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# Goal of the document

This document is meant to serve as a brainstorming or first briefing for a joint workshop in Leiden. In this workshop we will try to reach a better understanding of the IHE framework and process of standardizing IT interfaces and interoperability of actors in the publishing industry.

Our understanding is that part of the outcome end of the process implemented by IHE are different documents:

1. Narrative description of the transaction.   
   This narrative documents the process in wording and language of a user perspective of the transaction but at the same time already grasps the complexity.
2. Abstract description of the transaction  
   Based on the narrative this is a structured description i.e. actors, transactions, data structure, statuses etc.
3. Technical description  
   This would be the next level defining services, resources, parameters, DTD/XSD, authentication, security etc.

In the following we will try to give one first try or angle of the narrative description keeping in mind already certain structural aspects.

# Definition of transaction actors and scope of use case

## Actors

There are two actors in the transaction:

* Publishing Houses (Customer)
* Printing Plants (Supplier)

Looking at the whole process and value chain there could be other actors involved that would obviously benefit from aspects standardization of the interface i.e. other suppliers to the product (paper mills, pre-press suppliers). However these are not considered at this stage.

## General and specific scope

The transaction in general is the production of products by printing houses for publishers.

In general the process can be split into 4 phases:

1. Request for pricing by publisher and proposal of printer  
   This is usually done via email / telephone communication, or based on price lists as part of frame contracts. There are also various pricing tool solutions based on web or Excel to support the process..
2. Formal placing of the order and production
3. Provide the printing data or other product parts (i.e. stickers, cd, booklet)  
   The data could be supplied by the publisher, third party suppliers or the printer himself and often is subject to a separate approval processes (online and offline). In case of reprints the printer may have the data already and may adapt parts locally as part of a defined service.
4. Shipping, invoice and payment

The specific scope of this use case will focus on placing the order with the printing house and the production of the product (phase 2). Nevertheless of course also phase 1, phase 3 and phase 4 (here especially the invoice) could be subject to standardization efforts.

It should however be considered that some information relevant for phase 3) and phase 4) are usually part of the formal order. I.e.: the shipping address or the name of the pre-press supplier.

For the use case the focus will be on monochrome books. This could be expanded at a later stage to full color books or other printed products.

# Description of the specific transaction of the use case

The publisher has made the decision to produce a book with certain parameters with a printer.

With the order he provides a set of data needed by the printer to execute the order. First we look at the data that is provided with the order and then we look at the process how this data is usually provided in the first step of the transaction.

## Data

* Technical product specification  
  There needs to be a set of parameters the publisher defines to describe the book. On an abstract level this could be
  + Format
  + Extent (nr of pages)
  + Cover (material, flaps, finishing, spinewith, provided by third party?…)
  + Dustjacket (paper, grammage, colors,….)
  + Textpaper (paper, grammage, bulk,….)
  + Extrasections (paper, bulk, bleed….)
  + Binding (adhesivetype, spinetype, creasing….)
  + Endpapers (paper, grammage, bulk…)
  + Extrasticker (suppier, placing…)
  + Extrainsert (supplier, placing…)
  + Extrawrapper (placing….)
  + Extraadvert (placing, paper…)
  + Product packaging (i.e. single shrinkwrapped, single boxes) could also be part of 2) Packaging
* Technical packaging specification  
  This defines how the products are prepared for shipment.
  + Shrink-wrapped or boxed in bundles of x copies or max weight
  + Pallet type
  + Copies per pallet
  + Pallet height (max)
* Typesetting / Pre Press  
  As mentioned in 2.2.3 the aspect of data is can be defined a separate process/transaction. However this has aspects that some of the information is also crucial for the process ordering itself:  
  + Information about timing is essential for the planning of the printer and therefore the delivery date
  + In many cases certain aspects are a service provided by the printer and therefore part of the order “specs”. The most frequent example would be corrections for reprints performed by the printer.  
      
    For this reason the following information is supplied as part of the order where applicable:
  + Typesetting supplier
  + Changes of the edition (preliminary pages, typeset, U4, content)
  + How is data provided
  + How is the process of approval
  + Are proofs supplied or need to be made by the printer
  + Are blueprints needed
* Quantity  
  The number of books need to be defined together with some industry specific metadata like overs/unders  
  The quantity could also have metadata attached referring to the edition. This information could also relevant for other pro<c
* Price  
  The agreed price and currency based on the ordered quantity.
* Payment terms  
  The terms of payment and i.e. invoicing details (address, email)
* Delivery Date  
  This can be expressed in different ways. Usually a target date is given and mutually agreed before placing the order either in course of communication or by generally agreed terms (i.e. delivery within 10 working days. It could also be possible that the date is communicated as a time frame (earliest or latest date possible).
* Delivery Destination  
  This information is the address of the delivery destination(s)
* Metadata relevant to identify and describe the product  
  This information can be used to identify the order or is commonly used in different processes not only the order transaction itself. This data could be:  
  + ISBN number
  + Title, subtitle, book series, author
  + End User Price (Germany/Austria)
  + Date of publication
  + FSC Y/N and type
* Metadata relevant to the order itself  
  This information is relevant to the order itself. Examples are:  
  + Name of the publisher
  + Address of the publisher
  + Contact details of publisher (address, email, name, phone)
  + Order number of the publisher
  + Date of the order
  + Other “identifiers” like transaction number, customer/supplier number etc.

It is important that all actors in the transaction have the same understanding of the syntax and semantic of what is being communicated. This needs to be discussed and defined of course.

In many cases not all of the information above (or even more on the contrary) is communicated. When transactions occur on a regular basis the parts of the specifications are known or assumed known.

## The process of the order

### The publisher places the order with the printer

We are not publishers but we would describe the process as follows.

Once the decision and definition of the order is made there are a variety of possibilities depending on the internal setup of the publishers.

We would differentiate three possible setups.

* The publisher has no formal internal requirement to place a purchase order with a supplier or the requirement or the formal process is independent of the communication with the customer. This means that the internal purchase order may or may not be be generated in the ERP system but in any case the formal order to the customer is not directly linked.  
    
  In these cases the order is placed by the customer by phone (yes this does happen!), email, fax, letter.  
    
  An option could also be to use the web based solution ecommerce solutions of a printer to configure the product and place the order (independent of a formal internal purchase order of the publisher9.
* The publisher uses the purchasing module of an ERP system with no or limited support for production. In this case the formal purchase order is generated by the system with limited information to specify the order in detail. This purchase order with basic information (name, quantity, price, delievy date, payment terms) is then usually sent to the printer as PDF by email (or fax, letter) in combination with a separate document that specifies the infos that are necessary but not part of the purchase order itself.
* The publisher has an IT solution that supports the process of production (usually in combination with functionality supporting other industry specific processes like marketing, licenses, content management). This can be part of the ERP implementation or is at least integrated with the ERP system. The production solution generates the production /purchase order.  
    
  The order can be sent by email, fax, letter or via an IT (XML) interface to the printer.

There are also solutions where the publisher provides a web based “order portal” where the printer (sometimes triggered by email) can download the order including detailed specifications.

Depending on the depth of the information that is generated by the production solution additional information is transferred by phone, email, fax, letter .

### The printer accepts and confirms the order

With arrival of the order there are 3 potential scenarios:

1. The order arrives by telephone, email, fax or letter  
     
   The printer enters the order into his ERP/production system usually specifying the data described above (sometimes adding some additional metadata with technical aspects i.e. needed for certain machines).  
     
   If information is missing, unformal communication with the customer starts to fill the gaps.  
     
   The printer then usually sends the formal order confirmation to the customer again specifying data as mentioned above.

GGP also offers web solution that allows the publisher to view the status of the order. Here he could have a view the specification of the order and verify that is set on “accepted”.

1. The printer receives the order via an IT (XML) interface

Depending on the agreement with the publisher there are different options:

* The publisher receives an order confirmation via email (or unlikely fax or letter)
* The status of the order is set on “received” and can be updated by a web service in the production system of the publisher
* GGP also offers web solution that allows the publisher to view the status of the order. Here he could have a view the specification of the order and verify that is set on “accepted”.

1. The publisher places the order on an ecommerce platform of the printer

The printer usually sends an email confirmation.

### Changes of the initial order or cancellation

After placing and confirming the order, the specifications may change. This can be triggered by the publisher (typical: change of print run, supply of files) or the printer (i.e. change of paper, delivery date).

Similar to 3.2.2. there are different cases to be analyzed:

1. The communication occurs by telephone, email, fax or letter  
     
   In these cases the communication of the changes is usually done by email (fax/letter). Depending on the specifics the formal order confirmation is updated/cancelled.
2. The printer receives the order via an IT (XML) interface

Depending on the configuration of the system are again different options:

* For compliance reasons it is unlikely that the printer updates the order in his system and via web service the publishing system of the customer is updated automatically.
* The publisher resends the order with the changes done in his IT system. The update is imported in the printers IT system. There is a mechanism in place to track the versions of the order and make changes transparent.
* GGP also offers web solution that allows the publisher to view the status of the order.

1. The publisher places the order on an ecommerce platform of the printer

There are many possible variants. Either there is a change management process within the ecommerce workflow or the order is cancelled and redone.

At a certain point in time the order in total or certain aspects of the specification can not be changed further. This is usually called “in production”.

Either this point in time is subject to unformal communication (phone call/email, can I still change?), or rules agreed between both actors (“the order can be changed within x days”)

If the order is place via XML there is usually a status change to “in production” that is exchanged via web service or automated email communication.

The printer decides on how and when to set this status change based on a variety of factors not part of the use case.

(As stated earlier, the delivery and approval of the printing files is a process that occurs in parallel to the transaction in focus. However certain status information regarding the files could be beneficial to this process.)

### The order is produced, is being shipped and invoiced

When the order is produced the printer will ship the product as agreed.

Even if this is not part of the focus of the use case there are some aspects that could be considered and overlap other processes as pointed out in 2.2 General and specific scope.

The printer generates a delivery note for the order. This can be sent to the publisher and the distributor. This may happen by email/fax/letter. Also the data could be provided by an IT interface. It does also make sense to change the status of the order in both production system to “in delivery” or “delivered” by a web service depending agreed delivery terms or requirements.

The printer generates an invoice and sends the invoice to the publisher. This can be provided by email/fax/letter. Also the data can be provided by an IT interface. It does also make sense to change the status of the order in both production systems to “invoiced” by a web service.

GGP offers a web solution where both, delivery note and invoice can be viewed and downloaded by the publisher.