CookBook

Akeneo PIM extension
HOW TO BUILD A GOOD connector

1- What is Akeneo's PIM data structure?

2- How do I define my users' needs?

3- What type of architecture to implement?
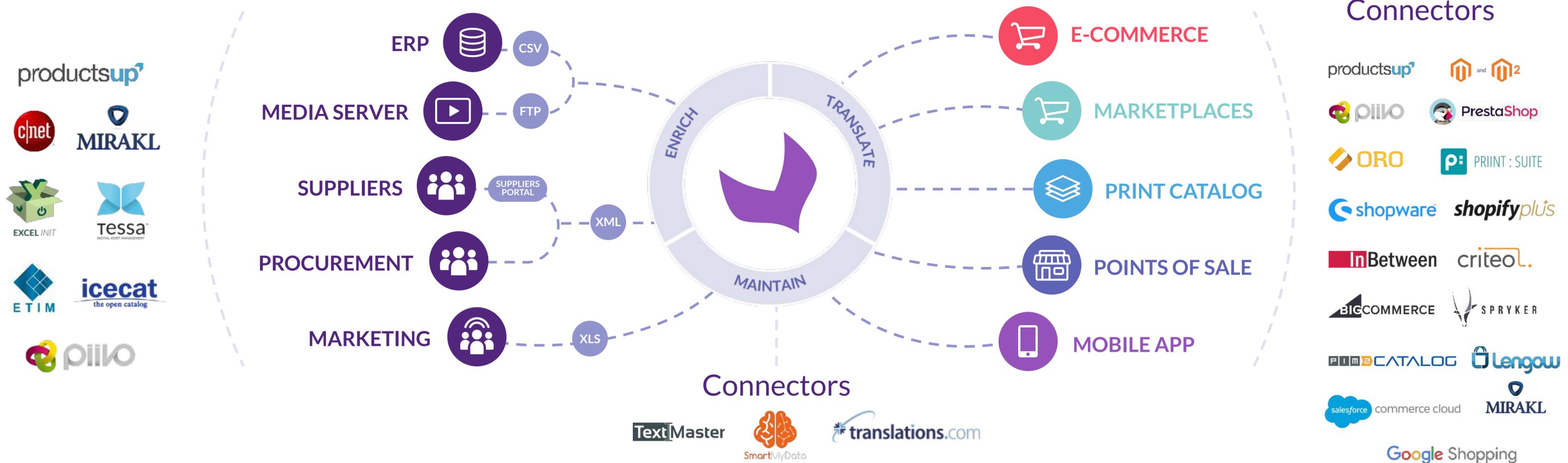
4- How to test your connector?

Menu

for the wedding breakfast of

Daisy & Pete

Friday 23rd April 2010

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Akeneo & Ecosystem

1 Collect data from any source

2 Enrich and Control the quality of your product information

3 Distribute to multiple channels

productsup

cnet   MIRAKL

EXCEL INIT   tessa DIGITAL ASSET MANAGEMENT

ETIM   icecat the open catalog

piivo

ERP — CSV

MEDIA SERVER — FTP

SUPPLIERS — SUPPLIERS PORTAL

PROCUREMENT — XML

MARKETING — XLS

ENRICH · TRANSLATE · MAINTAIN

E-COMMERCE

MARKETPLACES

PRINT CATALOG

POINTS OF SALE

MOBILE APP

Connectors

TextMaster   SmartMyData   translations.com

Connectors

productsup   and M2

piivo   PrestaShop

ORO   PRIINT : SUITE

shopware   shopifyplus

InBetween   criteo.

BIGCOMMERCE   SPRYKER

PIM2CATALOG   Lengow

salesforce commerce cloud   MIRAKL

Google Shopping

→ Here is an overview of the Akeneo PIM data structure.

→ The objective is to make a parallel with your software structure in order to find similarities or connection points, and start thinking about the mapping between the PIM data and your software.

→ If you need to learn more about PIM concepts, please use our website: https://help.akeneo.com

Understanding Akeneo's PIM data : overview

PIM Structure

Locales | Currencies | Measure families | Channels

Organisation

Categories

Product model

Products

Marketing enrichment

Association types

Media files

Assets *

Reference entities *

Catalog structure

Families | Attributes

Family variant | Attributes options

Attributes groups

Product status

Product draft *

Published Products *

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* Enterprise Edition only

Attributes

An attribute is a product characteristic. Each product is composed of different attributes.

An attribute can have several specific properties: it can be **localizable**, locale specific and/or **scopable.**

An attribute is **scopable** if its values differ for each **channel.**

Attributes options

In the PIM you can define values for simple and multi select attribute types. Options can be added, modified, sorted, or deleted.

Attributes groups

Attribute groups are used to:
→ Gather attributes together to give more visibility when users fill in values
→ Organize the work of the different contributors on products in the Enterprise Edition

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Families

A family is a set of attributes that is shared by products belonging to the same family. In other words, a family is similar to a product template.

When a product is added to a family, it automatically inherits all attributes defined at the family level. A product can belong to only one family (but a product can be without any family, in that case, it has no default attributes).

Finally, the family manages the product's completeness.

Family variant

Products with variants are products that have similarities, they are based on the same model, but differ in some aspects from one another.

Ex: T-shirts available in different colors and sizes

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Categories

In the Akeneo PIM, a category is used to classify products or assets (EE only). A category is always part of a main category tree (or classification tree).

You can have one or more category trees in Akeneo with an unlimited number of levels (categories, subcategories, sub-subcategories...).

One specific catalog can be defined for **each channel**

The same tree can be attached to different **channels**

A product can be attached to **1 or n categories**

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CATEGORIES VS FAMILIES

Tree/categories =
Classification of products
1 product = n categories

Family =
Set of attributes to enrich
a product
1 product = 1 Family

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Channels

A channel in Akeneo defines a selection of products and information to export. A channel can be a website, a print catalog, a mobile application…

A channel is defined by a category tree, specific locales and currencies

PIM

E-commerce

Mobile

Print

Point of sale

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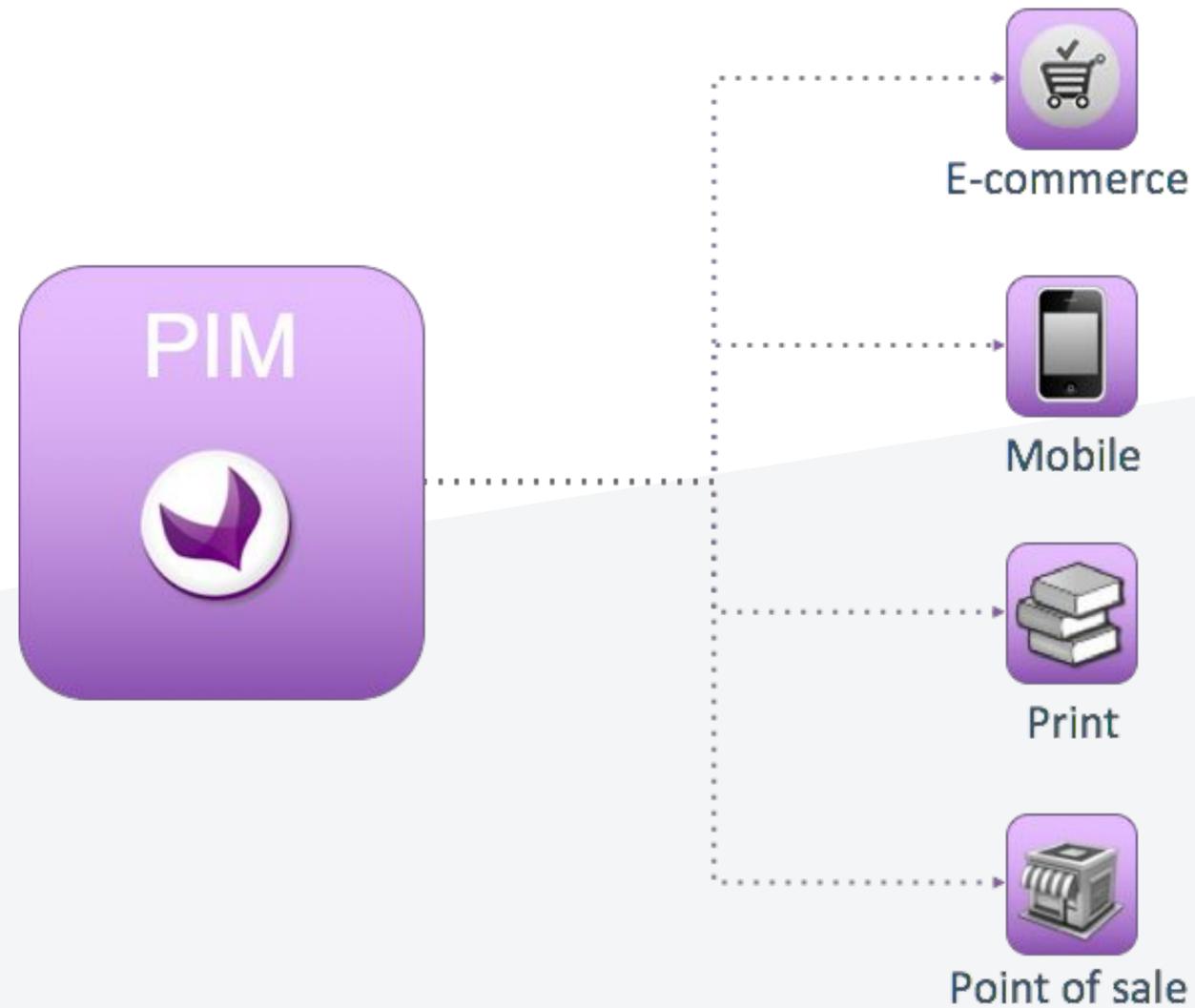
Association types

A product may be associated with several other products or product groups, or none.

This type of link also called a relationship has a direction:
e.g. Product "A" --> Product "B" and Product "A" --> Product Group "G".

The Product "B" and the product group "G" have no link or association with the product "A".

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Locales

A locale in Akeneo is a combination of a language (English, German, French...) and a country (United States, United Kingdom, France…). For instance, US english is en_US, UK english is en_UK

[Know more](#)

Currencies

You have 294 currencies available in Akeneo. Currencies are used to set values for the Price attribute type. Currencies are not related to locales.

[Know more](#)

Measure families

A Measure family is a unit of measurement to be used for the attribute (weight, dimensions, area, etc.)

[Know more](#)

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| **Media files** | A Media file attribute contains a **single** file (pdf file for instance) or an image. | |

Asset management PIM <= v3.2

| **Asset** * | An Asset contains **multiple** digital resources like videos, pictures, pdf files... (Entreprise Edition only). | |

| **Asset tags** * | An asset tags helps you work with your assets. | |

| **Asset categories** * | An asset can be classified in one or more categories, but can also be left out of any categories in the PIM. The asset can either be classified in several categories in the very same tree or in different ones. | |

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* Enterprise Edition only

Asset management PIM >= v4.0

Asset families *

An asset family gathers a number of **assets** that share a common attribute structure. In other words, an asset family can be considered as a template for its assets.

Asset *

An asset is a flexible object that makes it possible to enrich products with images, videos, documents...

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* Enterprise Edition only

Product draft *

A **product** form will have the In progress status after you enter new values for the product information. It also means it has not been sent yet for approval to product managers.

You can continue to enrich your current draft by changing the product attribute values. Each time you hit the Save button, a new draft is generated.

Product model

A **product model** allows you to manage products with **variants**, it gathers variant products and eases the enrichment of their common properties.

Published Products *

In the PIM, you can manage two different versions of the same product: one **published** version that you can export to your channels and another version to prepare the next collection or season of products, for example.

This is handled by the **Publication** feature.

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Reference entities *

A **reference entity** allows you to create and enrich natively in the PIM those common information that are shared and related to products.

A **reference entity** has its own attributes, its own life cycle and can be linked to products or to another reference entity. It allows enriching common data related to products with a rich content (text, images...), more complex than just a code and labels.

Reference entity records *

For the Brand reference entity, a **reference entity record** contains all the information regarding a brand like Kartell or Fermob.
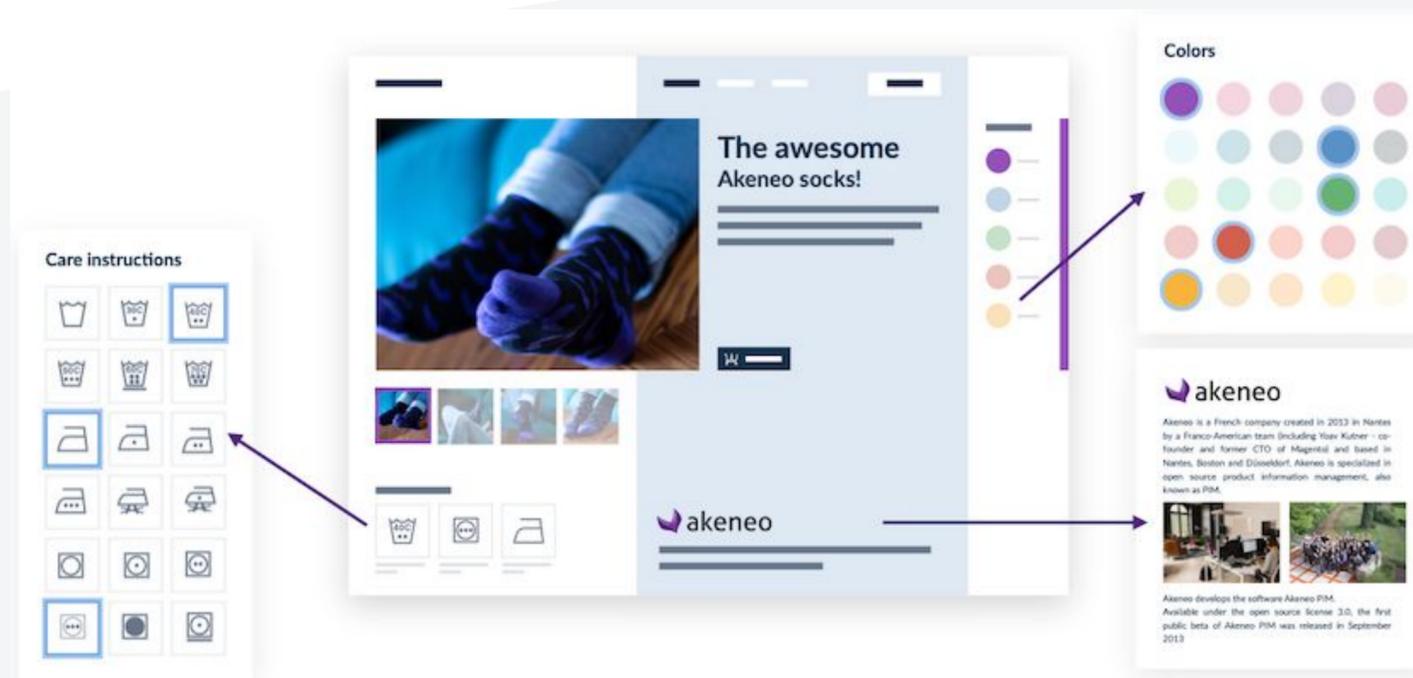
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* Enterprise Edition only

How to build a good connector

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→ It is important to clearly define the **customer's needs** for your connector.

→ Sometimes it is easier to start with **a real user case** and enrich it to get a **generic connector** that meets the most common needs.

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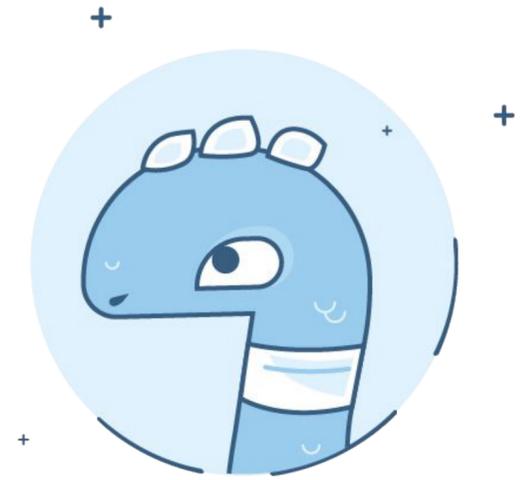# Ask yourself...

What is the functional need of your users?

✔ **What exactly do your users expect from this connector?**
→ Defining all user stories is the best way to list all your user needs and expectancies
→ Define the main features to be implemented according to the user profiles that will use it.

✔ **How to check the user stories defined previously?**
→ Define with your users all the tests to be implemented to check each user story that you have defined previously.

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Ask yourself...

Examples of user case questions to ask yourself to well prepare the SOW of your connector

What software versions do your users have?

☑ **Third-party Software version**
→ This allows you to define whether the connector should be compatible with the latest version of your software or previous versions (if still used by a lot of your users)

☑ **Edition/version of Akeneo's PIM**
→ Set whether the connector should be compatible only with the latest version of the PIM or previous versions (to define the features to be taken into account)

→ [Compare PIM Edition](#)

→ [Compare PIM version](#)

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Ask yourself...

Examples of user case questions to ask yourself to well prepare the SOW of your connector

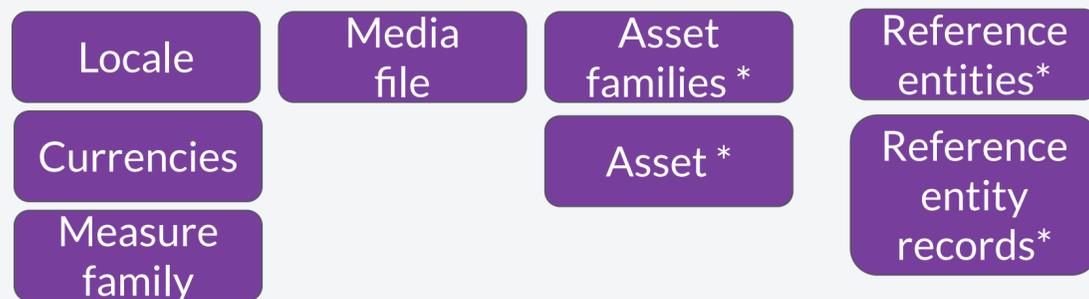## Which PIM Data will be used by your connector for your customer needs?

✓ **Which data from my software should I import/export from/to the PIM?**
→ Below you will find all importable/exportable data at the PIM level. Define if this data also exists in your software and if it is necessary to process it before importing/exporting.
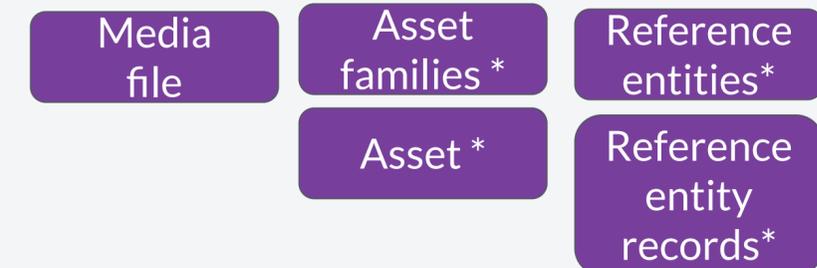
Importable from PIM (GET)

| Product	Category	Family	Attribute	Channel	Association type
Product model		Family variant	Attribute option		
		Family variant	Attribute groups		

Locale	Media file	Asset families *	Reference entities*
Currencies		Asset *	Reference entity records*
Measure family			

Exportable to PIM (POST)

Product	Category	Family	Attribute	Channel	Association type
Product model		Family variant	Attribute option		
		Family variant	Attribute groups		

Media file	Asset families *	Reference entities*
	Asset *	Reference entity records*

Product model

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* Enterprise Edition only

Ask yourself...

How should this data be processed?

✓ **Is my software data compatible with Akeneo PIM data format?**
→ Define the conversions to implement if the data types are not compatible between your software and the PIM

✓ **Must this data be transferred automatically and/or manually?**

✓ **If this data is to be transferred automatically, how often?**

✓ **If this data is to be transferred manually, should an interface be provided to select the data to be transferred?**
→ Define the filters to set up in this case.
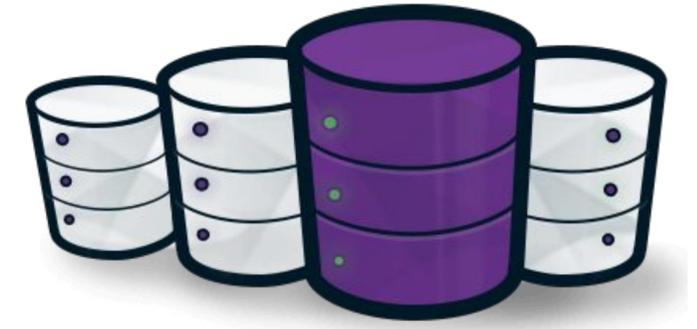
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Ask yourself...

Scalability : How much data will be transferred?
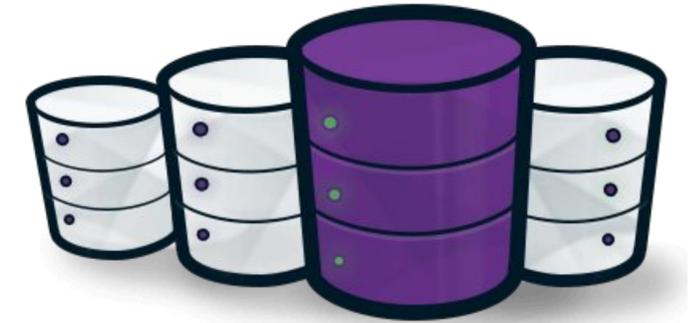
✓ **On average, how many products will be transferred? With how many attributes? How many attribute options? How many categories ?**
→ Properly defining the average quantities makes it possible to define an average catalogue allowing all functional tests to be carried out under real conditions of use.

✓ **At most, how many products will be transferred? With what maximum number of attributes? With what maximum attribute options and categories ?**
→ Properly defining the maximum quantities makes it possible to define a specific catalog in order to perform workload tests (scalability tests and performance tests).
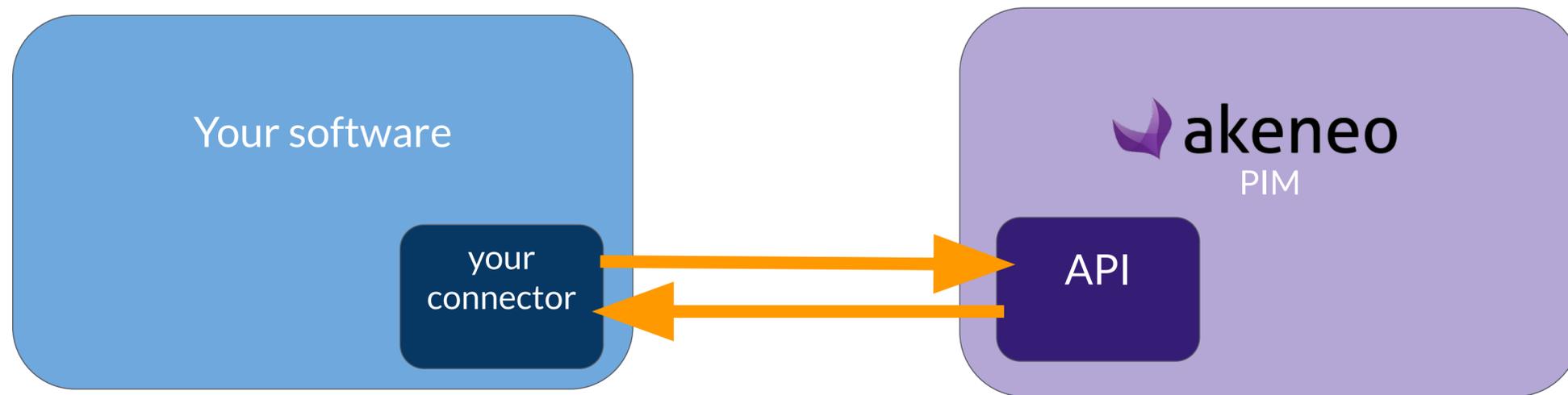
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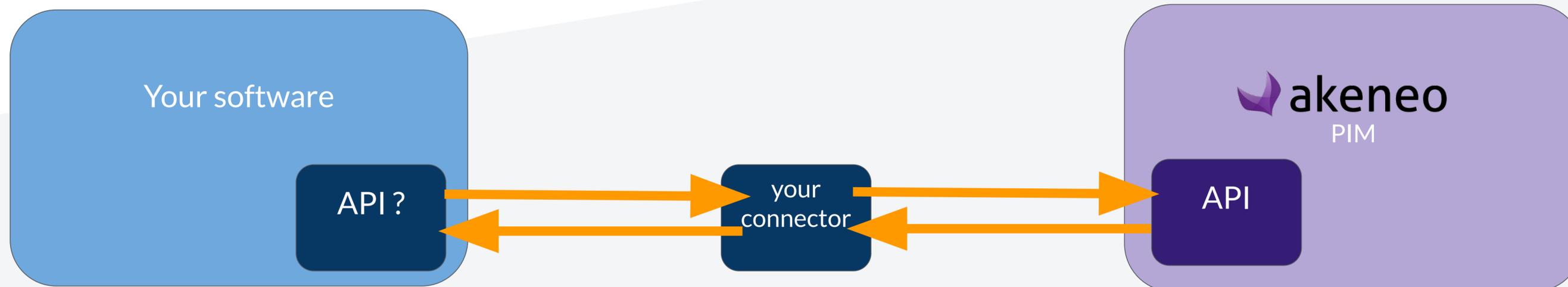**3- What type of architecture to implement?**

4- How to test your connector?

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Connector architecture

Akeneo PIM allows you to carry out your import/export thanks to its web API

Extension of your software

Your software

akeneo
PIM

your connector

API

Middleware

Your software

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PIM
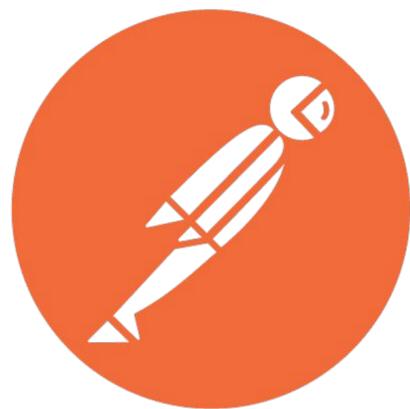
API ?

your connector

API

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Why use the Akeneo API?

- ✓ Because it is the **easiest and fastest way** to exchange data with the PIM! (30% faster than CSV import)

- ✓ Because it's the best way to make your connector as independent as can be from any **PIM version**.

- ✓ Because it's the **only way** to be compatible with Akeneo's **Serenity cloud Edition** offering.

- ✓ Because we have a **very complete documentation** for your developers:

  http://api.akeneo.com

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Want to test our API?

With your PIM, you can test our API with a **Postman** client:
https://www.getpostman.com/

Use this tutorial:
https://api.akeneo.com/getting-started/your-first-tutorial-old/step-2.html

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How to test your connector?

You can perform different types of tests to check the quality of your connector...

1- Code quality tests

2- Unit tests

3- Functional tests

4- Scalability tests

5- Performance tests

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1- How to test code quality?

You can take these automatic tests to check the quality of your code. If your connector aims to be Opensource, it will be easy for others to participate in its development.

If you develop in PHP language:

☑ You can check your code with [PHPCheckstyle](#)

☑ You can analyze your code with [PMD](#)

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2- How to do your unit tests?

You can take these automatic tests to help you to do your unit tests.

If you develop in PHP language:

- ✔ You can test your framework with [PHPunit](#)

- ✔ You can use [PHPSpec](#)too (A php toolset to drive emergent design by specification).

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If you have <u>listed all user stories</u> during the design phase, you have probably been able to <u>write tests</u> to check each story.

During this test phase, each user story is reproduced using tests defined during the design phase.

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4- How to test the scalability of your connector?

The objective here is to test if your connector can operate without too much degradation of service quality by setting up a test catalog containing realistic high values as defined with your users during the design phase.

Warning! : This phase must also take into account the limits of the test environment (Your software capacity, PIM capacity, Test server capacity (memory limit...), Bandwidth capacity...)

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5- How to test the performance of your connector?

The main objective is to verify that all optimizations have been implemented at the data processing level so that the connector can process a large amount of data in a minimum of time.

You can use the "average" catalog defined with your users in the design phase.

Warning! : This phase must also take into account the limits of the test environment (Your software capacity, PIM capacity, Test server capacity (memory limit...), Bandwidth capacity...)

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