STIBO SYSTEMS
MASTER DATA MANAGEMENT

SOLUTION ENABLEMENT

PIM for Retail

Rel 10.2-MP3 (September 21, 2021)

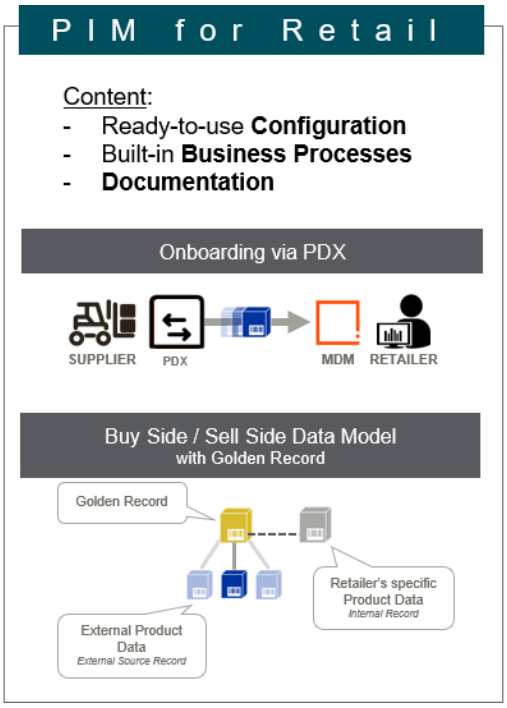
Table of Contents

PIM for Retail

PIM 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 PIM 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.

PIM for Retail Getting Started

The following topics include the basics of PIM for Retail:

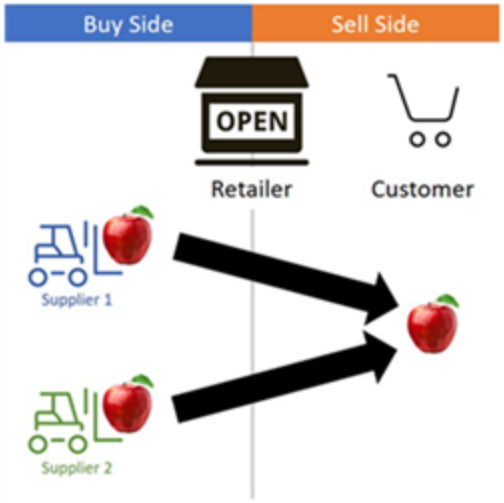
- PIM for Retail Features
- PIM for Retail Key Concepts
- PIM for Retail Products and Product Data

- PIM for Retail Product Data Lifecycle
- PIM for Retail Data Onboarding

PIM 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

PIM for Retail Key Concepts

PIM 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:

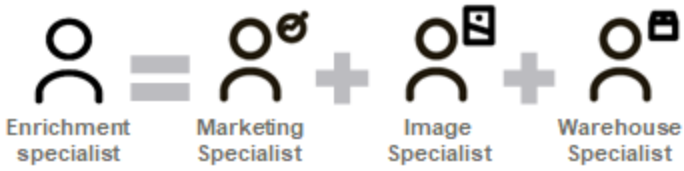
	User	Role
	Retailer	Buys products from suppliers and sells them to customers.
	Supplier / Vendor	Sells products to retailers.
	Data Provider	Produces product data as a service.
	Customer	Buys products from the retailer.

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 PIM for Retail solution:

	User	Also Known As	Role
	Buyer		Negotiates and buys products from the supplier.

	User	Also Known As	Role
	Quality Assurance Expert	QA Specialist	Ensures the quality of the data.
	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 PIM for Retail.

PIM 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.

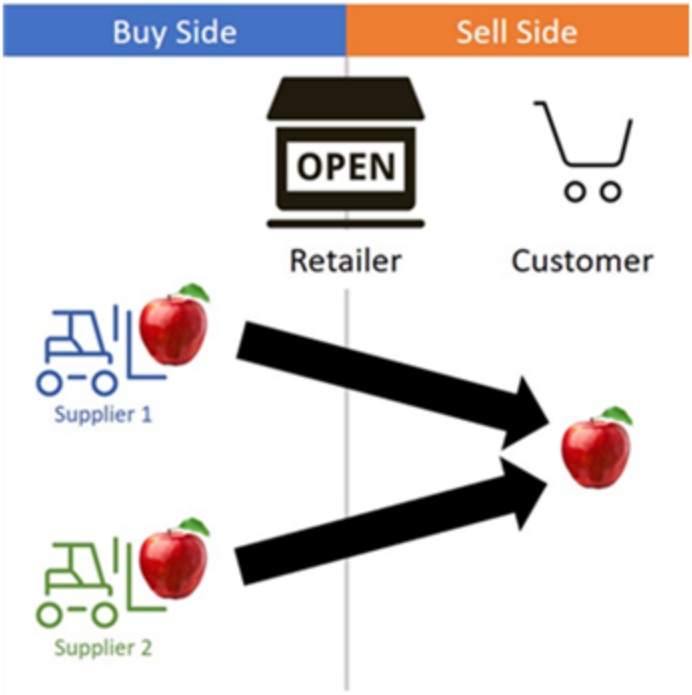
Buy Side and Sell Side

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

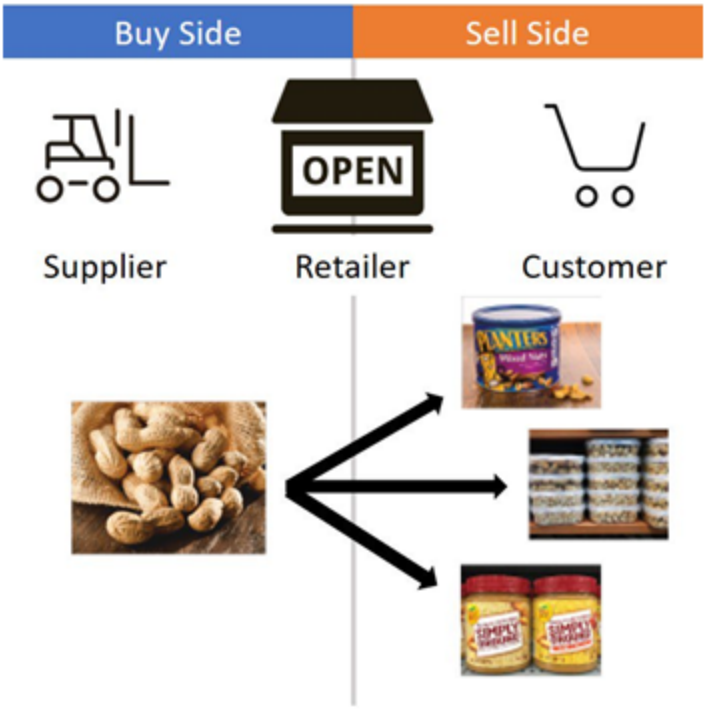
- The 'buy side' product is what you, the retailer, buys from a supplier.
- The 'sell side' product is what you, the retailer, sells to your customer.

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

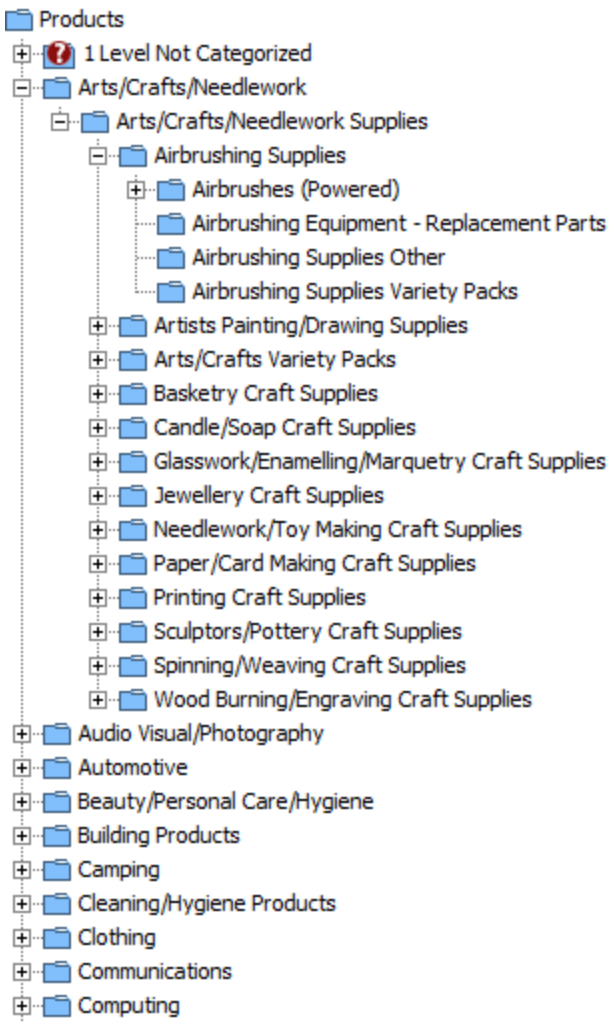
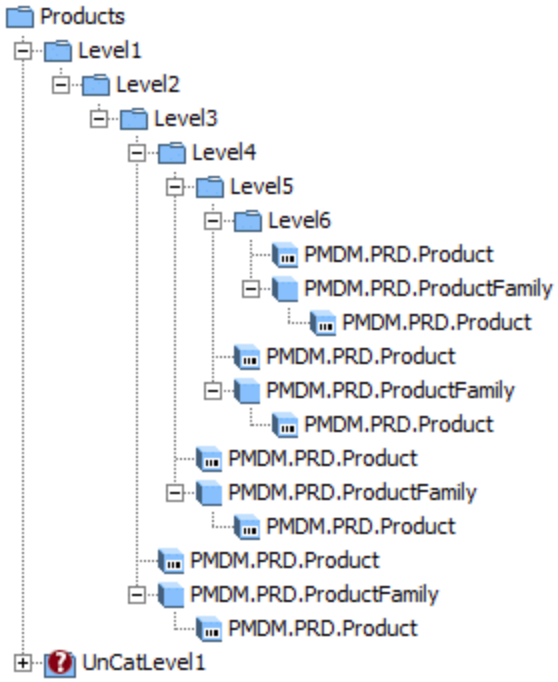
Product Data Hierarchy and Classification

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

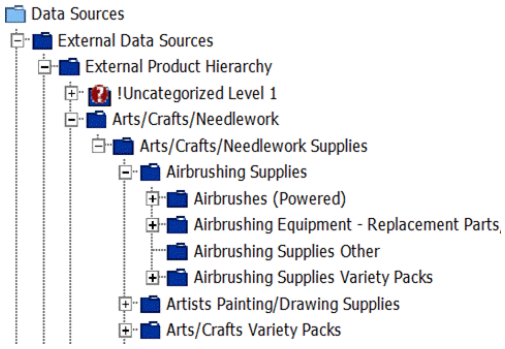
- **GPC classification** allows the standard GPC attributes to be automatically attached to each relevant 'level'.
- **Open classification** allows you to manually define the attributes needed for each node of the classification.

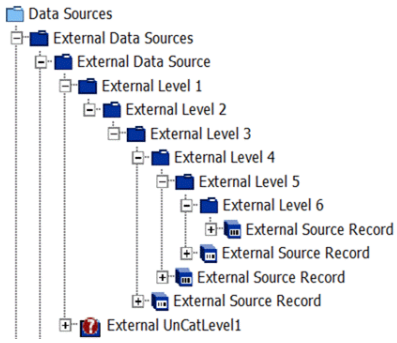
The possibilities of product data hierarchy as implemented in PIM for Retail:

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

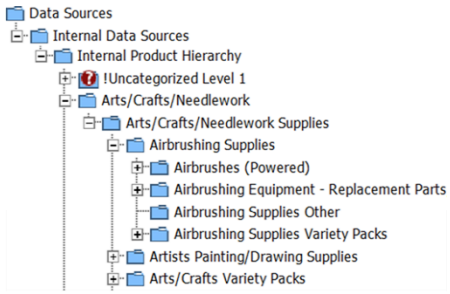
In PIM for Retail, there is a primary product data hierarchy for the purchased product data (referred to as 'external data source') and sold product data (referred to as 'internal data source'). The logic is the same, but there are two hierarchies instead of one.

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

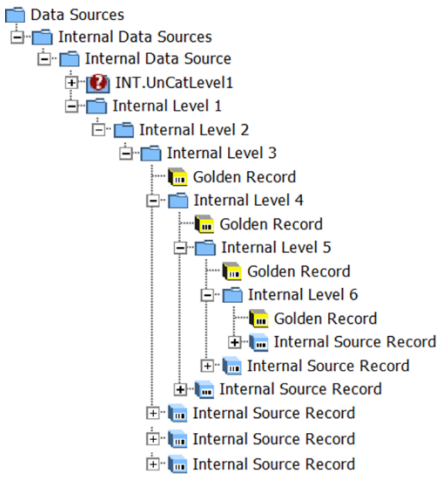




The 'internal data source' hierarchy:

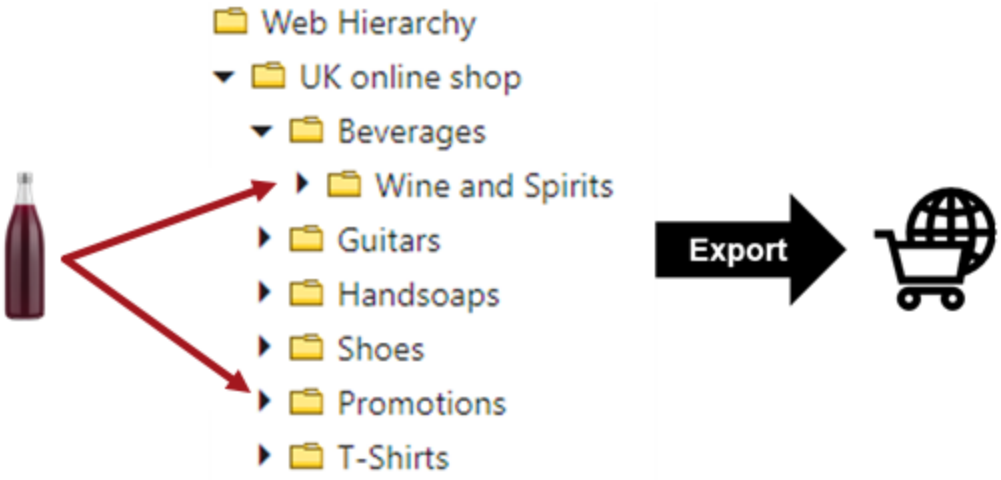


For internal data sources:



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.

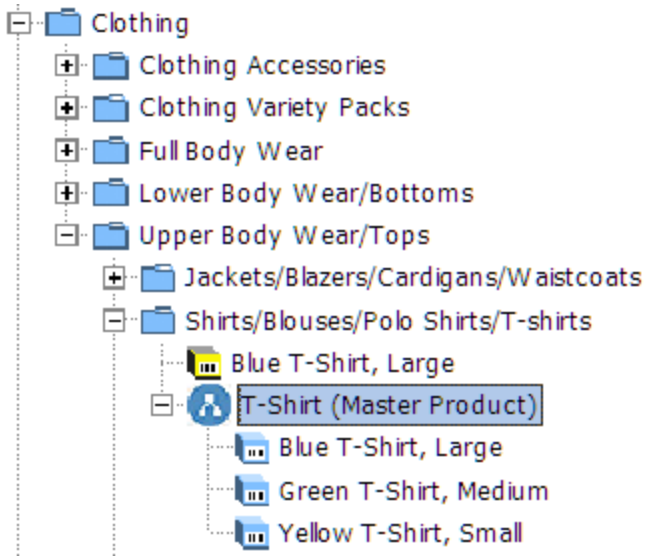
Multi-channel or omni-channel scenarios are common practices in retail. The idea is to have a continuity of purchase experience through the different channels. The most common example is 'click and collect' where you buy a product data online and pick it up in a shop. Another scenario is the other way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

PIM 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 PIM 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.

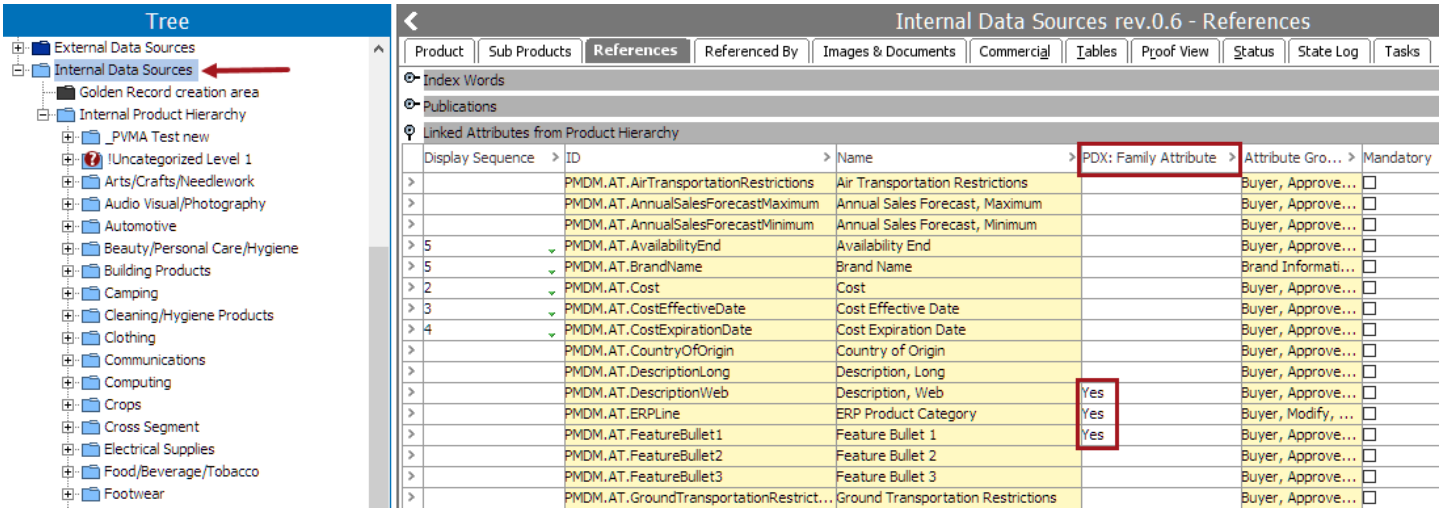
1. Setup
2. PDX
3. Creation
4. Translation

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

PIM 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.



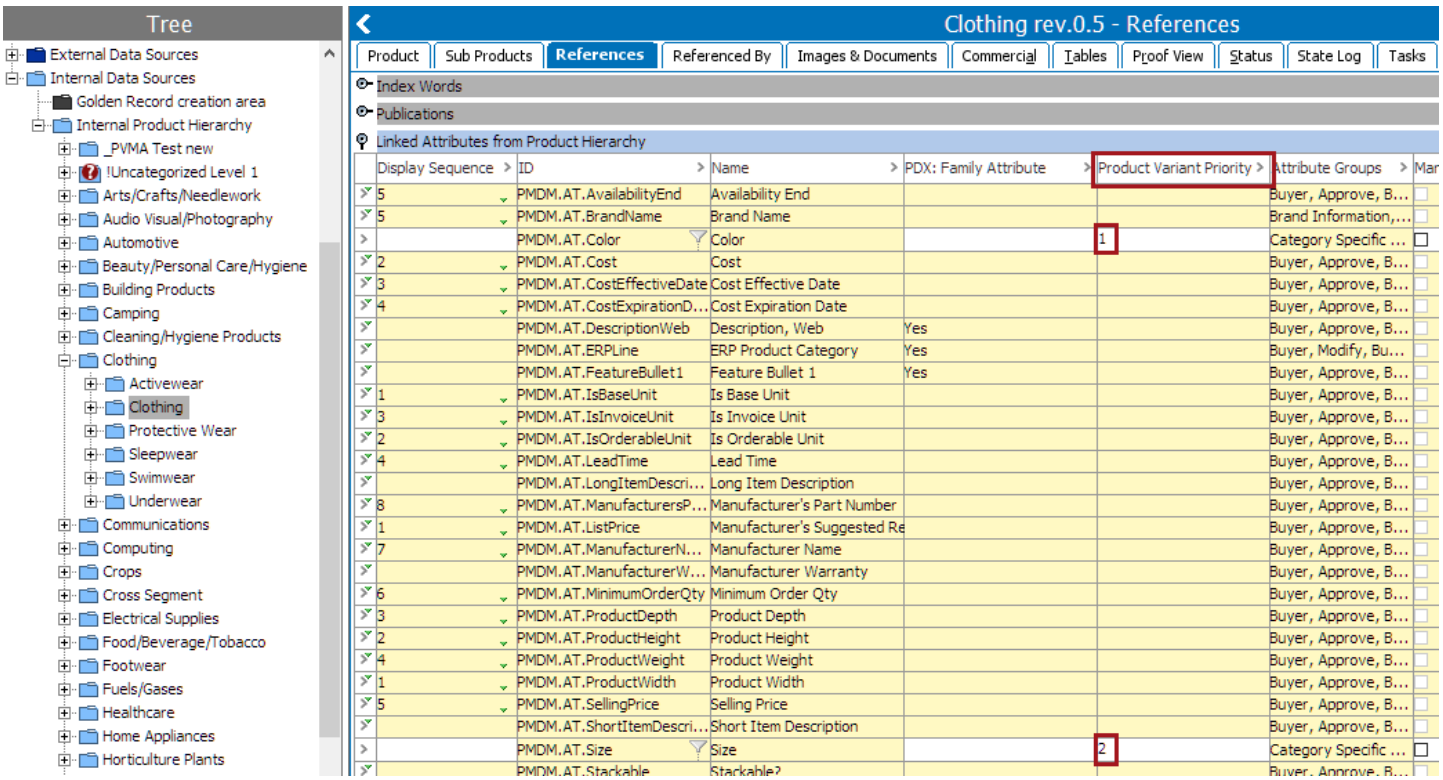
Attributes having 'PDX: Family Attribute = Yes' on the attribute link are intended to always be family-level attributes in PDX and must be maintained in PDX on the family level only.

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

PIM 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 you wish 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 they wish 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 PIM 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 PIM 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.

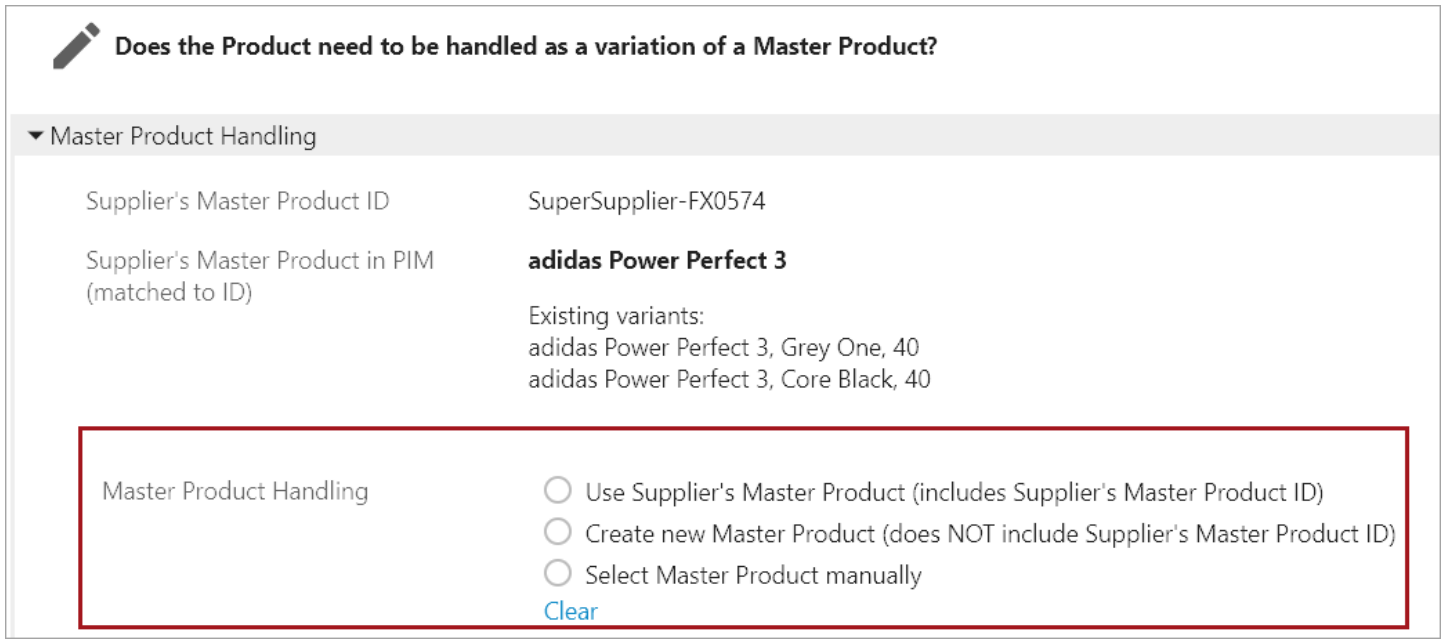
Variant 3 - Creation

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

Use the following steps to create master products:

1. In the internal record creation workflow, navigate to the buyer review screen.
2. For the **Master Product Handling** parameter, select a radio button to define how master products are created:



- **Use supplier's master product (includes supplier's master product ID)** - STEP places the internal source record as a variant directly beneath the existing internal master product in PIM that has the same value for supplier's master product ID as the internal source record. If there is no existing internal master product with the same value, a new internal master product is created, and the supplier's master product ID value is copied to it. The user can match any future internal source records that are onboarded with the same supplier's master product ID to this new internal master product as a potential 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.

- **Create new master product (does NOT include supplier's master product ID)** - STEP creates a brand-new internal master product and places the internal source record beneath it as a variant. PDX ignores supplier's master product ID value.

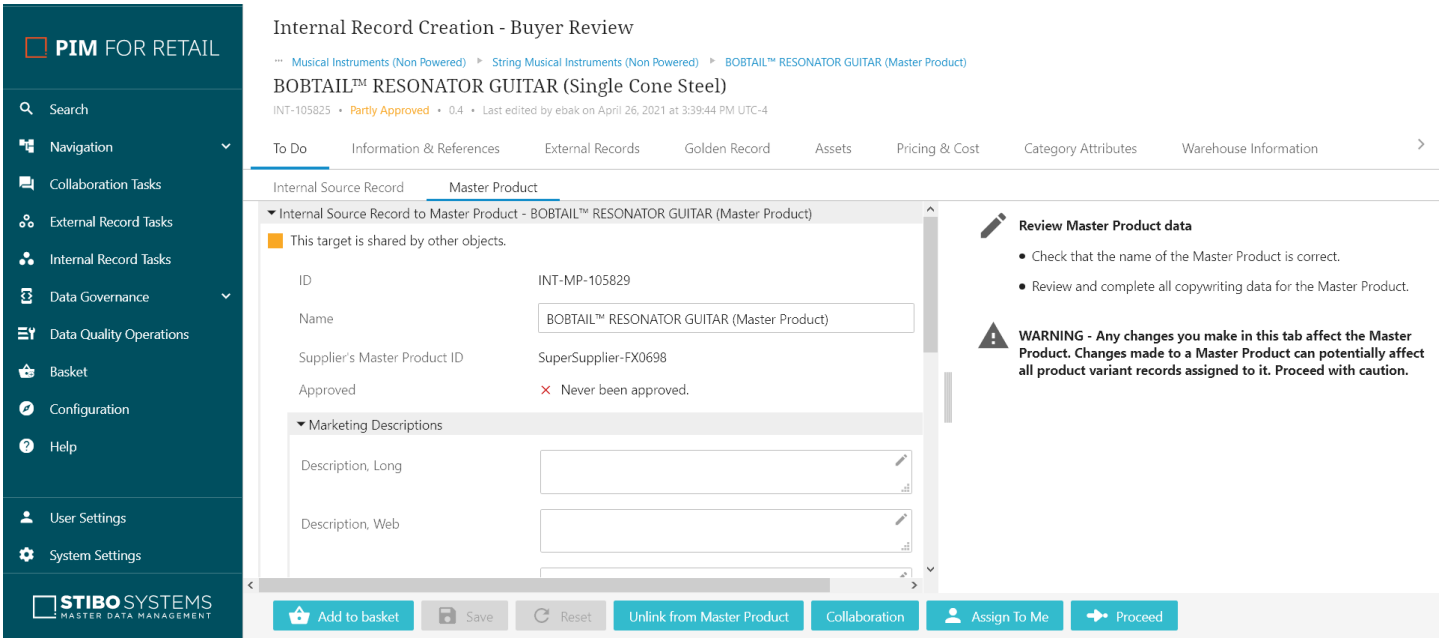
> **Note:** If a new internal master product is created by clicking the 'Run Master Product Handling' button and all values for the attributes linked to the 'Copy to Internal Master Product' attribute group are copied from the internal source record to the newly created internal master product object, 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 manually** - The user manually browses the internal data source hierarchy for an existing internal master product and the system places the internal source record beneath it as a variant.
- **Clear** - Removes all radio button selections.

3. Click the **Run Master Product Handling** button.
4. If available, continue to the master product editor tab defined below for necessary updates.

Master Product Editor

For an internal source record that is assigned to an internal master product as a variant, the 'Master Product' tab page is displayed 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.

PIM 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.

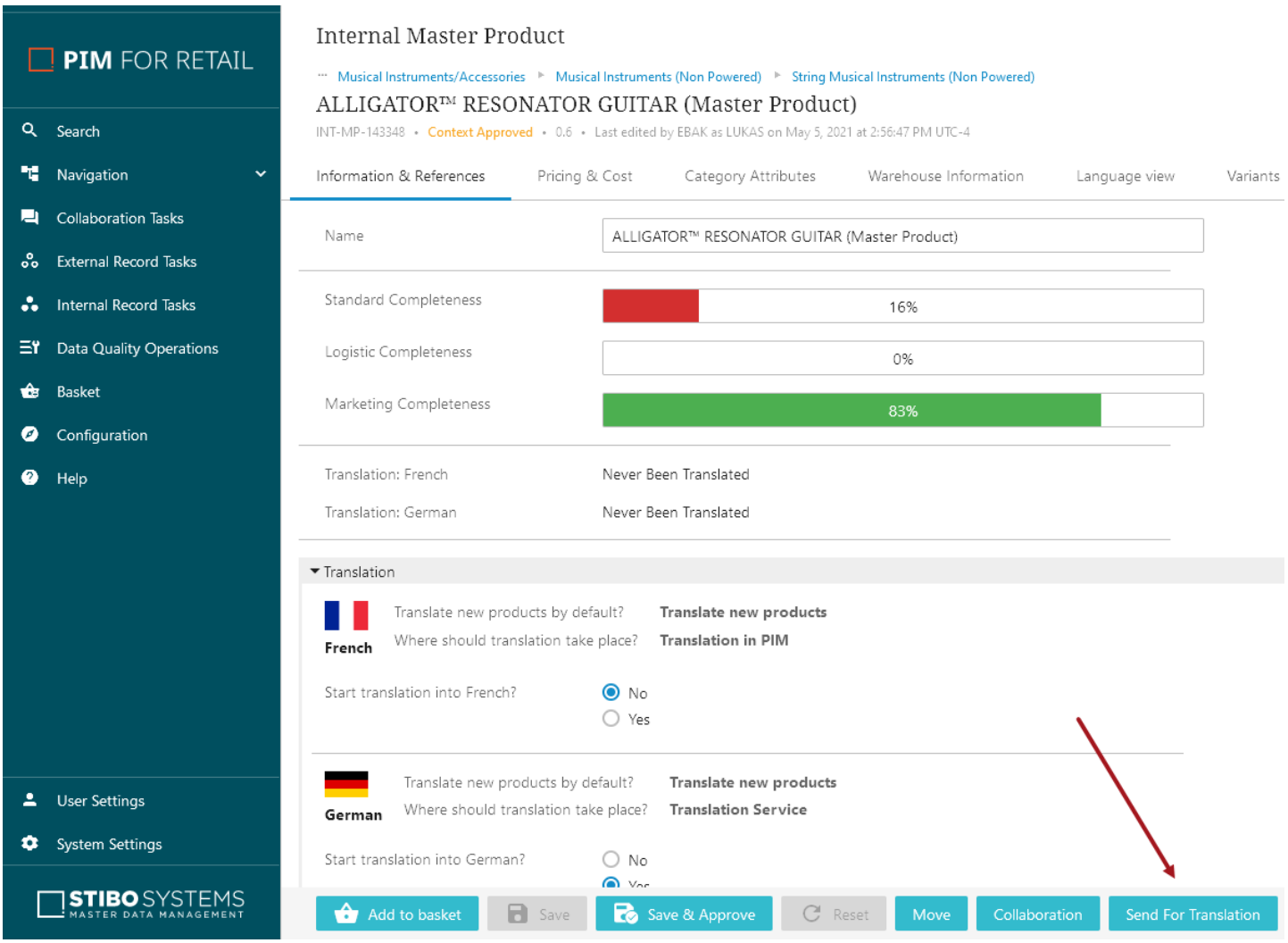
Translating Products and Variants Simultaneously

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 to see 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'.

PIM for Retail Product Data Lifecycle

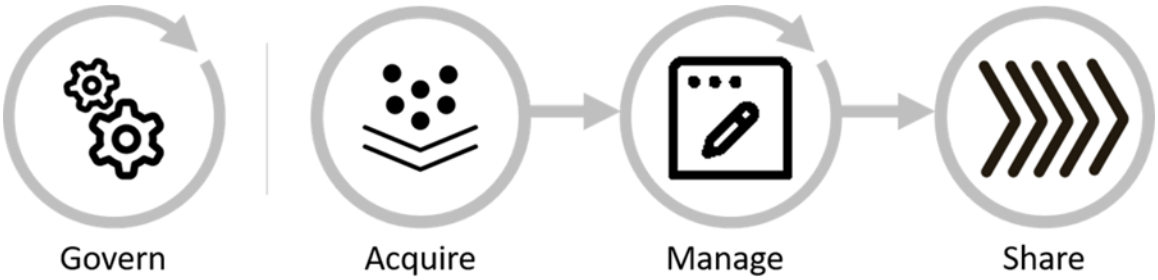
Product data is crucial for your business. To sell efficiently, product data needs to be accurate. To sell fast, product data must be available, centralized, and controlled.

With PIM 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.

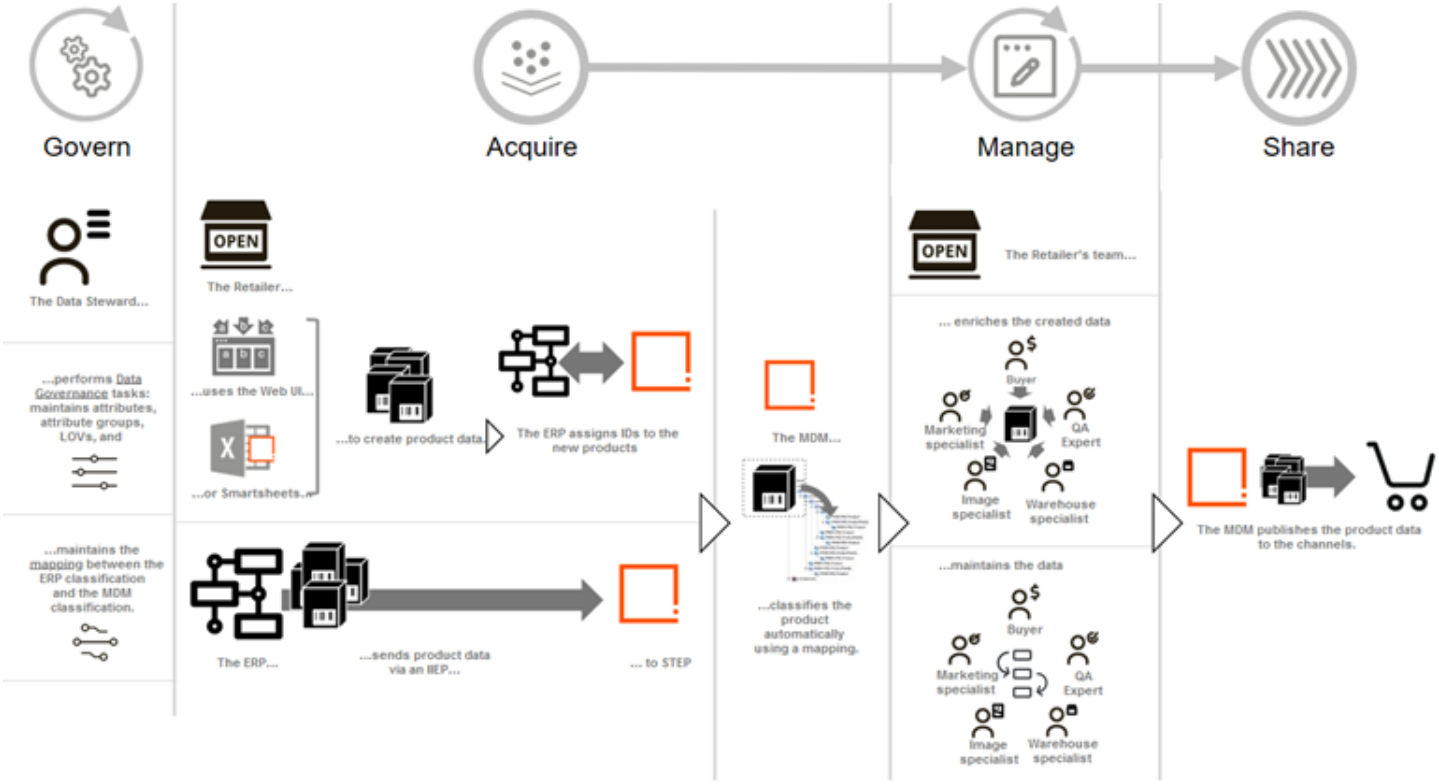
Managing accurate, up-to-date product information enables you to increase up-sell / cross-sell and to reduce the returns rate. You also gain the insight to manage products with complex hierarchies and attributes, and to fuel customers' engagement with products, create customer retention, and drive more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

PIM 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. PIM for Retail implements this logic using a typical business process which covers the scenarios frequently encountered.



PIM for Retail includes these activities as illustrated below:

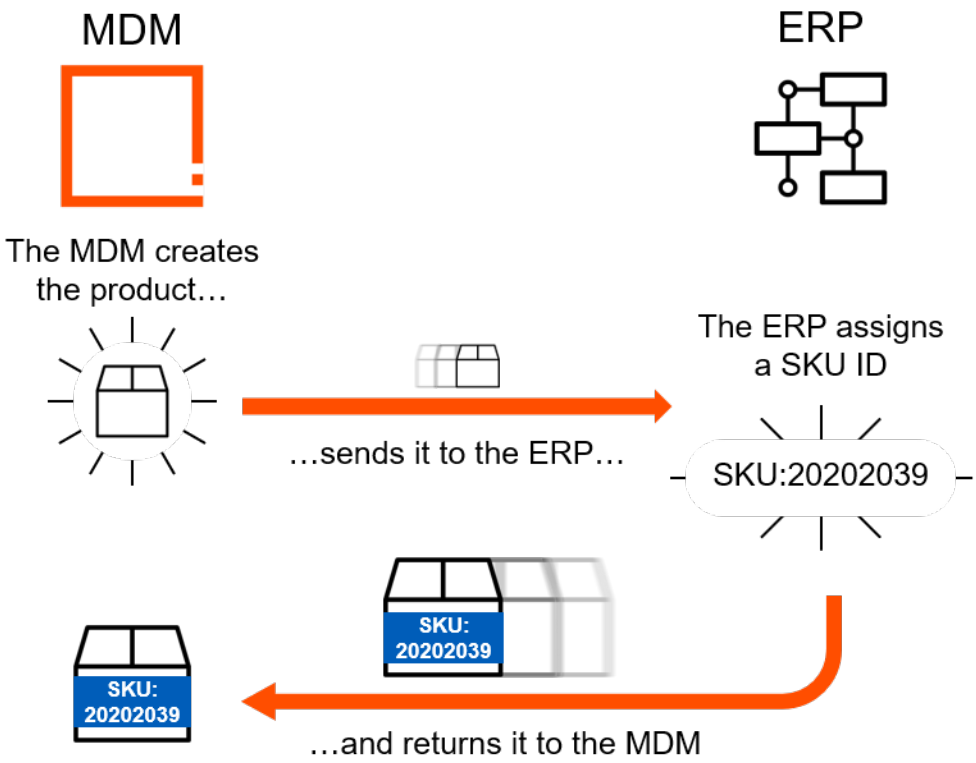
- **Govern** - maintain key elements of the data model like attributes, LOVs, and mappings
- **Acquire** - add or import product data into the MDM
- **Manage** - enrich the product data: copyright, digital assets, and warehouse data
- **Share** - export product data for users or external systems



PIM and an ERP

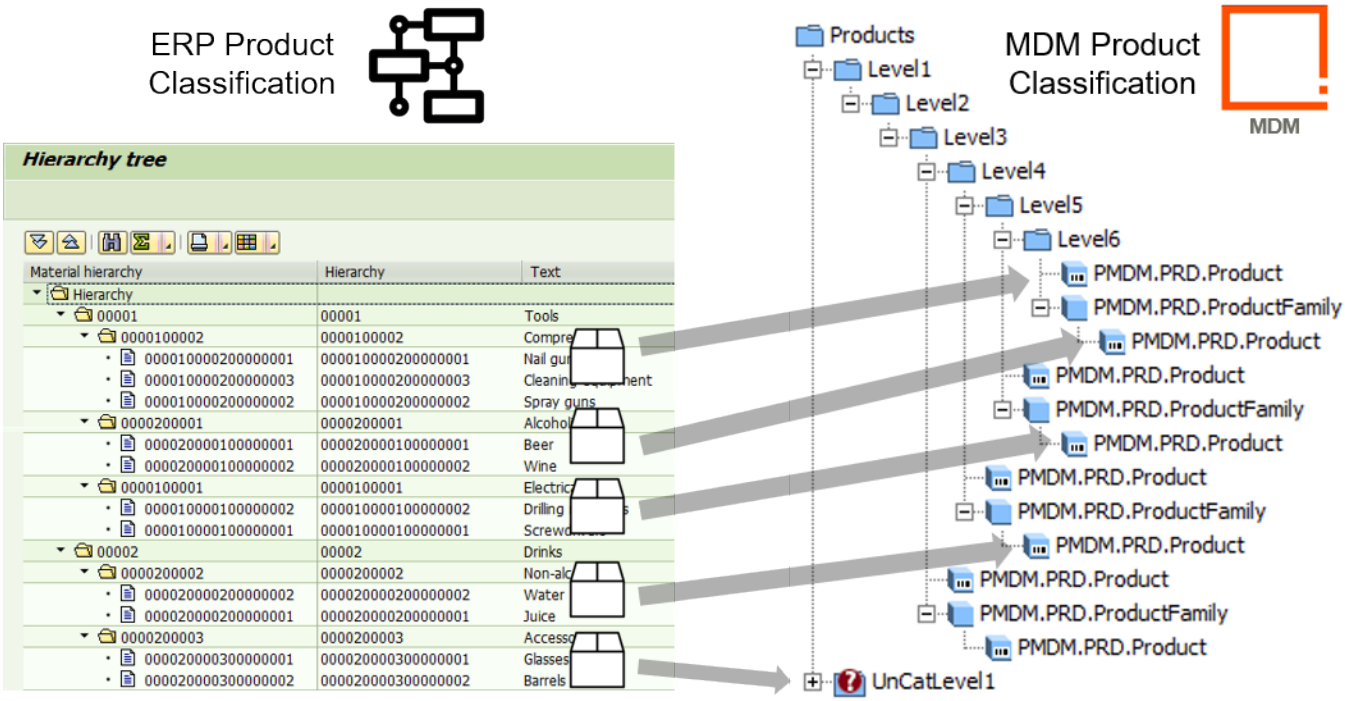
Frequently, STEP and an ERP (enterprise resource planning) software communicate to manage:

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.

PIM for Retail Collaboration Workflow

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

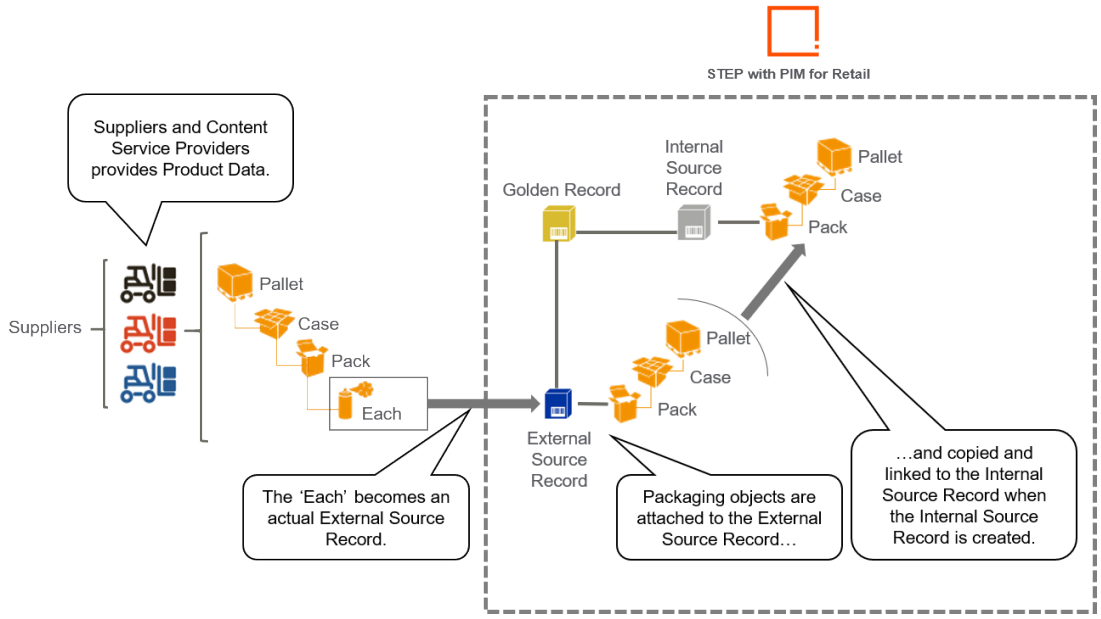
With this workflow, the retailer's team can collaborate on product data. This is an internal communication feature, which cannot include external suppliers by using different systems.

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.

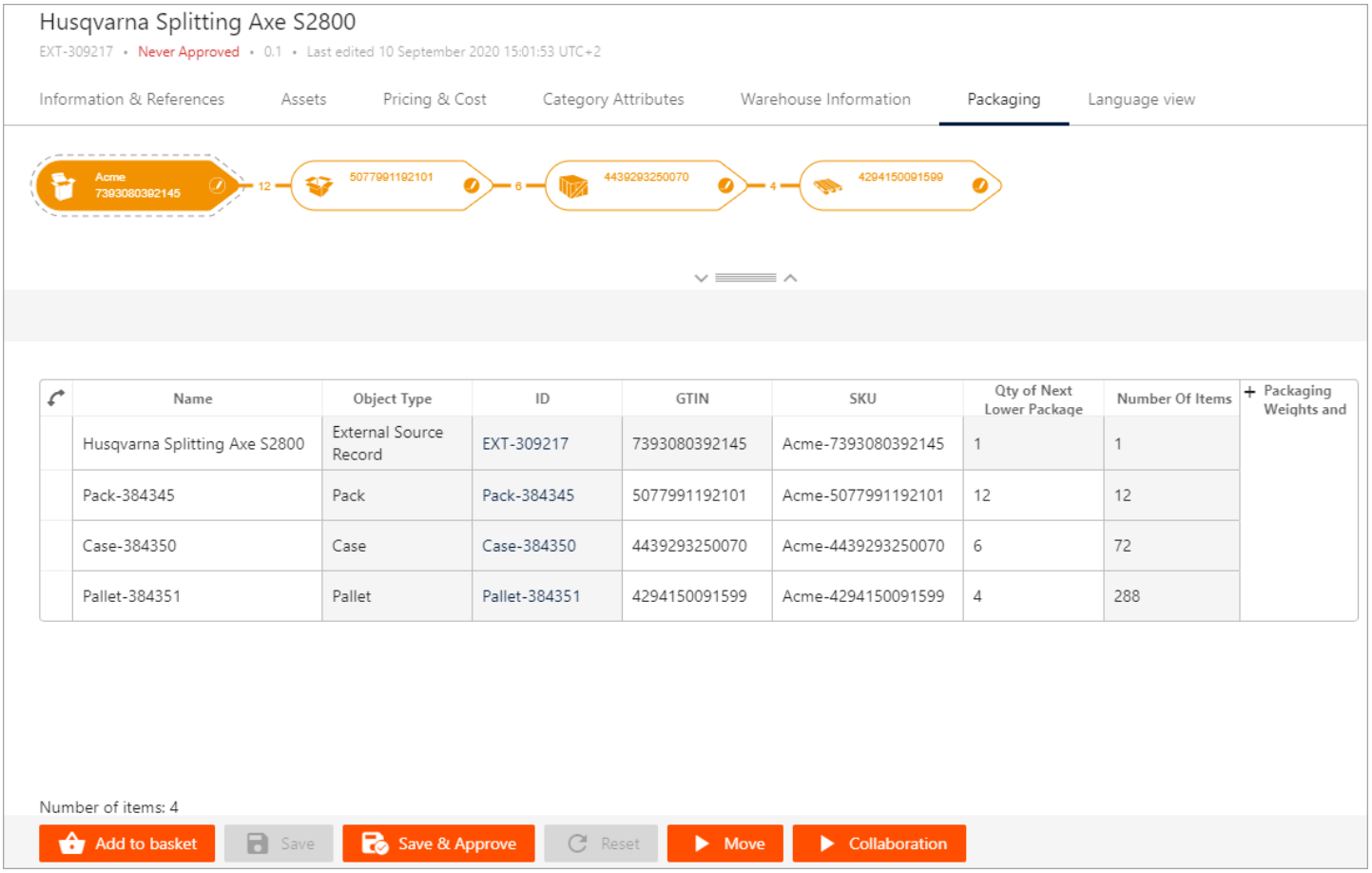
PIM for Retail Packaging Hierarchy

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. PIM 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 PIM for Retail. They will be categorized directly under either external packaging or internal packaging in the separate packaging hierarchy without further categorization.



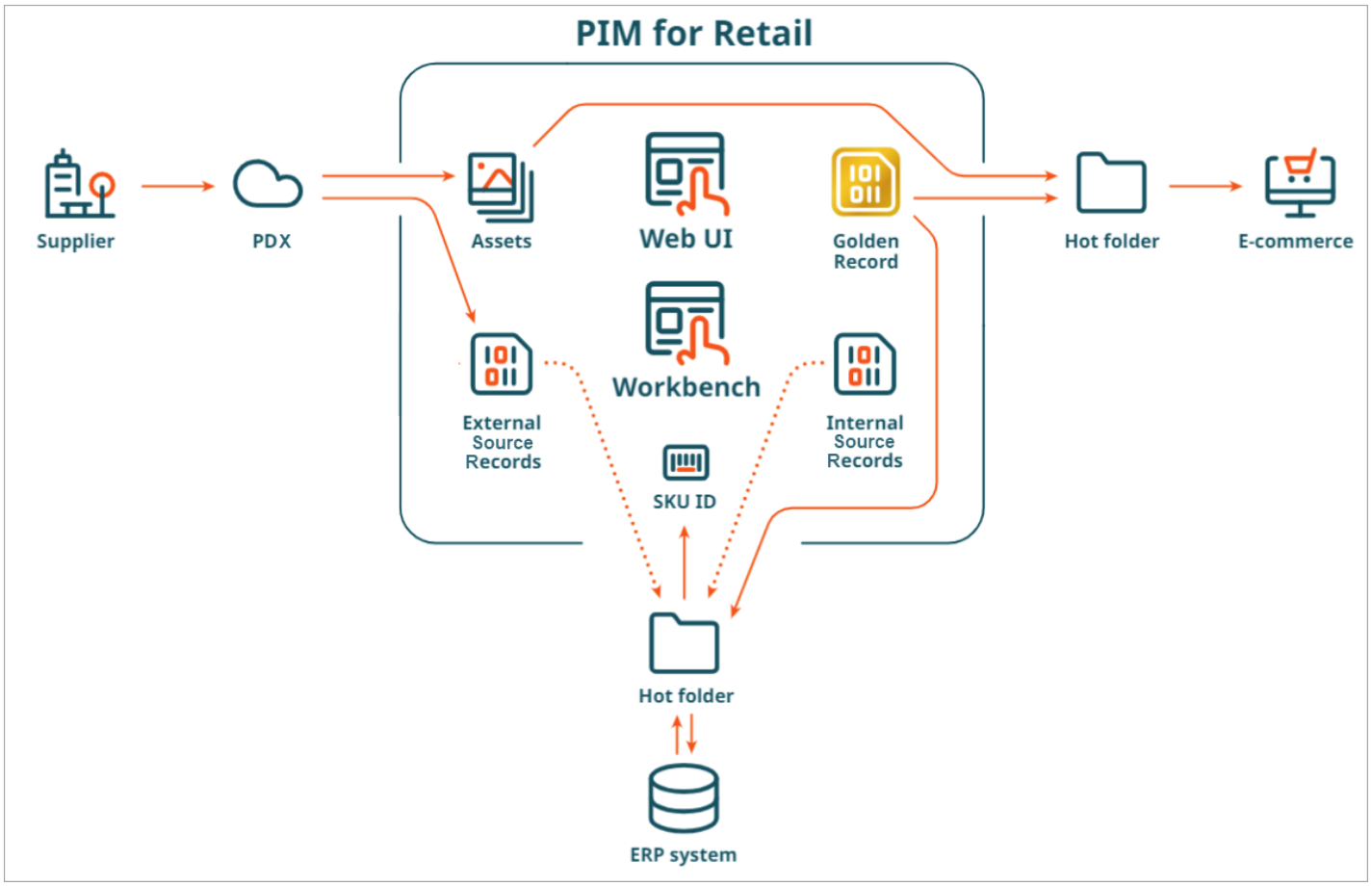
The packaging hierarchy can be viewed in a product details page, in the 'packaging hierarchy' tab.


Husqvarna Splitting Axe S2800
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
Husqvarna Splitting Axe S2800
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

PIM for Retail System Landscape

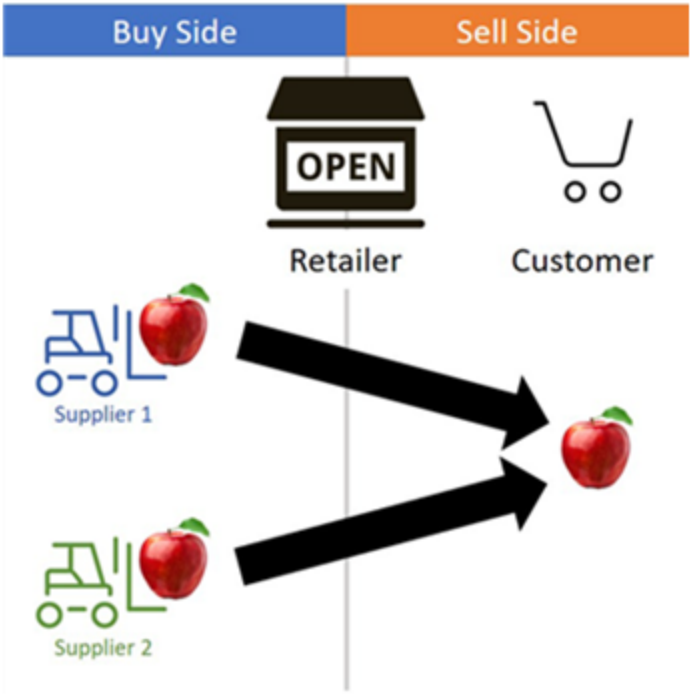
The following diagram shows the how data flows in the solution.

- 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 PIM 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.



PIM for Retail Data Onboarding

PIM 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.

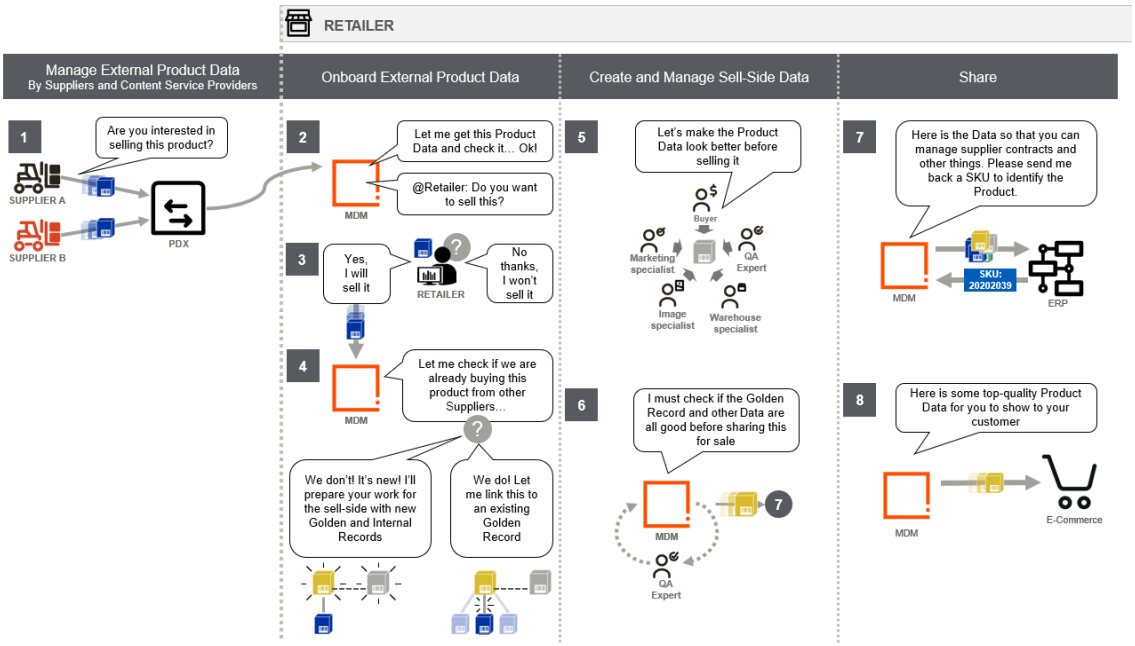
While you may know about 'buy side product,' 'supplier product,' and 'vendor product,' a more generic naming is relevant. Product data can come from a retailer, but it can also come from a content provider (such as the GPC standard, Salsify, etc.), so the term 'source record' is used.

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.

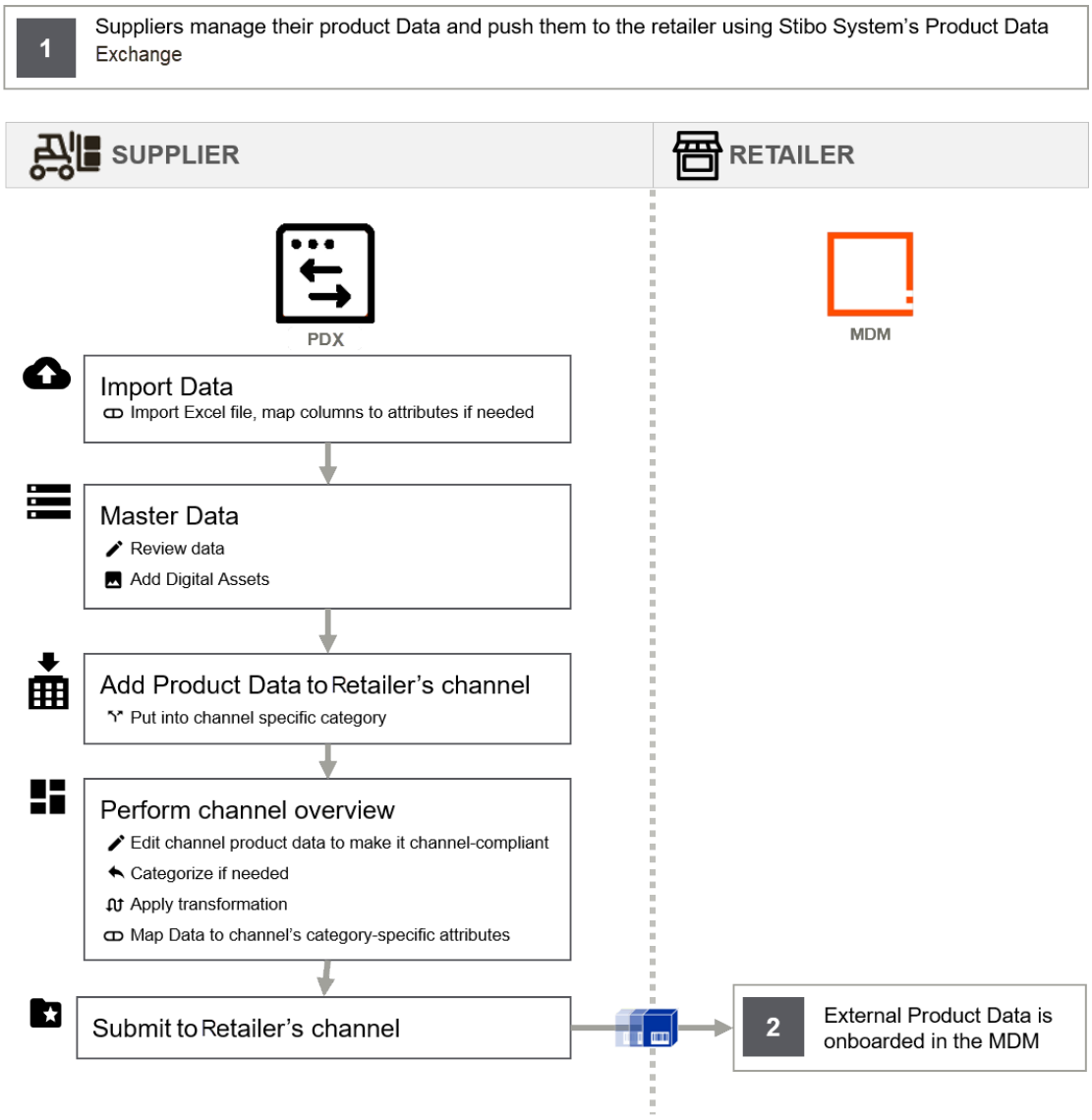
Object	Also known as	Definition
Internal source record	Silver record, sell side product, sold product	Mixing the data provided by the supplier and presenting it directly to the consumer is often not enough. The retailer needs specific data to make its product sell very well. This could be: • A powerful 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 - Suppliers Manage and Publish Product Data Using PDX



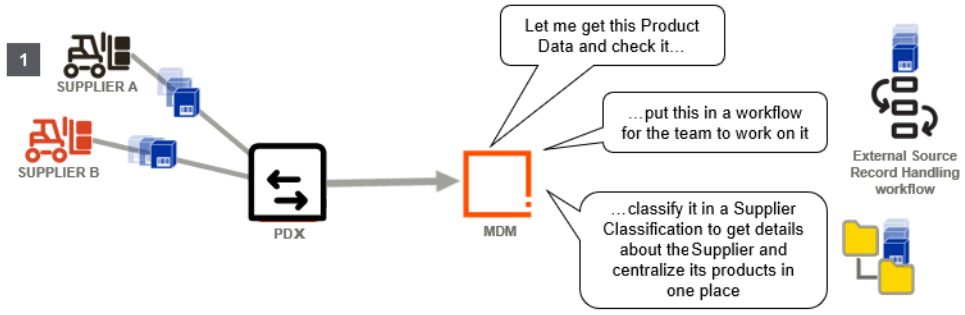
Using PDX, the vendor will onboard and submit their product information to the retailer. The following is a typical process followed by the vendor.

- **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 2 - PIM Onboards External Product Data from Suppliers

2 External Product Data is onboarded in the MDM

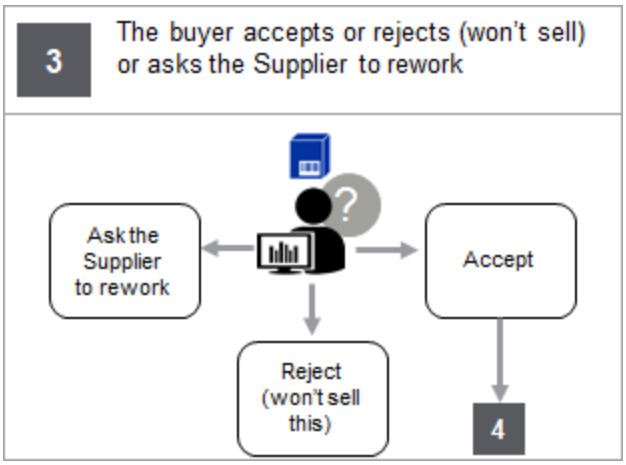


The product data received from the supplier via PDX or subscribed to and received from the GPC standard is being created in PIM for Retail as a separate product object of the external source record in the external product hierarchy, as well as optionally separate packaging objects in the external packaging 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.

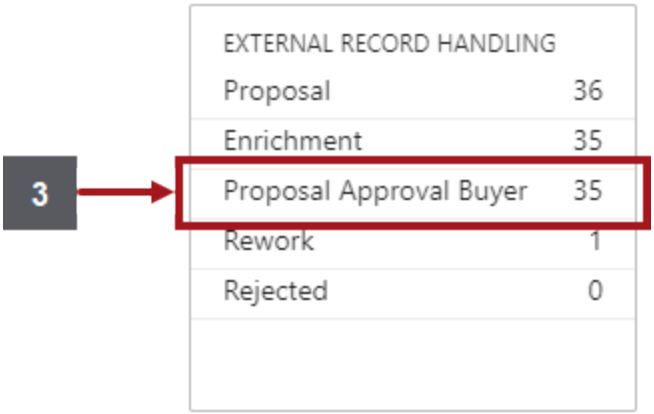
The data on the external source record is owned by the supplier and will not be maintained by the retailer.

Onboarding 3 - Buyer Accepts or Rejects the Supplier's Product Proposal



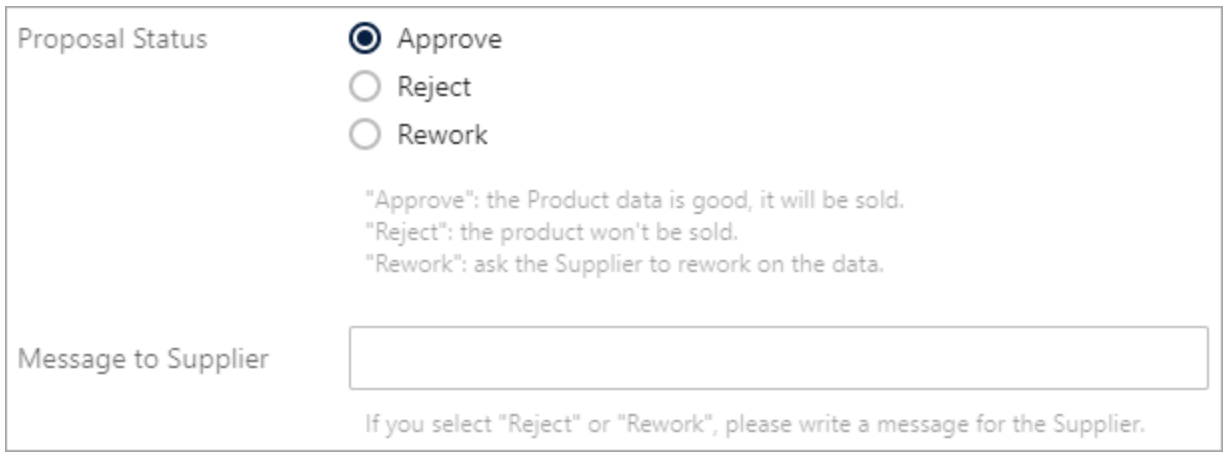
When a new external source record has been created in PIM for Retail and initiated in the external source record handling workflow, the workflow checks if the specific supplier is configured to allow for automatic approval of proposed products, or if it has to go through a manual process where the buyer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

On the homepage, in the 'External Record Handling' widget, the buyer will see the number of external source records concerned.

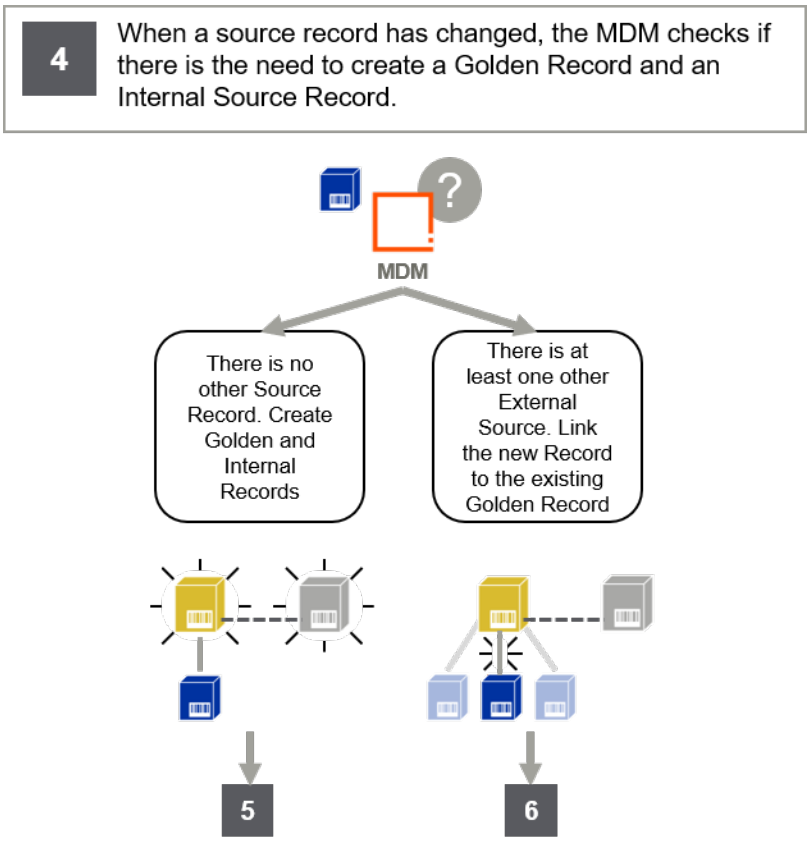


In the manual proposal approval process, the buyer has the option to approve the product data and continue with the onboarding of the product, send it back to the supplier for rework in case the supplied data is wrong or incomplete, or reject the product for onboarding in case the retailer does not want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

On the product page, the buyer will choose:


Proposal Status
Approve
Reject
Rework
"Approve": the Product data is good, it will be sold.
"Reject": the product won't be sold.
"Rework": ask the Supplier to rework on the data.
Message to Supplier
If you select "Reject" or "Rework", please write a message for the Supplier.

Onboarding 4 - 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.

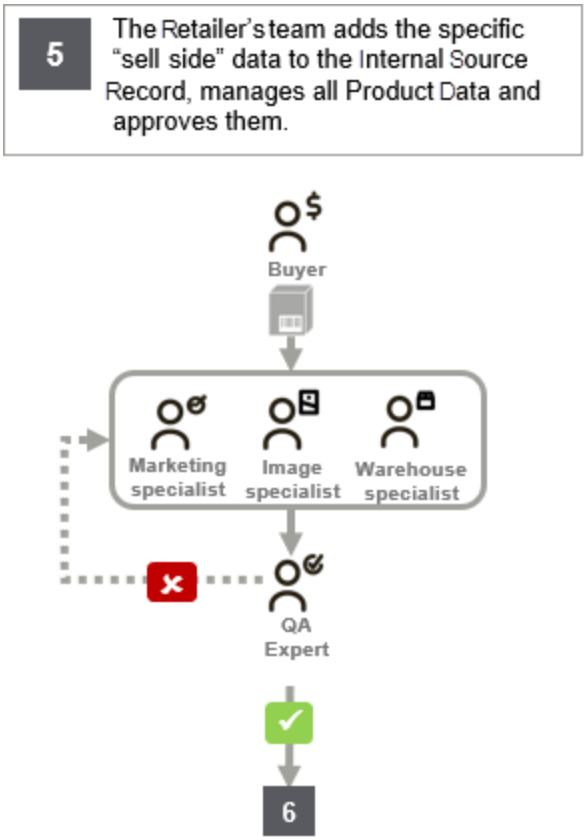
The matching and linking process first creates a match code for the external source record which is used to check if there is already an existing product with the same match code in the system. Per default, the match code is the GTIN of the product.

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.

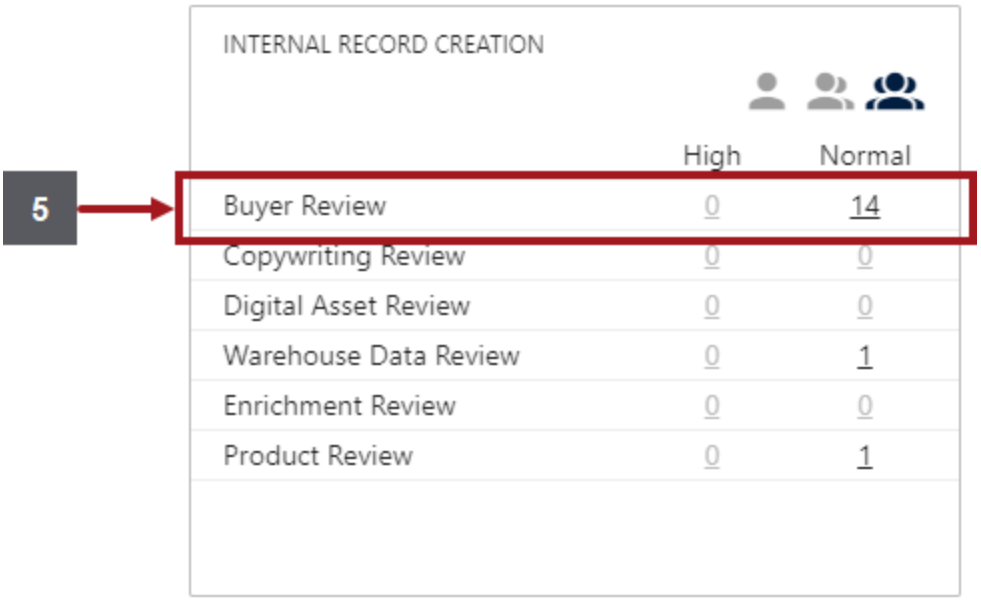
Onboarding 5 - Retailer Adds Sell Side Specific Data



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.

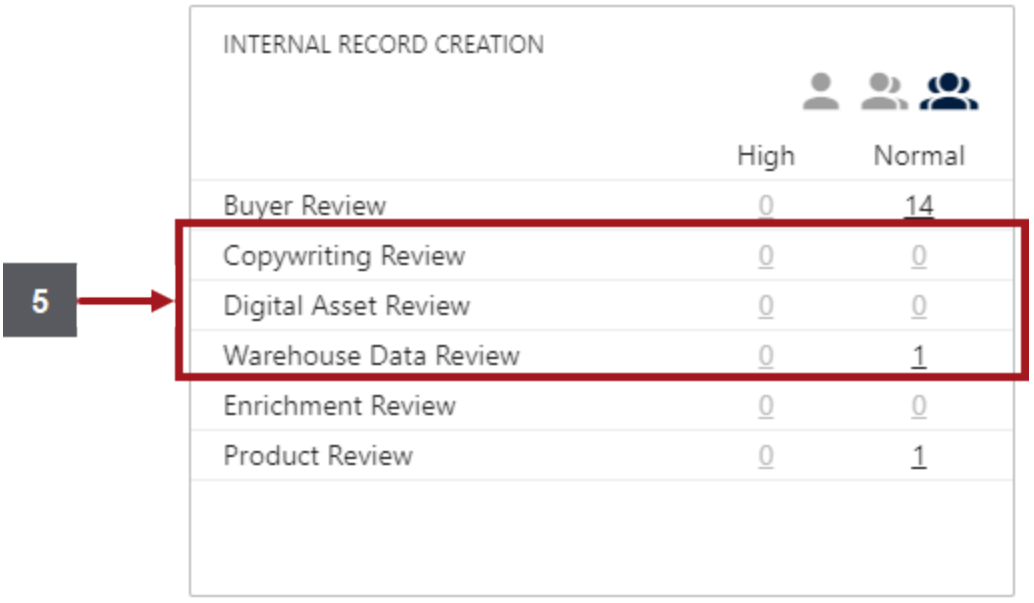
The buyer review task is visible on the homepage, in the 'Internal Record Creation' widget:



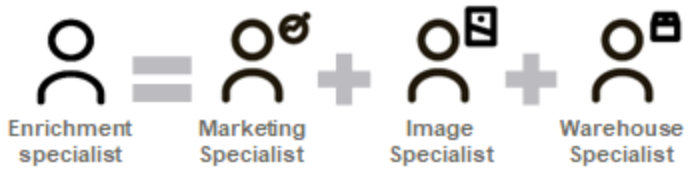
Note: Only the tasks that are relevant to users will be visible to them.

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.

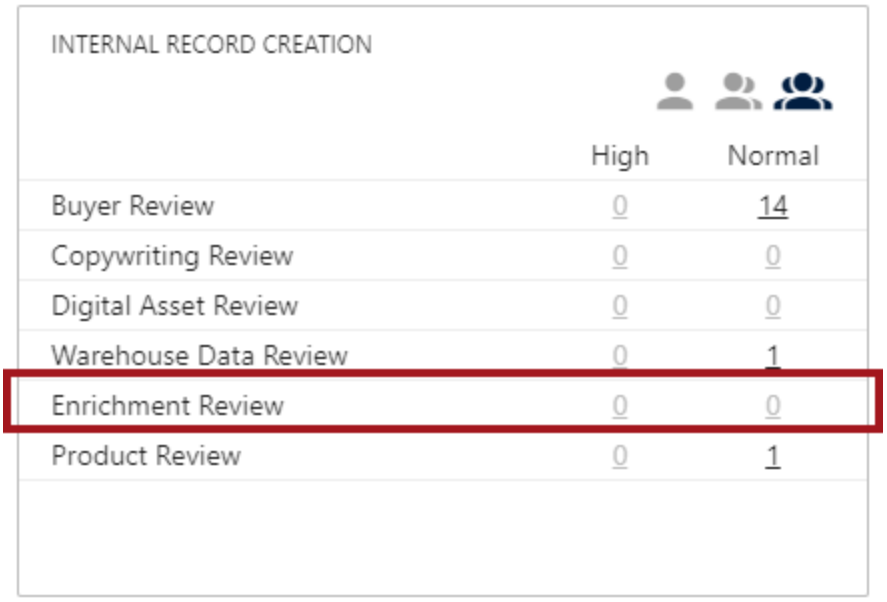
The enrichment tasks are visible on the home page, in the 'Internal Record Creation' workflow widget.



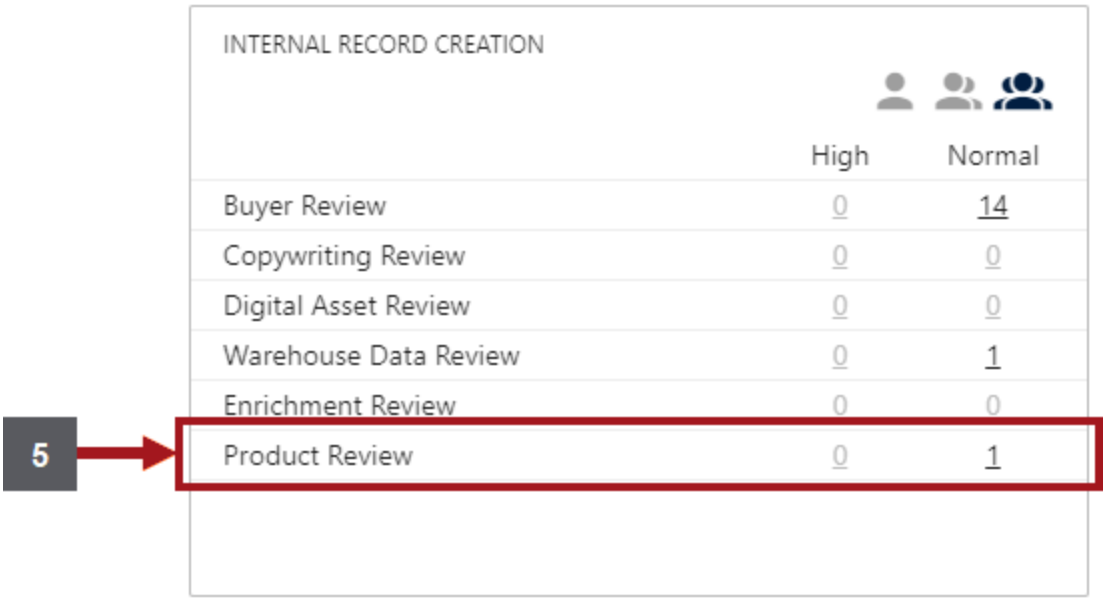
Alternative: In smaller organizations, the enrichment specialist can accumulate the work of the marketing specialist, the image specialist, and the warehouse specialist.



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

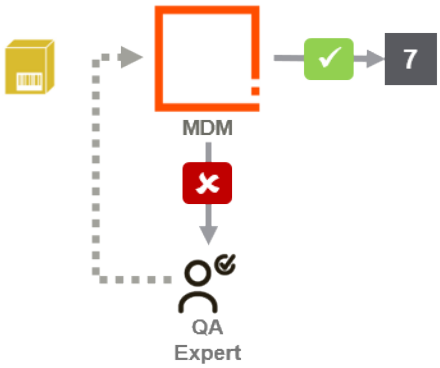


When all enrichment tasks are done, the product is assigned to the quality assurance experts. They have the final saying if all product data is correct and can be approved. If the quality assurance expert finds something that needs to be corrected, they have the option to reject the product to the buyer, 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 6 - 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.



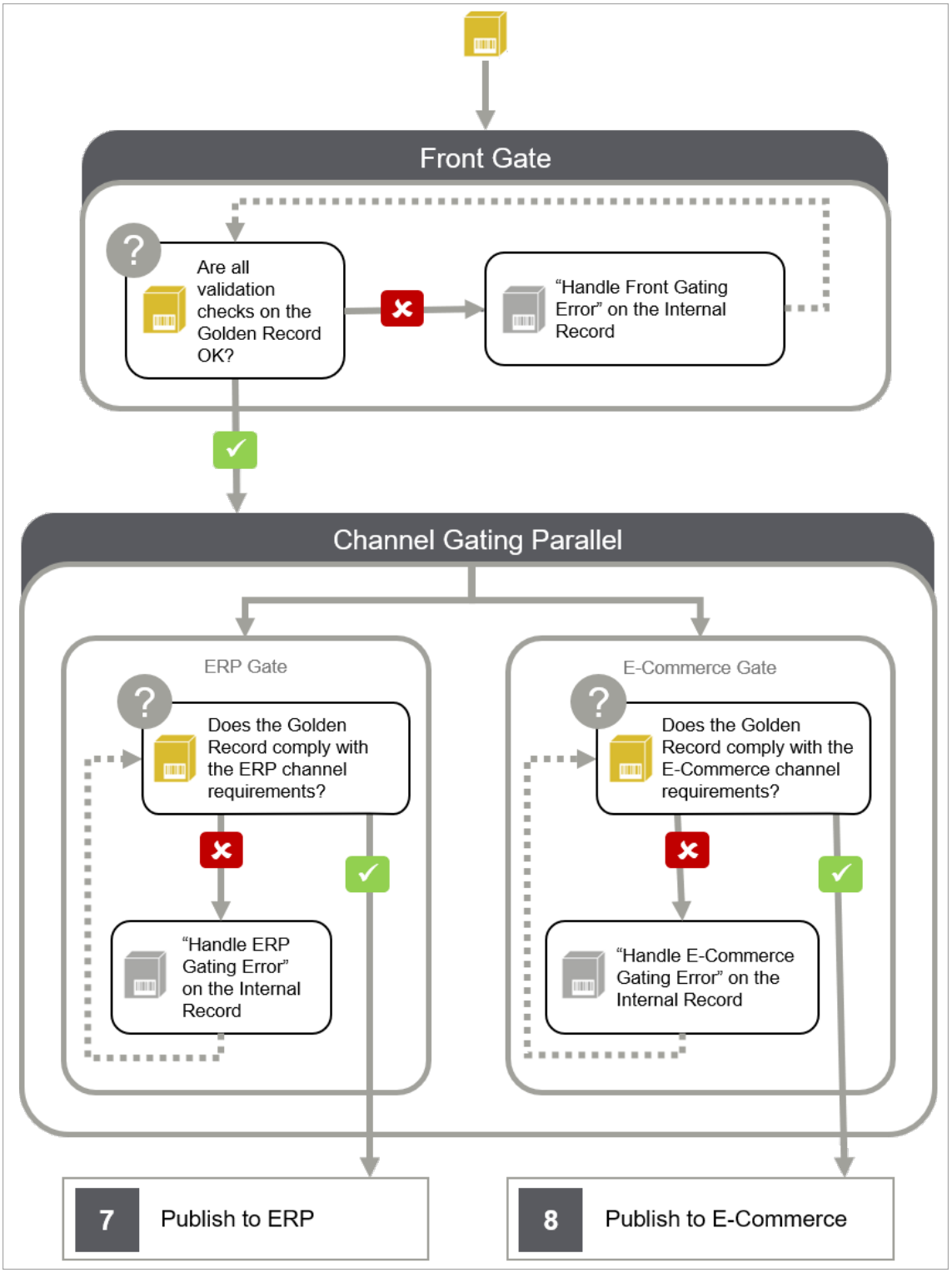
When the product has been approved by the **Quality Assurance Expert** the internal source record creation workflow sends the product to the **Matching and Linking** process again to promote the latest set of data from the linked sources to the golden record. When the data has been promoted, the product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

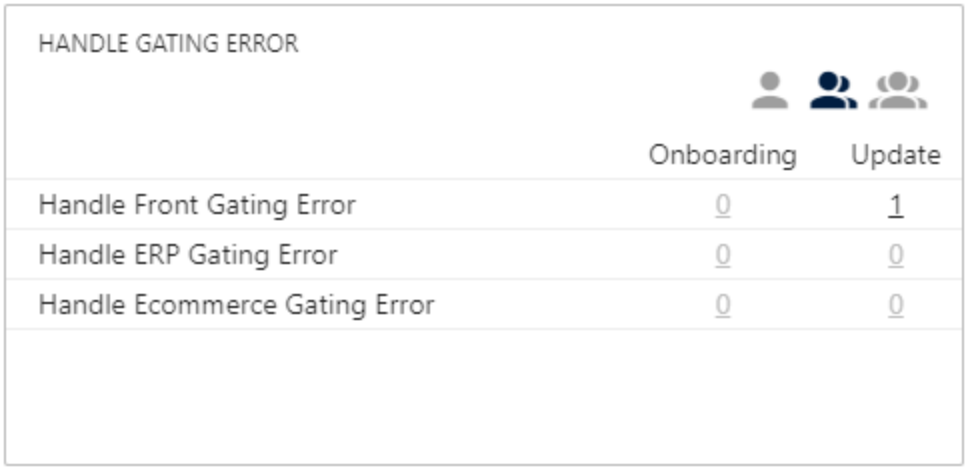
If one or more validation errors are found, then the product will be sent to a gating-specific 'Handle Error' state in the **Handle Gating Error workflow**, and a task will be assigned to the **Quality Assurance Expert**. When the product data has been corrected and the quality assurance expert has proceeded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

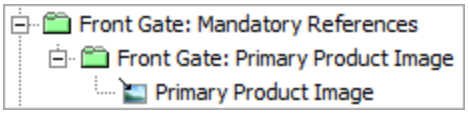
First, the golden record will go to a common validation state (front gate) where it will be checked for mandatory attribute values, mandatory references, etc. This check is being handled by the 'front gate' business rule.

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 validate 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.

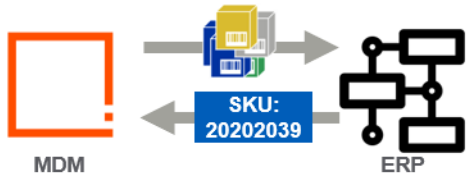
E-commerce gate

- 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 7 - 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.

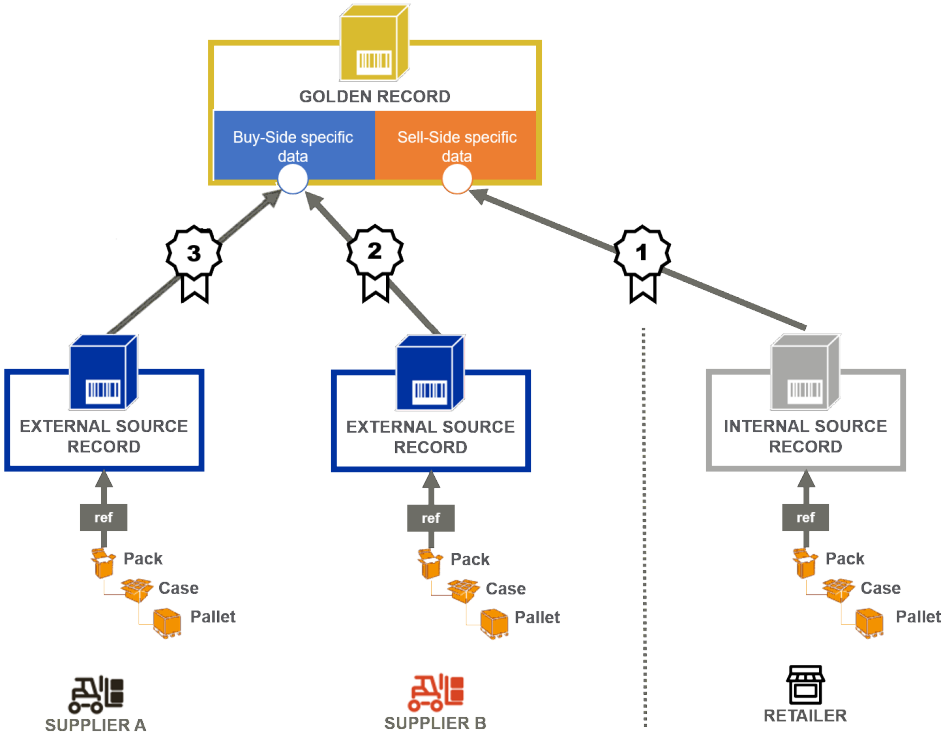
The export uses STEPXML format and contains the golden record, all linked source records (internal and external), plus all packaging objects linked from the sources.

Onboarding 8 - PIM Sends Product Data 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.

PIM for Retail Data Model



The PIM 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:

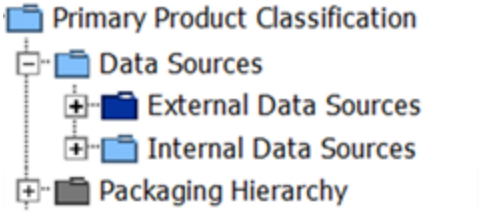
- The golden record aggregates data coming from the external source records and the internal source records (aka 'silver record').
- The packaging hierarchy objects are attached to each record.
- The 'each' is the source record itself.
- Each source record has a ‘rank’. This rank can be thought of as 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

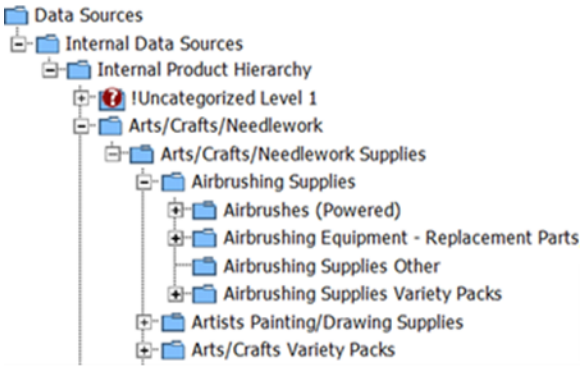
In the PIM for Retail configuration, the primary product hierarchy is organized as follows:

- External data sources
- Internal data sources
- Packaging hierarchy

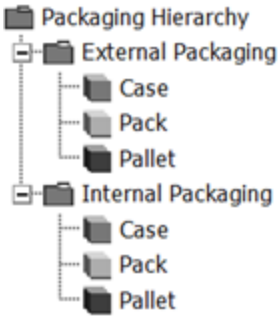
The structures of the 'external data sources' and 'internal data sources' are identical, as shown below.



- 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.

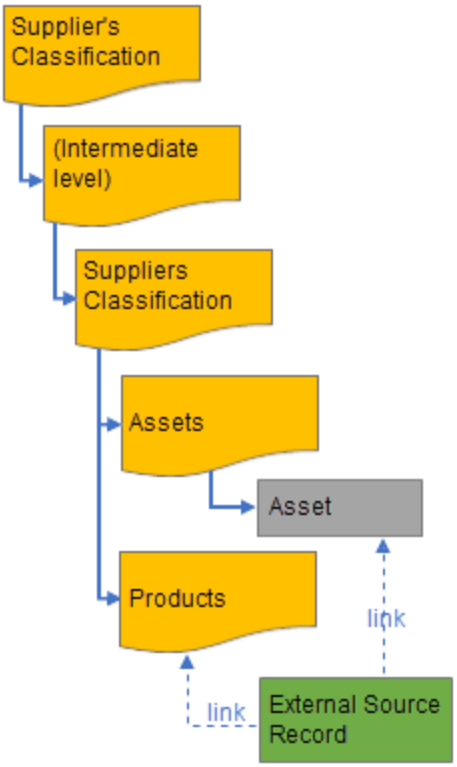
A populated external data sources hierarchy	A populated internal data sources hierarchy
	

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



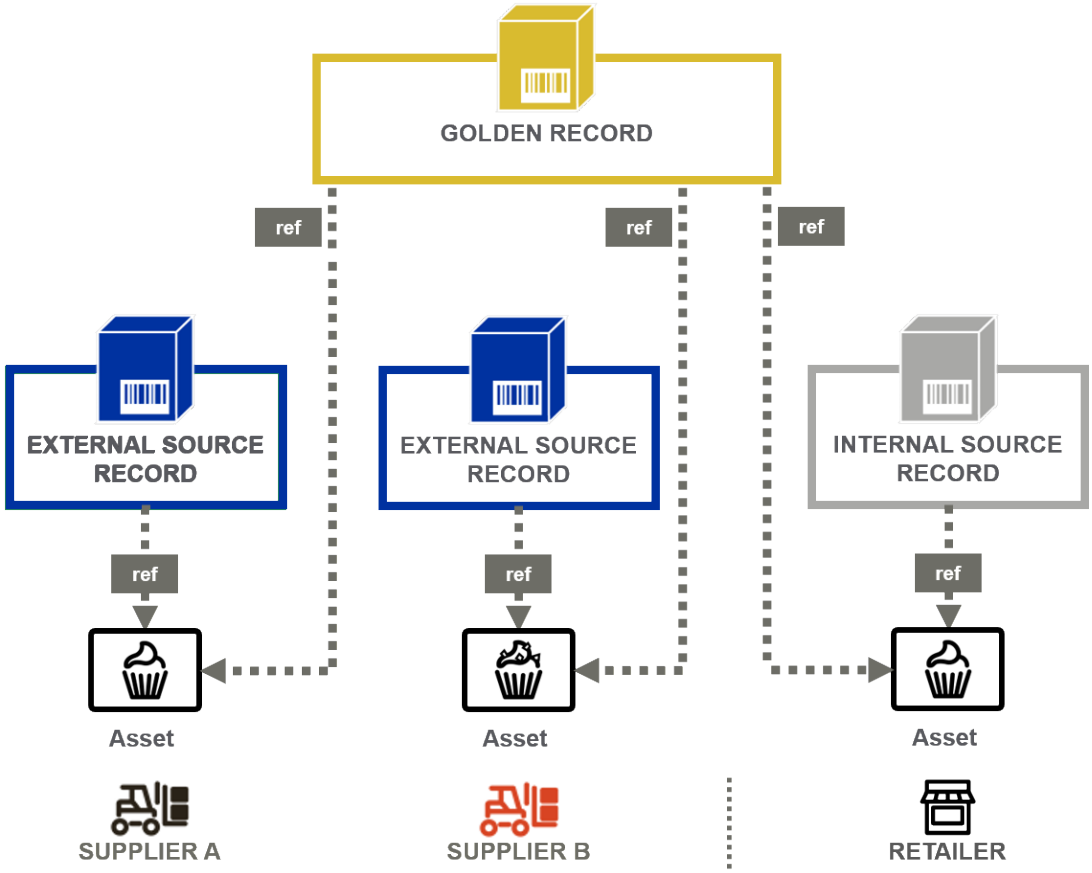
Supplier Classification

Suppliers are classified in a classic way:



Assets

Assets are linked as follows:


GOLDEN RECORD
ref
ref
ref
EXTERNAL SOURCE RECORD
EXTERNAL SOURCE RECORD
INTERNAL SOURCE RECORD
ref
ref
ref
Asset
Asset
Asset
SUPPLIER A
SUPPLIER B
RETAILER

PIM for Retail Initial Setup

Contact your Stibo Systems account manager or partner manager for information on activating the PIM for Retail solution:

- PIM: STEP 10.0 (or greater)
- Service activation (license: PDX Onboarding)
- Install and configure

Some of the key setup activities are described in the next paragraphs.

More tasks must be performed to make the configuration fully operational, and are handled by your dedicated consultants or partners.

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

Configuration of the Data Model for the PDX Channel

For the suppliers to be able to onboard products via PDX, the schema used for the PDX channel needs knowledge about the supplier-facing product hierarchy, the set of supplier-relevant attributes and asset references, etc., as defined in PIM for Retail. This section contains information about how this can be controlled in PIM for Retail.

When there has been a change to the data model in PIM for Retail that is relevant for the PDX channel, then it is necessary to make a schema update in PDX to reflect the change. This can be done as a weekly scheduled process or on request.

Supplier-facing product hierarchy

The selectable product categories in the PDX channel include all nodes of the object types External level 1–external level 6 defined below the 'external product hierarchy' node.

The product hierarchy allows for the creation of external source records starting at external level 3.

Packaging objects (pallet, case, pack) will be created directly below the 'external packaging' node.

Attributes

There are three attribute groups where all viewable attributes will be stored: product maintenance, packaging maintenance, and category specific attributes.

All attributes in the mentioned groups will by default be shown to the suppliers in PDX.

If specific attributes in the mentioned attribute groups should not be shown in PDX, then the attributes have to be linked to the 'PDX: Hide From supplier' attribute group.

Asset References

The set of asset reference types to display in PDX can be controlled by setting the 'PDX: Relevance' attribute to 'Yes' on the asset reference type definition for the PDX-relevant asset reference types.

Display Sequence of Attributes and Attribute Groups

The 'Display Sequence' attribute value on attribute definitions, attribute group definitions, and on attribute links can be used to control the display order of attribute groups and attributes within those groups in PDX.

Required for Initiate

It might not be necessary that the supplier fills out the full set of mandatory attributes before they submit a new product to PIM for Retail. A short description and the GTIN of the product might be enough for the retailer to determine if this is a product they would like to onboard.

The set of attributes being mandatory for initiation is defined by linking the attributes to the 'PDX: Mandatory For Proposal' attribute group.

Mandatory Attributes

The set of attributes being mandatory for submission after initiation is defined by linking the attribute to the 'PDX: Mandatory For Submit' attribute group.

Category-specific mandatory attributes are controlled using the standard 'Mandatory' option on the attribute link.

Category-Specific Mandatory Asset References

Category-specific asset references that are mandatory will sit on the product category node itself. The multi-valued 'PDX: Mandatory References' attribute will hold the list of references that are mandatory on that category.

Locked-Down Attribution

It might be beneficial to be able to lock certain attributes after a product has been initially onboarded into PIM for Retail to prevent the value of these attributes getting changed by the supplier. To enable this, the relevant attributes must be linked to the 'PDX: Locked After Proposal' attribute group.

Setup of New Suppliers

Before a supplier can submit product data from PDX, the supplier has to be created in PIM 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 PIM 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 if new external source records from this supplier should be automatically approved in PIM for Retail, or if the buyer needs to manually approve the product data before onboarding the product.
   - **General handling of updated source records** - Controls if a change to an existing external source record from this supplier should be automatically approved in PIM for Retail, or if the buyer needs to manually approve a change before it is considered for promotion by the Matching and Linking process.
   - **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 PIM 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 doesn't 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.

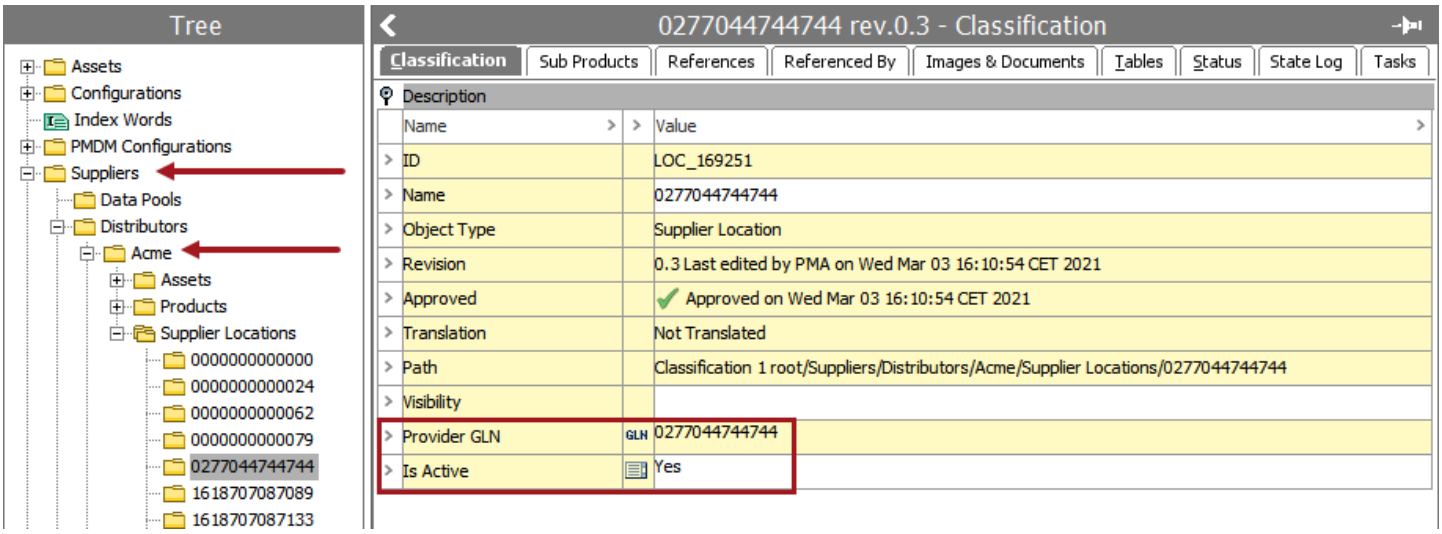
5. The supplier classification must be approved.

   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.

Supplier Locations

If a supplier has multiple locations that could be delivering products to a retailer, and the retailer needs to manage which locations of that supplier it will accept products from, then the supplier Locations need to be set up in PIM 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 PIM 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.

PIM 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 PIM for Retail solution:

Translation in PIM

The translation is handled internally by a translator or a team of translators directly in PIM 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 (see 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.

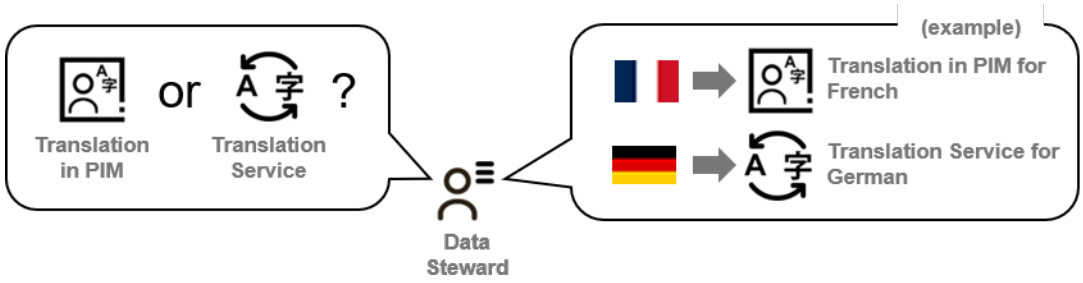
1. Setup — The retailer configures who will translate and what type of translation to use. See the **Translation Process 1 - Setup** topic.
2. Translating Specific Products — The retailer decides if a specific product or group of products must be translated. See the **Translation Process 2 - Translating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

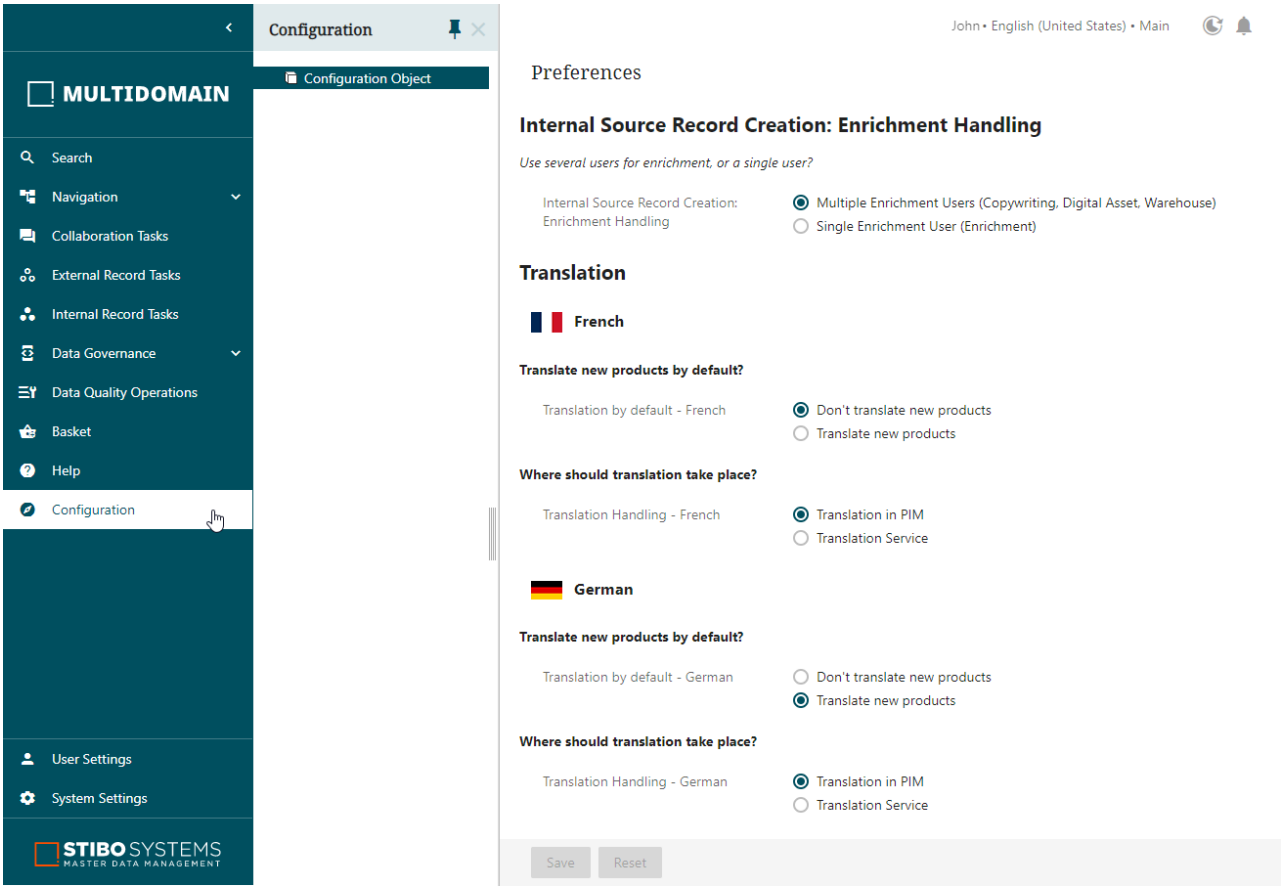
Decide if translation is required and who should translate

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).

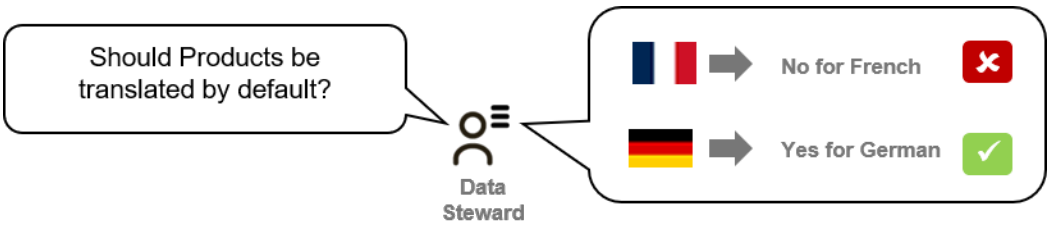


By default, the type is set to 'Translation in PIM'.

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



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

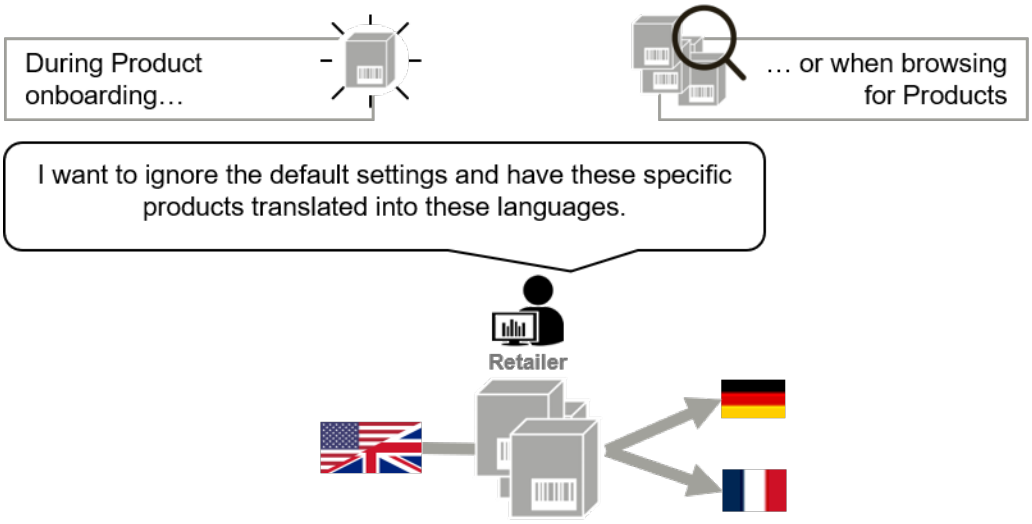


Similarly, the data steward decides if all products should or should not be translated by default in a certain language.

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

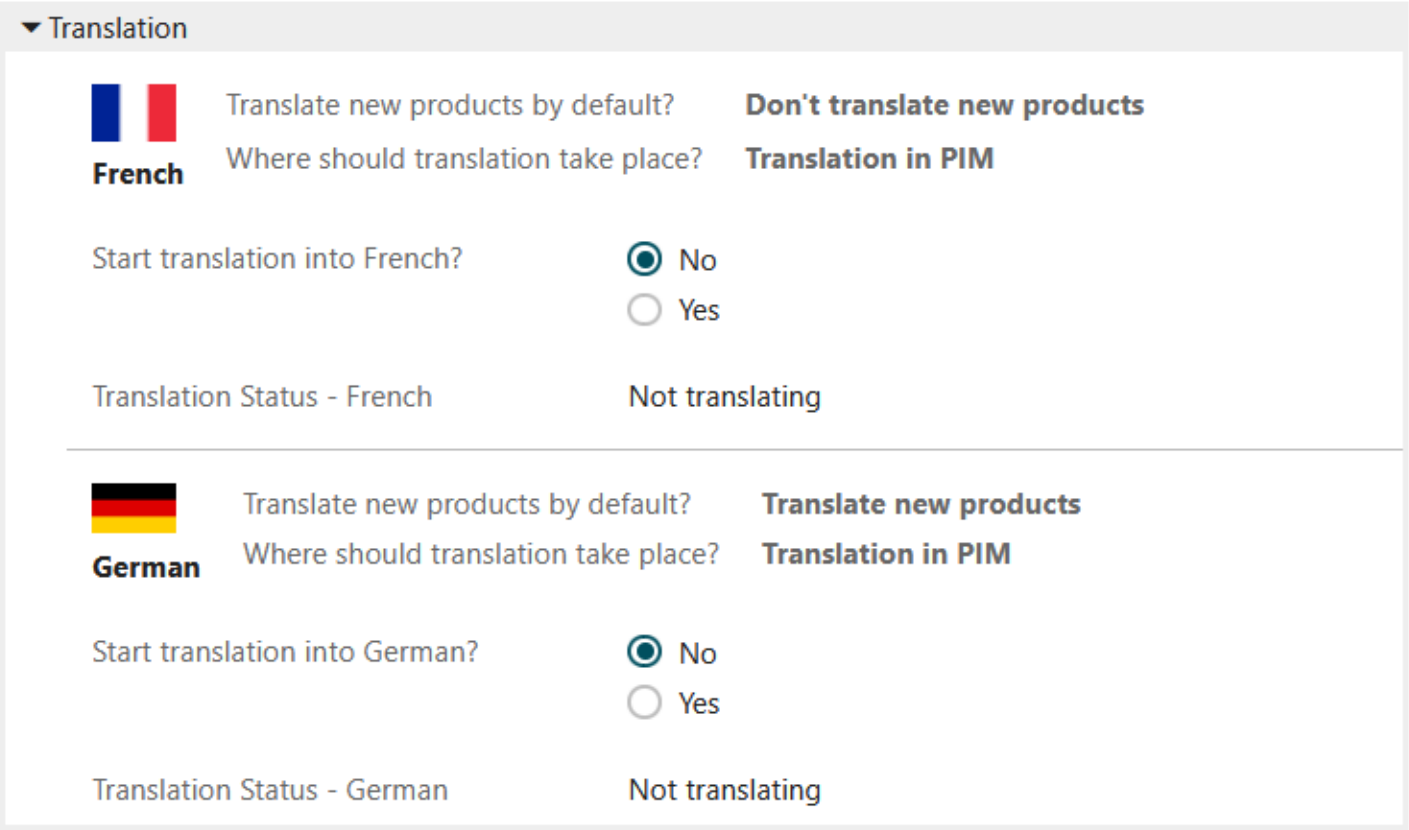


Whatever the default settings are for translation, it can be decided to translate one product or a group of products.

This can happen:

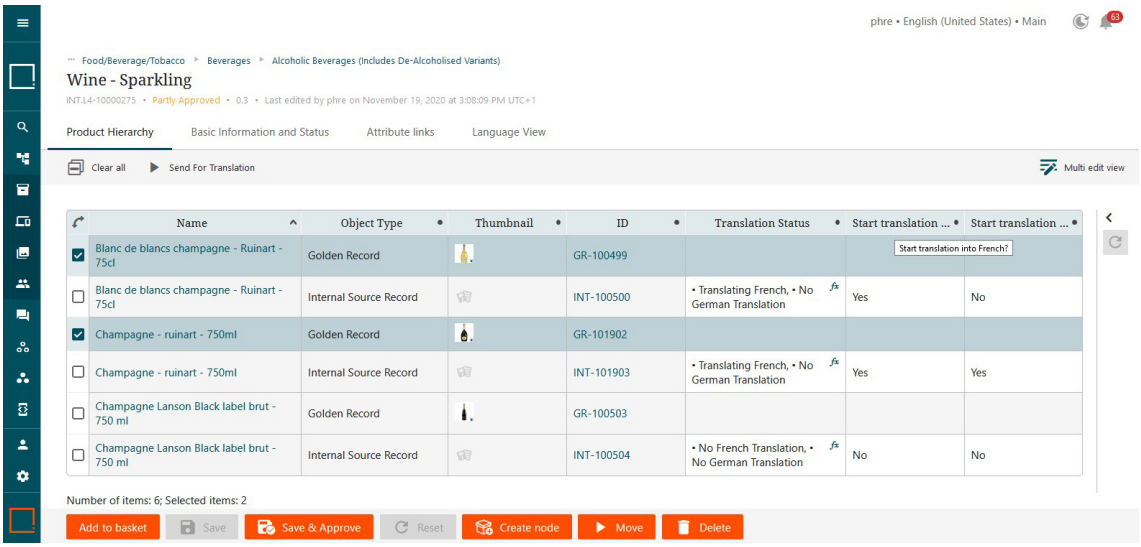
- In the onboarding workflow, in the 'buyer review' states and in the 'product review' state.
- At any moment, when browsing for products on a product page or a node list as shown below.

Example Product Page



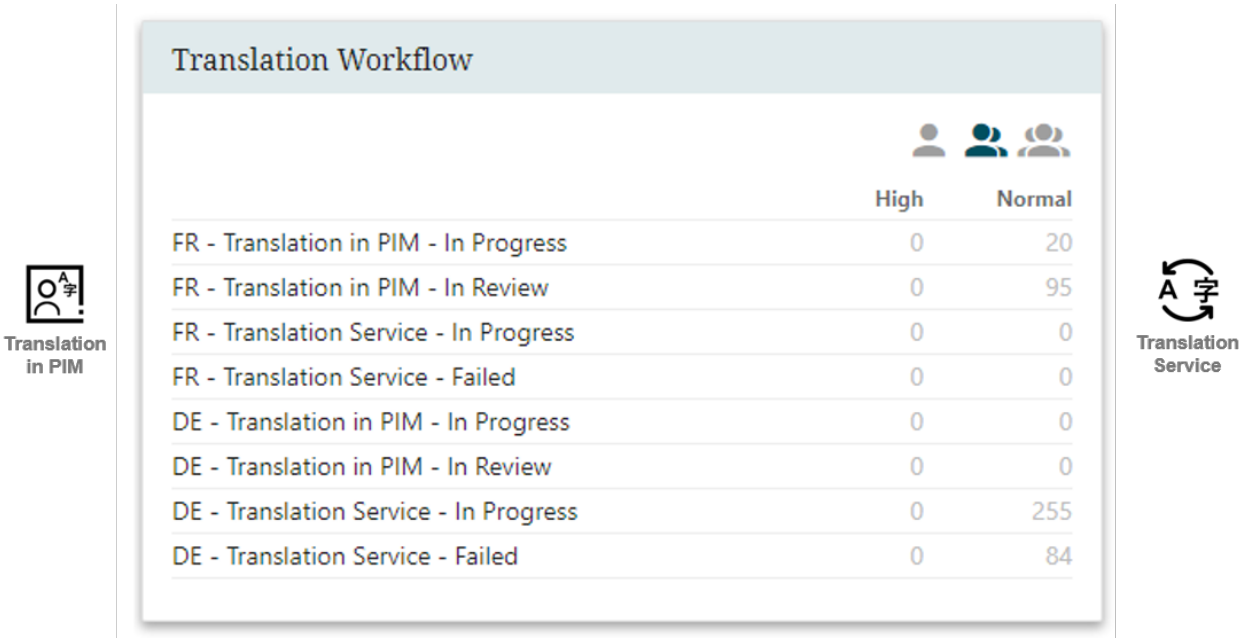
Example node list page

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

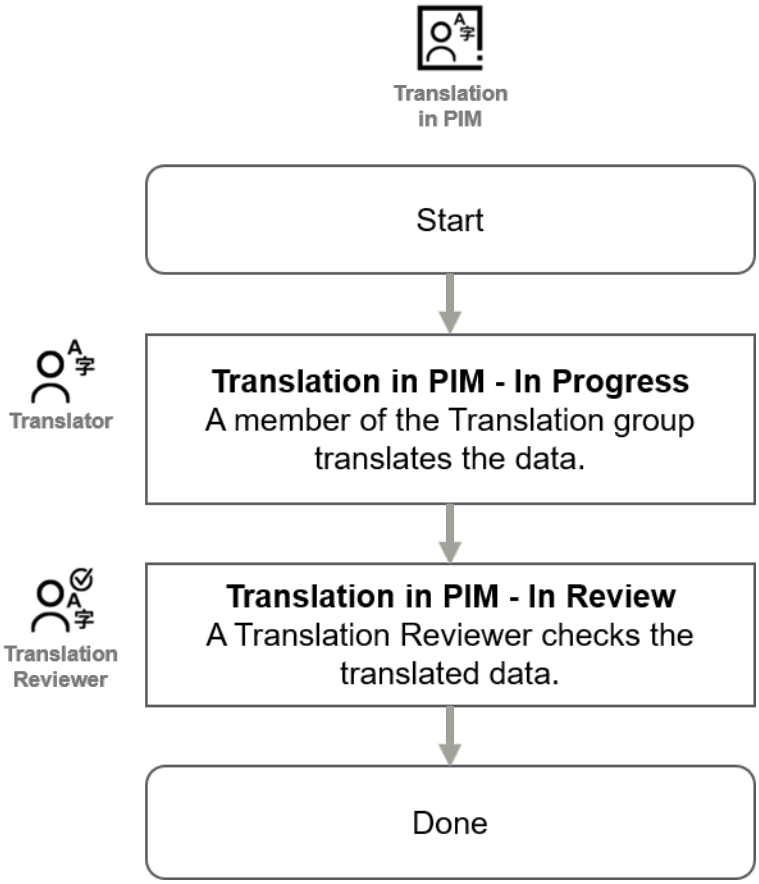


Translation Process 3 - Translation

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.

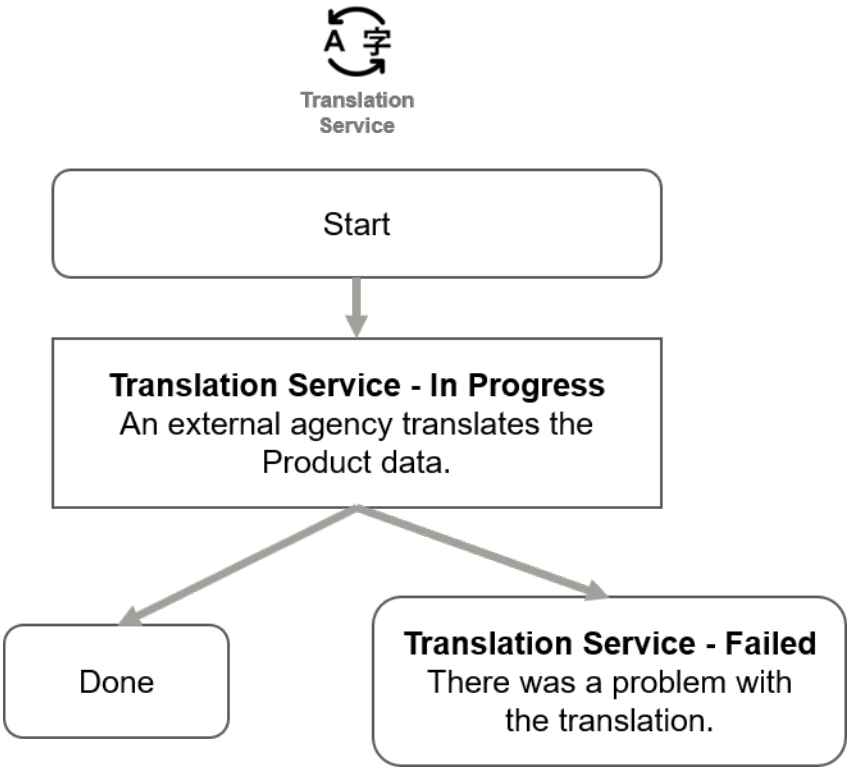


Translation in PIM



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

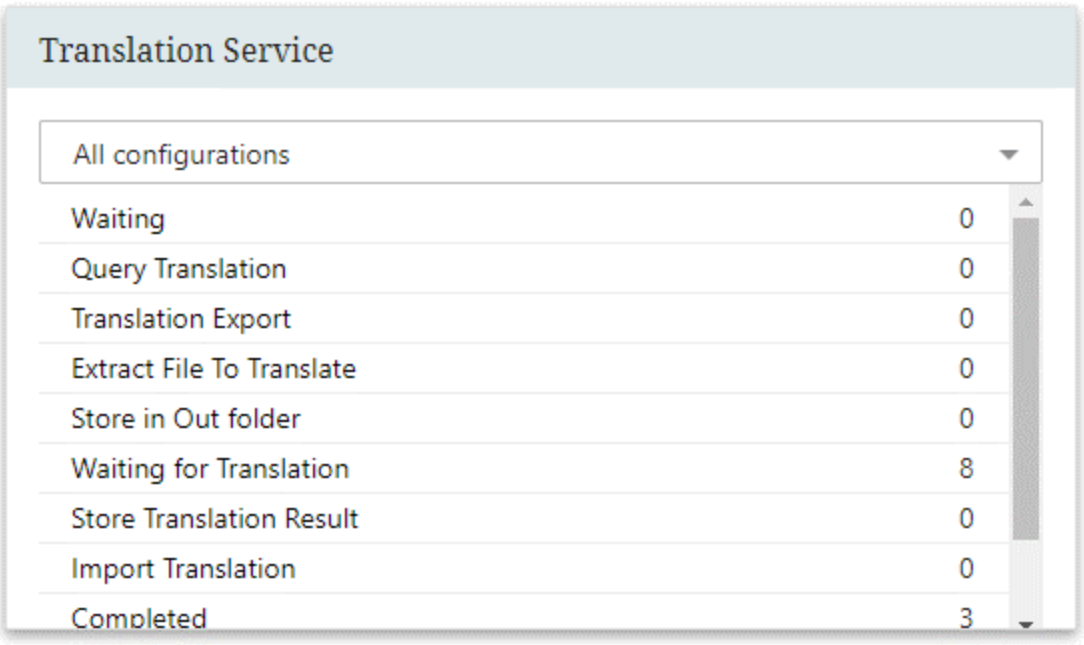


The translation is sent to an external service. The end result can be either translated Product Data or a problem importing the translation.

The translation process uses the asynchronous translation of STEP (for more details, see 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, see 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 PIM 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.

To add new languages, contact your Stibo Systems account manager or partner manager.

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).