ENTERPRISE SOLUTIONS

Management of Products Variation Elements

Variation Attributes, SKUs and Subsets

User Guide

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Contents

1. DOCUMENT PURPOSE

The products developed on the Enterprise Platform can vary depending on the size, color or other attribute variation. This document describes:

- How the variation attributes of a product are defined.

- How to use and combine these attributes to manage the products in detail.

> Refer to the **Platform Common Features** User Guide for help on how to manipulate.
>
> Refer to the **Application-Configuration_manual** for help on how to configure.

2. KEY CONCEPTS

2.1 Variation Attribute

Simply called "Attribute" most often, it receives the various values that make the product vary.

- A product is characterized by a given number of variation attributes (**Size**, **Color**, **Season**, **Theme**, **Category**, etc.)

- A product can have multiple values of the same attribute, some product data may vary with the value of these attributes (for instance, the reference varies with the color, the cost varies with the supplier, the order quantity depends on the size and color, etc).

- A **Simple attribute** is when we can define a list of values (**Year**, **Country of Distribution** ...). In this case, it is also known as classification attribute.

- **Master attributes** are defined as when the main attribute values refer to objects more complex than a simple list of values (**Size**, **Color**, **Supplier** ...). These attributes are available in libraries by the menu "**Master attributes**".

  - The Enterprise Platform offers a standard list of product attributes.
    Master attributes: **Size**, **Color**, **Supplier**, **Distribution Channel**
    Simple attributes: **Season**, **Brand**, **Division**, **Product type**, **Theme**, **Gender**, **Country of Distribution**, and **Option**.

  - Configuration allows adding custom attributes and hiding or disabling some of the standard attributes.

  - Each product category has its own attributes. Branch "**Attributes**" of the product enables them to be managed and to be associated with other data. The classification attributes are present in the branch "**Description**" of the product (as a simple list) and in the branch "**Attributes**" (as a table). These two branches are synchronized.

2.2 The Stock Keeping Unit (SKU) or the Elementary Unit of Product Management

In real life, this management unit of stock is a garment in a given size and color. This is what the consumer buys, while the product itself is developed in various sizes and several colors, from several suppliers, etc.

By extension, any combination of attributes that is used for a particular purpose is called a Type of SKU.

For example, we define a Type of SKU called LabDip combining Colors and Suppliers of a material in order to manage the approvals of colors. In this case, we will have a branch "**LabDips**" from which all Color / Supplier combinations to be developed will be managed in a table where we inform the status of the colors at the supplier, date of dispatch or receipt of coupons, and the selected proposal as appropriate.

- Each product category can handle many different types of SKU

- Each product category manages its own types of SKU

2.3 Subset

The subset can cross two (or possibly more) different attributes in a table to define a subset of the product to which data will be added and possibly a process.

For example, we define the quantities provided by size and color of a garment, or we will define groups of colors that must be available at different times.

- A product can have several types of subsets according to the need.

- For given type of subset, a product can have multiple instances (in the example above, we can define the matrix size / color with volumes expected in the early season, mid season and late season).

We can define several types of subset:

- Subset **With Process**: associated with development process.

- Subset **Without Process**: not associated with a process of product development.

- Subset **Color Plan** : generated after the deployment of slot breakdowns in the Collection Plan. It has the marketing color as avaraition attribute and inherits planification data.

Attributes:

Sizes: S,M,L

Colors: Green, Orange, Blue, Yellow, White

Vendors: Vendor1, Vendor2

Channels: Internet, Wholesale, USA, Europe

Table of SKUs (Color * Size):

BARCODE	Size	Color	Ref.	Status	Price
1 648265 651114	S	Green	KX2347	Approved	$14.99
1 648265 651114	S	Blue	KX2356	Approved	$15.99
1 648265 651114	S	Yellow	KX2387	In Process	$13.99
1 648265 651114	M	White	KX2388	Approved	$14.99
1 648265 651114	M	Yellow	KX2374	In Process	$13.99

Subset: Color Size Ratio

Color/Size Ratio	S	M	L
Green	20%	30%	50%
Blue	10%	40%	50%
Yellow	80%	20%	0%
White	30%	40%	30%
Orange	0%	100%	0%

Subset: Forecast Volume per Color & Channel

	Internet	Wholesale	USA	Europe
Green	1200	3000	2500	1200
Blue	1800	3200	3000	1400
Yellow	800	900	900	400
White	1700	2200	1600	800
Orange	0	700	1000	400

Subset: Group of colors to develop

Group1	Vendor1	Vendor2
Green		
Blue	X	
Yellow	X	
White	X	
Orange		X
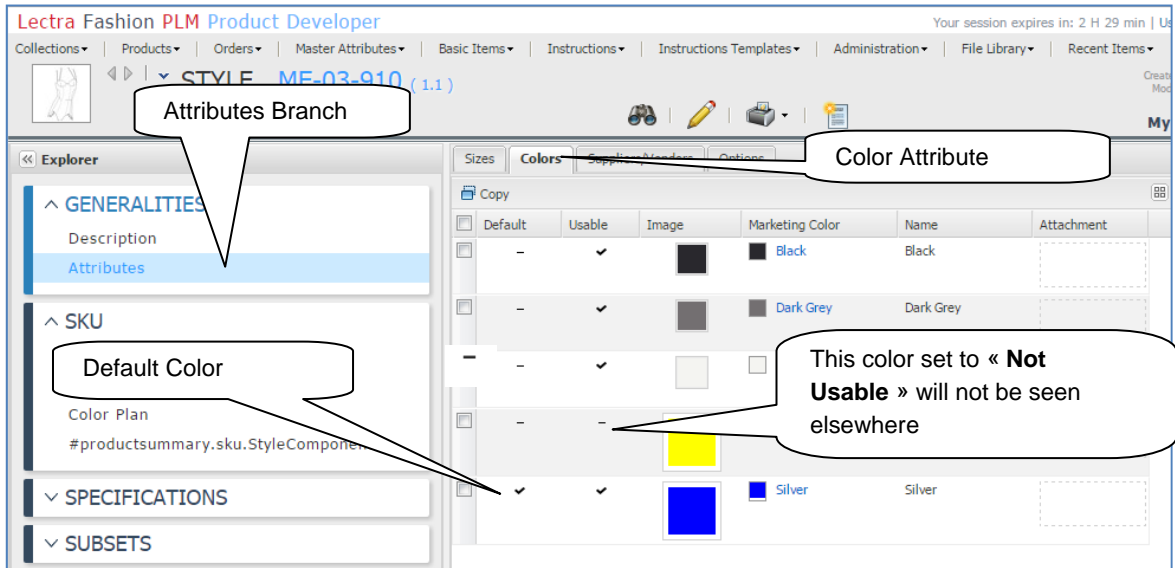
Group2	Vendor1	Vendor2
Green		X
Blue		
Yellow		X
White		
Orange		

3. HOW DO PRODUCTS VARY WITH ATTRIBUTES?

3.1 Attributes branch

The attributes that are managed in subsets or SKU must be included in this branch (please refer to the document "Application-Configuration_manual").

For each attribute, you can select one or more values. In order to have several times the same value of an attribute in a product, it is essential to differentiate them by the field position if it exists.

💡 Clothing sizes can be selected at once directly by calling the **Size Run**. A **Base** size must be designated.
The colors come from the marketing color table, and can be filtered through the palette concerning the season and the division on which we develop the product.

Specific fields are displayed.

A check box allows you to make "usable" (checked) or "unusable" (unchecked) the value of the attribute of the line. In this case, this line is not included in the product. Thus the line is 'Deleted', but the data is saved in case you change your mind and you want to reset the value into usable.

Additional customizable fields can be added if necessary (status, price, availability date, etc.).

- By filling these attributes and the associated fields, indicate what changes when we vary the values of this attribute.

- In case the information varies on several attributes at once, it will be necessary to use SKU or subsets.

3.2 Filters on branches

Insofar as the attributes have been defined by configuration on a product category, each product branch has an area "**Attributes**" for setting attribute values for which the instance is valid.

To facilitate the entry, an empty attribute means that an instance is valid for all values of this attribute. "**All**" is displayed automatically in light gray in this field to indicate that it is valid for all.
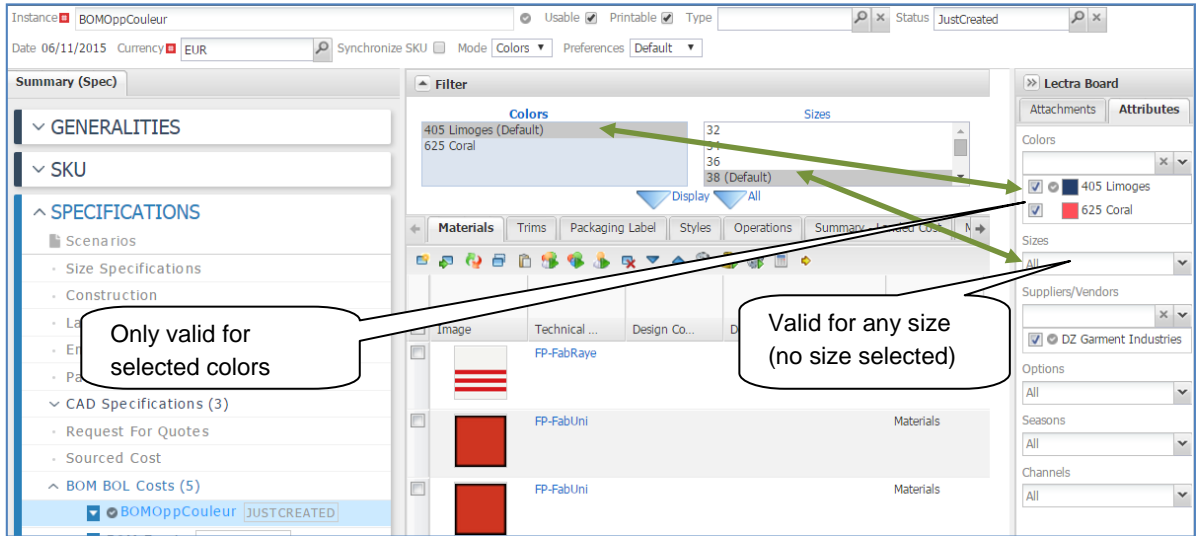
Application example: on distribution channel "internet", the products have special packaging when they are placed on hangers for sale in stores. The BOM (List of components of the product) will change because of this difference in packaging, as well as a description of the package itself (packaging branch). We will have two instances of BOM and two instances of product packaging. Instances corresponding to the hanger will be defined for the channel "Shop" while the other will be defined for the channel "Internet". Since the table of measurement does not vary with the channel, we say nothing in the zone attributes and a single instance is enough.

> The contents of the instance reflect the filter (we do not see the values set by the filter).

3.3 SKU

The products manage the types of SKUs that have been defined and attached by configuration. There will be as many SKU branches as there are types of SKU attached to the product. In one type of SKU, we define configuration attributes that vary. For example, the price of a material changes when the color, the supplier or the season changes. We define an SKU-type "Price" on materials and we can create required SKU records by combining a value of these three attributes and by filling the corresponding price. This price can then be used by the Costing module for calculating the cost of style and can thus obtain a different cost depending on the season of the product.
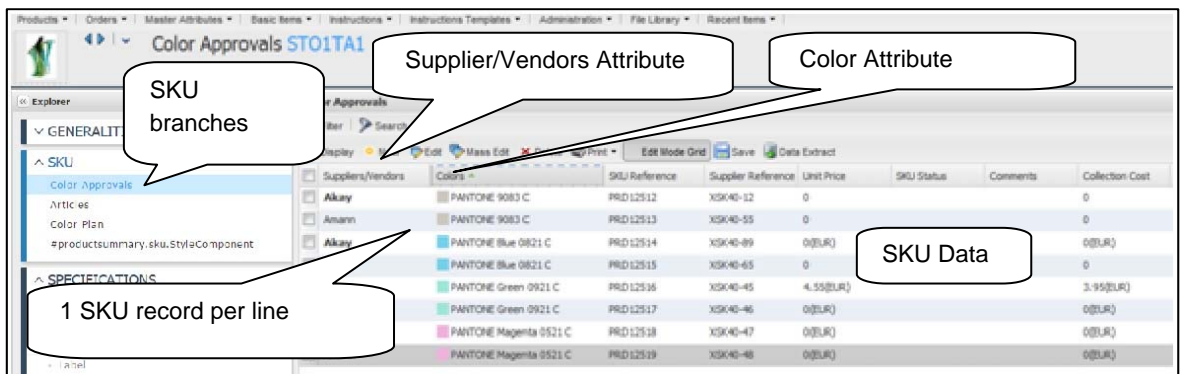
Notes:

- SKU are created manually by combining attribute values that make sense. They can be created automatically by certain functions such as synchronization BOM / SKU of components that can automatically create the related SKU in the components used
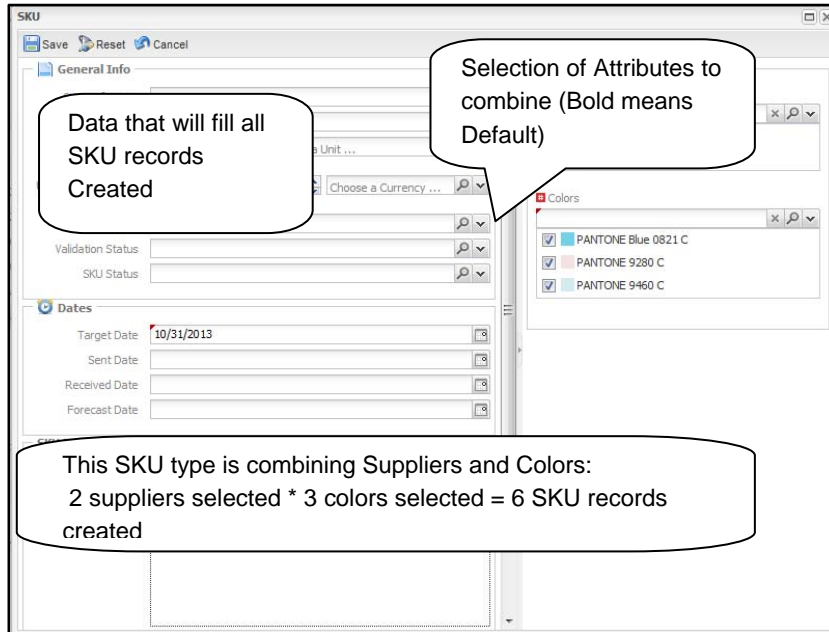
- You can create a SKU with an attribute value that is not given in a product. In this case, this value is automatically added to the product.

- SKU benefit of SKU-specific search features: mass editing (for multiple change of status or date of receipt, for example) and table editing.

- A **Change Tracking** is available for each record of SKU. Change tracking is local to current record SKU, or global to all records of the same SKU type.

- SKU register products that use them (eg BOMs). We can thus identify SKU unused and decide to delete or cancel them. We can manage the reminders to those who need to develop these SKU. For example, no need to develop a color that has been canceled and ensure that the delivery date of the color is prior to the date of approval of the garment.

- Standard SKU fields to manage price data and approving color, dates and status. By configuration, you can add additional custom fields.

During the installation of PLM, you have at your disposal the following types of SKU:
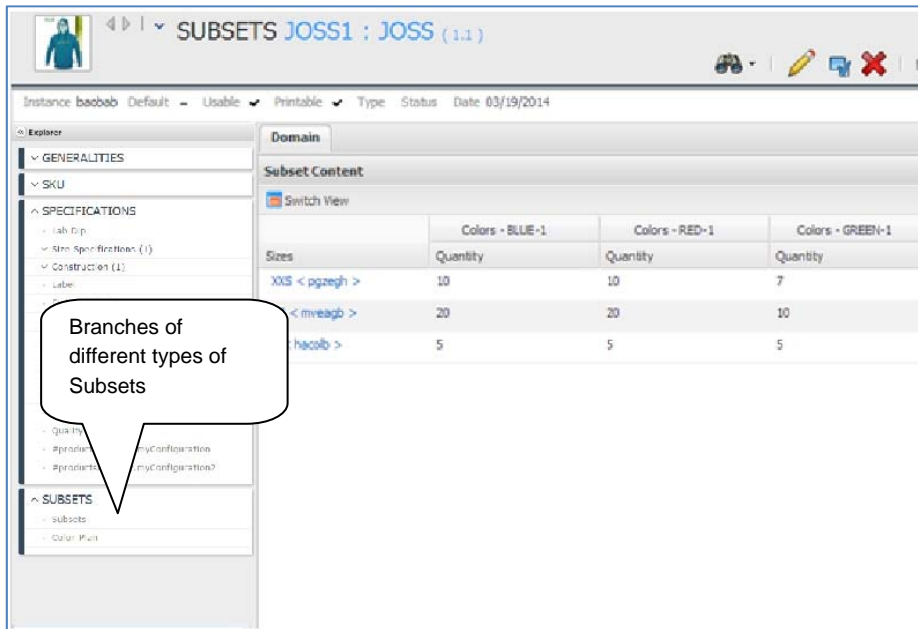
SKU Type	Attributes	Categorie	Purpose
Installed by default			
StylePrice	Color/Size/Supplier	All categories	Price management and cost calculation.
Color Plan	Marketing Color	Style	

Optionnally Installed			
ColorApproval	Color/Supplier	All categories	Approval of colors
ComponentSeasonal Price	Color/Supplier/Season	All categories	Price management by color, by supplier according to the season.
StyleSeasonalPrice	Color/Size/Supplier/Season	All categories	Price manaemet by color, by size, by supplier according to the season
Articles	Color/Size	Style	Management of Size / Color references
Sales	Size/Color/Distribution Channel/Distribution Area/Sales Period	Style	Sales management

3.4 Subsets

The subsets define subsets of a product. While the SKU will set the smallest unit, the subset considers multiple attribute values at once.

Some subsets can be defined to have their own tracking development.

Refer to *Calendar Management Process Manual* for more details.

During the installation of PLM, you have at your disposal the following subsets:

Subset type	Attributes	Categorie	Purpose	Process Configuration
Installed by default				
Assortment_Style	Size/Color	Style	Size color distribution forecast , content of a box ordered	Without Process
Color Plan	Marketing Color	Style		With Process
Optionnally installed				
ColorsList	Color		List of colors of a material per season (one instance per season)	
Deliveries	Color/Supplier		Development of color groups of a product. The default subset is the next group of colors to deliver	With Process
Orders	Size/Color		Order management pro forma of a product (an instance of subset is an order from a supplier)	With Process
Orders_Style	Size/Color	Style	Order management pro forma of a product (an instance of subset is an order from a supplier)	With Process

3.5 Dependencies between product categories

It is common to have an accessory whose price varies with the season, which is used in several styles, each set for a single season. The common attribute "season" will allow us to calculate the price of clothing, taking the price of the corresponding accessory in the same season.

Dependency between product categories are managed by configuration.

We can configure SKU to be used for the calculations of costs and SKU to be used to manage orders of samples.

4. USE CASES

4.1 Subsets

Crosstab size color to capture the forecast volumes of clothing, the ratios of distribution, quantity per carton of a product (Subset Size / colors without process). If these ratios or global to all volumes vary according to country of distribution, use multiple instances by specifying for each one the relevant countries.

Proforma orders of a product at a supplier (Subset Size / color with process) followed with steps of progress of production and delivery of the order. An order for replenishment will result in a new instance.

Monitoring the development of a product in groups of colors (color Subset - or color / vendor if product multi-vendor - with process)

4.2 SKU

Approval of material colors and accessories: SKU color supplier (possibly seasonal).

Material cost materials, accessories and finished products: SKU color supplier (possibly size), season

Reference a commercial product based on the distribution channel: SKU Size Color Channel. Sometimes the packaging may also interact. We can also maintain a subset Channel / Packaging if needed.

5. STANDARD DATA

💡 "Link" means that the displayed fields comes from a linked object.

Label	Type	Link	Description	Comment
ATTRIBUTES				
Default	Check box	No		
Usable	Check box	No		
Document	Attached File	Yes	Link to a document from File Manager or From Designer	Designed to illustrate attribute (Style in given colorway for Color Attribute, size label for Size Attribute, etc.
Path	Text	Yes	Selected Hierarchic value from Look up.	
Colors (Any Category)				
Image	Attached File	Yes	Image of the linked Marketing color	Comes from image attached to Marketing color if exists, from related technical color otherwise
Marketing Color	Text	Yes	Marketing Color Code	
Name	Text	Yes	Marketing Color Name	
Supplier Reference	Text	No	Colorway reference	Free text for colorway codification
Sizes (Style)				
Base	Radio button	No	Only one Base Size per Size Run	Set automatically from Size Run, can be changed in the style.
Name	Text	Yes	Size Name	
Equivalence	Text	Yes	Size Equivalence	
Option 1	Text	Yes	Option 1 of Complex Size	
Option 2	Text	Yes	Option 2 of Complex Size	

Size Runs	Text	Yes	Size Run Name	
Suppliers/Vendors (Any Category)				
Supplier	Text	Yes	Supplier Name	
Minimum Order	Text	No	Marketing Color Code	
Delivery Date	Date	No	Expected Delivery Date	
HS Custom Code	Text	No	Code for Customs	
Bundle Size	Text	No	Minimum Size of an ordered bundle	
Sizes (Other categories than Style)				
Size	Text	Yes	Size Name	
Unit	Text	Yes	Size Unit	cm, m, yard, dozen, etc.
Equivalence	Text	Yes	Equivalence (From Simple Size)	