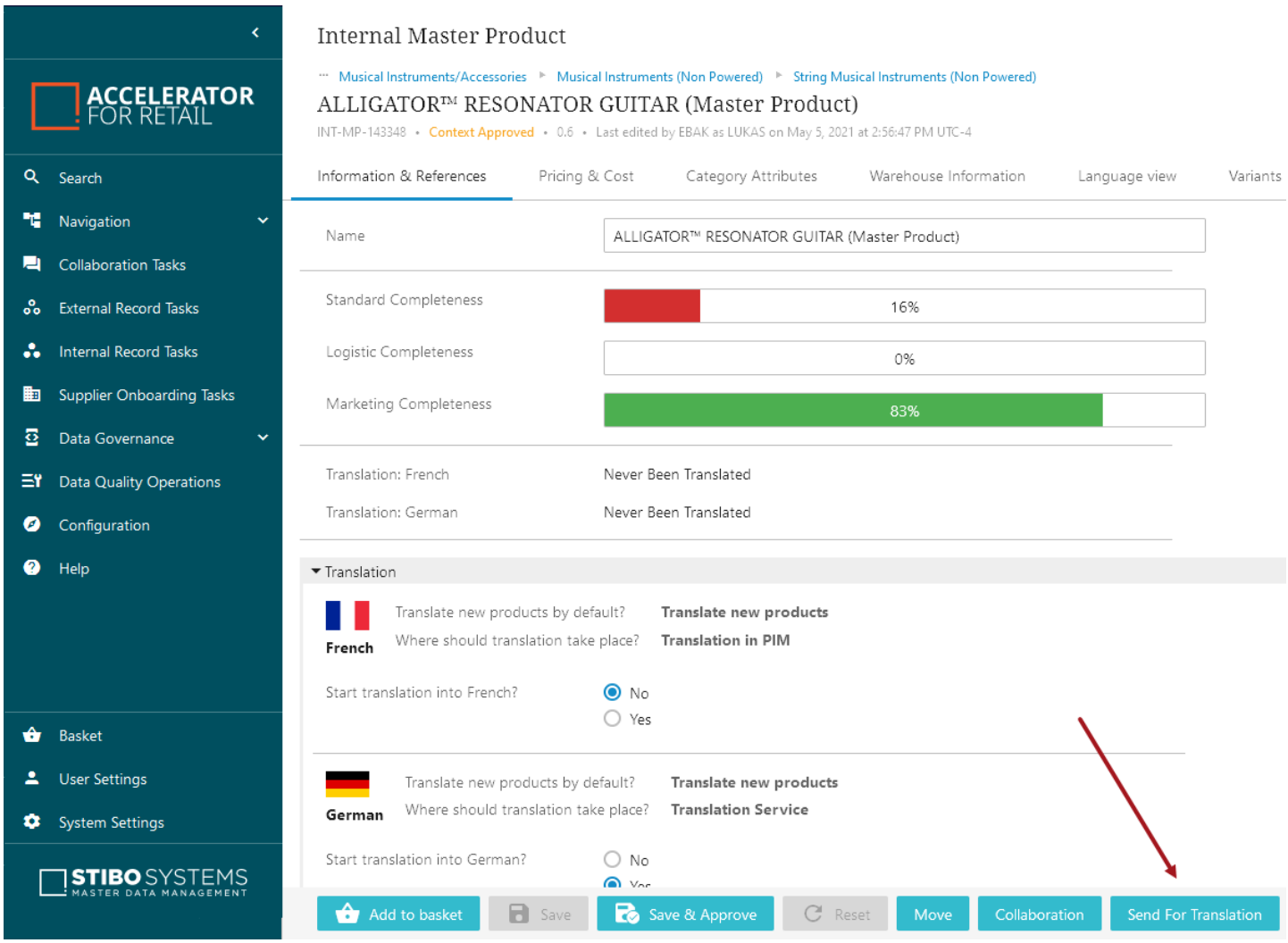
Translating Products and Variants Simultaneously

Master products and their variant children that are in the translation workflow simultaneously follow these basic rules:

- Internal master products that have finished translating may exit the translation workflow even if they have product variant children that are still in the translation workflow.
- If the product variant has finished translating in a particular language but its master product parent has not, then the product variant will enter a waiting state for that language until its master product parent has finished translating.
- When a master product has finished translating in a particular language, the system first checks if any of its child variants are in the waiting state for that language and allows the variants to transition out of the language waiting state.

Translating Products and Variants After Onboarding

Much the same as a non-variant internal source record, the user may initiate any previously onboarded internal master product and/or its variant children into the translation workflow at any time from their respective object type screens by clicking the **Send For Translation** button.



Exporting to downstream systems

Since all relevant information from the internal master product inherits to its variant children, only the variants (internal source record objects) are exported in the 'Products Outbound – E-commerce OIEP'.

Accelerator for Retail Product Data Lifecycle

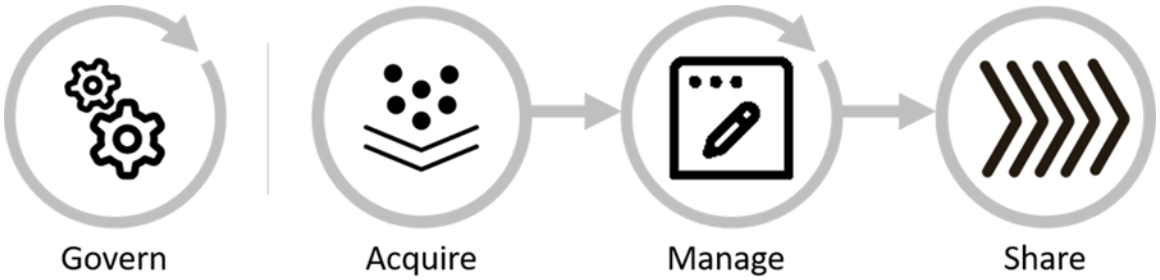
Product data is crucial for your business. To sell efficiently, product data needs to be accurate. To sell fast, product data must be available, centralized, and controlled.

With Data Management Accelerator for Retail, the suppliers will submit their product data directly to the retailer using Product Data Exchange (PDX).

Siloed, duplicated, and inaccurate product information has a strong competitive business impact on any retail business: impersonal experiences, higher product return rate, low up-sell / cross-sell conversion, etc. Agile and fast decisions are key to support customer-centric brand experiences.

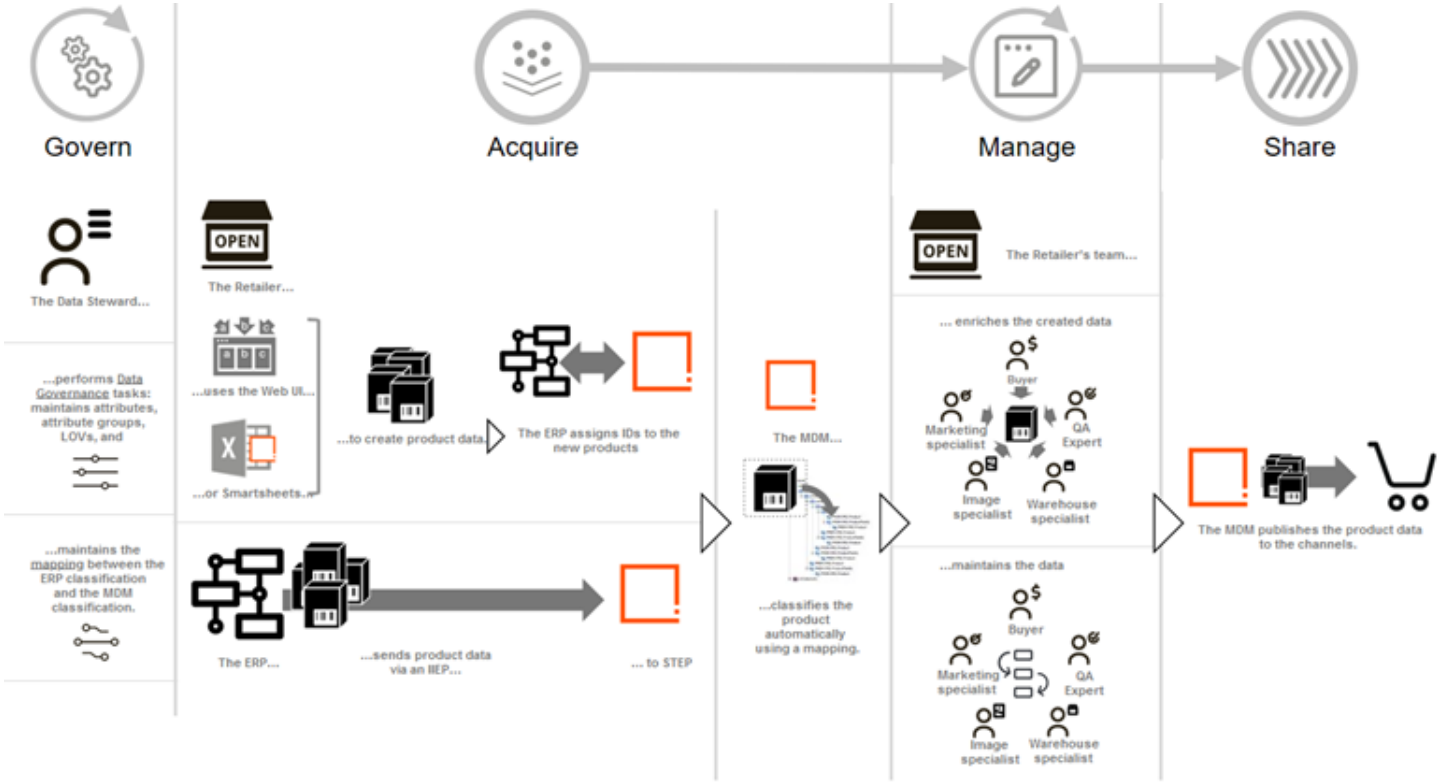
Managing accurate, up-to-date product information enables you to increase up-sell / cross-sell and to reduce the returns rate. You also gain the insight to manage products with complex hierarchies and attributes, and to fuel customers' engagement with products, create customer retention, and drive more sales.

Accelerator for Retail allows organizations to acquire, manage, and share product data from a variety of internal and external systems with their customers and value chain partners. Accelerator for Retail implements this logic using a typical business process which covers the scenarios frequently encountered.



Accelerator for Retail includes these activities as illustrated below:

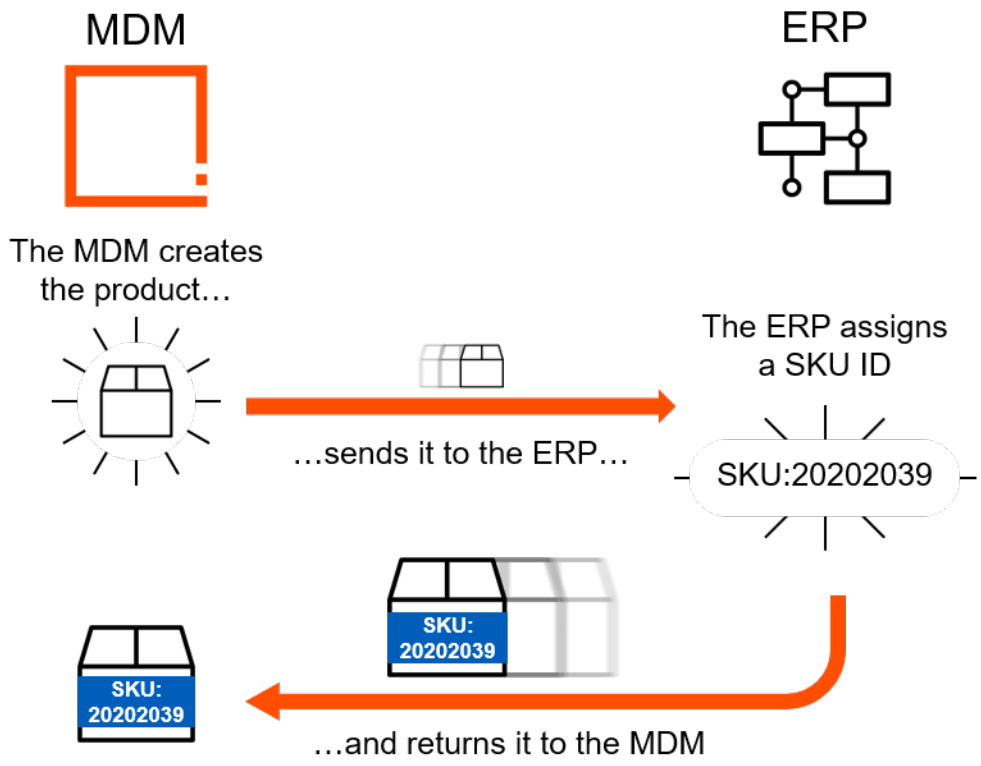
- **Govern** - maintain key elements of the data model like attributes, LOVs, and mappings
- **Acquire** - add or import product data into the MDM
- **Manage** - enrich the product data: copyright, digital assets, and warehouse data
- **Share** - export product data for users or external systems



PIM and an ERP

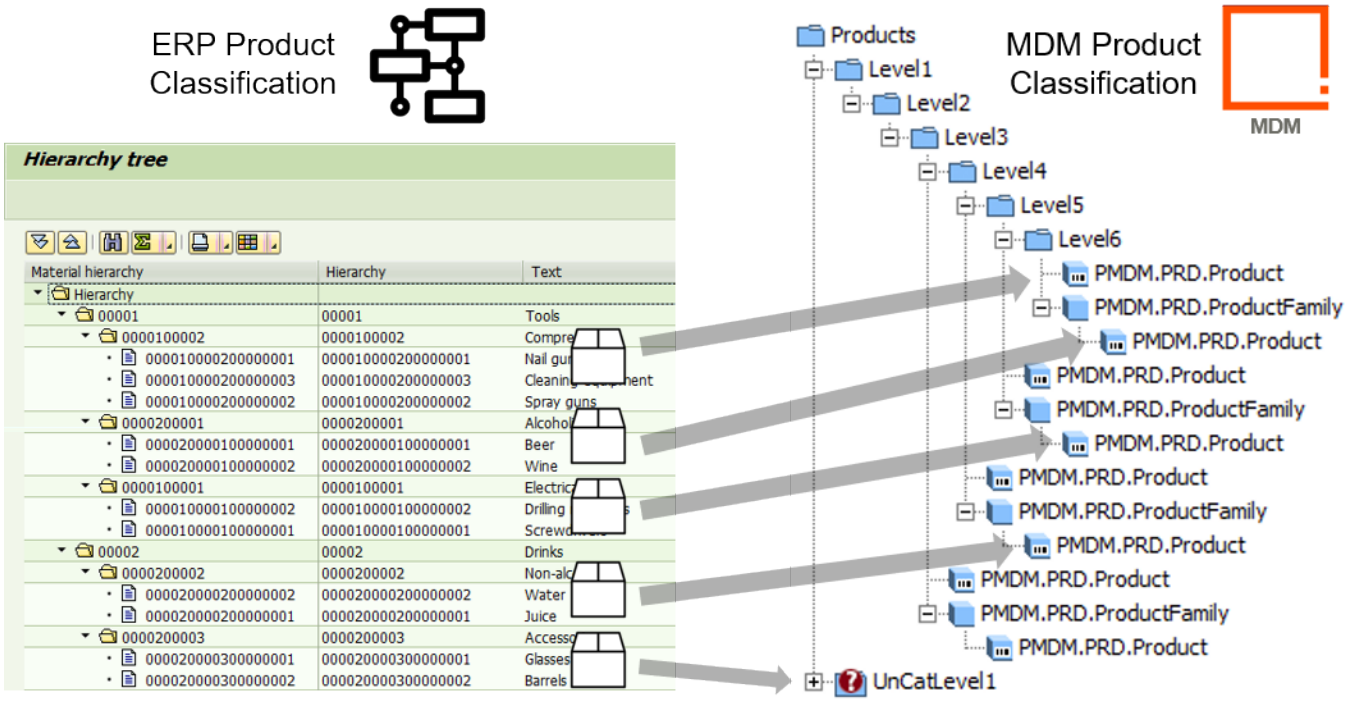
Frequently, STEP and an ERP (enterprise resource planning) software communicate to manage:

Attribution of a unique identifier by the ERP— The ERP holds the product identifier, also called the 'SKU ID'. When a product is created in STEP directly, STEP requires an ID from the ERP.



Mapping of the ERP classification with the one of the PMDM classifications - PMDM and the ERP have specific product classifications that can differ from one another. A 'mapping' describes the classifications in PIM that are equivalent to the ones in the ERP. This mapping is maintained by the data steward, during the 'govern' activity.

	From	To
>	ERPCat01	L4-10001686
>	ERPCat02	L4-10001680



A mapping identifies a relationship between the following two attributes:

- 'ERP Product Classification (PMDM.AT.ERPLine)' attribute sent by the ERP.
- 'External Identifier (PMDM.AT.ExternalIdentifier)' attribute on the primary product hierarchy node to which the product must be attached.

Accelerator for Retail Collaboration Workflow

The Data Management Accelerator for Retail configuration includes a collaboration workflow that uses the objects introduced in this topic: internal source record, external source record, and golden record.

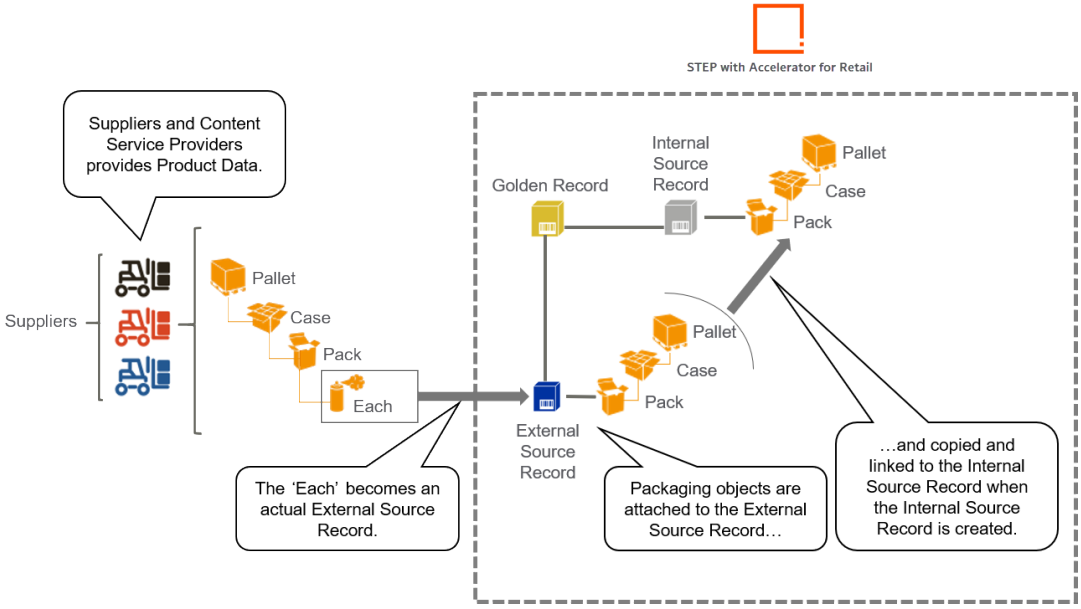
With this workflow, the retailer's team can collaborate on product data. This is an internal communication feature, which cannot include external suppliers by using different systems.

Note: For PDX, a communication channel is included in the onboarding workflow to handle when the retailer accepts a supplier's product, rejects it, or asks the supplier to have it reworked.

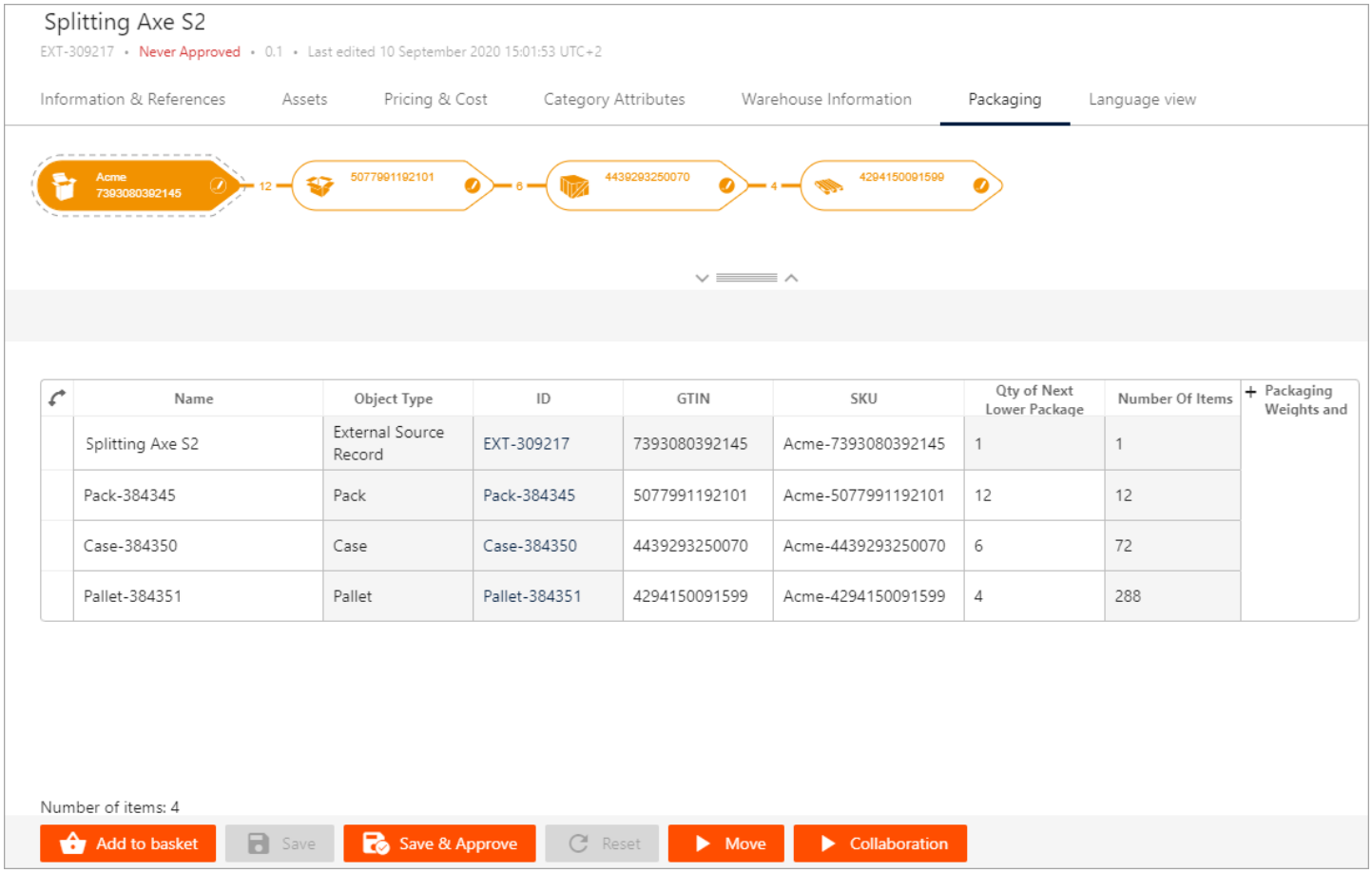
Accelerator for Retail Packaging Hierarchy

If the product data received from PDX or the GPC standard contains packaging information, then it will be created as a separate packaging object per packaging hierarchy level. Data Management Accelerator for Retail is pre-configured with support for pack, case, and pallet, which will be linked from the largest unit to the smallest unit with the quantity of next lower package stored as metadata on the reference. The 'Each' is represented by the external source record.

The packaging objects are modeled as products in Accelerator for Retail. They will be categorized directly under either external packaging or internal packaging in the separate packaging hierarchy without further categorization.



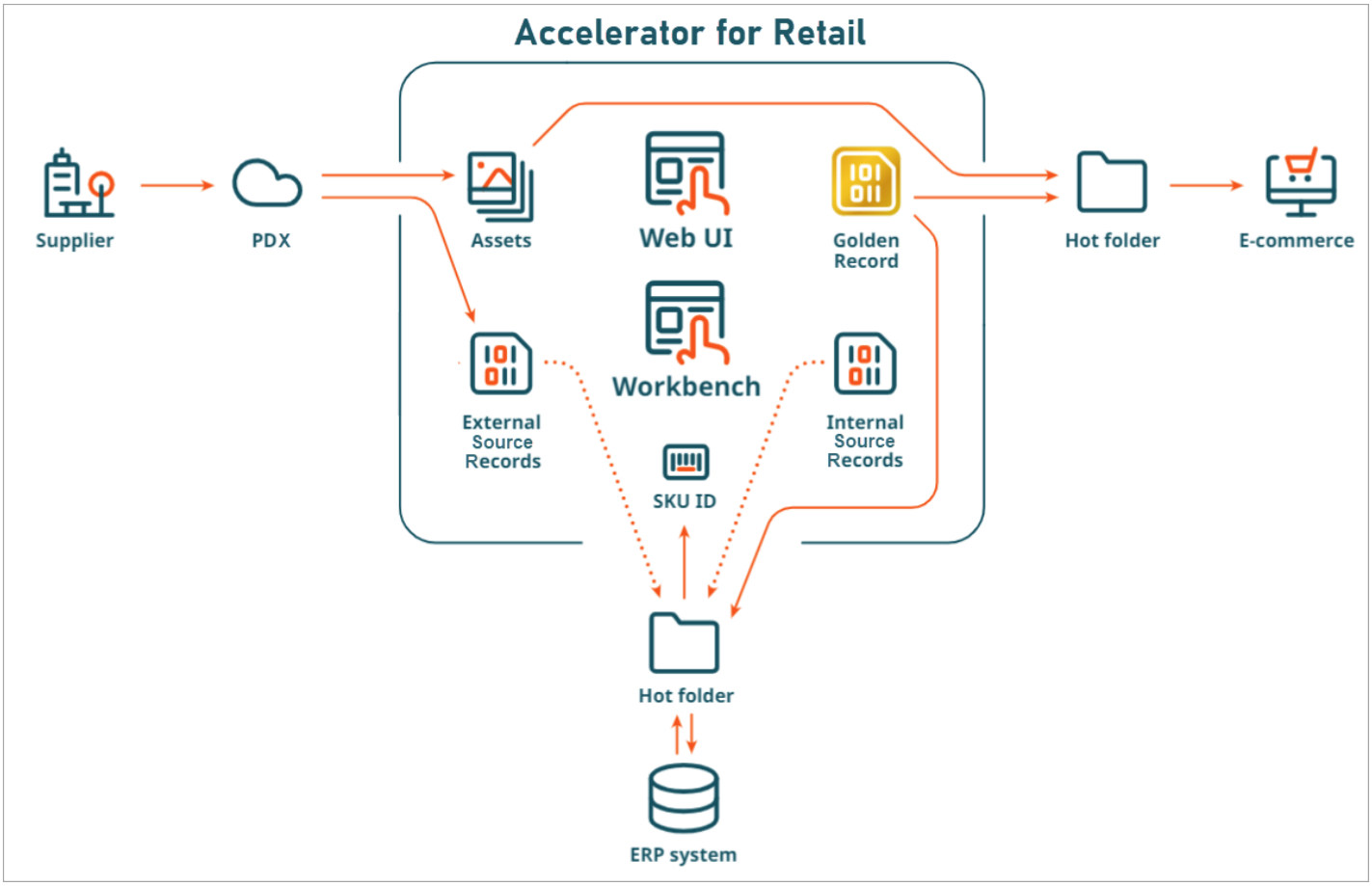
The packaging hierarchy can be viewed in a product details page, in the 'packaging hierarchy' tab.


Splitting Axe S2
EXT-309217 • Never Approved • 0.1 • Last edited 10 September 2020 15:01:53 UTC+2
Information & References
Assets
Pricing & Cost
Category Attributes
Warehouse Information
Packaging
Language view
Acme 7393080392145
12
5077991192101
6
4439293250070
4
4294150091599
Name
Object Type
ID
GTIN
SKU
Qty of Next Lower Package
Number Of Items
Packaging Weights and
Splitting Axe S2
External Source Record
EXT-309217
7393080392145
Acme-7393080392145
1
1
Pack-384345
Pack
Pack-384345
5077991192101
Acme-5077991192101
12
12
Case-384350
Case
Case-384350
4439293250070
Acme-4439293250070
6
72
Pallet-384351
Pallet
Pallet-384351
4294150091599
Acme-4294150091599
4
288
Number of items: 4
Add to basket
Save
Save & Approve
Reset
Move
Collaboration

Accelerator for Retail System Landscape

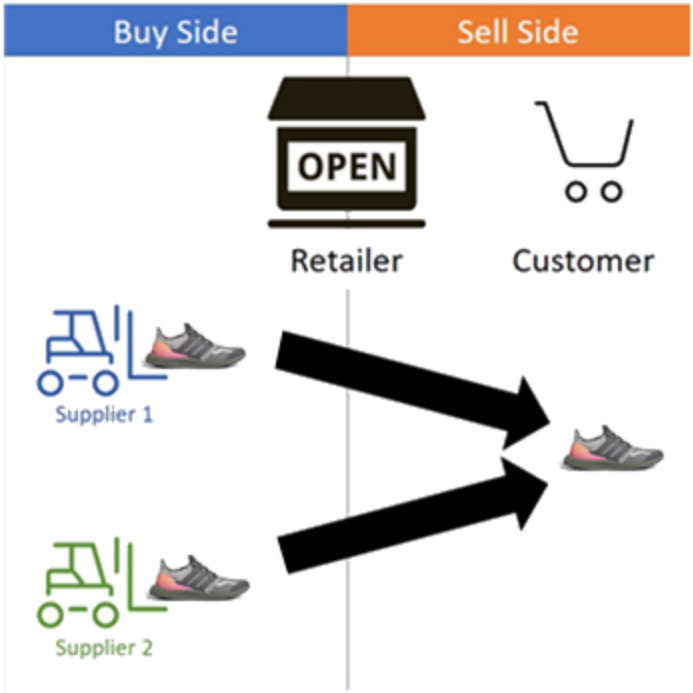
The following diagram shows the how data flows in the solution.

- The supplier uses PDX to submit products (external source records) and their assets (product pictures, installation manuals, user manuals, etc.) to the retailer.
- In the core of Data Management Accelerator for Retail, the golden record and internal source record are created. Data is managed in the Web UI (the Workbench is used only for some setup actions).
- The external source records are pushed to the ERP, which returns a SKU ID.
- The golden record and all of its sources (the internal source record and all the external source records coming from the suppliers) are pushed to the ERP.
- The golden records and assets are pushed to the E-commerce platform.



Accelerator for Retail Data Onboarding

Data Management Accelerator for Retail allows for multiple supplier-side products for one retailer-side product (buy side, sell side). In this configuration, the suppliers onboard their data. A distinction is made between the product data coming from the suppliers (which may vary from one supplier to the other) and the product data as maintained by the retailer.



Source Records

Source records are purchased products and sold products, or buy side / sell side, and other expressions.

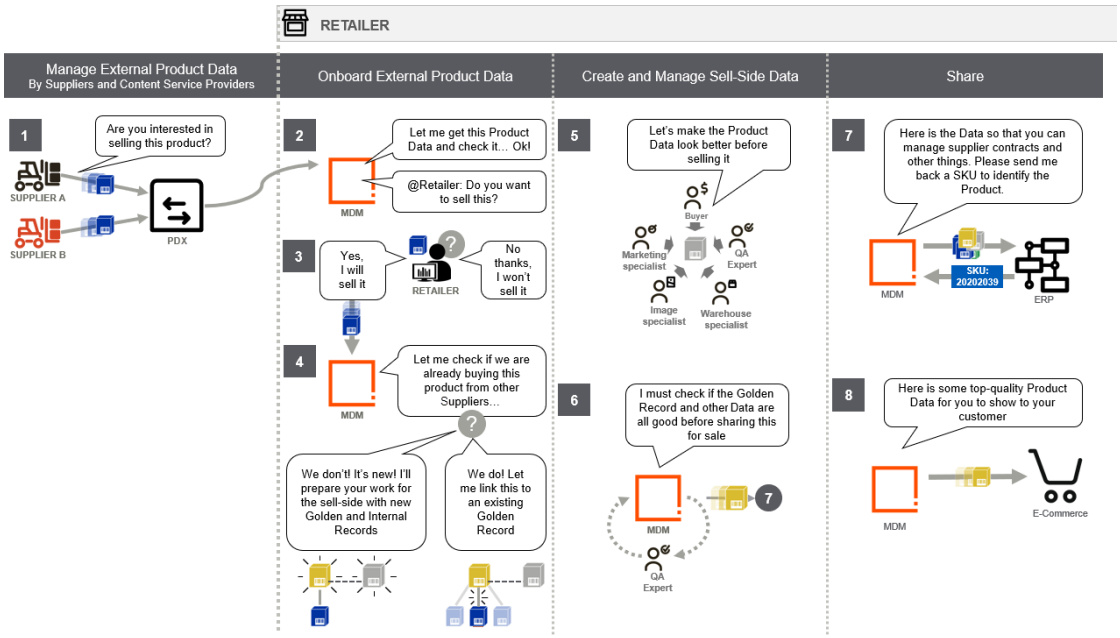
While you may know about 'buy side product,' 'supplier product,' and 'vendor product,' a more generic naming is relevant. Product data can come from a retailer, but it can also come from a content provider (such as the GPC standard, Salsify, etc.), so the term 'source record' is used.

There are three types of product data (or 'source records').

Object	Also known as	Definition
External source record	Buy side product, supplier product, purchased product	An external source record is a product data object coming from a supplier, who would like the retailer to buy its product from a product data provider (the GPC standard, etc.), which contains quality data on products. They are external to the retailer.

Object	Also known as	Definition
Internal source record	Silver record, sell side product, sold product	Mixing the data provided by the supplier and presenting it directly to the consumer is often not enough. The retailer needs specific data to make its product sell very well. This could be: • A powerful marketing text to tempt the consumer • An impactful picture • A convincing argument explaining why it is best to buy it from the retailer and not from a competitor, etc. The internal source record is a product data object on the retailer-side containing retailer-specific data which will also be promoted to the Golden Record.
Golden record		When there are several data sources for the same product, it is indispensable to take the best of the data and aggregate them into a read-only object. This is the role of the golden record. It is the source of truth for product data that mixes the most relevant data from the external and internal sources. • Contains both buy side and sell side data. • Published to the sales channels.

Onboarding Process Overview



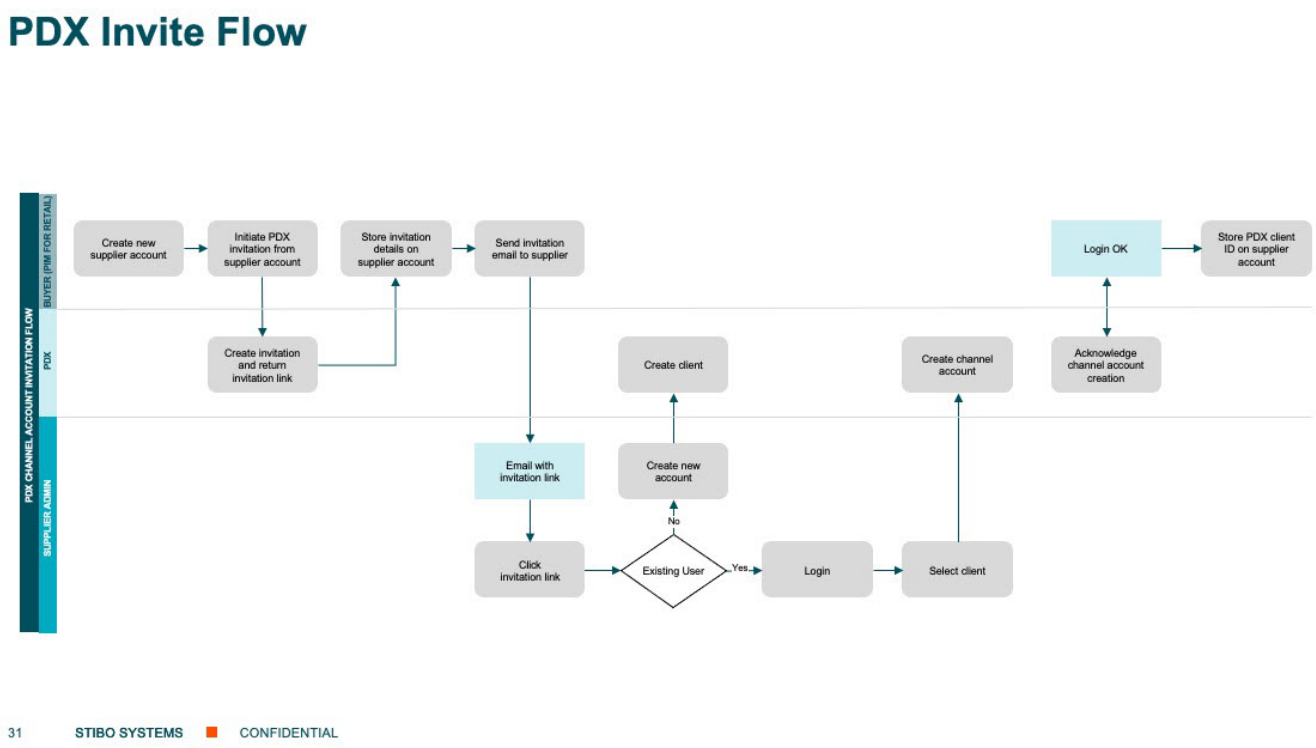
This quick look at the onboarding process is detailed in the next sections.

Onboarding 1 - Giving Suppliers Access to PDX

The Accelerator for Retail solution enables users, specifically PDX Channel Account owners, to initiate an invitation process that allows suppliers to access PDX in a way that supports the retailer's workflow.

The process by which a buyer can facilitate access to PDX through an email invitation is described in the diagram below. Some of the steps listed in this diagram are automated and some manual, but whether via system or user, steps are taken by the buyer, PDX, and the supplier to enable suppliers to access PDX Syndication and begin sending data through PDX channels.

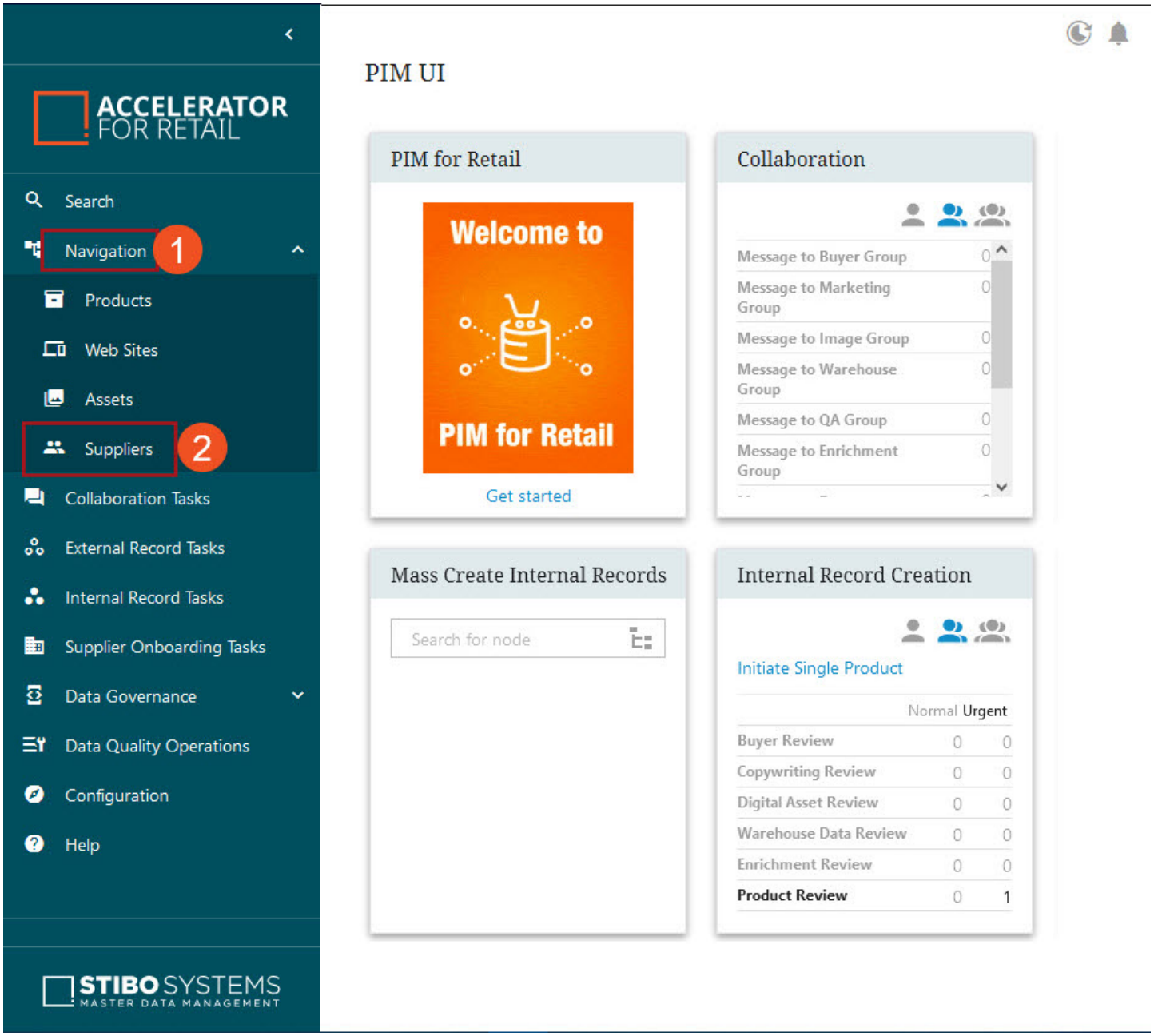
If Accelerator for Retail is used in conjunction with Supplier Onboarding, the process will differ from the process described in this topic. For more information on how this process works with Supplier Onboarding, refer to the **Supplier & Product Onboarding for Retail Solution Enablement** topic in the **Customer & Supplier MDM Solution Enablement** documentation.



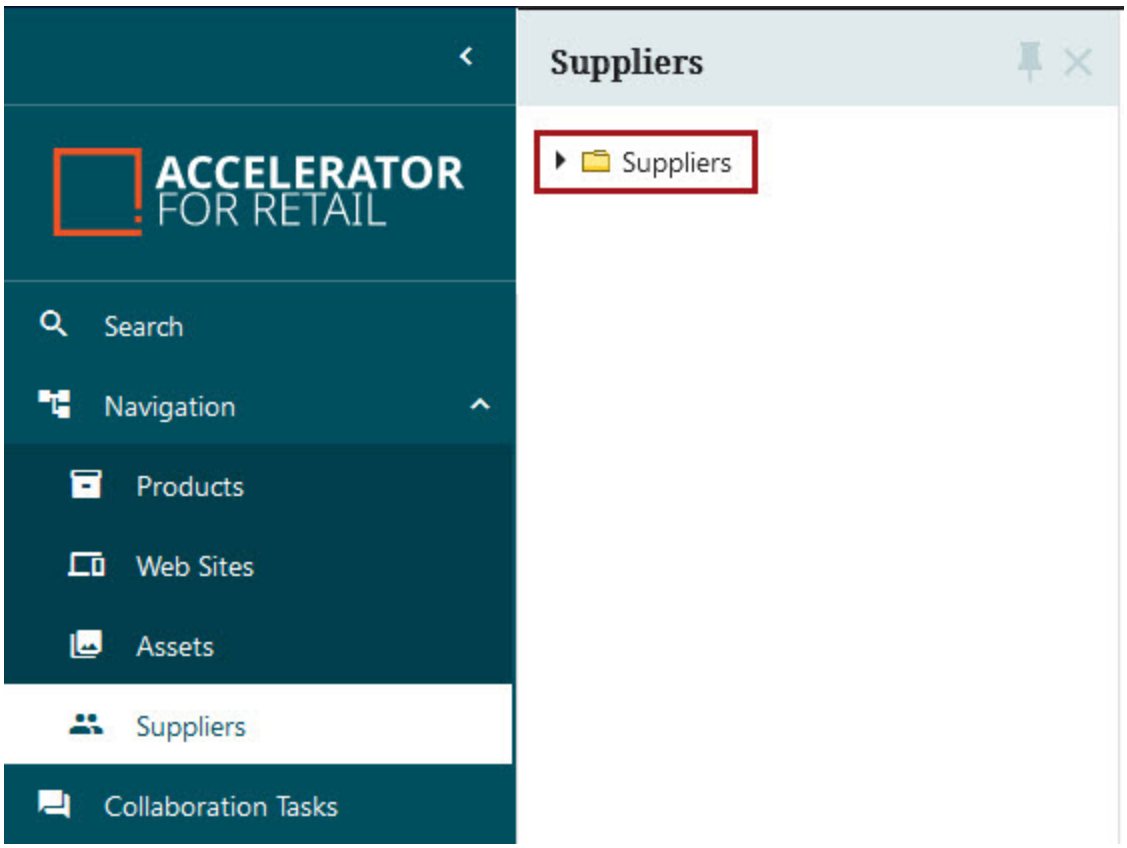
Starting the PDX Invitation Workflow

To initiate the process through which suppliers are sent invitations giving them access to PDX, follow the steps described below.

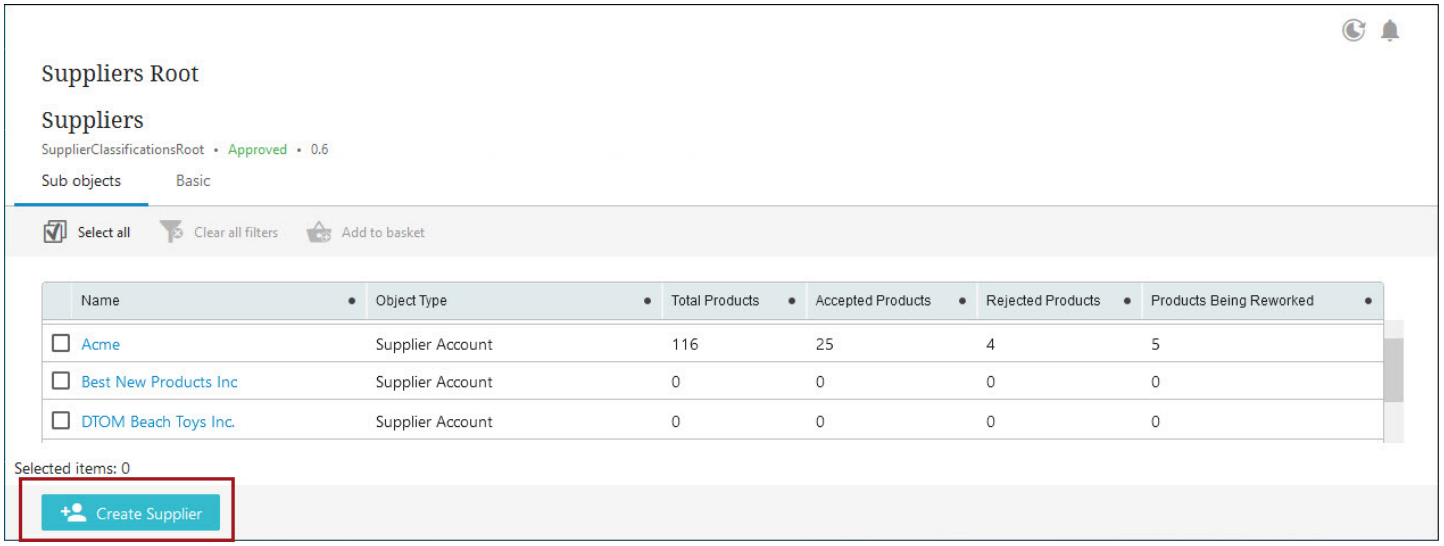
1. In your Accelerator for Retail implementation Web UI, navigate to your top-level 'Suppliers' node by clicking 'Navigation' in the Global Navigation Panel. Then click 'Suppliers'.



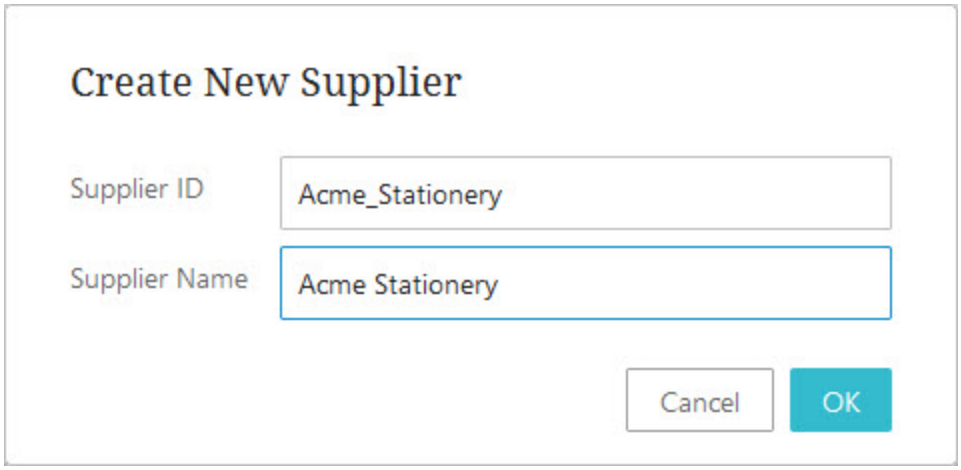
2. Select the 'Suppliers' parent node.



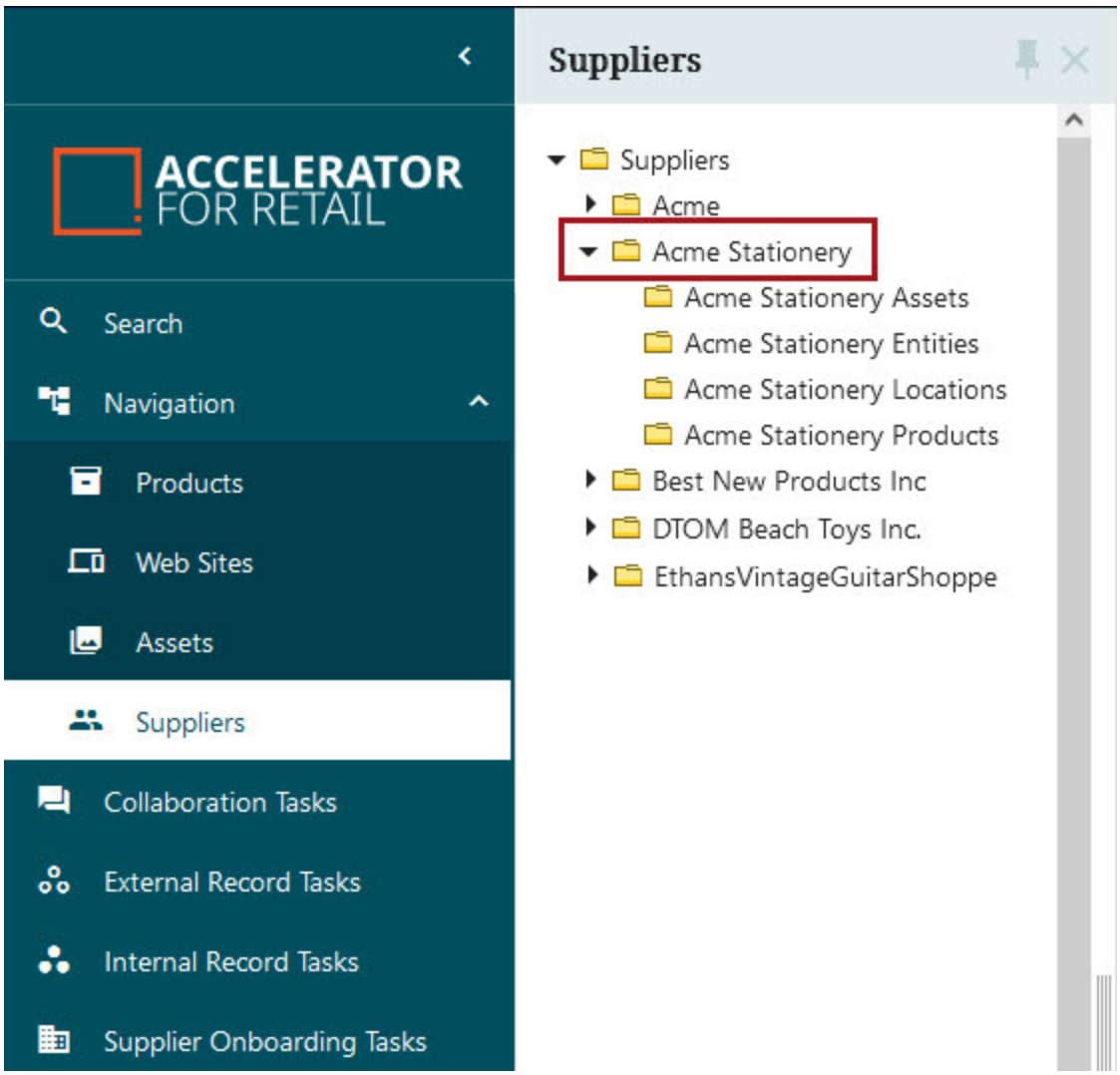
3. On the Node List screen that displays, a table is shown presenting all supplier accounts associated with the Accelerator for Retail account. A 'Create Supplier' button is located at the bottom left of the screen. To create a new supplier account and begin the process of giving that supplier access to PDX Syndication, click this button.



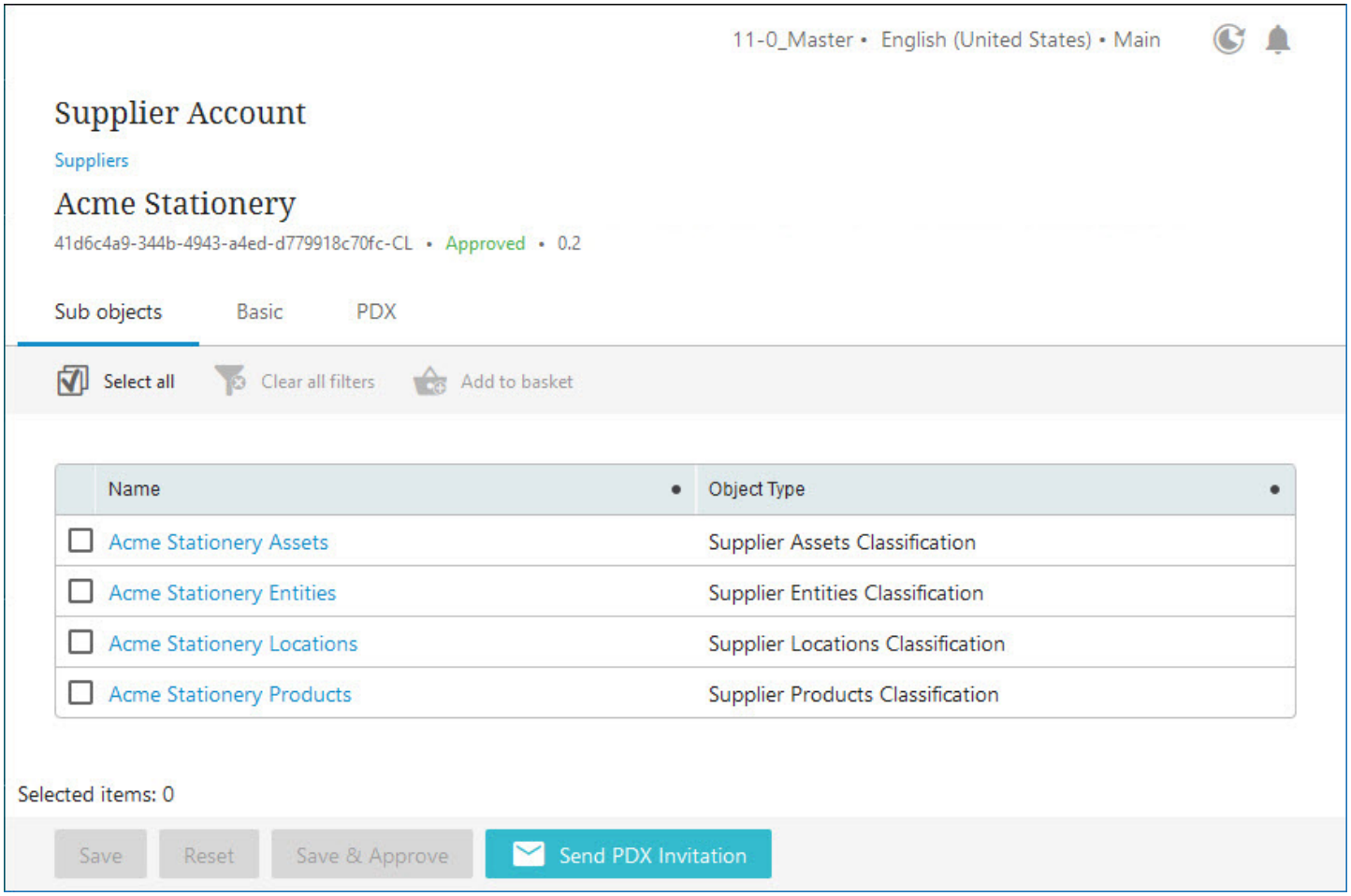
4. A 'Create New Supplier' dialog displays. For the 'Supplier ID' and 'Supplier Name' fields, enter a meaningful ID and name for the supplier. The ID cannot be changed, but the name can be amended if needed.



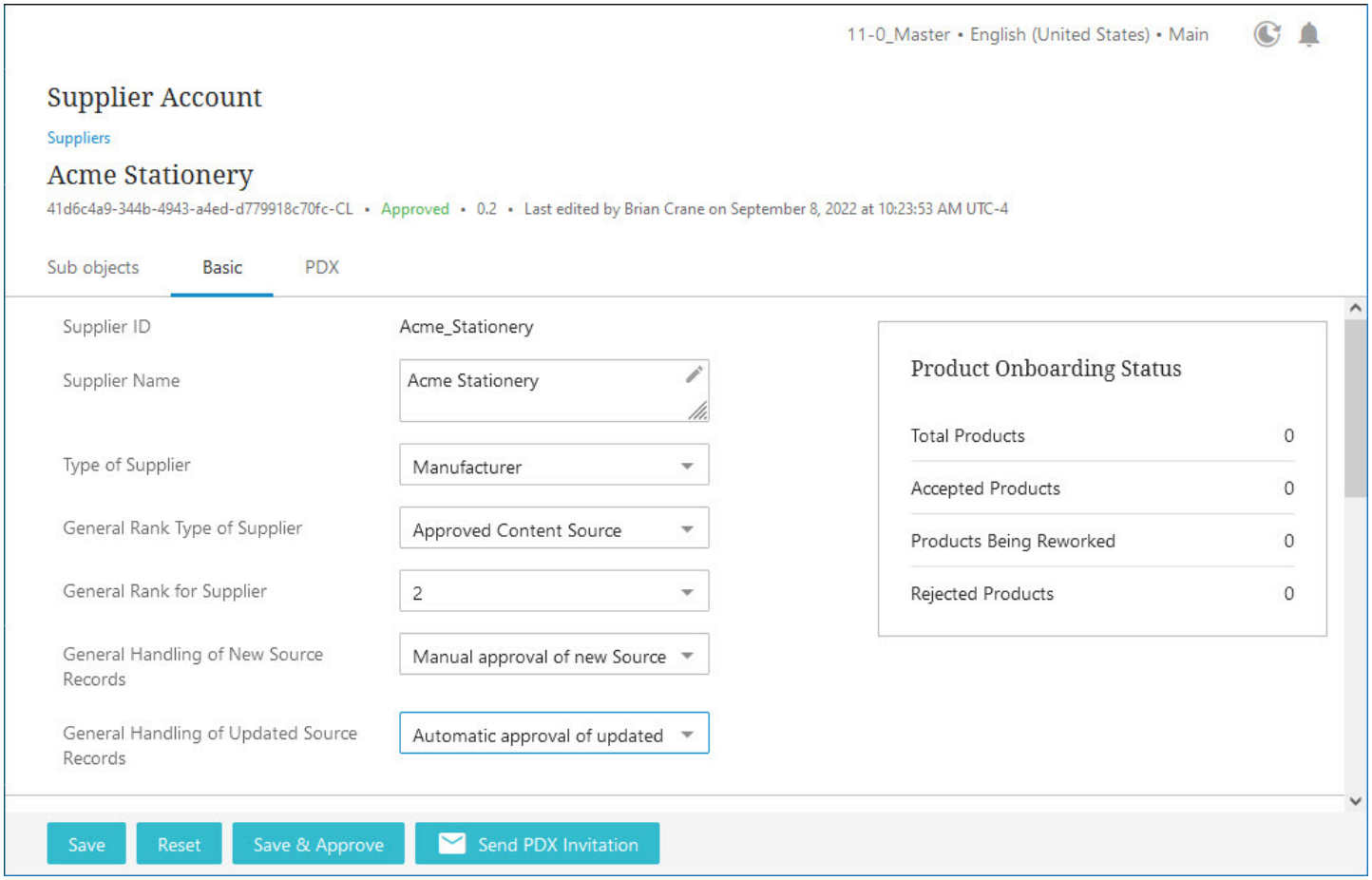
The supplier is then created in the 'Supplier' hierarchy, which can be viewed in the supplier hierarchy in the Web UI.



5. A 'Supplier Account' Node List screen displays, defaulting to the 'Sub objects' tab, which shows four auto-generated sub-folders. These object-type specific sub-folders are created for assets, entities, locations, and products. Asset and product objects will flow into these folders via PDX. Locations and entities are created in STEP, but products onboarded via PDX may contain references to the Location objects. Entities are only used if Supplier MDM is part of the solution.



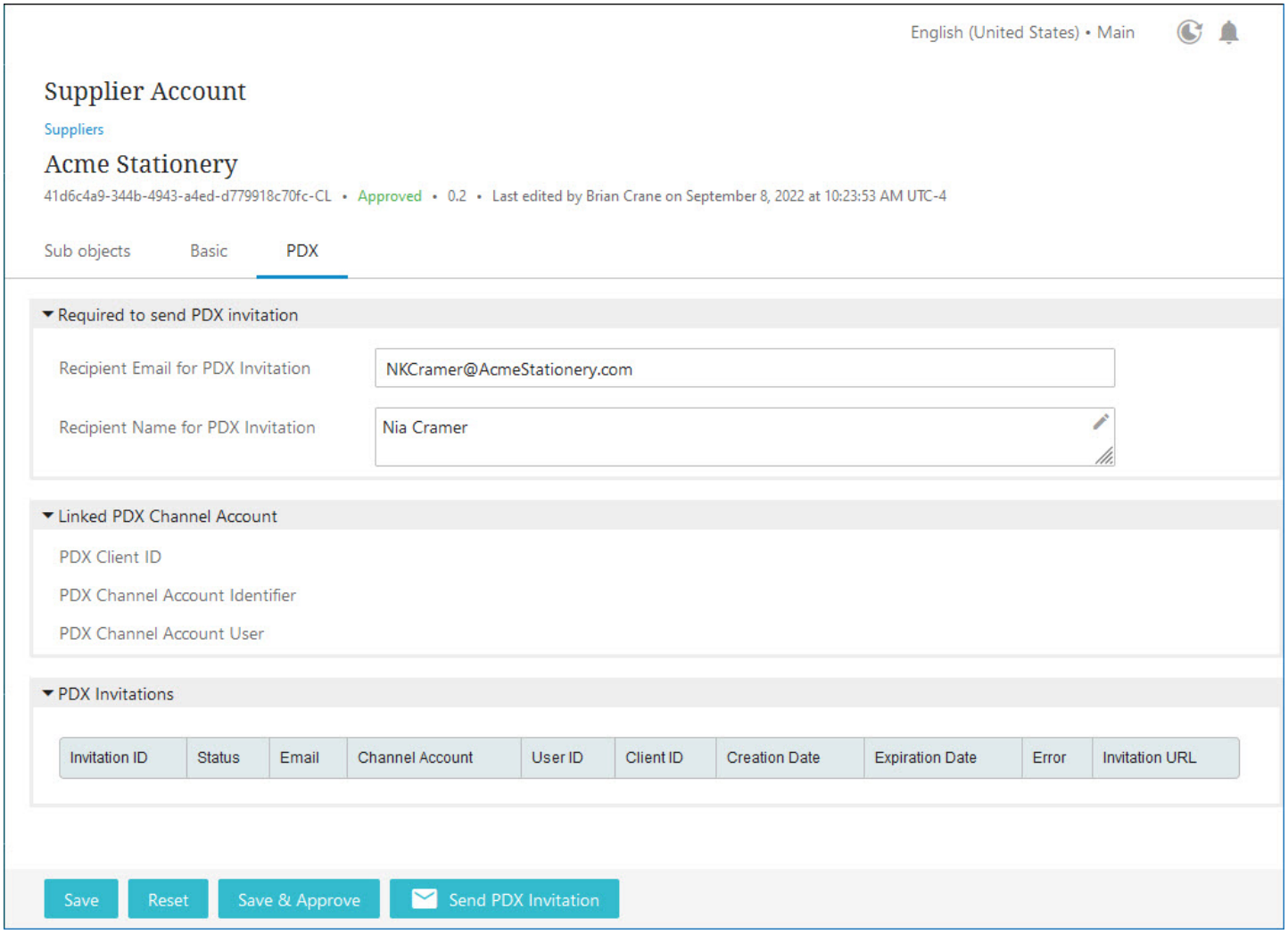
6. On the 'Basic' tab, the buyer can add relevant information about the supplier.



Important: Important: If the information in these fields is not filled out by the time the supplier accepts the PDX channel account invitation and accesses PDX, the supplier will not be able to send data from PDX to STEP via the channel account. Instead, a task will be automatically generated in the 'Errored Invitations' state in the 'PDX Invitation Handling' workflow, which is accessible via a status selector homepage widget on the Accelerator for Retail homepage. To avoid potential delays it is recommended the retailer supply this information prior to sending the invitation.

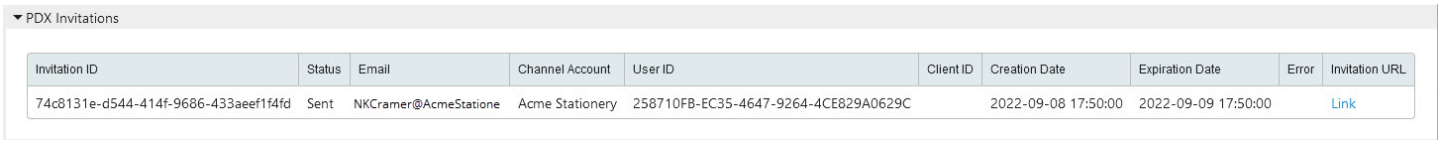
For more information on how to provide information for the fields listed in this topic, or for information related to setting up supplier accounts, refer to the Setup of New Suppliers section of the **Accelerator for Retail Initial Setup** topic in the **Accelerator for Retail** solution enablement documentation.

7. On the 'PDX' tab, enter the email address for and name of the supplier's representative who will receive the PDX invitation. This supplier will be responsible for uploading content into PDX that will flow into the Accelerator for Retail solution in STEP. This information is required in order to send the invitation.

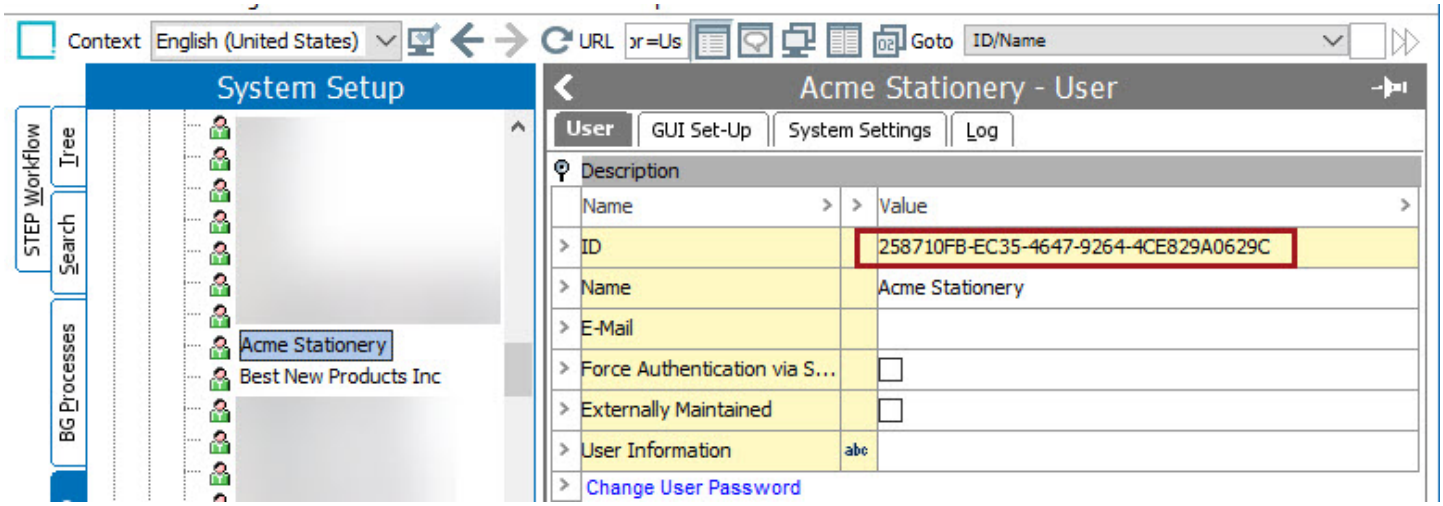


8. Click the 'Send PDX Invitation' button at the bottom of the screen to prompt the system to send the invitation to the supplier.

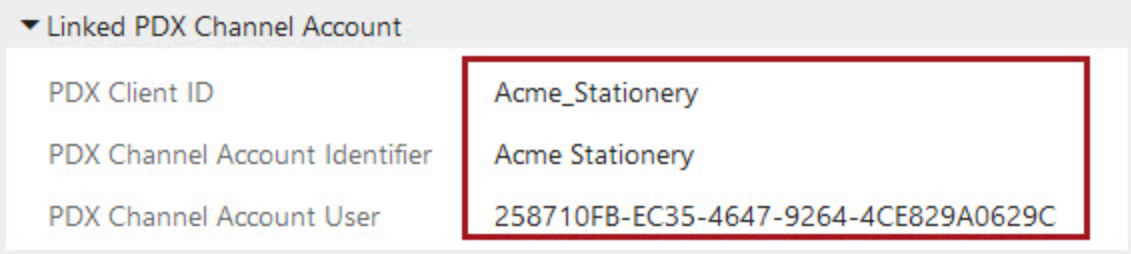
When the invitation has been sent, a listing displays in a table in the 'PDX Invitations' section at the bottom of the screen. The listing presents metadata about the invitation like 'Invitation ID,' 'Status,' and 'User ID.'



The 'User ID' is the auto-generated user ID for the supplier. The ID is stored in STEP on the user object, as shown in the screenshot below.



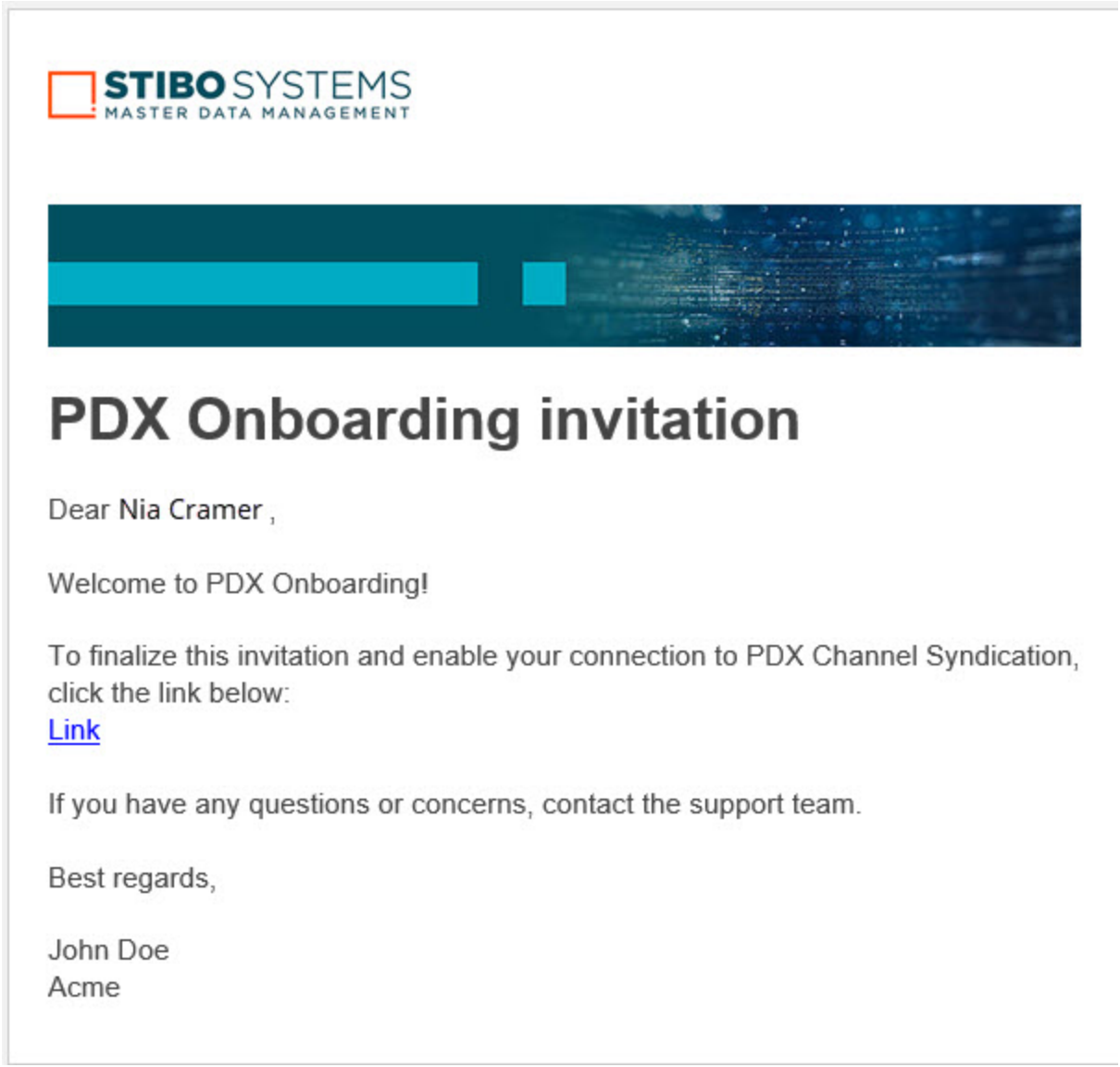
Additionally, the attributes in the 'Linked PDX Channel Account' section will be populated with values received by PDX when the supplier has accepted the invitation.



Receiving the Invitation

On the supplier's side, a few additional steps must be taken to access PDX.

The email the supplier receives looks like this:



PDX Onboarding invitation

Dear Nia Cramer ,

Welcome to PDX Onboarding!

To finalize this invitation and enable your connection to PDX Channel Syndication, click the link below:
Link

If you have any questions or concerns, contact the support team.

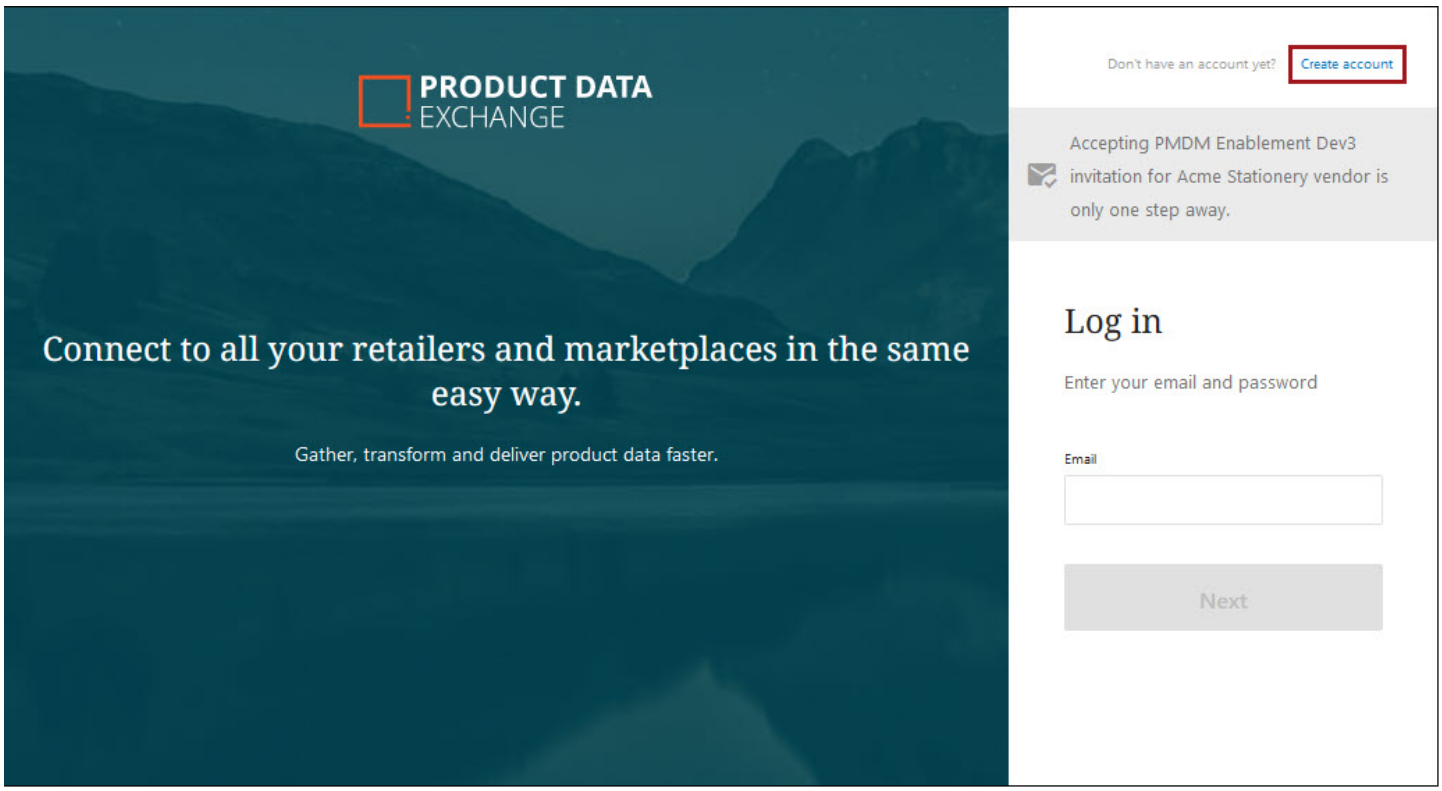
Best regards,

John Doe
Acme

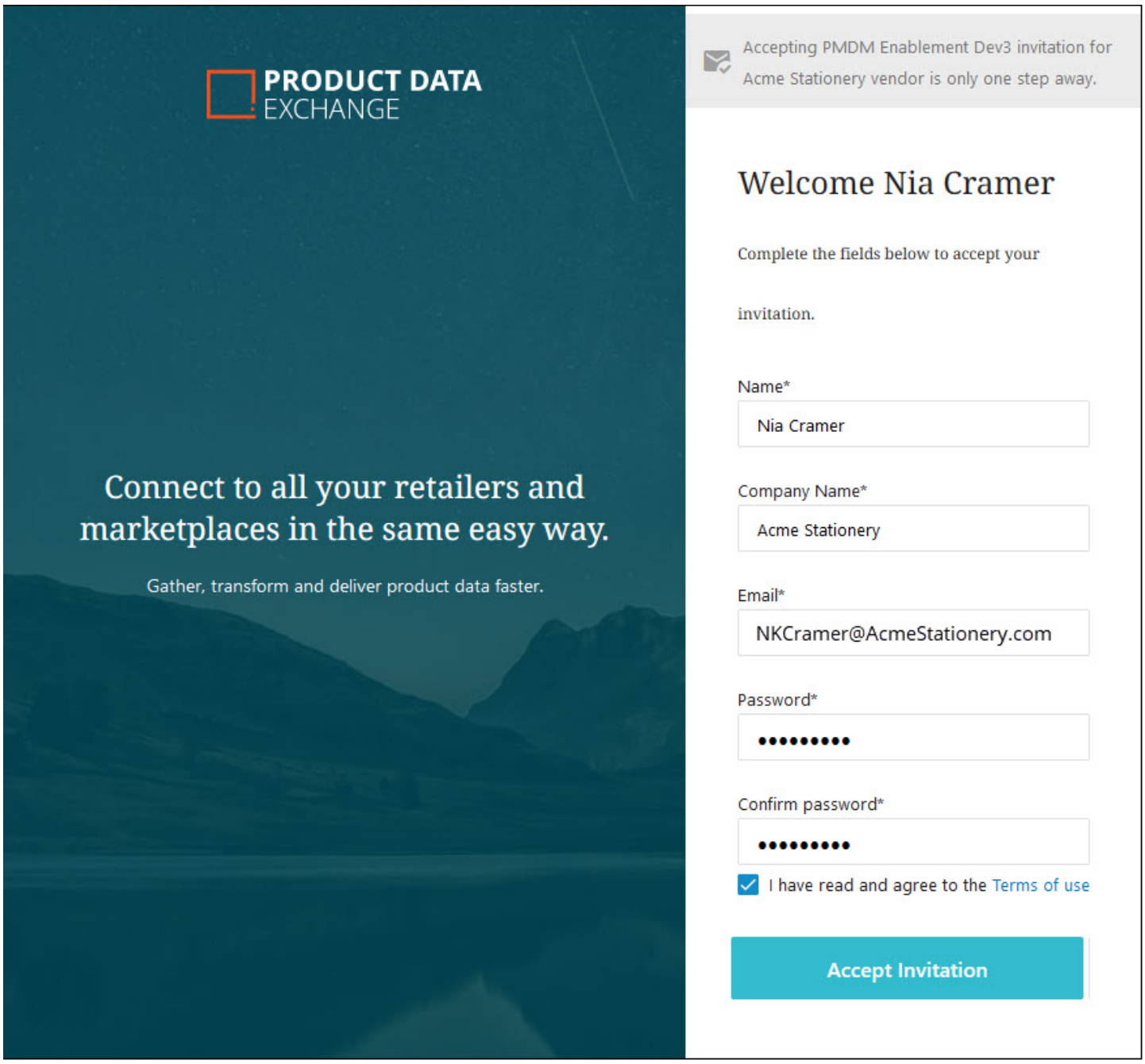
When the supplier receiving the email clicks on the link (the same link shown in the table in the 'PDX Invitations' section of the 'PDX' tab), a PDX login page displays.

If the supplier receiving the email invitation has an existing PDX account, they can use their login information to access PDX.

If the supplier receiving the email does not have an existing PDX account, they must click the 'Create account' button, found in the upper right-hand section of the screen (as shown in the screenshot below).

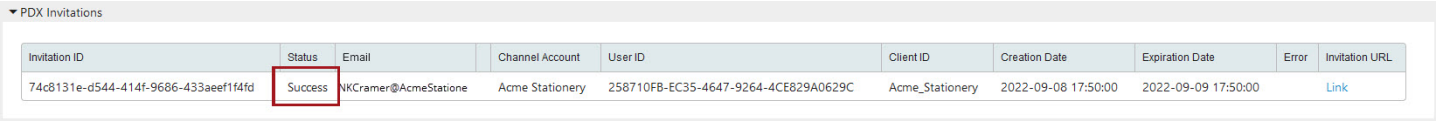


The supplier is then prompted to populate a series of five required fields to gain access to PDX. Once the supplier has added their name, their company name, their email address (which is prepopulated and cannot be changed), their desired password—once in the 'Password' field and then again in the 'Confirm password' field—and checked the box for 'I have read and agree to the Terms of use,' (following a close examination of the terms of use accessible via the link), the supplier can click the now-active 'Accept Invitation' button.



Once the invitation has been accepted, the supplier can access PDX and begin importing data.

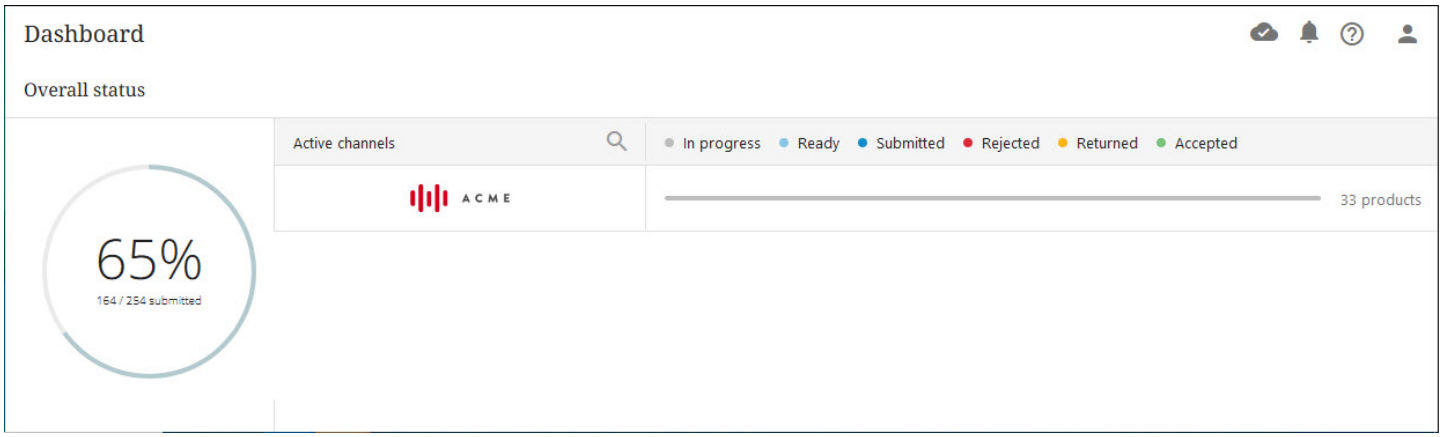
To confirm the supplier has accepted the invitation, users can view an updated status for the invitation in the Web UI. As shown in the screenshot below, the value in the 'Status' column will have changed from 'Sent' to 'Success.'



If the supplier fails to accept the invitation before the window has elapsed, the invitation status changes to 'Expired' and the invitation process must be repeated to allow the supplier to access the relevant channel in PDX. The user IDs for suppliers whose invitations have expired are moved from the 'PDX Channel Account Users' user group to the 'PDX Channel Account Users - Inactive' user group. This is to ensure that an 'expired' user cannot log into or action anything in STEP.

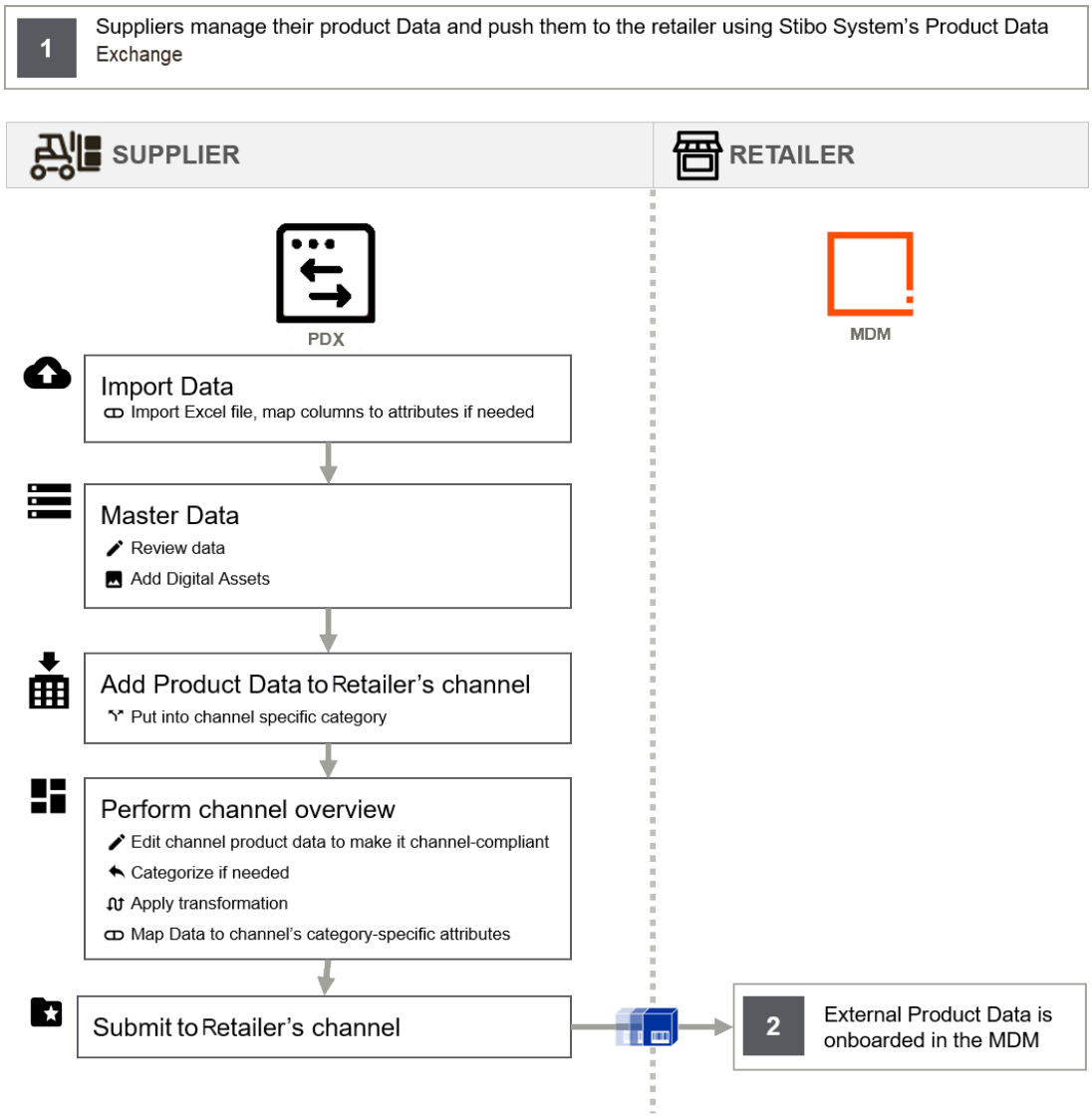
Additionally, the amount of time a supplier has in which to accept an invitation, is determined by PDX and is set to 14 days by default. It should also be noted that the time stamps found in the 'Creation Date' and 'Expiration Date' may reflect a time zone different from the supplier's.

When the supplier accesses their PDX channel account in PDX, the page they will view may look similar to the image shown below:



For more information on how to use PDX Syndication, refer to the **Product Data Exchange** topic in the **Data Integration** documentation.

Onboarding 2 - Suppliers Manage and Publish Product Data Using PDX



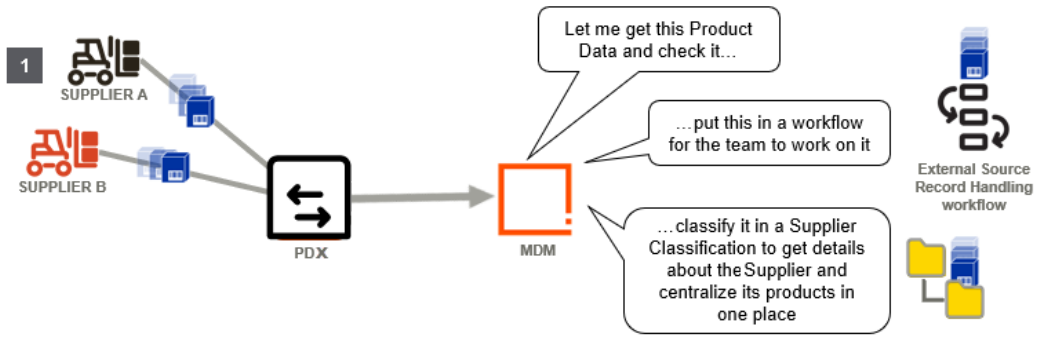
Using PDX, the vendor will onboard and submit their product information to the retailer. The following is a typical process followed by the vendor.

- **Import Data**: Vendors can upload product data and assets either from Excel or using the PDX APIs to integrate with their internal systems.
- **Master Data**: Vendors can view, and when required, manage imported product data and digital assets.
- **Categorization**: Vendors will manually select or create automation rules to map products to retailer categories.
- **Mapping and Validation**: To ensure they meet the retailer's requirements, the vendor will map their master data attributes to the retailer-specific attributes, viewing any error messages, and using attribute value transformations or data edits to resolve errors.

- **Process Management**: From product onboarding and maintenance to viewing and responding to reject and return reasons, vendors can use PDX to manage the end-to-end process of syndicating their product information to the retailer.

Onboarding 3 - PIM Onboards External Product Data from Suppliers

2 External Product Data is onboarded in the MDM

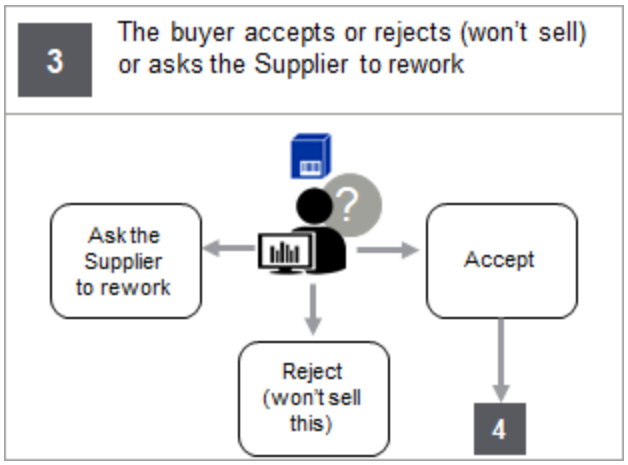


The product data received from the supplier via PDX or subscribed to and received from the GPC standard is being created Accelerator for Retail as a separate product object of the external source record in the external product hierarchy, as well as optionally separate packaging objects in the external packaging hierarchy. As part of the creation, the external source record is being initiated in the external source record handling workflow which will guide it through the different states of the onboarding process.

The external source record is being linked to a supplier classification to keep track of the products delivered by suppliers. If product data for the same product is being received by multiple suppliers or content providers, they will be created as separate external source records, each linked to the relevant supplier.

The data on the external source record is owned by the supplier and will not be maintained by the retailer.

Onboarding 4 - Buyer Accepts or Rejects the Supplier's Product Proposal

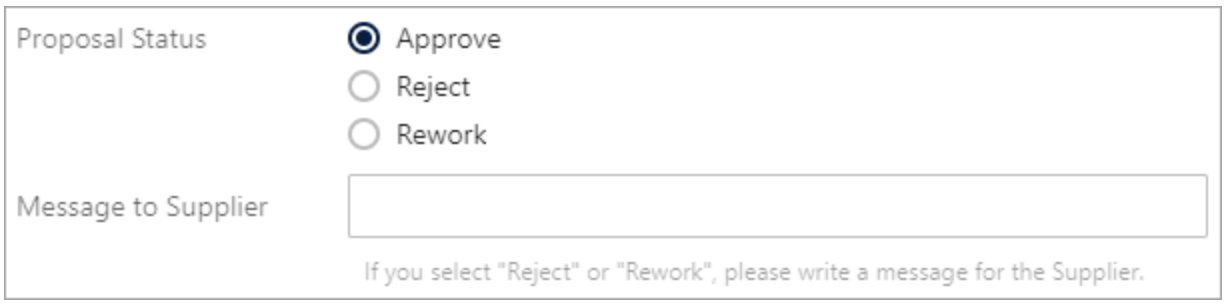


When a new external source record has been created in Accelerator for Retail and initiated in the external source record handling workflow, the workflow checks if the specific supplier is configured to allow for automatic approval of proposed products, or if it has to go through a manual process where the buyer has to manually decide if they want to onboard the product.

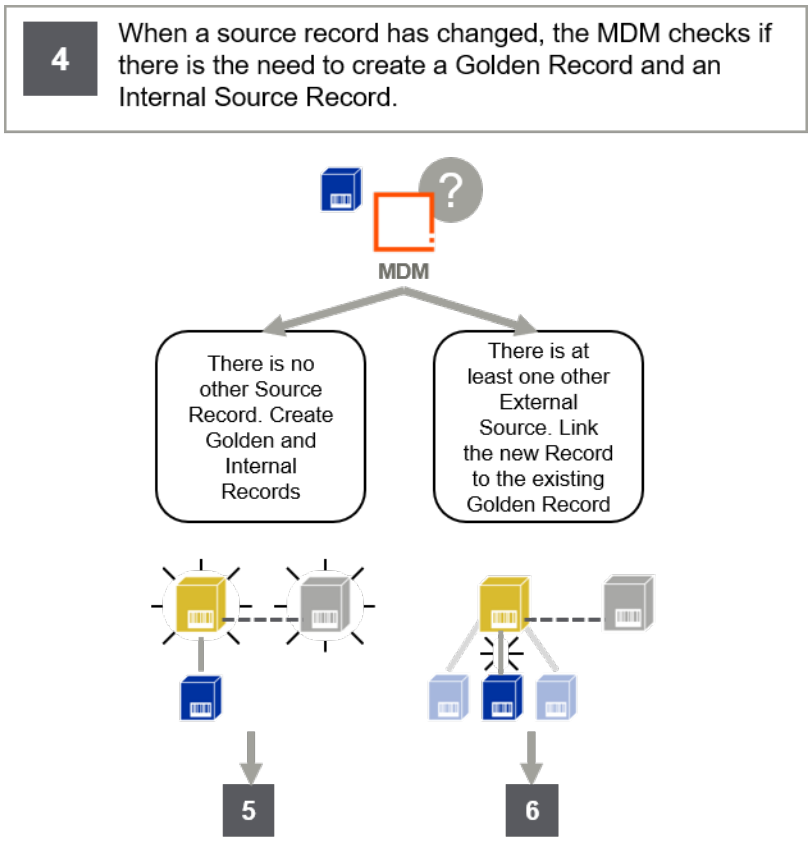
On the homepage, in the 'External Record Handling' widget, the number of external source records concerned are displayed.

In the manual proposal approval process, the buyer has the option to approve the product data and continue with the onboarding of the product, send it back to the supplier for rework in case the supplied data is wrong or incomplete, or reject the product for onboarding in case the retailer does not want to onboard and sell the product.

On the product page, the buyer will choose:


Proposal Status
Approve
Reject
Rework
Message to Supplier
If you select "Reject" or "Rework", please write a message for the Supplier.

Onboarding 5 - PIM Aggregates the Data in a Golden Record



When the external source record is accepted for further onboarding in the external source record handling workflow it advances to the matching and linking process.

The matching and linking process first creates a match code for the external source record which is used to check if there is already an existing product with the same match code in the system. Per default, the match code is the GTIN of the product.

If no existing product with the GTIN is found, the system creates a new golden record and an internal source record for this product. The internal source record is used by the retailer to enrich the product and will contain the retailer's own product data like web descriptions, data from the ERP system, etc. If the external source record causing the matching and linking process to be executed has corresponding external packaging objects, they will be duplicated to internal packaging objects which will be linked to the created internal source record.

If there is already a product with the same GTIN, there is a match and the external source record will be linked to the existing golden record.

As part of the process, data from all linked sources (external and internal source records) will be promoted to the golden record using a set of survivorship rules, which are defined on the products matching algorithm.

Onboarding 6 - Retailer Creates Record

The Accelerator for Retail solution supports alternative methods of creating product records that do not involve processing records imported via PDX. These methods enable retailers to create their own product records in the Web UI.

Using one of two methods, retailers can create new products which will then be entered into the 'Buyer Review' state in the 'Internal Record Creation' workflow. As the products move through the various states of the workflow, the retailers charged with enriching the products onboarded via PDX can also enrich the product(s) they have created.

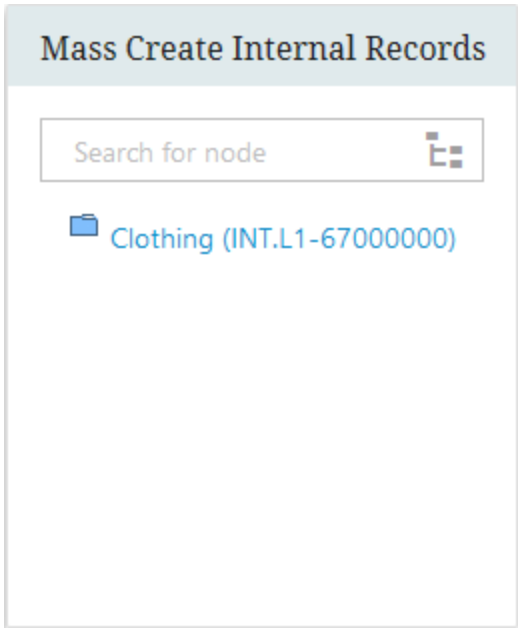
The process of enrichment that follows product creation is described in the topic that follows this one, Onboarding 5 - Retailer Adds Data.

Found on the Web UI homepage, there are two methods of creating products within the Accelerator for Retail Web UI:

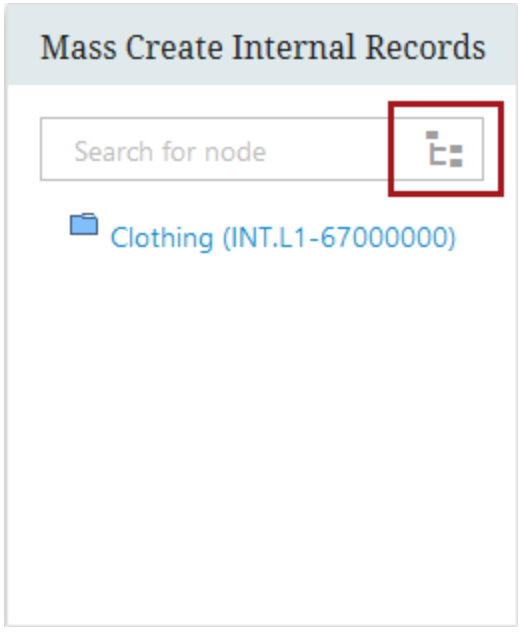
- Add one or more products at once using the Mass Create Internal Records homepage widget
- Add one product at a time using the 'Initiate Single Product' found in the Internal Record Creation homepage widget

Mass Create Internal Records

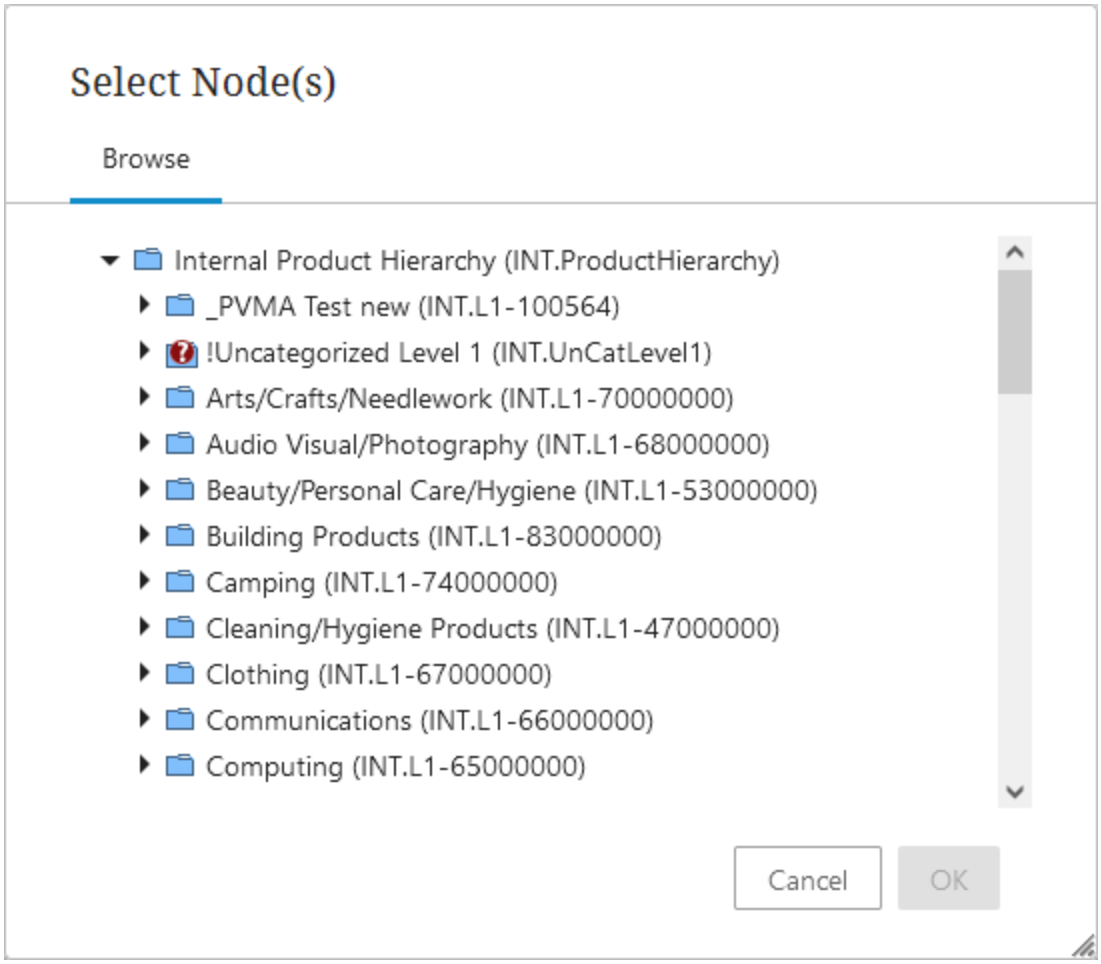
Retailers can create multiple new products at once using the Mass Create Internal Records widget.



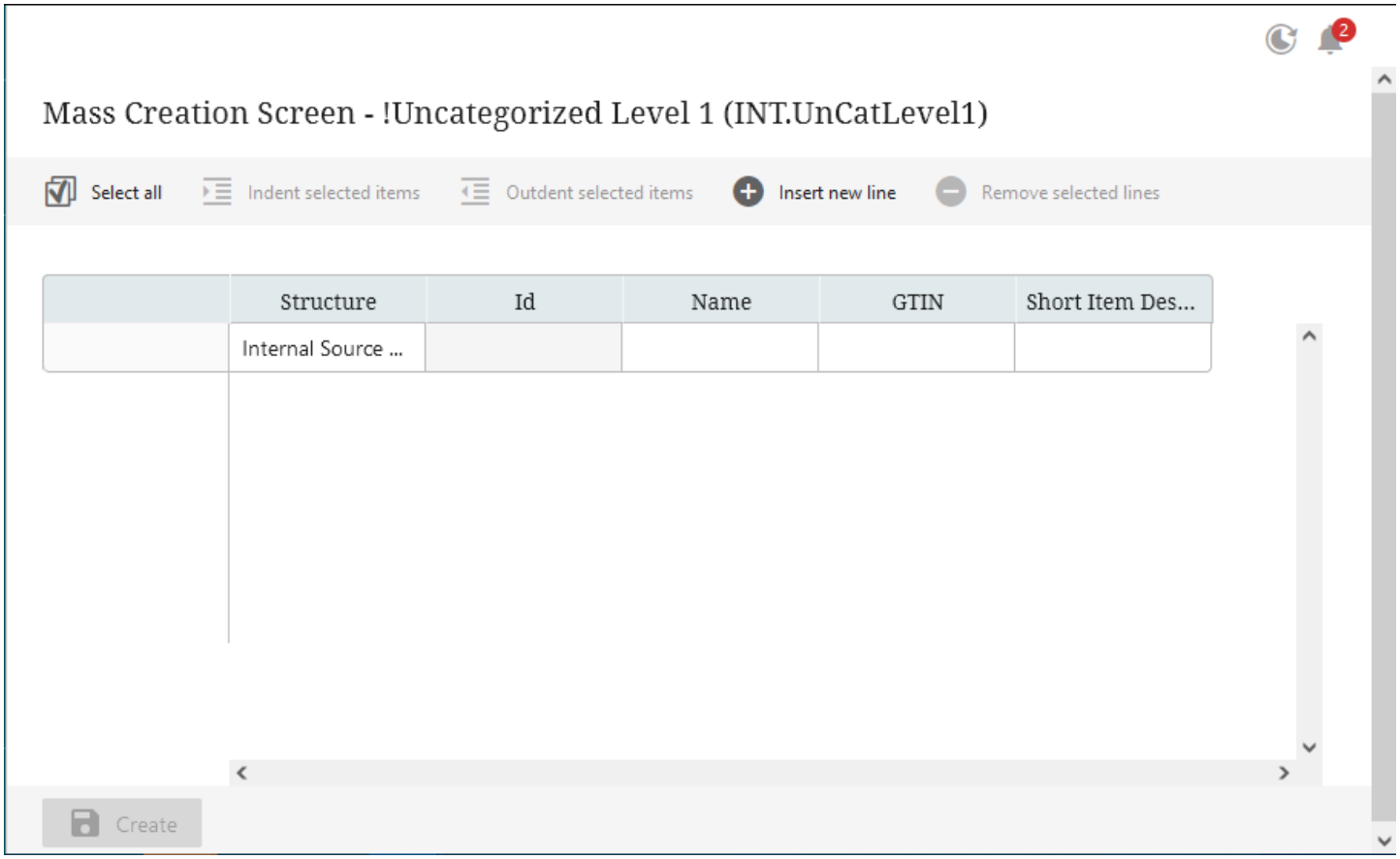
1. First, select which node in the product hierarchy the new products will be placed under. To make the selection, click the hierarchy button located to the right of the field.



2. In the node picker dialog that displays, expand the hierarchy to locate the desired parent in the product hierarchy.



3. Once selected, a Mass Creation Screen displays with the beginning of a table. The headers are Id, Name, GTIN, and Short Item Description. This screen enables users to create a new line (by clicking the 'Insert new line' button), and adding values to the relevant cells.



Users can also paste content from a properly formatted spreadsheet directly into the table by pressing CTRL+V.

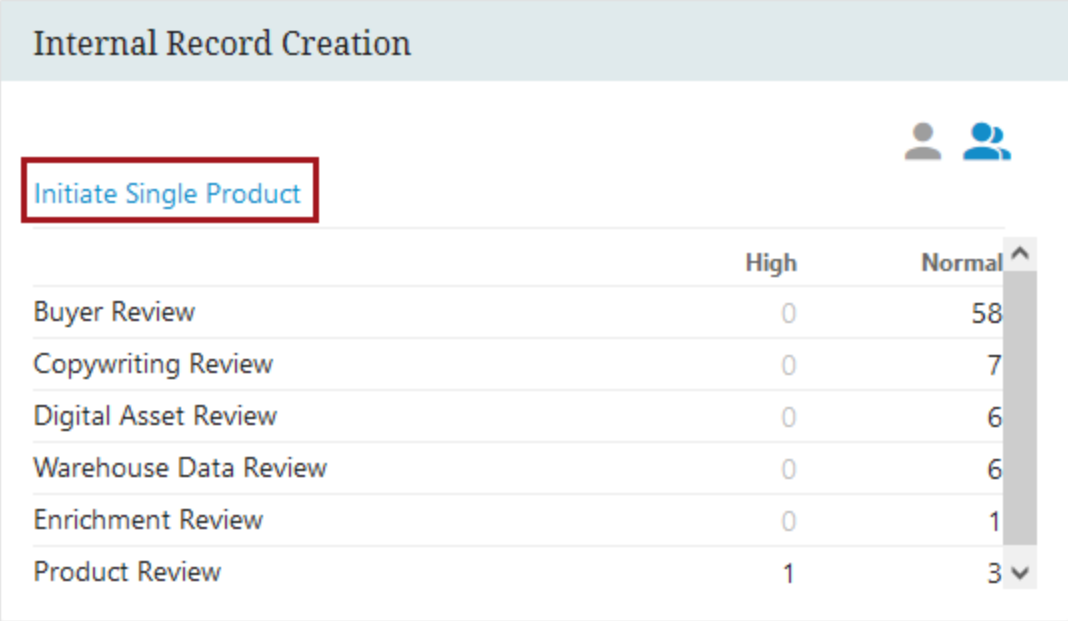
4. When the desired products are properly populated and there are no errors, click the 'Create' button. The new products will simultaneously

- display in the hierarchy under the selected parent node
- be entered into the 'Internal Record Creation' workflow, accessible in the 'Buyer Review' task list

The newly created products can then be enriched by the assigned stakeholders as it progresses through each state of the workflow.

Initiate Single Product

On the Internal Record Creation widget, where users track products as they move through the product creation workflow, an 'Initiate Single Product' button displays as text.



This button allows retail users to create new products, one at a time, and enter them into the Internal Record Creation workflow. When the 'Initiate Single Product' button is clicked, a few things happen simultaneously:

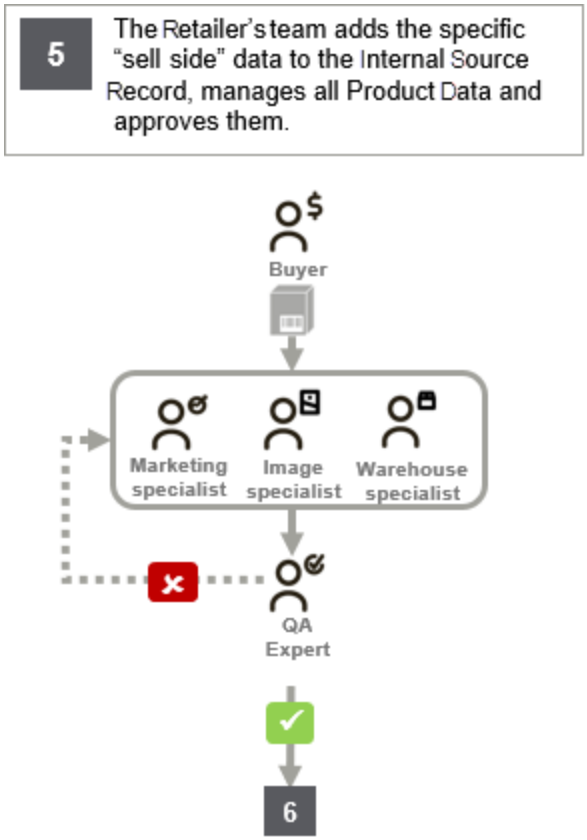
- a new product, or internal product record, is created
- the new product is added to the first state in the Internal Record creation workflow, 'Buyer Review'
- the user is auto-navigated to the newly created product's details screen to begin the enrichment process

At this stage, the product can move through the enrichment workflow for new products in the same way that products provided by the supplier are.

Enterprise Resource Planning (ERP) System Products

Additionally, the Accelerator for Retail solution enables ERP systems to send product data to STEP via a hotfolder. A preconfigured business rule ingests the message file and either updates products or creates new ones. All new products created from an ERP system are automatically entered into the Internal Record Creation workflow.

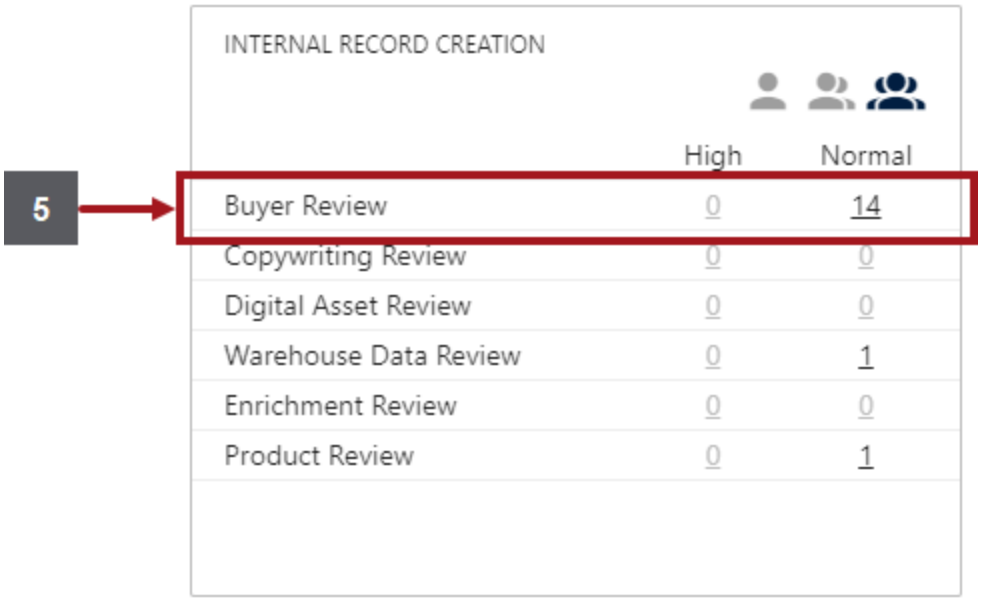
Onboarding 7 - Retailer Adds Sell Side Specific Data



The product data for a new product needs to be enriched internally by the retailer before it will be ready to go out to downstream systems to be sold. To support this process, the internal source record creation workflow is initiated when a new golden record and internal source record are created.

First, a task is assigned to the buyer group to allow a buyer to enrich and maintain the buyer-relevant part of the product data.

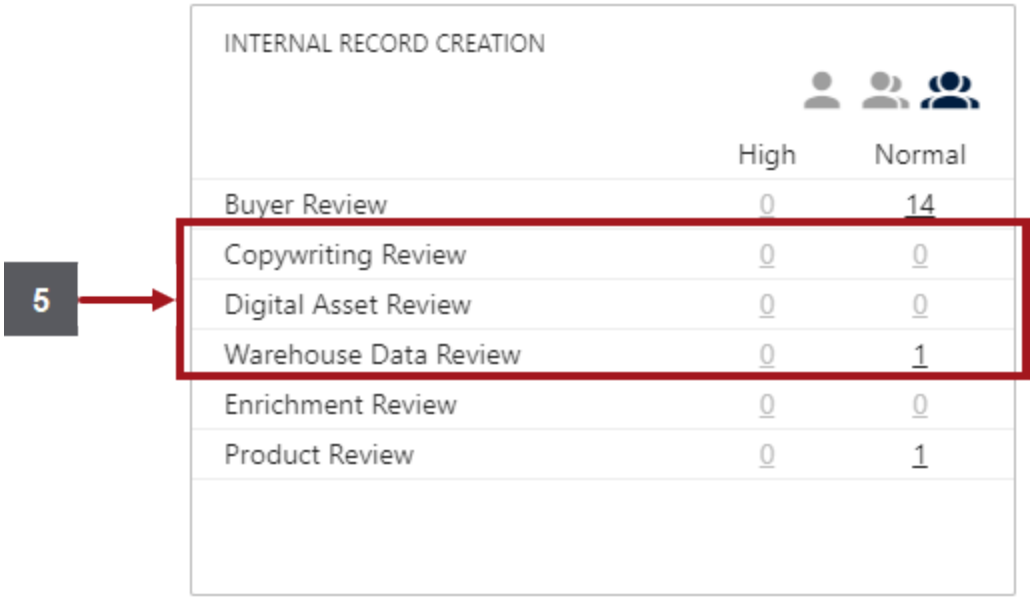
The buyer review task is visible on the homepage, in the 'Internal Record Creation' widget:



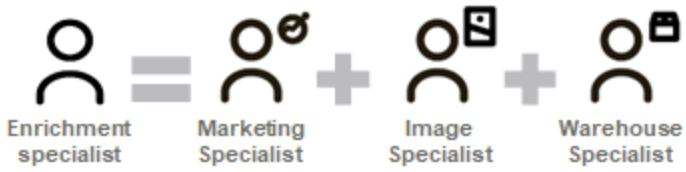
Note: Only the tasks that are relevant to users will be visible to them.

The buyer can also decide if the product should be sent for further enrichment by the **Marketing Specialists**, the **Image Specialists** and/or the **Warehouse Specialists**, or if it should be sent directly to final review by the quality assurance experts. If the product is sent for further enrichment by marketing, image and/or warehouse they will be able to do their enrichment in parallel.

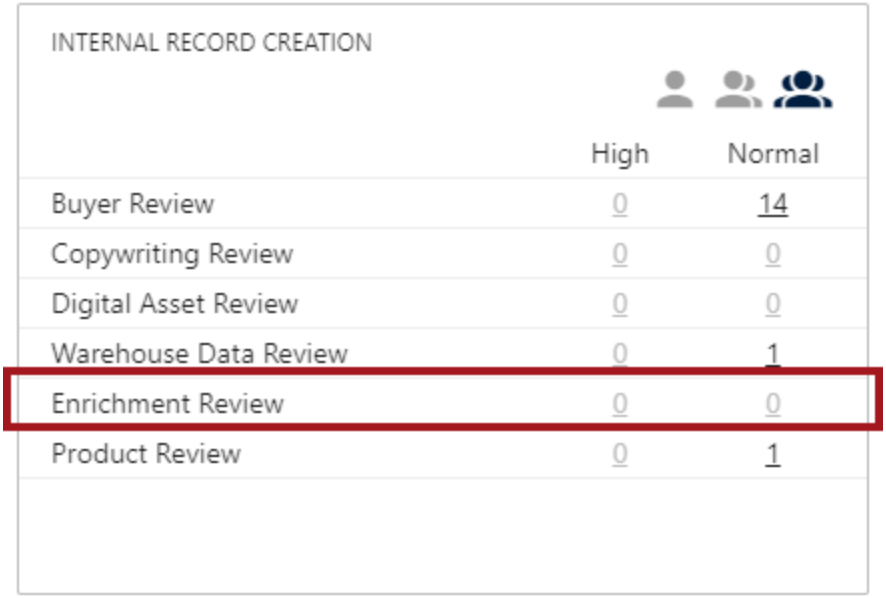
The enrichment tasks are visible on the home page, in the 'Internal Record Creation' workflow widget.



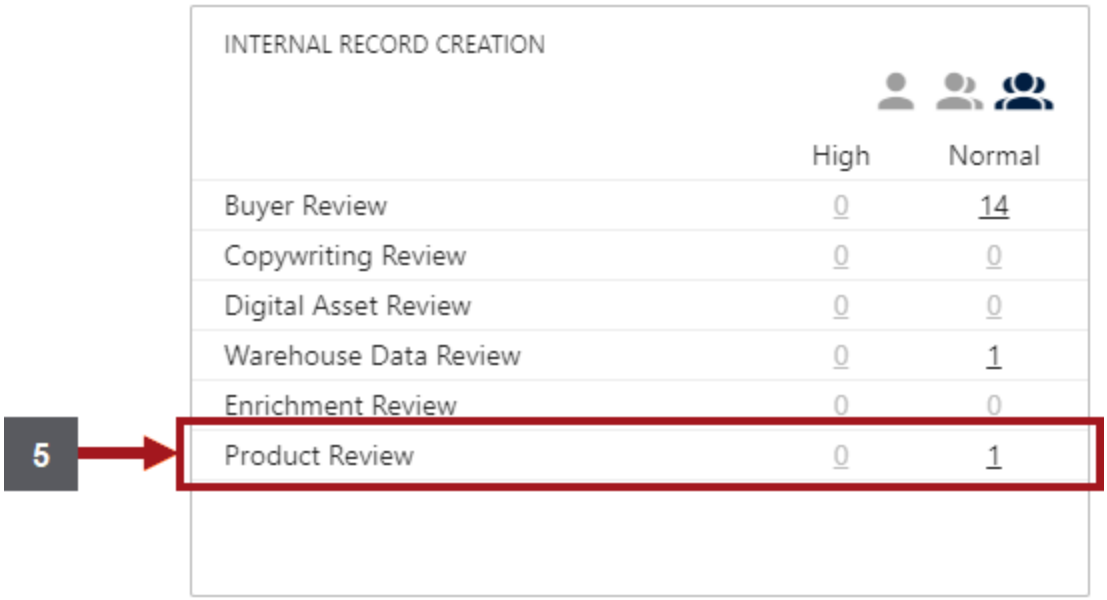
Alternative: In smaller organizations, the enrichment specialist can accumulate the work of the marketing specialist, the image specialist, and the warehouse specialist.



This option is visible in the Workflow widget, as the 'Enrichment Review' task.

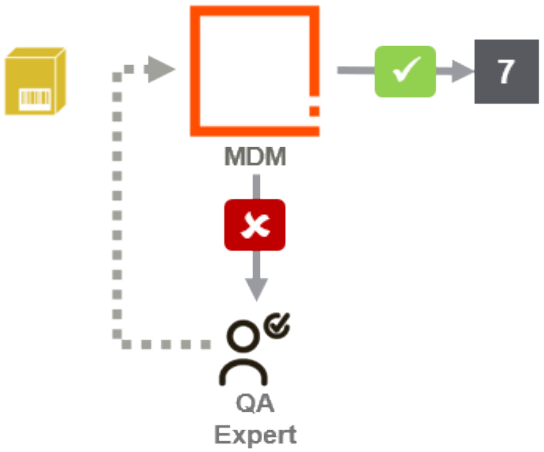


When all enrichment tasks are done, the product is assigned to the quality assurance experts. They have the final saying if all product data is correct and can be approved. If the quality assurance expert finds something that needs to be corrected, they have the option to reject the product to the buyer, marketing, image, or warehouse group for rework.


INTERNAL RECORD CREATION
High
Normal
Buyer Review 0 14
Copywriting Review 0 0
Digital Asset Review 0 0
Warehouse Data Review 0 1
Enrichment Review 0 0
Product Review 0 1
5

Onboarding 8 - MDM Checks that the Data is Ready to be Presented to Other Systems

6	The MDM checks that the data is ok to be presented to the ERP and the E-Commerce platform. If not, it asks the QA Expert to fix/handle the errors.



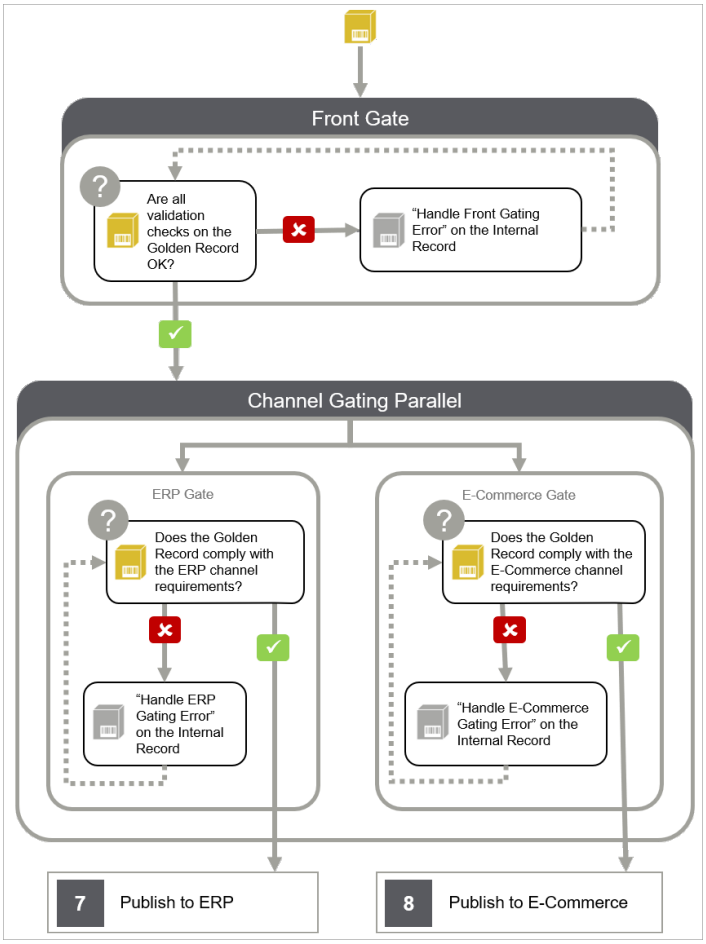
When the product has been approved by the **Quality Assurance Expert** the internal source record creation workflow sends the product to the **Matching and Linking** process again to promote the latest set of data from the linked sources to the golden record. When the data has been promoted, the product is initiated in the **Golden Record Gating workflow** which will validate the golden record against a set of validation rules to determine if the golden record is ready to be published.

The golden record gating workflow first runs the product though a common validation (validation gate) to check for attribute values that are mandatory across all channels. If passed, it will continue with channel-specific validation in parallel to check if specific validation rules for ERP and E-commerce are fulfilled.

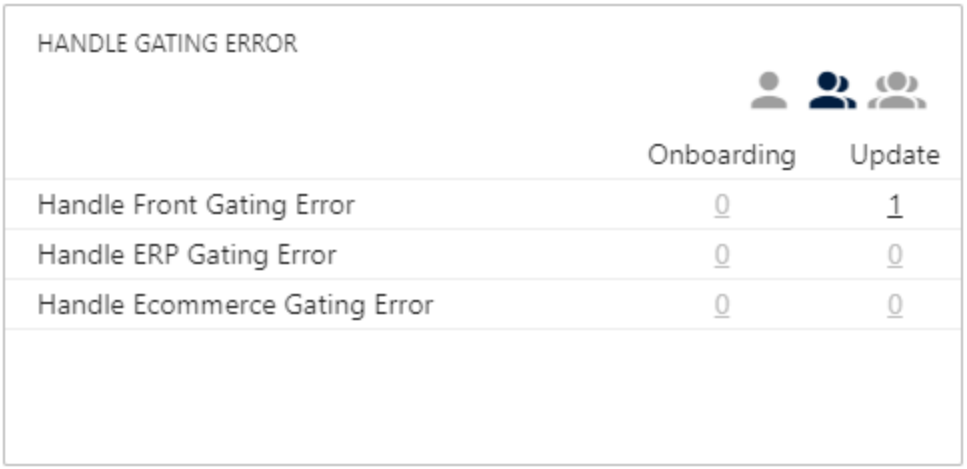
If one or more validation errors are found, then the product will be sent to a gating-specific 'Handle Error' state in the **Handle Gating Error workflow**, and a task will be assigned to the **Quality Assurance Expert**. When the product data has been corrected and the quality assurance expert has proceeded the task, the process is executed again to check if the validation is now fulfilled.

If all general validation rules and the ERP-specific validation rules are fulfilled, then 'Publish to ERP' will be set to 'Yes' on the golden record.

If all general validation rules and the E-commerce specific validation rules are fulfilled, then 'Publish to E-commerce' will be set to 'Yes' on the golden record.


Front Gate
Are all validation checks on the Golden Record OK?
"Handle Front Gating Error" on the Internal Record
Channel Gating Parallel
ERP Gate
Does the Golden Record comply with the ERP channel requirements?
"Handle ERP Gating Error" on the Internal Record
E-Commerce Gate
Does the Golden Record comply with the E-Commerce channel requirements?
"Handle E-Commerce Gating Error" on the Internal Record
7 Publish to ERP
8 Publish to E-Commerce

The tasks related to gating errors can be found on the homepage, in the 'Handle Gating Error' widget.



The errors are displayed at the bottom of the product page, like this:

Validation Rules for Gating Process

During the matching and linking process, the golden record is initiated in the golden record gating workflow which will check if the product it is ready to be sent out to the ERP system and/or the E-commerce platform.

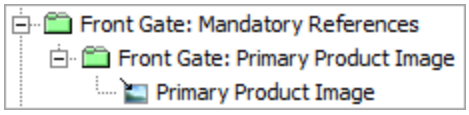
First, the golden record will go to a common validation state (front gate) where it will be checked for mandatory attribute values, mandatory references, etc. This check is being handled by the 'front gate' business rule.

By default, the business rule checks the following:

- The golden record has a value for all attributes linked into the 'Front Gate: Mandatory Attributes' attribute group.
- The golden record has at least one existing reference per reference type linked into the 'Front Gate: Mandatory References' attribute group.

Each reference type must be linked into a separate sub-attribute group below 'Front Gate: Mandatory References'.

If attributes are linked into the sub-attribute group together with the reference type, then these attributes will be considered mandatory metadata attributes on the reference.



If one or more validation errors are found, then the internal source record will be forwarded to the 'Handle Front Gating Error' state in the handle gating error workflow.

If the front gate is passed, then the golden record will continue with the channel-specific validation states (ERP gate and E-commerce gate). Each of the two states are similar to the front gate.

ERP gate

- Business rule used: ERP Gate
- Attribute Group for mandatory attributes: ERP Gate: Mandatory Attributes
- Attribute Group for mandatory references: ERP Gate: Mandatory References
- Attribute containing ERP gate errors: ERP Gate: Errors
- State the internal source record will be forwarded to on errors: Handle ERP Gating Error

If the ERP gate is passed, then the 'Publish To ERP' attribute is set to 'Yes' on the golden record, and the golden record is exported to the ERP system using the 'Products Outbound – ERP' outbound integration endpoint.

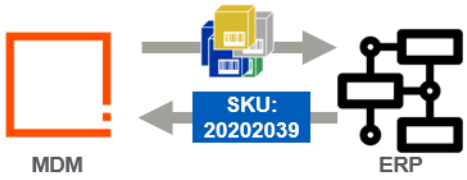
E-commerce gate

- Business rule used: E-commerce Gate
- Attribute Group for mandatory attributes: E-commerce Gate: Mandatory Attributes
- Attribute Group for mandatory references: E-commerce Gate: Mandatory References
- Attribute containing E-commerce gate errors: E-commerce Gate: Errors
- State the internal source record will be forwarded to on errors: Handle E-commerce Gating Error

If the E-commerce gate is passed, then the 'Publish To E-commerce' attribute is set to 'Yes' on the golden record and the golden record is exported to the E-commerce system using the 'Products Outbound - E-commerce' outbound integration endpoint.

Onboarding 9 - PIM Communicates with the ERP

7	The ERP assigns a SKU ID to the Internal Source Record, STEP promotes it to the Golden Record. The Golden Record + sources + packaging are published to the ERP

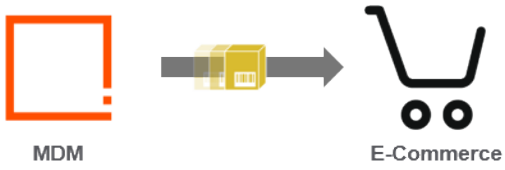


When the golden record has passed the validation for ERP then the golden record is sent to the 'Products Outbound – ERP' outbound integration endpoint. The corresponding internal source record is initiated in the ERP communication workflow, which is used to handle the two-way communication with the ERP system.

The export uses STEPXML format and contains the golden record, all linked source records (internal and external), plus all packaging objects linked from the sources.

Onboarding 10 - PIM Sends Product Data to the E-commerce Platform

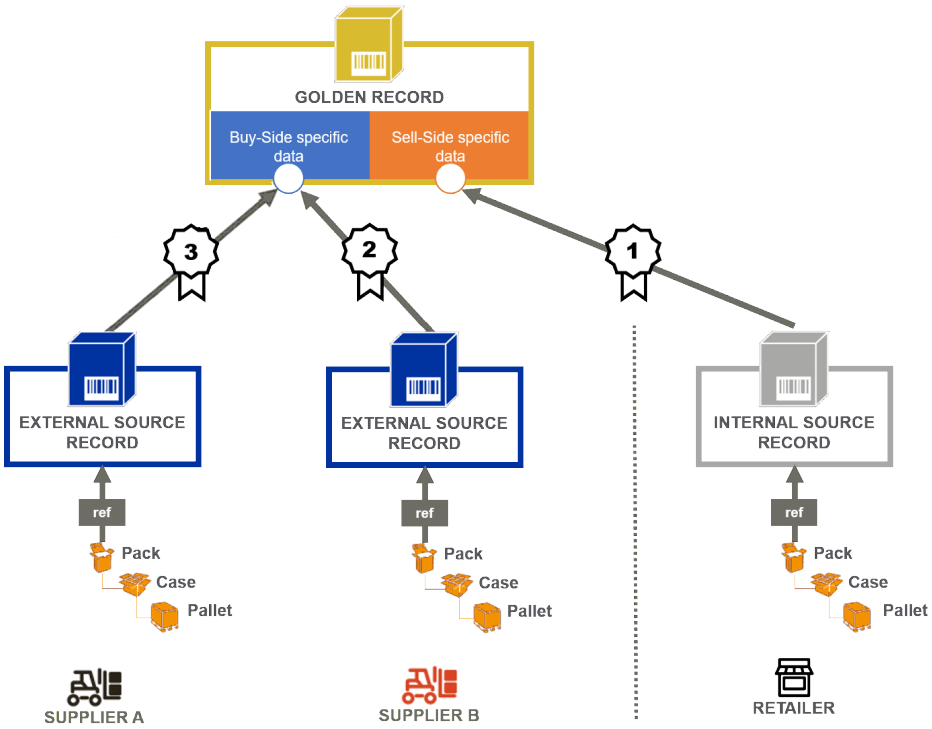
8	The Golden Record and its associated assets and web classifications are published to the E-commerce platform



When the golden record has passed the validation for E-commerce, then the golden record is sent to the 'Products Outbound – E-commerce' outbound integration endpoint.

The export uses STEPXML format and contains the golden record, the assets referenced from the golden record, and the web hierarchies where the golden record is linked.

Accelerator for Retail Data Model



The Data Management Accelerator for Retail data model includes external source records, an internal source record, and a golden record. The following diagram illustrates how the different objects are articulated:

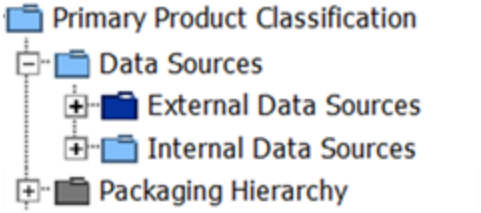
- The golden record aggregates data coming from the external source records and the internal source records (aka 'silver record').
- The packaging hierarchy objects are attached to each record.
- The 'each' is the source record itself.
- Each source record has a ‘rank’. This rank can be thought of as a 'weight' or 'trust index' used during the matching and linking process to prioritize data and choose which record to 'promote' from the different sources to the golden record.

Primary Product Hierarchy

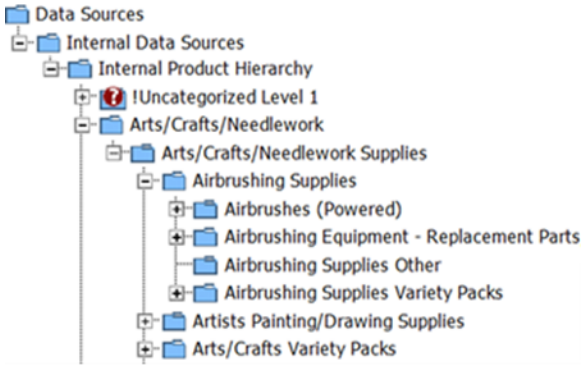
In the Accelerator for Retail configuration, the primary product hierarchy is organized as follows:

- External data sources
- Internal data sources
- Packaging hierarchy

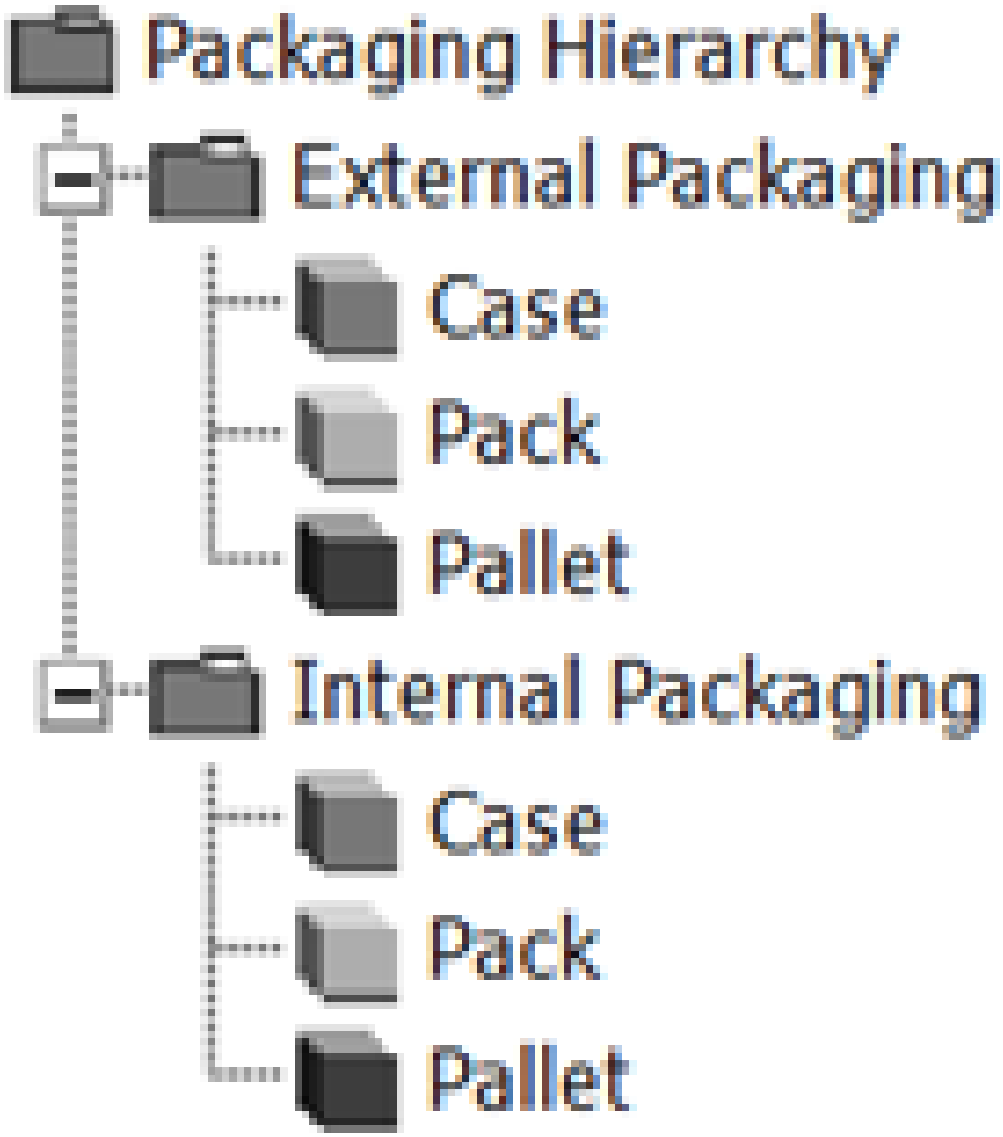
The structures of the 'external data sources' and 'internal data sources' are identical, as shown below.



- In the external data sources classification, the external source records are stored.
- In the internal data sources, the internal source record and the golden records are stored.

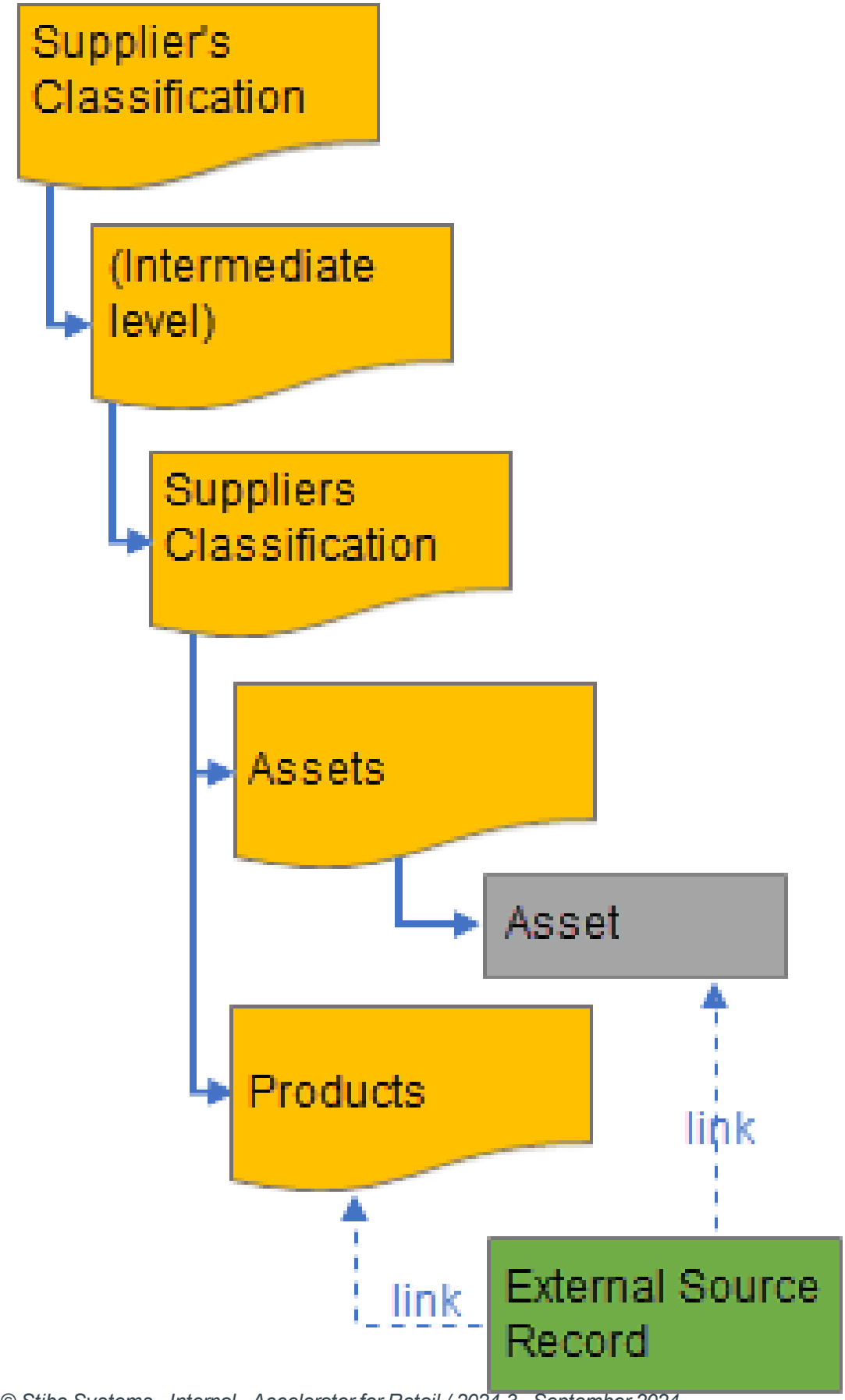
A populated external data sources hierarchy	A populated internal data sources hierarchy
	

The packaging hierarchy is a flat structure, used to store the packaging objects.



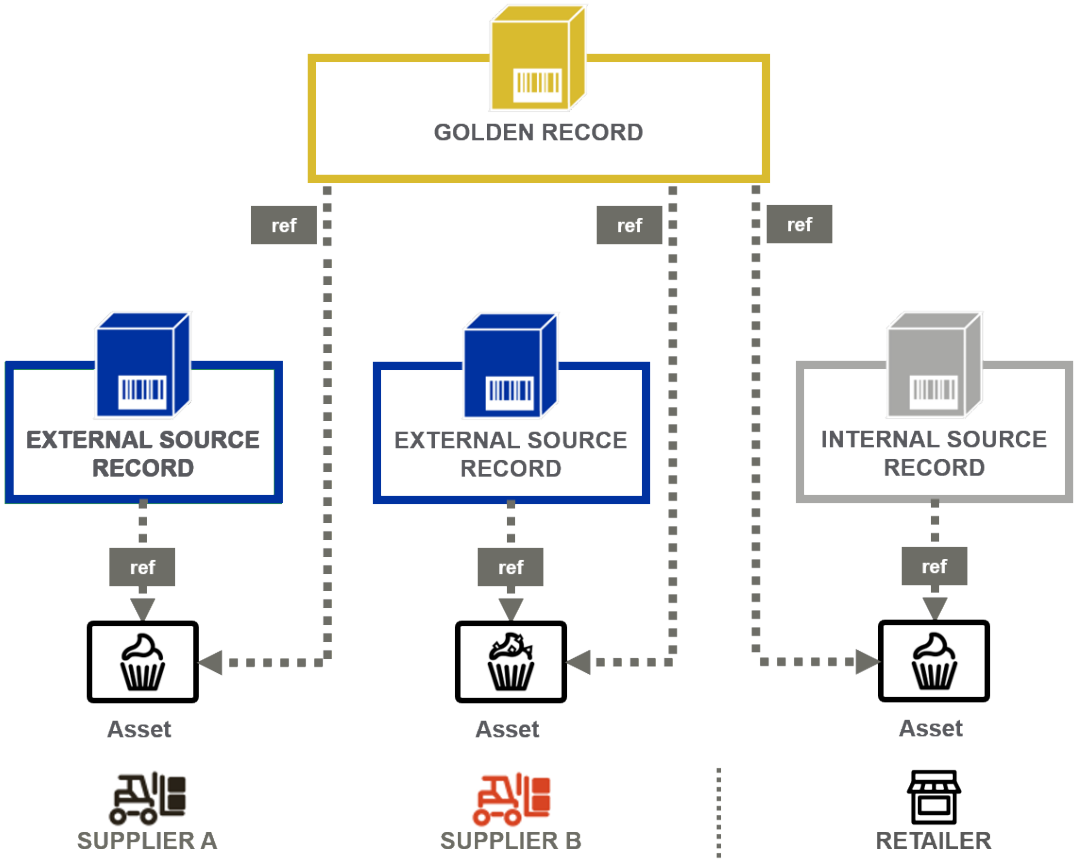
Supplier Classification

Suppliers are classified in a classic way:


Supplier's Classification
(Intermediate level)
Suppliers Classification
Assets
Asset
Products
link
link
External Source Record

Assets

Assets are linked as follows:



Accelerator for Retail Administration Tasks

Some of the key activities required to set up a fully functional Data Management Accelerator for Retail solution are described in the topics that follow this topic.

Additional tasks required to make the configuration fully operational are handled by your dedicated consultants or partners. Those tasks include:

- PDX-related data (addressed below)
- Suppliers (addressed below)
- Matching and Linking
- Users and groups
- Contexts
- Asset push
- OIEP
- Configure profiling for KPIs

Setup of New Suppliers

Before a supplier can submit product data from PDX, the supplier has to be created in Accelerator for Retail. Objects and configuration options must be defined per supplier.

To setup a new supplier the following steps are needed:

1. Create a new supplier user group below the user group labeled 'suppliers'.

   As part of this process, the supplier classification is created by selecting the parent for the supplier classification below the 'suppliers' classification node.

2. Create a user below the new supplier user group.

   This user is utilized by PDX to authenticate against Accelerator for Retail.

3. Set the value of the 'PDX: Is Service Account?' attribute to 'Yes' on the new user.

   This will start a process which will link the user to the 'PDX: Service Accounts' user group and add the user ID to the 'PDX: Service Account' attribute on the supplier classification.

4. On the supplier classification the following attributes should be maintained:
   - **Supplier ID and supplier name** - Used to identify the supplier and to ensure uniqueness.
   - **Type of supplier** - Used for information purposes when comparing sources for a golden record.
   - **General handling of new source records** - Controls whether new external source records from this supplier should be automatically approved in Accelerator for Retail, or if the buyer needs to manually approve the product data before onboarding the product. Selecting 'Automatic approval of new Source Records' for this attribute will move products through the External Record Handling workflow without requiring action from a user.
   - **General handling of updated source records** - Controls whether a change to an existing external source record from this supplier should be automatically approved in Accelerator for Retail, or if the buyer needs to manually approve a change before it is considered for promotion by the Matching and Linking process. Selecting 'Automatic approval of updated Source Records' for this attribute will move products through the External Record Handling workflow without requiring action from a user.
   - **General rank for supplier and general rank type of supplier**- Used by the matching and linking survivorship rules to control the preferred order of sources when promoting product data to the golden record.

     Rank type of supplier has the following options: 'Approved Content Source' (AC) and 'Non-Approved Content Source' (NA).

     Rank for supplier has the following options: 1, 2, 3, 4, 5.

     The values of the two attributes are linked together into a single 'source rank for promotion' value which is used by the survivorship rules when promoting product data to the golden record.

     The preferred order of sources configured in the survivorship rules in Accelerator for Retail is:

     MDM, AC1, AC2, AC3, AC4, AC5, NA1, NA2, NA3, NA4, NA5, NA99

     where:

MDM: internal source record

AC1-5: approved content source

NA1-5: non-approved content source

NA99: used if no rank type or rank is defined for the supplier.

Example

Attribute A has the value 'Yes' on a source having AC2 as Source Rank for Promotion.

The survivorship rules check the sources in the defined preferred order. First it checks the internal source record which does not have a value for Attribute A. It continues to look for a source with AC1, but that external source record does not have a value for Attribute A either. So it continues by looking for a source with AC2. Finally, a value for Attribute A is found, so this value will be promoted to the golden record, and it will skip looking for values on lower ranked sources.

For some suppliers it might be necessary to overwrite the general source record handling and product data ranking on all products below specific product hierarchy nodes. This can be done by linking a node from the external product hierarchy to the supplier classification using the category ranking for supplier link type. The link will have the following metadata attributes: category handling of new source records, category handling of updated source records, category rank for supplier, and category rank type of supplier.

- **Recipient Email for PDX Invitation** (ID = PDXInvitationEmail) – The email address where the invitation email should be sent
- **Recipient Name for PDX Invitation** (ID = PDXInvitationName) – The name of the person who should be mentioned in the salutation or greeting in the body of the invitation email

5. The supplier classification must be approved.

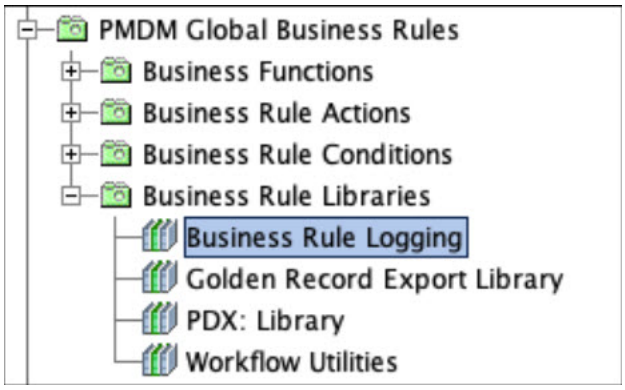
   This will start a process which will generate a unique supplier identifier in the 'PDX: Supplier Identifier' attribute on the supplier classification.

6. The 'PDX: Supplier Identifier' value generated within a minute of the initial approval of the supplier classification is what the supplier needs for authentication when adding the channel in PDX.

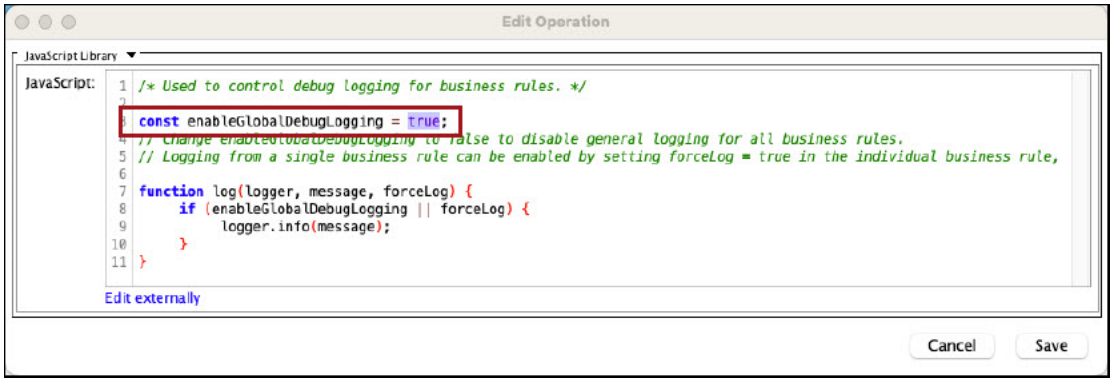
Centralized Control of Business Rule Logging

Accelerator for Retail supports the ability to enable or disable logging for all business rules by making a single change to a business library.

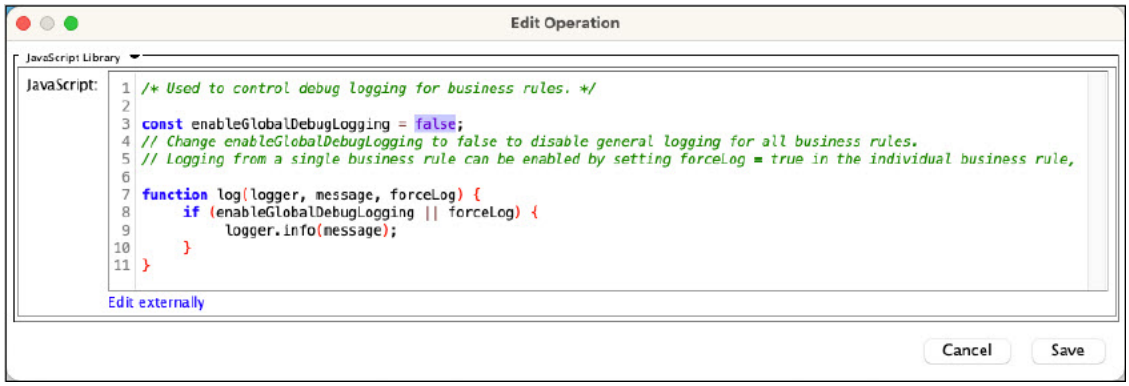
To enable or disable logging for all business rules, open the 'Business Rule Logging' business rule library (ID: BusinessRuleLogging).



By setting the 'enableGlobalDebugLogging' variable in the 'Business Rule Logging' library to either 'true' or 'false', the system is being directed to ignore the logging setting on all Accelerator-delivered business rules. So by setting 'enableGlobalDebugLogging' to 'true', logging is enabled for all Accelerator-delivered business rules.



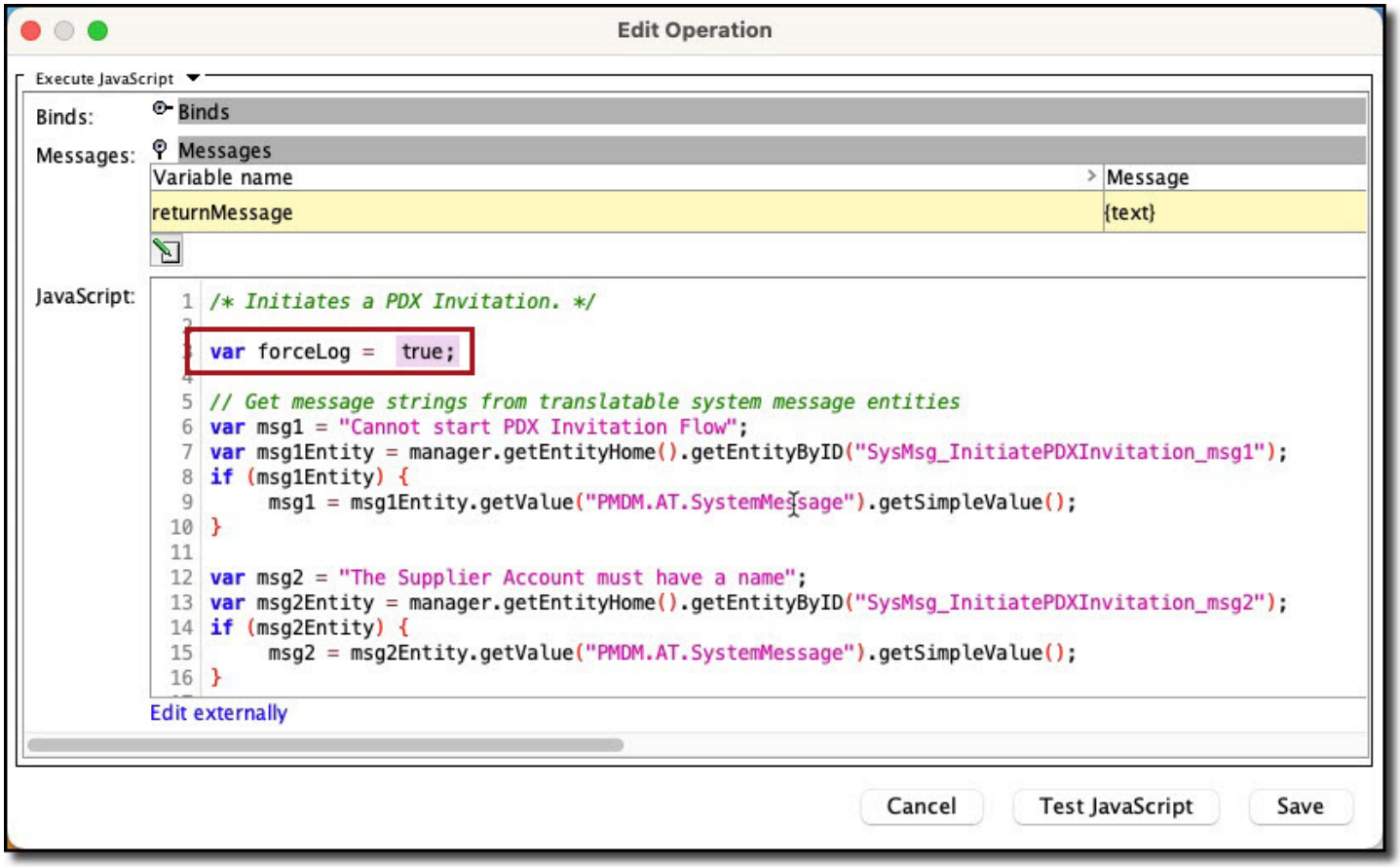
Alternately, set the variable to 'false' to disable logging for all Accelerator-delivered business rules.



The solution also allows admin users to enable logging for individual business rules even if logging has been disabled for all Accelerator-delivered business rules.

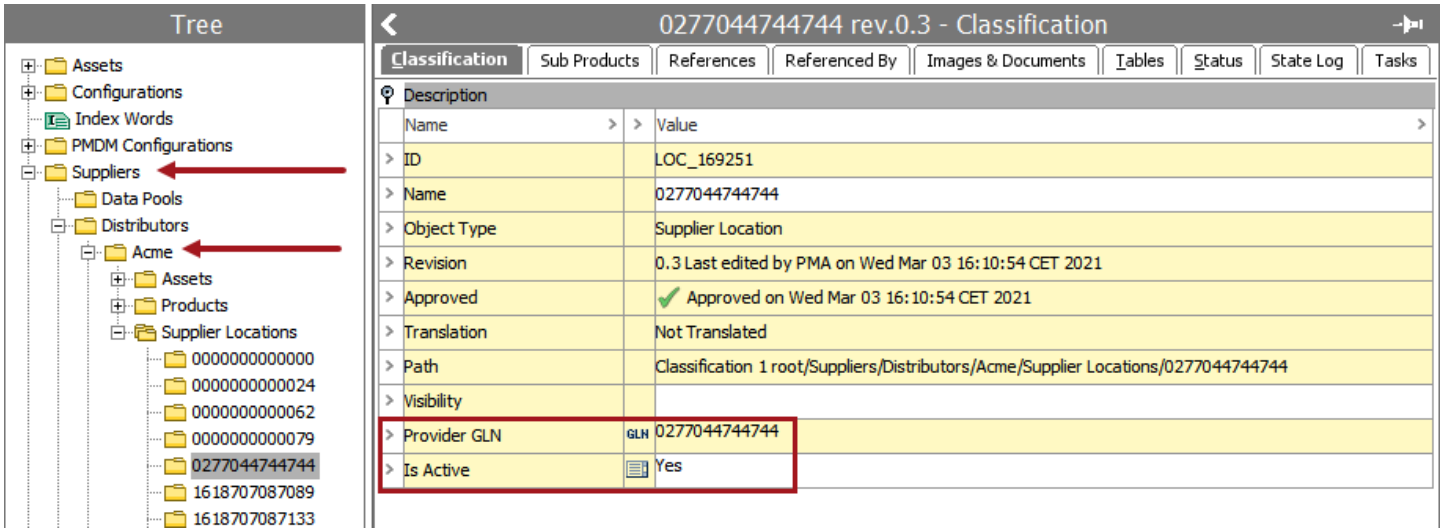
To do this, open the business rule for which logging must be enabled.

To turn logging on for the business rule, set the 'forcelog' variable to 'true', as shown in the screenshot below.



Supplier Locations

If a supplier has multiple locations that could be delivering products to a retailer, and the retailer needs to manage which of those supplier locations it will accept products from, then the supplier Location need to be set up in Accelerator for Retail beneath the supplier classification. A supplier Location object holds the following metadata attributes: 'Is Active' is used to control if the retailer accepts products to be delivered from the location (ship point) and 'Provider GLN' is used to identify the specific location.



Any locations that are flagged as being active will show up as a viable location choice to the user in PDX when they are preparing the product for onboarding.

Once the new products are onboarded from PDX into Accelerator for Retail, the selected 'Primary Location' value will be used for creating a reference from the product to the matching supplier Location object in the supplier hierarchy using the 'Primary Location' classification reference. Likewise, the 'Secondary Location' values are used for creating references from the product to the matching supplier Locations using the 'Locations' classification reference.

PDX Invitation Flow Error Handling

Missteps and errors can occur when following the steps required to onboard suppliers to PDX channel account via the PDX invitation flow. To help navigate these potential issues, described below are some of the error scenarios that can occur in the process of enabling suppliers to send data via a channel account in PDX—and how to fix them.

Channel account invitation sent to wrong email

When an email invitation has been sent to a supplier via the PDX email invitation process, the recipient has 14 days to accept the invitation. While the invitation, potentially, sits un-accepted, an invite enabling the supplier to access the channel account in PDX can be sent or forwarded to other supplier recipients. Sending out multiple invitation emails for the same supplier account can result in multiple channel accounts being created for the same supplier account. This has the potential to cause issues as the supplier begins to send data. If possible, retailers should communicate clearly with suppliers receiving email invitations to PDX to ensure the above scenarios do not occur.

Channel account created in the wrong PDX account / client

In certain instances, it is possible for a supplier to create his STEP-linked channel account in the wrong PDX account / client. This is an uncommon scenario but can sometimes occur if multiple PDX accounts exist for a given user and that user, following receipt of the invitation email, links to the channel account associated with the email but selects the wrong PDX account / client when accessing the channel account for the first time. In these instances, the supplier must contact the retailer who sent the invite. The retailer can then ask the Stibo PDX Channel support team to remove the channel account. Following that, the retailer can then reset the channel account in STEP and send a new channel account invitation to the supplier.

PDX account / client user wants supplier name changed

If the supplier receiving the email invitation does not approve the name the retailer has assigned to that supplier—for instance, the retailer assigns the name 'Acme Ltd.' but the supplier prefers the name 'Acme'—the supplier can ask the retailer to make the change. To do this, the retailer must contact the Stibo PDX Channel support team to request the channel account associated with the invitation be deleted. Once PDX confirms this has been done, the retailer can reset the channel account association from the supplier account in STEP and then send a new channel account invitation to the supplier that features the preferred name.

Multiple channel accounts created for the same supplier account

If multiple invitations are sent to one or more suppliers, all invitations being linked to a single supplier account in STEP, issues can arise that may impede timely flow of data from the supplier to STEP via the PDX channel account. This scenario may occur if, for example, a retailer sends an invitation to two different people, both working for the customer Acme. One accepts the invitation and links it to a PDX client / account called ‘Acme Inc.’, and the other accepts the invitation and links it to a PDX client / account called ‘Acme.’ In this scenario, there are now two PDX clients / accounts pointing to the same STEP supplier. As this can cause multiple challenges with the flow of data through the PDX channel, STEP marks the channel account user of the last

accepted invitation as inactive and assigns an 'Error' workflow task to the 'PDX Invitation Handling' workflow in the retailer's Accelerator for Retail solution Web UI. To correct this issue, the retailer will make a request to the Stibo PDX Channel Support team to remove the wrong channel account from PDX.

Invitation timeout

If a supplier tries to access a channel account invitation that has timed out—meaning an invitation that has not been accepted in the prescribed period of time (default is 14 days)—the supplier will receive an error and will be unable to access the channel account. In instances like this, the supplier must request a new invitation be sent from the retailer.

Update channel account STEP username and password in STEP and PDX

If the username or password of a supplier using a channel account in PDX has been changed or compromised, it may be necessary to update this information in STEP and PDX. A super user from the retail organization can make the change in the supplier account in STEP, which will in turn automatically update the channel account credentials in PDX.

Supplier account deleted in STEP when invitation callback arrives

In the rare event that an email invitation (and its associated PDX link) is connected to an account that has been deleted, PDX will display an error. In this case, the supplier must contact the retailer from whom the invitation was sent and ask the retailer to send a new invitation for a new or different supplier account. Again, this is an uncommon scenario that is unlikely to occur in well-configured solutions.

Accelerator for Retail Translation

The retailer may need to show products in different languages, either because the products are distributed in several countries, or because there are several official languages in the retailer's country.

What is translated

The data on the internal source record can be translated.

Types of translation

The following types of translation are included in the Data Management Accelerator for Retail solution:

Translation in PIM

The translation is handled internally by a translator or a team of translators directly in Accelerator for Retail Web UI.

Translation Service

The translation involves an external service (such as SDL or Lionbridge) via asynchronous translations functionality.

	User	Role
	Buyer	Regarding translation, the buyer decides if a product is to be translated in a certain language. The translation then becomes the responsibility of the translator.
	Quality Assurance Expert	During the onboarding process (refer to the **Onboarding 5 - Retailer Adds Sell Side Specific Data** topic), when doing the final review, the quality assurance expert can ask for a product to be translated.
	Translator	The translator works in the retailer's team and is in charge of the translation, which can be done personally, in-house, or by an external translation service.
	Translation Reviewer	Reviews the translation once it has been done by the translator.

	User	Role
	Translation Service	A translation service (such as asynchronous services like Lionbridge or SDL) translates content on demand, under the supervision of the retailer's translator.

Process

The translation process involves the following steps, each of which is described in the topics shown below.

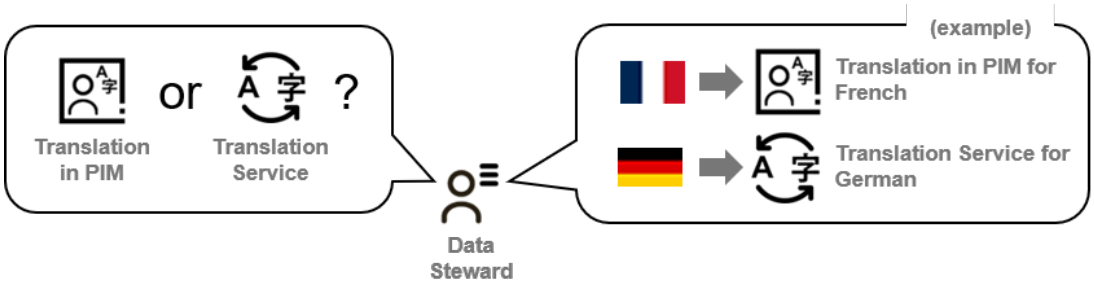
1. Setup — The retailer configures who will translate and what type of translation to use. Refer to the **Translation Process 1 - Setup** topic.
2. Translating Specific Products — The retailer decides if a specific product or group of products must be translated. Refer to the **Translation Process 2 - Translating Specific Products** topic.
3. Translation -The translator performs and reviews the translation. Refer to the **Translation Process 3 - Translation** topic.
4. Matching & Linking and Gating — The PIM executes matching and linking and runs some controls (gating process). Refer to the **Translation Process 4 - Matching, Linking, and Gating** topic.

Translation Process 1 - Setup

Setup involves deciding if translation is required, who should translate, and if products have default translation languages.

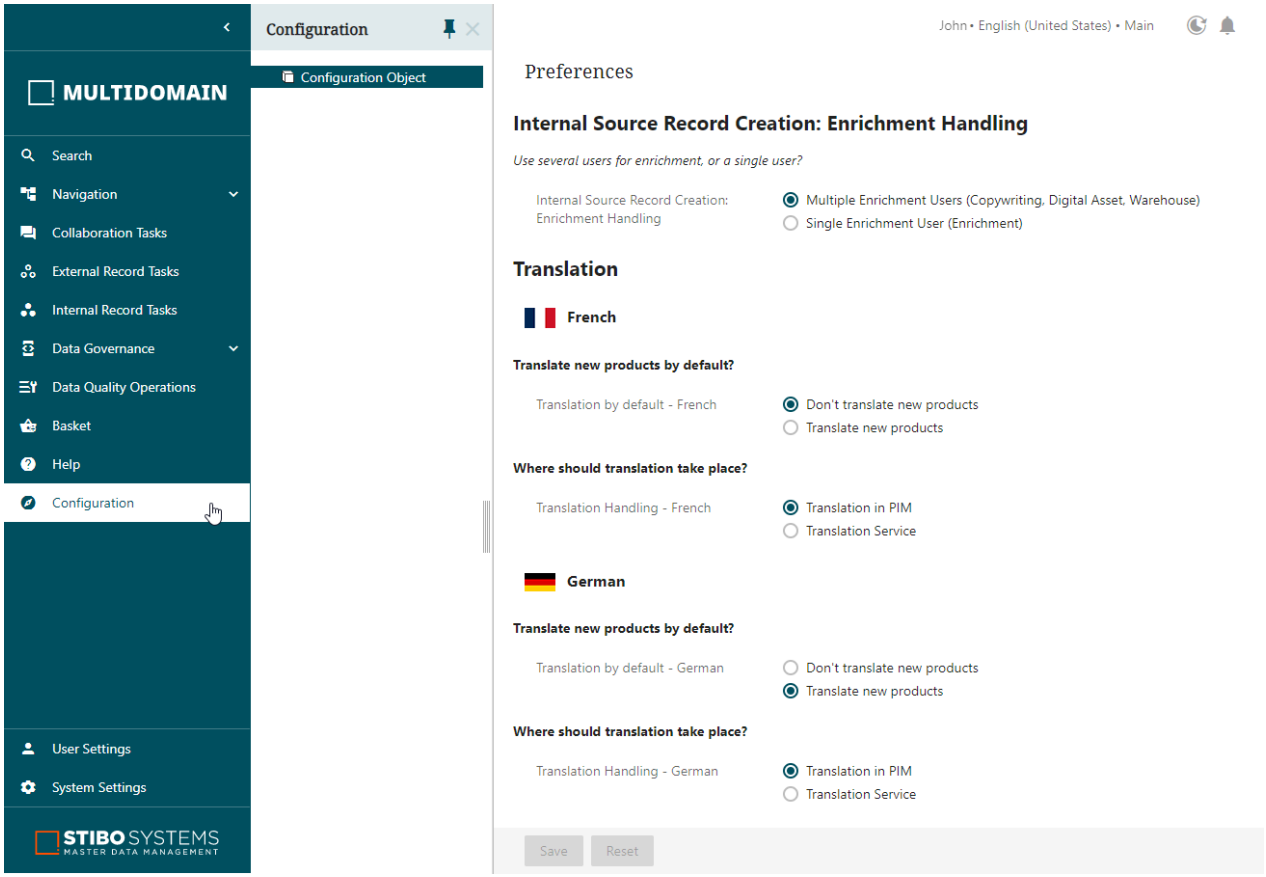
Decide if translation is required and who should translate

For each language, the data steward decides if the translation will be handled internally (Translation in PIM Web UI) or externally (using an asynchronous translation service).

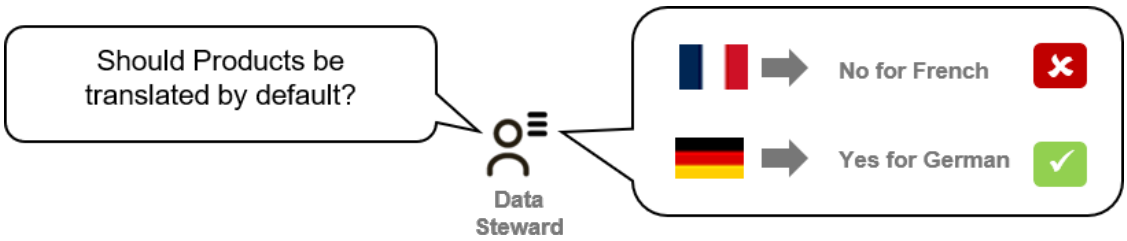


By default, the type is set to 'Translation in PIM'.

Setup is managed in the Web UI configuration section as shown below.



Decide if Products should be Translated by Default in a Certain Language

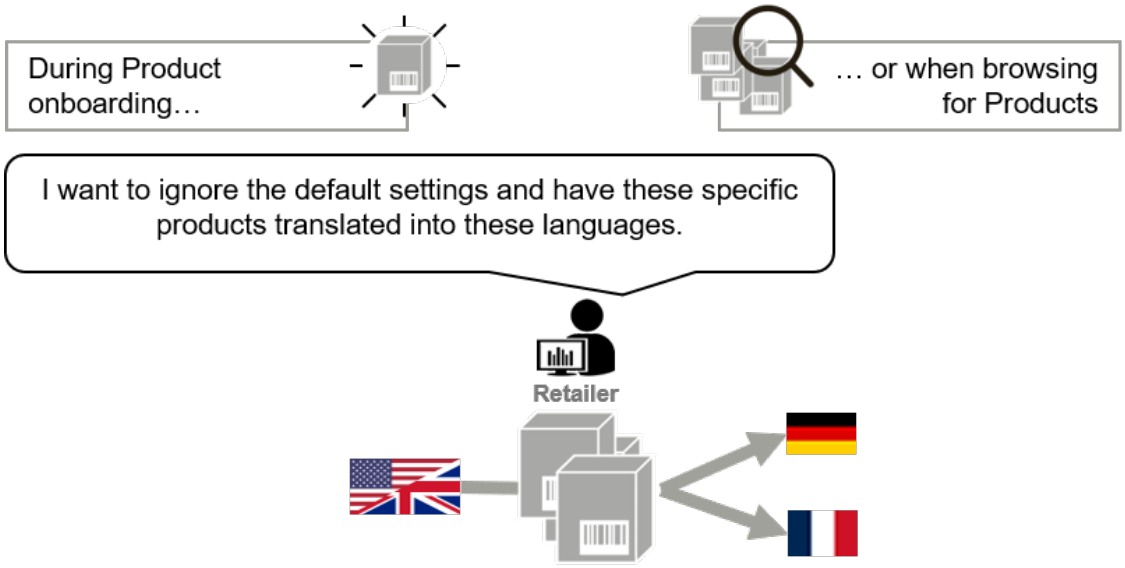


Similarly, the data steward decides if all products should or should not be translated by default in a certain language.

Setup is managed in the Web UI configuration section as shown above.

This default choice can be overridden for one or more products, as explained in the **Translation Process 2 - Translating Specific Products** topic.

Translation Process 2 - Translating Specific Products

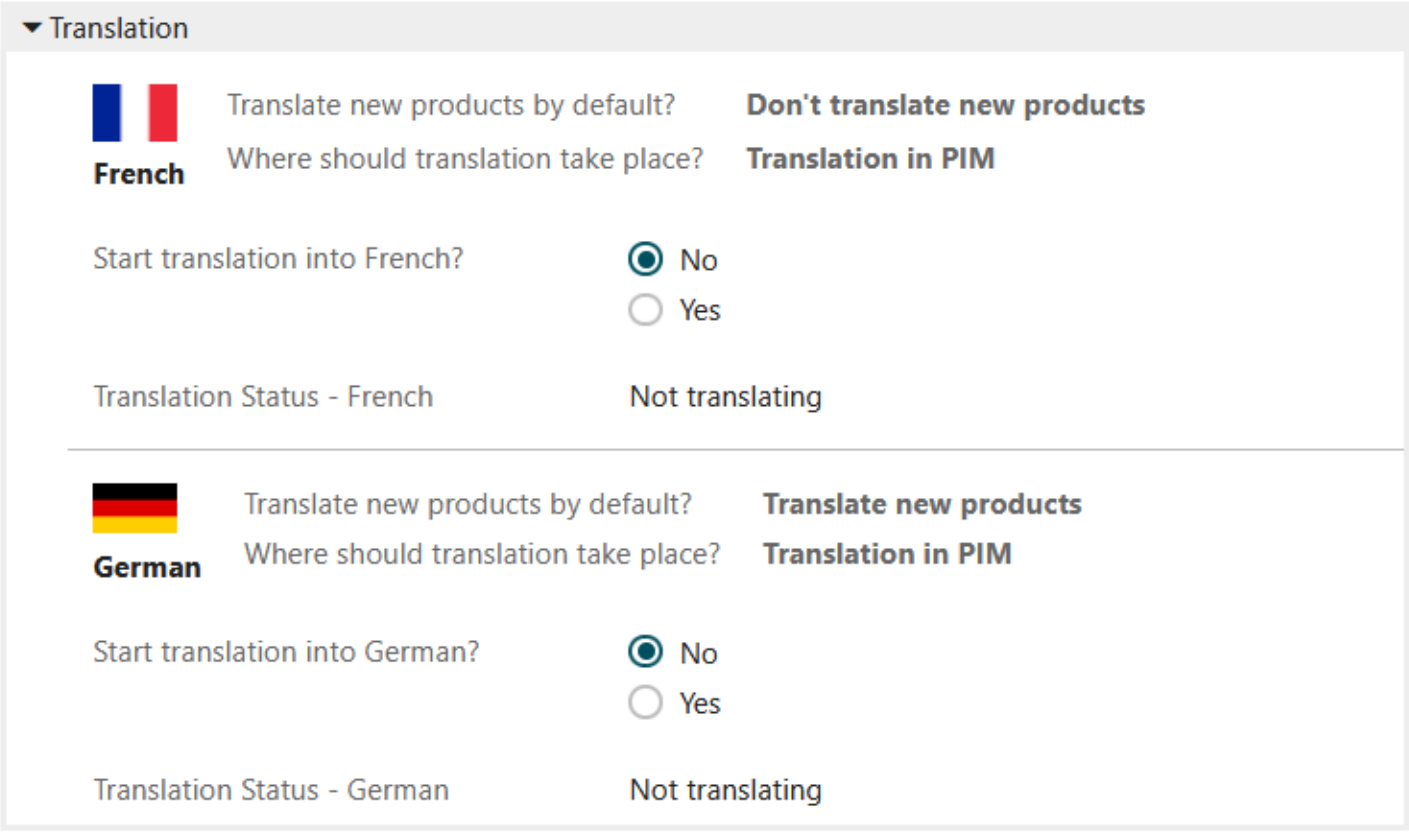


Whatever the default settings are for translation, it can be decided to translate one product or a group of products.

This can happen:

- In the onboarding workflow, in the 'buyer review' states and in the 'product review' state.
- At any moment, when browsing for products on a product page or a node list as shown below.

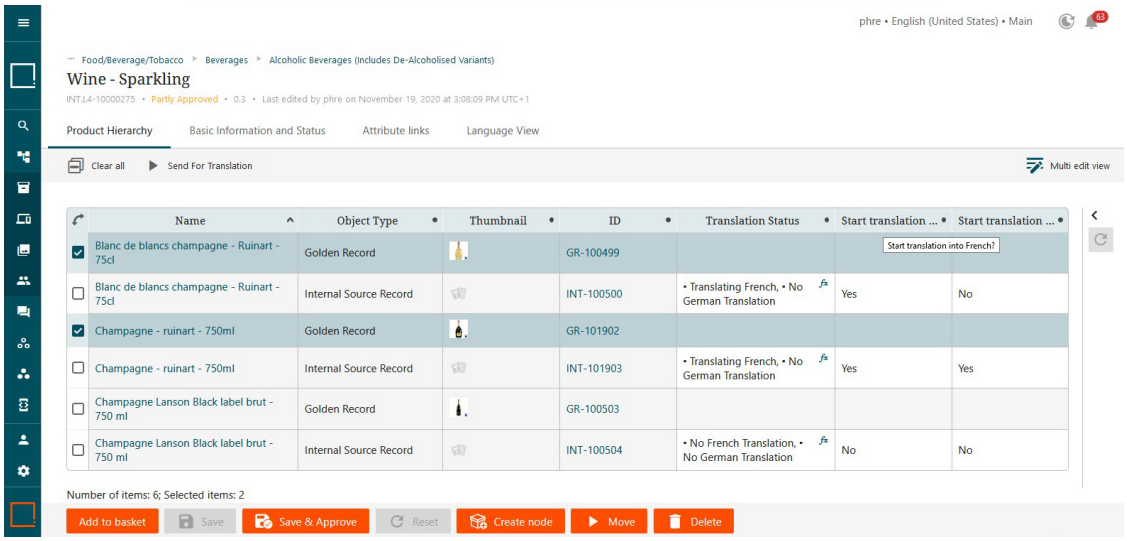
Example Product Page



Example node list page

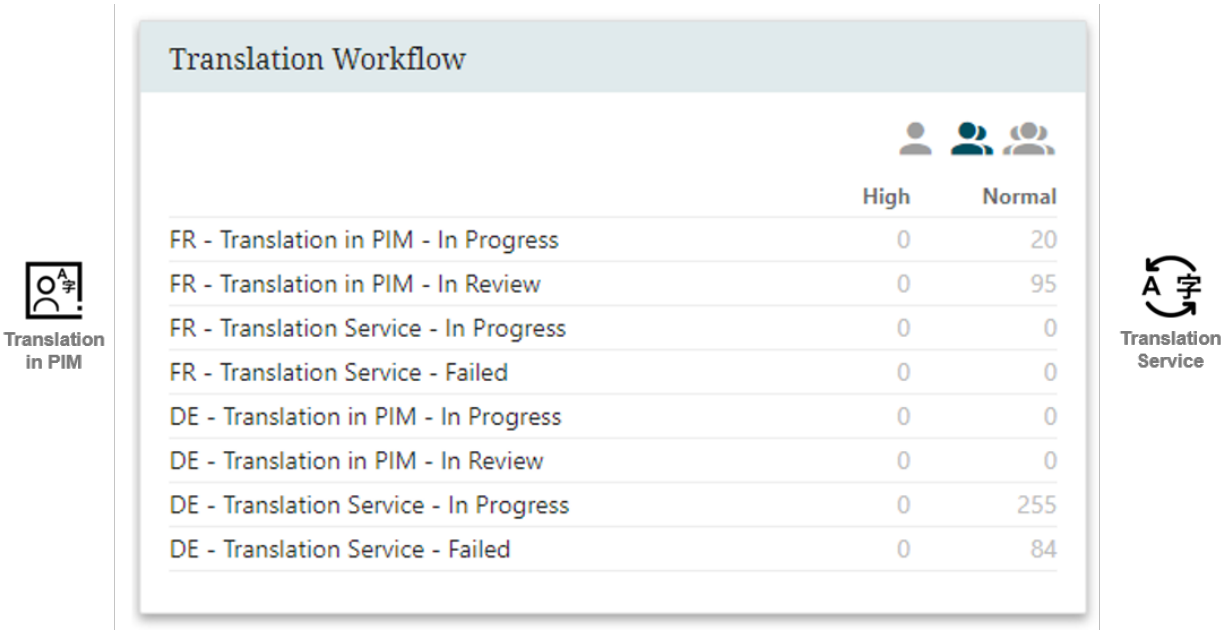
The user chooses the products to be translated, the translation languages, and clicks the **Send for Translation**

button.

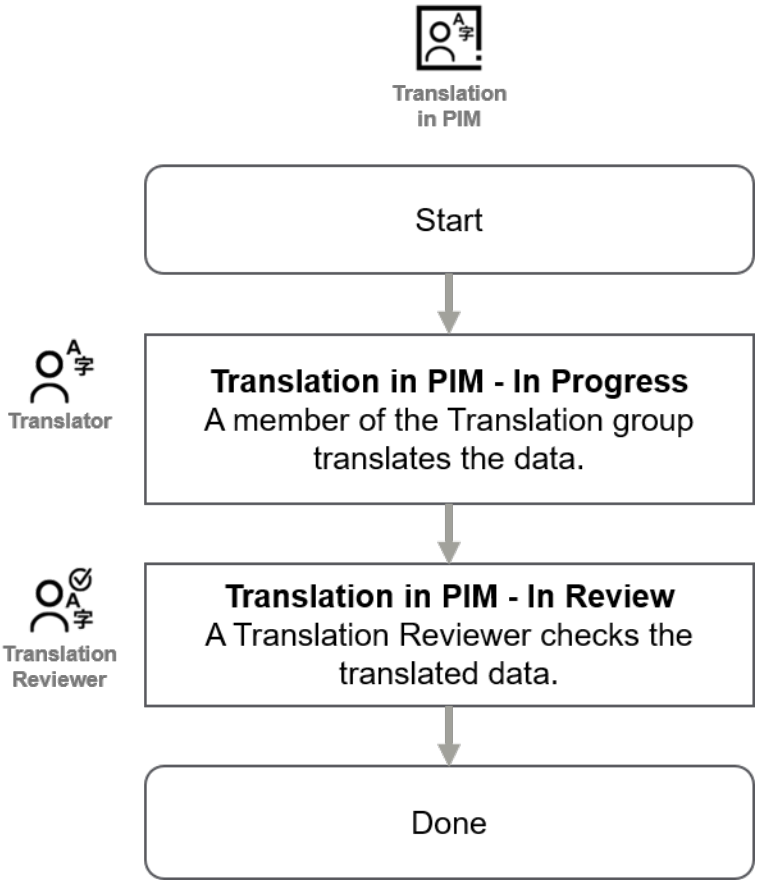

phre • English (United States) • Main
Food/Beverage/Tobacco
Beverages
Alcoholic Beverages (Includes De-Alcoholised Variants)
Wine - Sparkling
INT-L4-10000275 • Partly Approved • 0.3 • Last edited by phre on November 19, 2020 at 3:08:09 PM UTC+1
Product Hierarchy
Basic Information and Status
Attribute links
Language View
Clear all
Send For Translation
Multi edit view
Name
Object Type
Thumbnail
ID
Translation Status
Start translation ...
Start translation ...
Start translation into French?
Blanc de blancs champagne - Ruinart - 75cl
Golden Record
GR-100499
Blanc de blancs champagne - Ruinart - 75cl
Internal Source Record
INT-100500
• Translating French, • No German Translation
Yes
No
Champagne - ruinart - 750ml
Golden Record
GR-101902
Champagne - ruinart - 750ml
Internal Source Record
INT-101903
• Translating French, • No German Translation
Yes
Yes
Champagne Lanson Black label brut - 750 ml
Golden Record
GR-100503
Champagne Lanson Black label brut - 750 ml
Internal Source Record
INT-100504
• No French Translation, • No German Translation
No
No
Number of items: 6; Selected items: 2
Add to basket
Save
Save & Approve
Reset
Create node
Move
Delete

Translation Process 3 - Translation

Whenever the translation is done (in the PIM Web UI or using an asynchronous translation service), all the translation-relevant tasks are centralized in one workflow visible on the homepage of the Web UI.

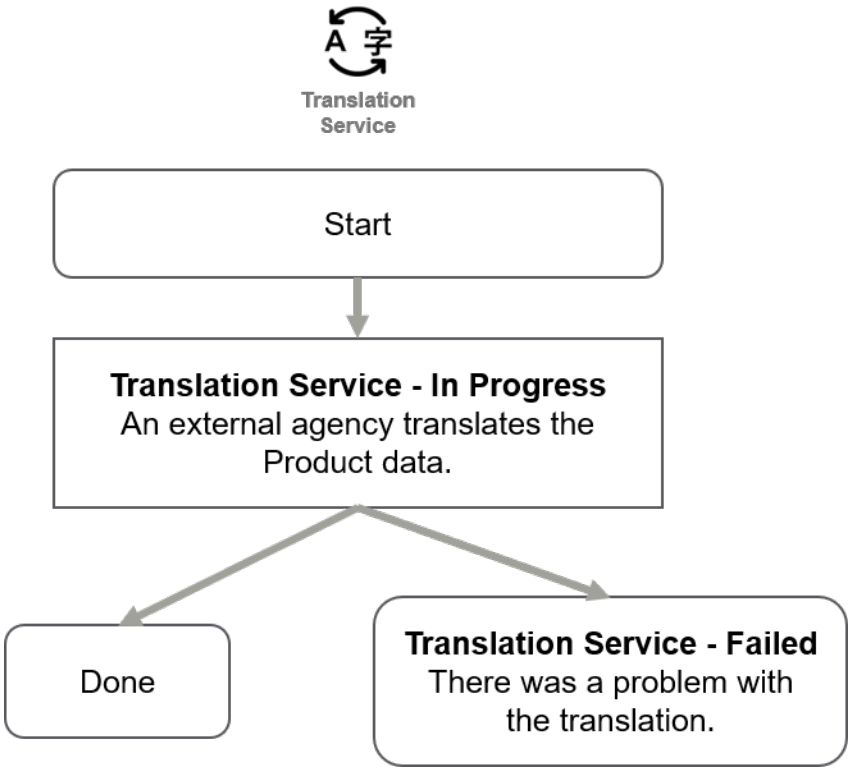


Translation in PIM



Once the translation is started, a translation group member will perform the translation. When the translation is complete (done), the product data is forwarded to the translation reviewers group.

Translation Service

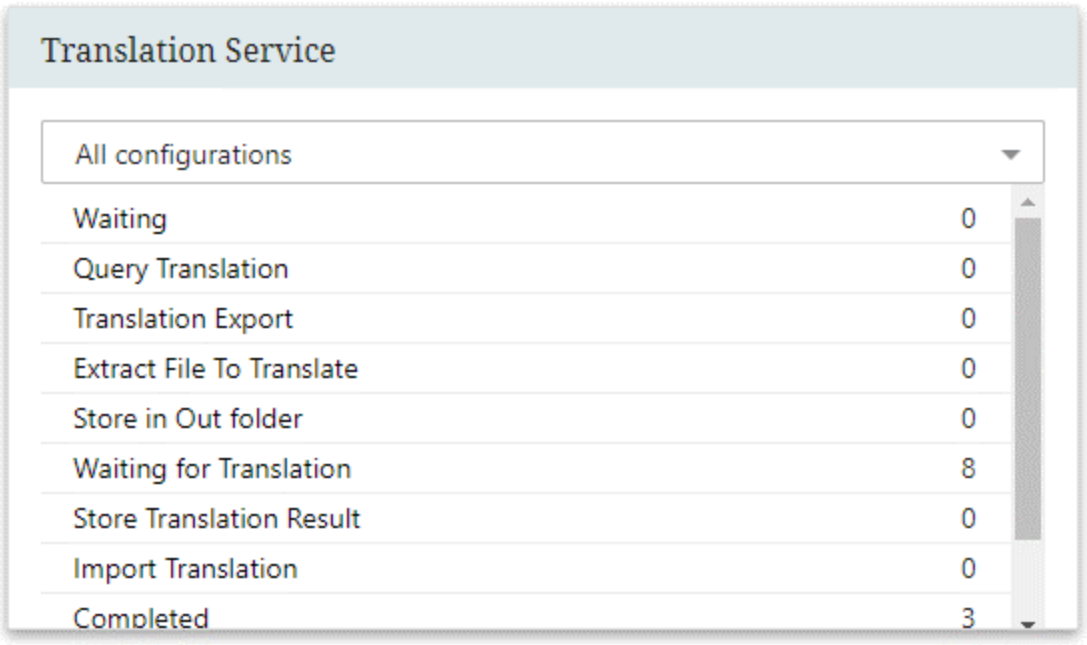


The translation is sent to an external service. The end result can be either translated Product Data or a problem importing the translation.

The translation process uses the asynchronous translation of STEP (for more details, refer to the **Asynchronous Translations** topic in the **Data Integration** documentation for more details).

The data steward, the buyer, and the translator can view the more technical actions as needed. These 'tasks' are tracked in the translation service widget which displays a list of background processes (this is not a workflow).

Each item in the widget is a link to a page listing all the background processes where the user can get more information.


Translation Service
All configurations
Waiting 0
Query Translation 0
Translation Export 0
Extract File To Translate 0
Store in Out folder 0
Waiting for Translation 8
Store Translation Result 0
Import Translation 0
Completed 3

Translation Process 4 - Matching, Linking, and Gating

Once the translation is 'done' it is considered as a change on the internal source record and will trigger the matching and linking process. For more information, refer to the **Onboarding 4 - PIM Aggregates the Data in a Golden Record** topic and the **Onboarding 6 - MDM Checks that the Data is Okay to be Presented to Other Systems** topic.

Additional Information and Limitations

The following items should be considered for the Accelerator for Retail pack.

Languages

- The master language is English (US) and additional available languages are French and German.
- The User Interface is fully localized in French and German.

If additional languages must be a part of your translation set, contact Stibo Systems to provide additional documentation outlining the process for expanding product translations.

GPC

GPC data is provided in English, French, and German.

Important: Because this pack follows the GPC standard, English is the only reference catalog and the translation is provided in other languages. Attributes, list of values, and classifications, are based on the English catalog.

PDX

PDX is assumed to provide content in the master language (English).

Controlling the PDX Channel for Product Onboarding

Customers who use both PDX and the STEP Accelerator for Retail solution to enable suppliers and retailers to send product information back and forth via a channel as part of their product onboarding workflow, must be able to configure:

- proper display of relevant data in the PDX interface
- optimal channel behavior
- effective product data validations

Many elements of how data in the PDX UI displays, is validated, and how the channel performs are determined by configuration decisions made in STEP.

All installations of Accelerator for Retail installed on STEP 2024.1 and all subsequent versions, will have a pre-configured PDX Onboarding Channel Configurator enabled. In those instances where Accelerator for Retail is newly installed on STEP 2023.4 and all previous versions, Accelerator for Retail will use an older hard-coded version of the PDX Channel framework.

The PDX Onboarding Channel Configurator for Accelerator for Retail provides more flexibility as it does not rely on hard-coded STEP elements to enable the channel. This makes it easier for users to change the configuration to fit specific requirements. Additionally, all new PDX Channel features will only be implemented in the PDX Onboarding Channel Configuration framework.

To migrate from the PDX Channel framework to the PDX Onboarding Channel Configurator framework, contact Stibo Support.

For information on implementing an optimal configuration for PDX in STEP for systems using the PDX Onboarding Channel Configurator framework, refer to the PDX Onboarding Channel Configurator documentation.

For information on implementing an optimal configuration for PDX in STEP for systems using the back-level PDX Channel framework, refer to the topics nested under this topic.