

Use Case: Exchange of multiple identifiers and multiple languages

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Mentor: PDM-IF

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Aim

Along the data exchange of assembly structures between partners, local and common part identifiers as well as product data in multiple languages shall be exchanged.

Actors

- OEM or customer partner
- Supplier partners

Preconditions

On top of the use case “Exchange of fundamental PDM capabilities of a Product Assembly Structure”, the exchange partners are able to handle a common part ID (with the mapping to their local part IDs) and to handle data in different languages.

The use case also covers a “full loop test”.

The common part ID may be the local ID of the OEM, or from any other partner/organization. Once defined, each partner needs to handle the relationship to his local Part ID. At least the common part ID shall be used during data exchange. This makes collaboration scenarios over multiple levels of suppliers (tier1, tier2, etc...) easier to manage, for example if A sends to B, B sends to C, and C sends back to A. Optionally, the local part ID of the sender and/or of the other partners may be added. Multiple languages shall be supported at least on part name and PartVersion description.

Description

On each partner side, the common part ID and its relationship to the local part ID may be hold in the PDM system, in the data exchange tool or in any further repository. Optionally he may also store the relationships to the other local IDs.

Based on ISO 10303 STEP AP242 Domain Model (XML) standard, the part IDs shall be of type Identifier with the addition of the attributes role and context. The common part ID shall have a specific role and each part ID exchanged for the same part has a different context (organization where it has been created). The parts (or other objects) shall have a list of identifiers, with the common exchange Id as mandatory.

On each partner side, the data exchanged in multiple languages may be hold in the PDM system or in any further repository on each partner side.

Based on ISO 10303 STEP AP242 Domain Model (XML) standard, text in multiple languages is mapped using Country and language code conforming to RFC 3066.

Out-of-scope of exchange:

- Centralized (company independent) generation/access of the common Part IDs
- Automatic translation

Use case generalization:

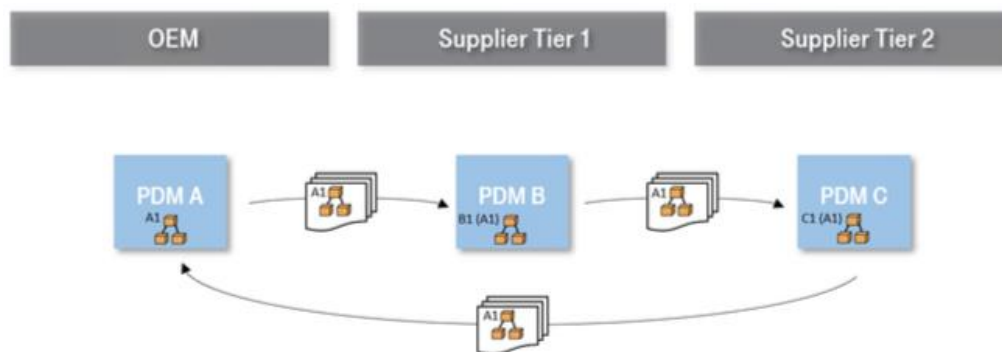
- Handling of multiple IDs on further objects (Occurrence, Document, WorkRequest, ...)
- Handling of multiple languages on further attributes

Postconditions

The supplier can interpret the multiple part IDs and the attributes in multiple languages. On receiver side, during the first data exchange, the common part ID shall be associated to a local part ID. During further data exchanges, the same local part ID shall be reused. If the receiver does not support multiple languages, one language common to all attributes must be picked out (if provided, accordingly to the default language defined by the sender, otherwise freely chosen among all available languages) and used as default language when sending data back to the sender.

Diagram

Here a typical data exchange scenario (under many others):



The common exchange ID “A1” is preserved during all exchanges.

Benefits

Enables a powerful design collaboration across multiple levels of suppliers.
Enables each partner to document his work in his native language.