

Architecture Report for eBusiness harmonisation in Textile/Clothing and Footwear sectors

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Acknowledgement

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Harmonising eBusiness processes and data exchanges
for SMEs in the textile/clothing and footwear sectors in the
Single Market

Executive summary

1. The aim of this document is to offer a vision of a reference architecture for the eBusiness harmonisation in the Textile Clothing and Footwear sectors. It has been developed in the framework of the eBiz-TCF project (www.eBiz-TCF.eu), a DG Enterprise and Industry initiative that is an European large scale attempt to foster the adoption of eBusiness and related technologies and standards in sectors characterised by a large presence of SMEs and by an low level of adoption of eBusiness and interoperability standards.

2. As main initial requisite, wherever possible, the architecture's specifications are based on existing public standards and already running experiences; further standardisation developments are outside the scope of the project, nevertheless the involvement of European Standards Organisations (ESOs) has been pursued.

In general terms, the project does not aim to develop or validate a new technology or a new software but aims to setup an approach to foster eBusiness adoption (eAdoption) in two sectors dominated by SMEs through a work of harmonisation that is strongly aware of the standardisation achievements.

In short the architecture aims to create a favourable environment to establish a collaboration between manufacturers and between manufacturers and retail organisations.

3. For the manufacturer-retail supply chains (*downstream* part of the supply chain) and for the manufacturer-supplier networks (*upstream* part) different requirements were outlined in **the analysis report** produced by the project [1] and the architecture started from them in order to propose appropriate technological and methodological specifications to cover topics such as data models, communication protocols and product classification.

4. The document offers the vision and the description of a possible and coherent reference framework of existing specifications and initiatives that enable the design of eBusiness experiences; a strong focus is on the reference scenarios and on some general requirements; when developed and maintained by third parties, the technical specification are referenced from their sources so that it is easy to design harmonised eBusiness solutions.

5. This document is the **third draft** of the report "Architecture Report for eBusiness harmonisation in Textile/Clothing and Footwear sectors", its main aim is to support the activities of the second groups of pilots of the eBZ-TCF project in establishing their technical specifications and to offer an overview of the approach that the project intends to pursue in order to tackle the objectives of eBusiness harmonisation.

A final version of the document is expected for the end of the eBIZ-TCF project in order to take in account the feedbacks from the pilots. As a general rule the specifications are expected to be back-compatible.

Definition of Terms

The following terms have been used to provide consistency throughout this document. They have been used in connection with various aspects of the complex supply chain in the sectors and some of the relevant terms used in eBusiness.

Textile/Clothing Sector

The Textile/Clothing sector comprises those defined in the NACE Revision 1.1 classification as Group 17 “The Manufacture of Textile” and Group 18 “The manufacture of wearing apparel; dressing; dyeing of fur”

Footwear Sector

The Footwear sector is defined as Group 19.3 of the NACE classification “Manufacture of footwear”

TCF Sectors

The term “*TCF sectors*” is used when referring to the combined Textile/Clothing and Footwear sectors.

Producer

The term “*producer*” is used when referring to an enterprise that is transforming materials either into a finished product or by adding value in some other way. Value can be added either by transforming materials into component parts of finished products, or by performing processes applied to component parts or finished products. The actual transformation may be done by the producer or by a sub-contractor.

Customer

The term “*customer*” is used when referring to an organisation purchasing from producers.

Supplier

The term “*supplier*” is used when referring to an enterprise that supplies materials, parts, processes used in manufacturing (such as printing and dyeing) or when referring to sub-contractors who supply finished products to producers.

Downstream

The term “*downstream*” is used when referring to that part of the supply chain between producers of finished products and their customers (normally retailers).

Upstream

The term “*upstream*” is used when referring to that part of the supply chain between producers of a finished product and their suppliers of materials, component parts and processes used in manufacturing products. It is also used when referring to the whole of the supply chain involving the sub-contracting of finished products and the sub-contracting of materials and component parts or of processes used in manufacturing products.

It can be seen from this definition that there are both Producer-Customer relations and “Producer-Supplier” relations in the upstream chain.

eBusiness

Generally, the term “*eBusiness*” can be applied to a number of different facets of ICT ranging from integration and improving the efficiency of the supply chain to improving the efficiency of development and production processes and to innovation in marketing and sales both to business and consumers.

In this document, the term is limited to supply chain related electronic exchange of data or documents in the business to business (b2b) environment, covering both the upstream and downstream parts of the chain

Formal Standard

The term “*formal standard*” is used when referring to specifications that comply with the definition in Directive 98/34/EC:- “*a technical specification approved by a recognised standardisation body for repeated or continuous application, with which compliance is not compulsory*”

Local Standard

The term “*local standard*” is used when referring to specifications developed through collaboration and cooperation between partnerships of various sizes. These may either be local to one region or be cross-border

Proprietary Standard

The term “*proprietary standard*” is used when referring to specifications developed by a single enterprise to satisfy its own particular requirements.

Traditional EDI Messages

The term “*traditional EDI messages*” is used when referring to data in business documents or messages using any syntax other than XML. The most common of these are EDIFACT messages but the term is used to also cover EANCOM, X12 and TRADACOM and similar message formats as well as messages that are not compliant with a formal standard.

1 Introduction

1.1 This document

The aim of this document is to offer a vision of a reference architecture for the eBusiness harmonisation in the Textile Clothing and Footwear (TCF) sectors developed by the eBiz-TCF project (www.eBiz-TCF.eu), an initiative funded by DG Enterprise & Industry.

The document does not contain all the technical specifications necessary to support eBusiness in the TCF industry; sometimes these specifications are developed and owned by third parties and, more in general, their development and maintenance is still an open issue, or, probably, a never ending process.

The document offers the vision and the description of a possible reference framework of existing specifications and initiatives that enable the design of eBusiness experiences; a strong focus is on the reference scenarios and on some general requirements but the technical specifications are referenced from their sources so that it is easy to retry all that is necessary in order to design harmonised eBusiness solutions. Only in few cases the project provides technical specifications in form of Use profiles or representations of business scenarios.

This document is the **third draft** of the report “Architecture Report for eBusiness harmonisation in Textile/Clothing and Footwear sectors”, its main aim is to support the activities of the second group of pilots of the project in establishing their technical specifications and to offer an overview of the approach that the project proposes in order to tackle the objectives of eBusiness harmonisation.

The main new elements in respect of the previous draft are an improvement of the use profiles for downstream data exchanges, completion of the chapters related to product classification, to middleware for communication and the identification of the ‘missing elements’ that could be necessary for an optimal architecture.

Thus the report summarises the element of a collaborative architecture for eBusiness in the Textile/Clothing and Footwear (TCF) sectors as they are in the scope and at the times of the eBiz-TCF project; a final version is foreseen for the end of the project in order to absorb, as far as possible, the feedbacks from the pilots.

1.2 Background and rationale

The eBiz-TCF project is an European large scale attempt to foster the adoption of eBusiness and related technologies and standards, at sectorial level in the Textile/Clothing and Footwear (TCF) sectors. These sectors are characterised by a large presence of SMEs and by an average level of adoption of eBusiness and interoperability standards that appears to be quite lower comparing to other similar manufacturing sectors.

Innovative e-collaboration combined with other new manufacturing and supply chain paradigms can provide some of the answers to the European companies to strengthen or re-gain global competitiveness.

Success in the fast-moving fashion business is increasingly reaped by companies with lowest response time to changing market and consumers requirements by integrating design, consumer feedback, sourcing and manufacturing, distribution and retailing.

Some traditional retailers and manufacturers try to solve the conflict between long lead times and efficient consumer response (no over-stock, fast re-ordering and delivery) with a vertical integration of the value chain, if possible. And if this is not possible, by e-linking and e-collaboration in the value chain to have the same fast answers to consumer demand.

The key for such connectivity is the **interoperability** of systems based on commonly agreed open standards.

A lot of efforts have been done in the field of standardisation for Textile/Clothing and Footwear industry in these years as witnessed by the analysis report produced by the project (see [1] and appendix D).

All these efforts have prepared a background of analysis and specifications that is (almost) ready to be implemented by the industry.

Yet so far an overall harmonisation has been lacking and in many cases, the results of these activities did not led to a widespread adoption in the user community.

As a result, the fashion sector has remained without globally implemented e-business standards and has not sufficiently succeeded in its efforts to synchronise data and to exchange business documents electronically.

Being aware of these issues, the project has assumed the objective of the definition of a reference architecture for eBusiness in Textile/Clothing and Footwear sectors to tackle the different requisites for both the manufacturer-retail supply chains (*downstream* part of the architecture) and the manufacturer-supplier networks (*upstream* part of the architecture) with appropriate technological and methodological specifications to cover topics such as data models, communication protocols and product classification.

As main requisite of the architecture, wherever possible, the architecture's specifications are based on existing standards; in any case, further standardisation developments will be realised outside the scope of the project with the involvement of European Standards Organisations (ESOs) (on this purpose CEN/ISSS has been invited to the activities of the project).

In general terms, the project has not aimed to develop or validate a new technology or a new software but to setup an approach to foster eBusiness adoption (eAdoption) in two sectors, that are dominated by SMEs, through a work of harmonisation that is strongly aware of the standardisation achievements.

In short, the architecture aims to create a favourable environment to establish a collaboration between manufacturers and focuses on European manufacturing industry that has not completely outsourced its production.

1.3 The approach to build a reference architecture

The work of analysis has evidenced the importance to understand the existence of different priorities and requisites that are the drivers for the eBusiness adoption; thi has lead to identify the two different challenges related to the different segments of the supply chains of the TCF industry (see also [2]).

a. The highly specialised networks of manufacturing enterprises (upstream area): the producers of final goods rely on complex networks of enterprises (large as well as small) with highly specialised processes; these relationships require a strong integration between the actors and cannot be hampered by rigid or poor models; the keywords are *flexibility* and *completeness*.

Specific languages (and data models) have to be provided for each sector with its specificity.

The collaborations involve a 'reduced' number of actors that know and trust each other with a strong partnership and are extremely '*customised*' to fit the organisation of the partners.

In the past we had local networks, now, increasingly, transnational networks.

b. The retail channels for the Textile/Clothing and Footwear final goods (downstream area): based on large organisations as well as small shops, the retail organisations need to achieve a common and efficient connection with the producers; the keywords are *efficiency* and *normalisation*.

Uniform ways of coding (product and party identification) have to be provided.

The collaborations involve large numbers of actors that do not know too much each other with an '*anonymous*' partnership that is based only on obligations deriving from purchase contracts and that expire with the goods delivery.

The importance of fast and effective feedbacks from retail to manufacturers is getting more and more relevance for industry.

For these reasons the project has assumed that the architecture have to fit a domain that is organised in three main areas:

- Textile/Clothing Enterprise Networks (TC Upstream)
- Footwear Enterprise Networks (FW Upstream)
- Production to retail relationships (Common FTC Downstream)

For each area, the reference projects and standardisation initiatives and requirements produced by the work of analysis have been assumed as the starting point of the work with the aim to compose a design with the existing and available results and then to provide an added value in terms of homogeneization of their representation and development of some lacking elements (for example a profile of use of UBL for downstream data exchanges).

Nevertheless, within the scope of the project it was impossible to develop all the lacking elements for the two industrial sectors: the project has focussed its efforts in order to provide the basic technical specifications for establishing interoperable eBusiness solutions, leaving further refinements and developments for future initiatives.

Thus the homogeneisation and the creation of a coherent structure of documentation for specifications arising from different experiences and sources has been one of the driving activities of the first phase of the activities on the architecture.

1.4 The missing elements

The eBIZ-TCF architecture report is based on a work that is not addressed to research and development; this means that some specification could be lacking or that improvements could be advisable.

The missing elements are identified at level of chapter of the architecture and could be summarised in two main categories:

- Missing elements in terms of uncovered business scenarios related to specific domains (for example: mass customisation scenarios) that are recognised as necessary but unsupported.
- Missing elements in terms of protocols or specifications that could be improved with better documentation or tools (for example XSDs related to the Downstream Use Profile) or that should be studied or developed to cover technical scenarios (for example Hub-to-Hub communications).

Although the authors are aware of the issue, the report does not consider business scenarios that could derive in a future from new paradigms based on the application of the results of research activities (like wide adoption of RFIDs or of collaborative functional textiles or virtual prototyping).

2 Methodology

The goal of the activities related to the methodology has been to establish a coherent and homogeneous framework for representation and documentation of existing specifications.

The starting point for the architecture is the **business layer** of the architecture that consists in a harmonised documentation for all the standards/specifications selected by the project, i.e. MODA-ML, TexWeave, Shoenet, EFNET, GS1, UBL, etc.

With the aim to facilitate the adoption of ebXML tools for business process description, such documentation has been organised on the following basic assumptions:

- 1) For each area of the supply chain a specification has been identified as a reference for a **set of business processes**
- 2) Each business process consists of a **set of activities** that identify a group of transactions that are necessary to achieve a firm point in the collaborative process.
- 3) Each activity is a sequence of one or more **simple document-exchange transactions**, between two or more actors (each transaction is considered as a 'request'; only transactions that exist, and must exist, only after a specific request are considered as 'responses'). The transaction describes the use of a specific document in a specific business context.
- 4) Each simple document-exchange transaction is an ordered triple, consisting of an **actor in the role of sender, a business document and an actor in the role of receiver**.
- 5) Each business document is represented by a data model (structured **content** and the corresponding data **types**); it can be implemented with XML syntax or other syntax (like EANCOM for EDI).

The documentation of each specification is organised following the nesting of scenarios on different abstraction levels according to the following schema:

1. Supply chain description (set of processes)
 - 1.1. Process X (set of activities)
 - 1.1.1. Activity X.Y (sequence of simple document-exchange transactions)
 - 1.1.1.1. Transactions X.Y.1
2. Document models necessary for all the processes
3. Lacking elements

In order to maintain at a reasonable amount of pages this report and in order to avoid IPR conflicts, the syntactic specifications will be referenced through the on-line documentations provided by their developers (that will continue to maintain them with continuous version improvements) with a clear overview through the three appendixes (A, B, C):

- the data models of the TC and FW **upstream** areas are supported through WEB references to the online documentation (XML Schemas, User guides) published and maintained by the owners of the related IPRs (Shoenet and Moda-ML web sites);

- the data models of the **downstream** area, due to the lack of an established sectorial specification, is described with a detailed syntax independent description of the data models (an abstract data model), a reference to online technical guides for syntaxes based on XML and EDI (OASIS UBL and WWS Profil specifications) and a Use Profile to specify how to use UBL (that is a generic XML based eBusiness language) in the context of TCF industry that have been developed on purpose by the project in order to offer a core of inter-sectorial specifications.

It is to note that the structure of the downstream documentation is due to the fact that UBL is a non sector specific language; in order to reduce the ambiguity arising from different uses and interpretations of the data dictionary to fit the TCF domain, it is necessary to suggest a common way to use it ; this is represented by the Use Profiles of UBL for the TCF industry that propose a restriction of the specifications of generic UBL documents for the needs of the TCF domain.

It is to note that a corresponding online documentation will be available.

A machine-treatable model of the processes will be available on-line based on ebBP documents and documented with UML diagrams.

As a result of this approach, the users have the following sources for the architecture :

- report "Architecture Report for eBusiness harmonisation in Textile/Clothing and Footwear sectors" (this document, released by the eBIZ-TCF project)
- on-line documentation of the Moda-ML [9], ShoeNet [7][14] [15] and UBL [11] specifications for document models and related implementations (XML Schema, User guides, XSL stylesheets, XML sample, etc); managed by their owners
- on-line user guides for the UBL Use profile for Footwear Textile Clothing sector, developed by the eBiz-TCF project
- on-line business process models represented through ebBP documents [12] developed by the eBiz-TCF project.

2.1 General criteria about versioning

The eBiz-TCF architecture has been released with successive versions along the project activities.

Each successive version is released through a corresponding version of the architecture report (this document), the on-line sources are updated when necessary at the same Internet references.

The project maintains a complete back-compatibility between successive versions, especially regarding the XML Schema and Data Models.

2.2 The life cycle of the specifications

The specifications reported in the architecture, as all the others, have a **life cycle** and are subject to changes and to an evolutive process that, in the field of eBusiness, ends only when they are abandoned and lose any type of interest for the market.

So far it is important to understand some key points:

- the documental specifications (data models) reported and referenced in the architecture are referred as they are in the actual versions;
- their evolution and maintenance is a job of the communities that are technically managing them;
- different versions of a specification are usual, in many cases the back-compatibility is assured but it is a good practice to have a clear identification of the version we are dealing with;

as a principle, the view proposed in this architecture reasonably will be still valid when new future developments of the mentioned specifications will be in place, but this cannot be assured.

3 Reference Architecture and overview of selected standards

As anticipated, the domain of application is based on three sub **domains** (see figure 1):

- Production to Retail Relationships (Downstream)
- Textile/Clothing Enterprise Networks (TC Upstream)
- Footwear Enterprise Networks (FW Upstream)

3.1 The production to retail relationship

The production to retail relationship is characterised by:

- Business processes and data models derived from CEN/ISSS EFNET [6] and TexWeave and reengineered in CecMadeShoe and WWS Profil, common to both the sectors
- XML implementation through a profile of use built on the OASIS UBL [11] specifications (a cross-sectorial standard for eBusiness that could be considered the XML correspondent of EDIFACT and EANCOM)
- interoperability with EDIFACT legacy, mainly WWS Profil, thanks to an intermediate level of data models that is common between XML and EDI implementations (and is open for future developments).
- anonymous collaborations (large numbers) to support fast and simple connection between hubs, firms and retail organisations
- use of Global Trade Item Number coding for product and party identification (GTIN, GLN)
- focus on small & large retail (not huge international) organisations.

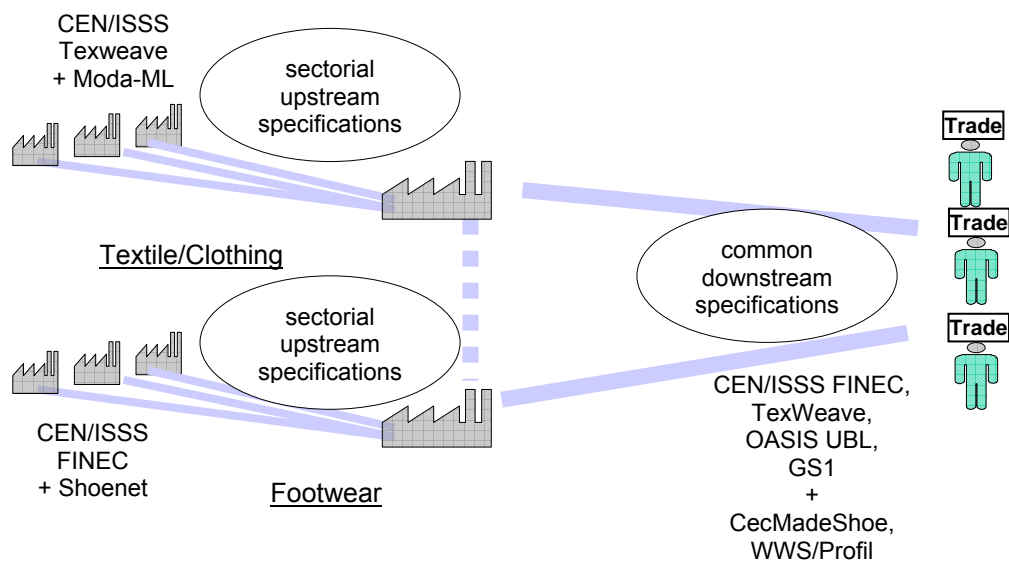


Figure 1. The domain of the architecture.

3.2 The manufacturing networks:

The manufacturing networks are characterised by:

- business processes and data models based on XML syntax, specific for the sectorial processes: derived from CEN/ISSS TexWeave [3] and Moda-ML [9] for the Textile/Clothing production processes; derived from CEN/ISSS EFNET[5] and Shoenet [7] for the Footwear processes.
- reference XML implementations provided by Moda-ML and Shoenet
- closed collaborations (small numbers; supported at logical level by ebXML CPPA specifications [12] in order to fit the specific collaboration models that each pair of partners intend to support).

3.3 The architecture

The reference architecture of the project is organised on 3 main layers (see diagram in figure 2). The architecture has 3 hierarchical layers:

- a Business/Application layer based on selected sectorial standards
- a middleware layer (consisting of an optional eBusiness middleware and a messaging middleware sub-layers). It is based on ebXML CPPA and ebMS, and any other type of choreography; it creates a connection between the upper and the bottom layers.
- a communication layer specifying the communication type (synchronous or asynchronous), the communication architecture (peer-to-peer, hub-based, etc) and the underlying communication protocols.

In addition there are a Security/Privacy and other vertical blocks which can be applied on each of the hierarchical layers.

Thus the architecture is based on four different **types** of specifications:

- business processes (that will be represented using UML notation and ebBP templates [12])
- data models (document template specifications, based on a logical level and a syntactic level, implemented on XML but related with pre-existing EDI specifications)
- collaboration and communication protocols
- product classifications

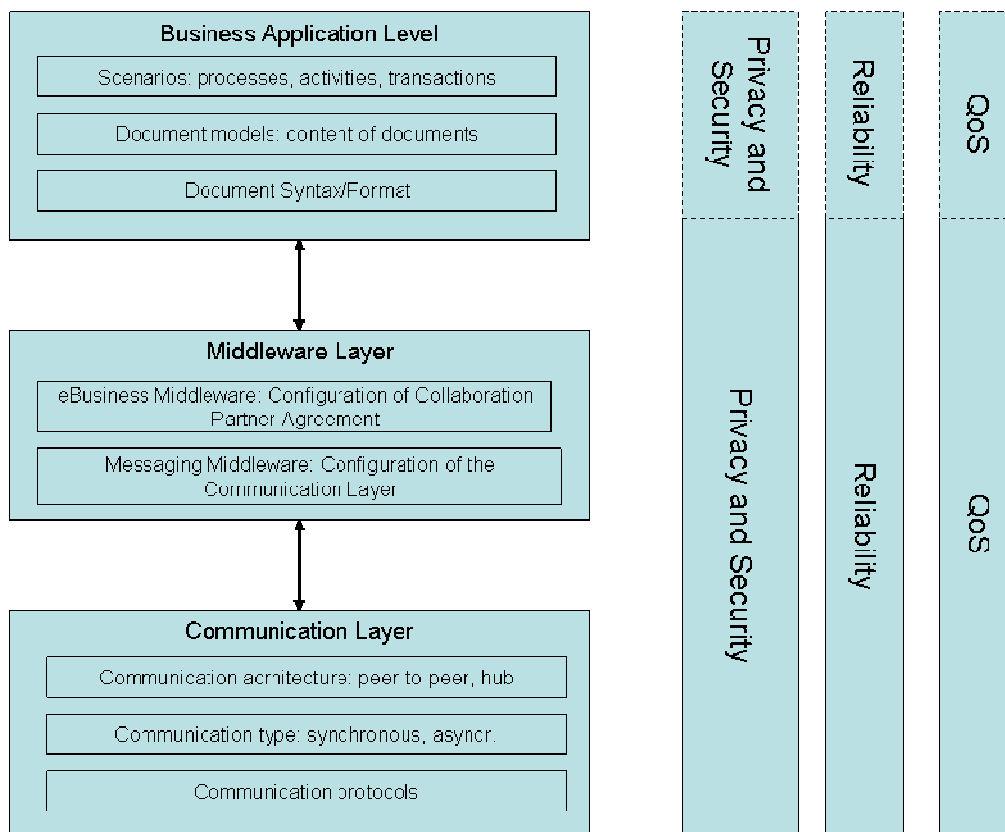


Figure 2.

3.4 Collaboration and communication

The architecture related to collaboration and communication protocols is only partially defined and is characterised by:

- a model of an European TCF logical Network (ETCFN) of communication based on three main scenarios: Hub-Hub, Hub-Firm, Firm-Firm (being *hub* an application connectivity service provider –like EdiCom, eGate, Intesa and others- or an integration service provider –like TXTChain, TextileBusiness, etc-)
- a strong attention to the issues on security through the network (especially through the hubs of services that must guarantee the identification of the senders)
- protocols focused on SMTP, Web Service are foreseen for the final version of the architecture
- ebXML CPPA to model and publish the collaborative reference processes. The objective of this layer is to make each participant able to find a path to interoperate with any other, despite the service and solutions they adopt.

3.5 Product identification and classification

Identification. The product and party identification in the relationships with retail organisation must be assured by the mandatory use of global unique coding (GTIN and GLN).

On the other relationships (between manufacturers or between manufacturers and brand owners) it is necessary to use other types of coding more flexible and expressive; anyhow, the key points are 1) clear declaration of the issuer of the codes, 2) affordable coding management inside the company's ERP.

Classification. The activities related to product classification have registered a status of art that appears still not fitting the industry needs; thus the aim of the architecture report is to provide a way to preserve existing (and used) regional/national classification systems (where existing) and to allow them to be mapped to a common classification reference in order to facilitate interchanges.

3.6 The compliance to the architecture

The first immediate aim of this document is to establish a reference framework for the pilots engaged in the implementation of the architecture for the eBIZ-TCF project. Thus it is worth to clearly define what is expected in terms of 'compliance' with the architecture, in general, but more specifically, for the pilots.

The criteria of compliance, that are outlined here, indicate what is expected from pilots and applications that want to follow the architecture.

There are four main types of elements in the architecture (see previous paragraphs):

- the organisational and procedural aspects implementing the business scenarios
- the semantic and data models to exchange information
- the product and party classification and identification
- the middleware and communication protocols.

The minimal criteria of compliance can be summarised in this way:

a) the organisational and procedural aspects related to business scenarios

Upstream the proposed scenarios are assumed as a reference that could be modified or partially implemented with high degree of freedom;

Downstream the architecture specifies the 'mandatory' **minimum set of transactions** of each process; the pilots, once defined the process they are interested in, must implement at least this minimum set of transactions.

b) the semantic and data models to exchange information

The **data models** of the exchanged messages always must be strictly validated with the reference XML Schemas (XSDs).

Downstream there is also the necessity of a second check using the **Use Profiles** that presently are not implemented by XSDs for automatic validation (they restrict the basic UBL XSDs specifications).

In both the cases it is mandatory to use versions of the specifications that are not former than those mentioned in the architecture report.

c) the product and party classification and identification

Downstream the product and party (even location) information must be represented by GLN and GTIN global identifiers issued by GS1.

The only exception could be for 'local networks' communications: in this case if the pilots are not able to implement the global identifications in due time, it is acceptable that local network communications use other identification systems (in this case the 'schemaName' must be declared explicitly according to the adopted use profiles); Anyway it must be demonstrated the capability to translate the local identification system towards the global ones before starting to broaden the communication towards other partners.

Upstream any kind of identifier can be accepted for product/part identification (but the issuing organisation must be declared clearly), is a duty of the parties to avoid misunderstandings; the parties and locations usually are explicitly and extensively described.

d) the middleware and communication protocols.

Inter-company (in a Peer-to-Peer mode or via a connectivity hub) and inter-hub data exchange must be supported with SOAP over HTTP or SMTP. Intercompany data exchange must satisfy minimal level of security. Inter-hub data exchanges must guarantee the identity of the originator of business documents and assure for non-repudiation of received messages.

4 Business Application Layer: Downstream

4.1 Downstream business processes overview

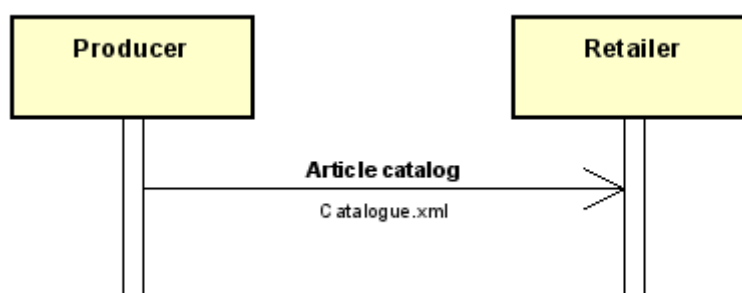
Process	Activity	Actors	Documents
cyclic replenishment program - CRP	Transfer of base article catalog	Producer Retailer	Article catalog
	Initial stocking of the area by retailer	Retailer Producer	Order Despatch advice Receiving advice
	Periodic (weekly) replenishment	Retailer Producer	Order Despatch advice Receiving advice
	Report of sales and inventory movements	Retailer Producer	Sales report Inventory movement report
	Invoicing	Producer Retailer	Invoice
	Synchronizing of stock information	Retailer Producer	Inventory report
	Changes to the article catalog	Producer Retailer	Article catalog
classical preorder	Initial transfer of order and article data	Producer Retailer	Article catalog Initial order response
	Transfer of changes to the order	Producer Retailer	Change order response Order change reaction
	Finalizing of the order	Producer Retailer	Final order response
	Delivery	Producer Retailer	Article catalog Despatch advice Receiving advice
	Invoicing	Producer Retailer	Invoice
	Report of sales data	Retailer Producer	Sales report
vendor managed inventory - VMI	Initial stocking of the area by vendor	Producer Retailer	Article catalog Despatch advice Receiving advice
	Daily report of sales and inventory movement	Retailer Producer	Sales report Inventory movement report
	Permanent replenishment	Producer Retailer	Article catalog Despatch advice Receiving advice
	Invoicing	Producer Retailer	Invoice

	Returns initiated by the producer	Producer Retailer	Instruction for returns Returns advice Receiving advice
	Price adjustments	Producer Retailer	Price list

4.1.1 Process "cyclic replenishment program - CRP"

Process Name	cyclic replenishment program - CRP
Actors	Producer, Retailer
Description	From the producers portfolio of NOS (Never Out of Stock) or seasonal NOS articles the retailer picks his choice of products for the cyclic (weekly) replenishment. The logistic scenario can be combined with the charge-on-delivery as well as with a consignment/concession model
Activities	<ul style="list-style-type: none"> • Transfer of base article catalog (mandatory¹) • Initial stocking of the area by retailer • Periodic (weekly) replenishment (mandatory) • Report of sales and inventory movements (mandatory) • Invoicing • Synchronizing of stock information • Changes to the article catalog (mandatory)
Reference to the related ebBP	http://www.moda-ml.net/ebiz-retail/repository/ebbp/v2008-1/en/ebBP_cyclicreplenishmentprogramCRP-1_2008-1.xml

4.1.1.1 Activity "Transfer of base article catalog"



Activity Name	Transfer of base article catalog (mandatory)
Description	The producer publishes the catalog of his NOS and seasonal NOS articles to the retailer
Transactions	<ul style="list-style-type: none"> • Article catalog
Post-conditions	The retailer has the base for his choice of products for cyclic (weekly) replenishment

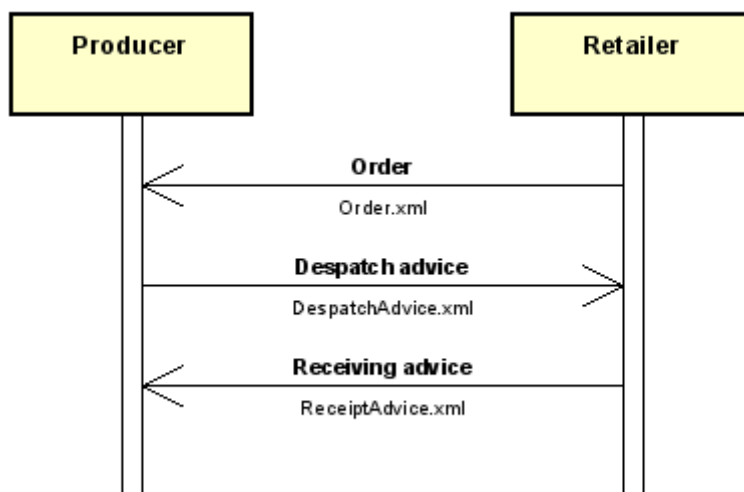
4.1.1.1.1 Transactions inside the activity "Transfer of base article catalog"

¹ "Mandatory" activities represent the minimal implementation of the scenario

Action 1 (Request from **Producer** to **Retailer**)

Document Name	Article catalog
Action Description	The article catalog containing the information about the NOS and seasonal NOS articles of the producer is sent to the retailer.

4.1.1.2 Activity "Initial stocking of the area by retailer"



Activity Name	Initial stocking of the area by retailer (mandatory)
Description	At the beginning of the business cooperation or maybe of a season, if seasonal NOS products are the focus, the retailer orders his base stock and the products are delivered
Transactions	<ul style="list-style-type: none"> • Order • Despatch advice • Receiving advice
Post-conditions	The area is stocked with the initial quantities for all articles

4.1.1.2.1 Transactions inside the activity "Initial stocking of the area by retailer"

Action 1 (Request from **Retailer** to **Producer**)

Document Name	Order
Action Description	The retailer sends an order from his system containing the initial demand.

Action 2 (Request from **Producer** to **Retailer**)

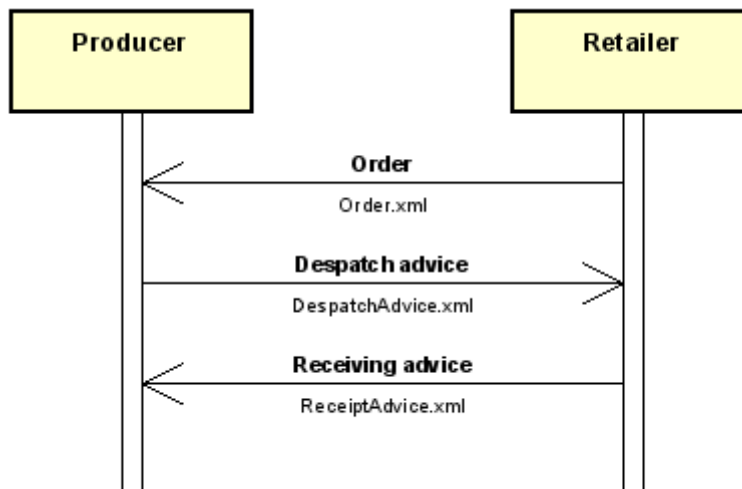
Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice with date, GTIN (Global Trade Item Number) and quantity

Action 3 (Response from **Retailer** to **Producer**)

Document Name	Receiving advice
Action	After goods receive the retailer reports back the products which arrived

Description with the delivery announced in the despatch advice.

4.1.1.3 Activity "Periodic (weekly) replenishment"



Activity Name	Periodic (weekly) replenishment (mandatory)
Description	Each period (every week) the system of the retailer calculates the quantities needed for the replenishment of the area. From the result an order is sent and the producer reacts with a direct delivery within 48 hours
Transactions	<ul style="list-style-type: none"> • Order • Despatch advice • Receiving advice
Post-conditions	The area is restocked.

4.1.1.3.1 Transactions inside the activity "Periodic (weekly) replenishment"

Action 1 (Request from Retailer to Producer)

Document Name	Order
Action Description	The retailer sends an order from his system containing the demand for the next period.

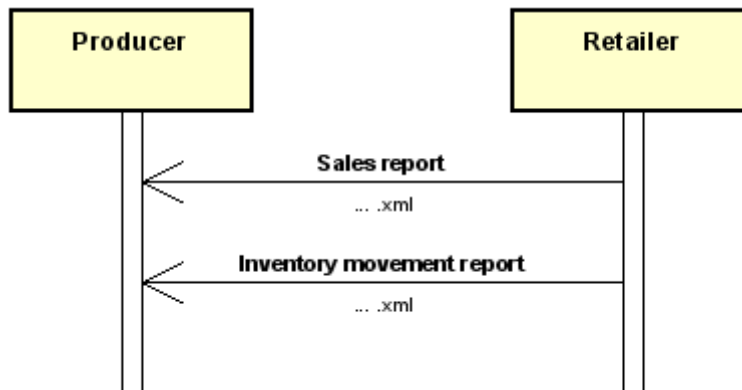
Action 2 (Request from Producer to Retailer)

Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice with date, GTIN and quantity.

Action 3 (Response from Retailer to Producer)

Document Name	Receiving advice
Action Description	After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice.

4.1.1.4 Activity "Report of sales and inventory movements"



Activity Name	Report of sales and inventory movements (mandatory)
Description	At the end of each sales day a sales report is sent for all sales locations of the retailer.
Transactions	<ul style="list-style-type: none"> • Sales report • Inventory movement report
Post-conditions	The sales and inventory movement information is available at the producer.

4.1.1.4.1 Transactions inside the activity "Report of sales and inventory movements"

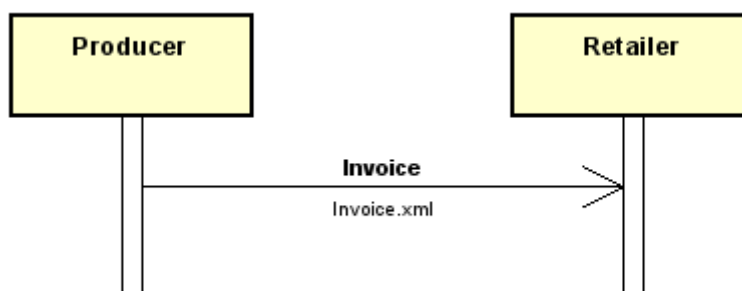
Action 1 (Request from Retailer to Producer)

Document Name	Sales report
Action Description	At the end of each sales day a sales report is sent for all sales locations of the retailer

Action 2 (Request from Retailer to Producer)

Document Name	Inventory movement report
Action Description	At the end of each sales day a inventory movement report is sent for all locations of the retailer at which such an event occurred

4.1.1.5 Activity "Invoicing"



Activity Name	Invoicing
Description	An invoice is send either on delivery or sales base.

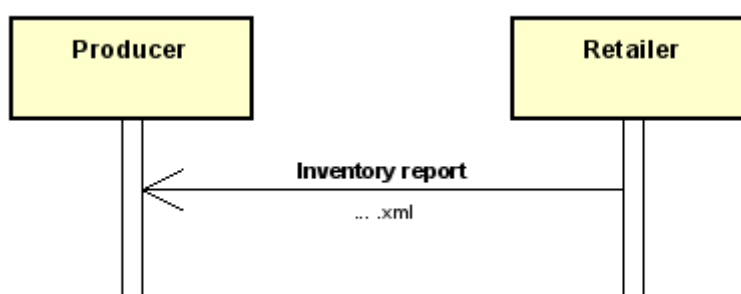
Transactions	<ul style="list-style-type: none"> • Invoice
Post-conditions	The retailer knows what to pay

4.1.1.5.1 Transactions inside the activity "Invoicing"

Action 1 (Request from **Producer** to **Retailer**)

Document Name	Invoice
Action Description	An invoice is send either for one delivery or the sales of a certain period.

4.1.1.6 Activity "Synchronizing of stock information"



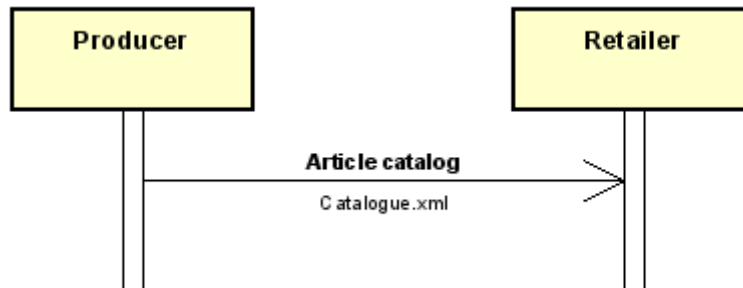
Activity Name	Synchronizing of stock information
Description	In a certain periodic scheme (each 1 to 3 month) the information about the actual stock is synchronized. At least once a year this happens together with a physical stock taking.
Transactions	<ul style="list-style-type: none"> • Inventory report
Post-conditions	The information is again synchronized.

4.1.1.6.1 Transactions inside the activity "Synchronizing of stock information"

Action 1 (Request from **Retailer** to **Producer**)

Document Name	Inventory report
Action Description	The retailer sends an inventory report containing the information about the quantities currently on stock

4.1.1.7 Activity "Changes to the article catalog"



Activity Name	Changes to the article catalog (mandatory)
Description	On the event of a change either inside an article belonging to the CRP catalog or the relationship of an article towards the CRP catalog this information is passed over to the retailer
Transactions	<ul style="list-style-type: none"> Article catalog
Post-conditions	The information about the CRP catalog is up-to-date at the retailer.

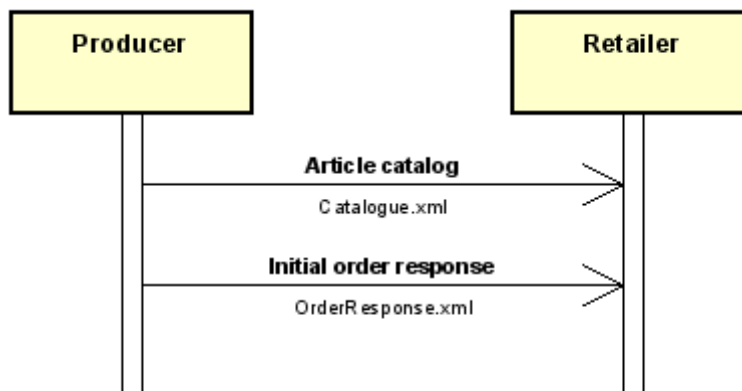
4.1.1.7.1 Transactions inside the activity "Changes to the article catalog"

Action 1 (Request from Producer to Retailer)	
Document Name	Article catalog
Action Description	On the event of a change an article catalog document containing the changes only is sent from producer to retailer

4.1.2 Process "classical preorder"

Process Name	classical preorder
Actors	Producer, Retailer
Description	In this process the retailer orders his products in advance of the season and the production process. The selection of the products is done manually, as people say 'with the finger-tips'. Between order and delivery a period of some month is without any communication. The invoicing normally is charge-on-delivery based but can also be a consignment/concession model.
Activities	<ul style="list-style-type: none"> • Initial transfer of order and article data (mandatory¹) • Transfer of changes to the order • Finalizing of the order • Delivery (mandatory) • Invoicing • Report of sales data (mandatory)
Reference to the related ebBP	http://www.moda-ml.net/ebiz-retail/repository/ebbp/v2008-1/en/ebBP_classicalpreorder-1_v2008-1.xml

4.1.2.1 Activity "Initial transfer of order and article data"



Activity Name	Initial transfer of order and article data (mandatory)
Description	After the manual placement of the order in a showroom or on a fair the order data is provided for the retailer together with the article information of the ordered products.
Transactions	<ul style="list-style-type: none"> • Article catalog • Initial order response
Post-conditions	The systems of producer and retailer are synchronized concerning the order data and the article information for the ordered products is available in the system of the retailer

¹ "Mandatory" activities represent the minimal implementation of this scenario

4.1.2.1.1 Transactions inside the activity "Initial transfer of order and article data"

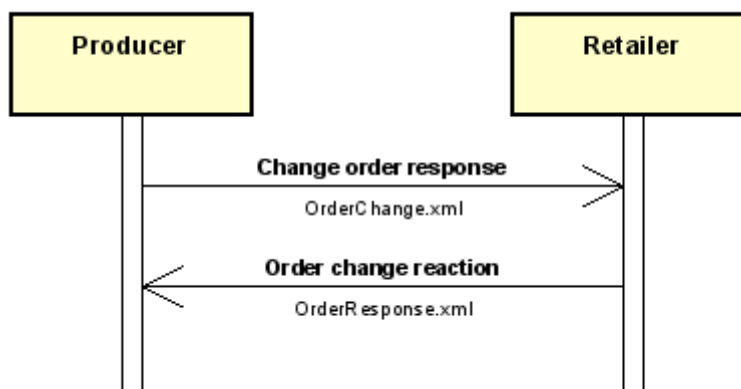
Action 1 (Request from Producer to Retailer)

Document Name	Article catalog
Action Description	For all GTIN codes from the order the article information is send by the article catalog document. It is also possible to send all variants of the ordered colors or articles. No full catalog should be sent here to avoid junk data at the retailer

Action 2 (Request from Producer to Retailer)

Document Name	Initial order response
Action Description	The order data from the host of the producer is sent to the retailer inside the first 24 hours after the placement of the order. It is no order confirmation but just the transfer of the order data

4.1.2.2 Activity "Transfer of changes to the order"



Activity Name	Transfer of changes to the order
Description	During the order period it happens that certain articles are canceled or the delivery date changes. To synchronize the systems this information is passed over to the retailer by a change order response
Transactions	<ul style="list-style-type: none"> • Change order response • Order change reaction
Post-conditions	The systems are synchronized again.

4.1.2.2.1 Transactions inside the activity "Transfer of changes to the order"

Action 1 (Request from Producer to Retailer)

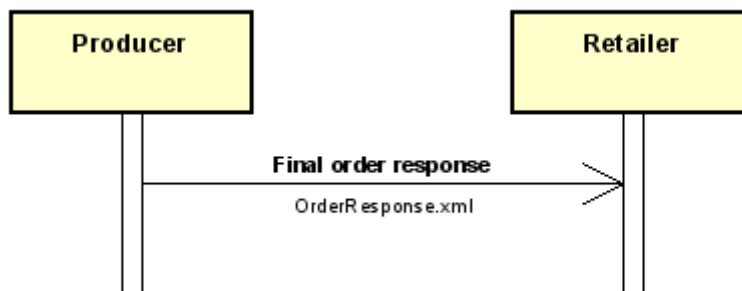
Document Name	Change order response
Action Description	The changes to the order are transferred to the retailer's system

Action 2 (Response from Retailer to Producer)

Document	Order change reaction
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Name	
Action Description	The change is either accepted or rejected

4.1.2.3 Activity "Finalizing of the order"

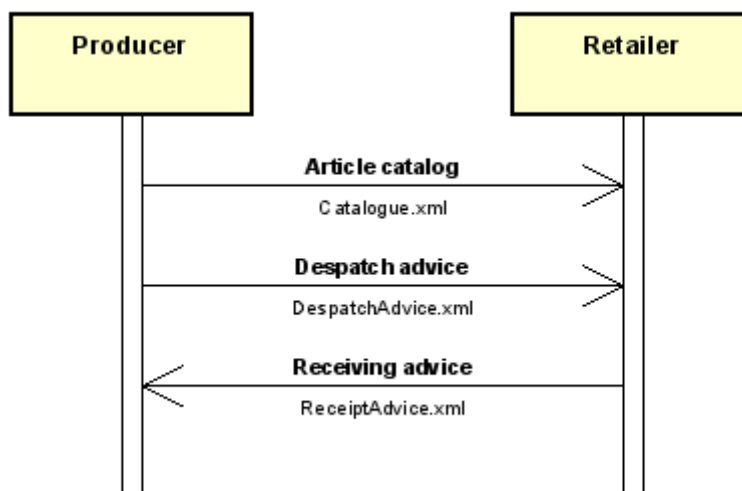


Activity Name	Finalizing of the order
Description	At the end of the order period the producer informs the retailer that no more changes are to be expected.
Transactions	<ul style="list-style-type: none"> Final order response
Post-conditions	The order is confirmed.

4.1.2.3.1 Transactions inside the activity "Finalizing of the order"

Action 1 (Request from Producer to Retailer)	
Document Name	Final order response
Action Description	The retailer receives the information that no more changes are to be expected and the order is confirmed

4.1.2.4 Activity "Delivery"



Activity Name	Delivery (mandatory)
Description	Shortly after the arrival of the products from the production plants the deliveries are planned and performed. If some articles are supplanted by

	others, the retailer is missing the article data for those products. The despatch advice is sent in advance of the delivery and gives the retailer the chance to prepare for the arrival of the goods. With the receiving advice the information in both systems is again synchronized
Transactions	<ul style="list-style-type: none"> • Article catalog • Despatch advice • Receiving advice
Post-conditions	Producer and retailer have the same information about the delivery

4.1.2.4.1 Transactions inside the activity "Delivery"

Action 1 (Request from **Producer** to **Retailer**)

Document Name	Article catalog
Action Description	The article information for the additional products is transferred to the retailer

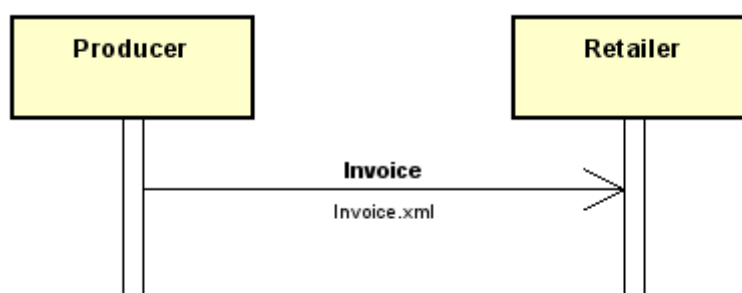
Action 2 (Request from **Producer** to **Retailer**)

Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice with date, GTIN and quantity

Action 3 (Response from **Retailer** to **Producer**)

Document Name	Receiving advice
Action Description	After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice

4.1.2.5 Activity "Invoicing"



Activity Name	Invoicing
Description	An invoice is send either on delivery or sales base.
Transactions	<ul style="list-style-type: none"> • Invoice
Post-conditions	The retailer knows what to pay

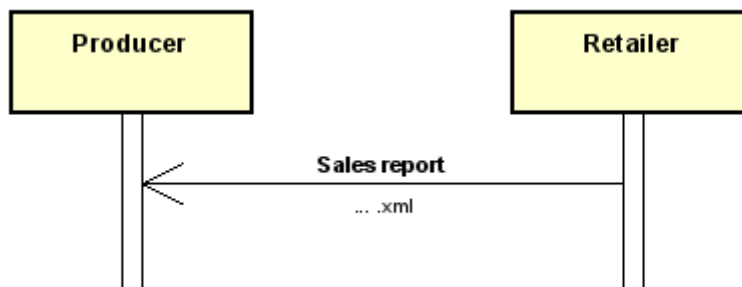
4.1.2.5.1 Transactions inside the activity "Invoicing"

Action 1 (Request from **Producer** to **Retailer**)

Document Name	Invoice
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Action Description An invoice is send either for one delivery or the sales of a certain period.

4.1.2.6 Activity "Report of sales data"



Activity Name	Report of sales data (mandatory)
Description	At the end of each sales day a sales report is sent for all sales locations of the retailer
Transactions	<ul style="list-style-type: none"> • Sales report
Post-conditions	The sales information is available at the producer

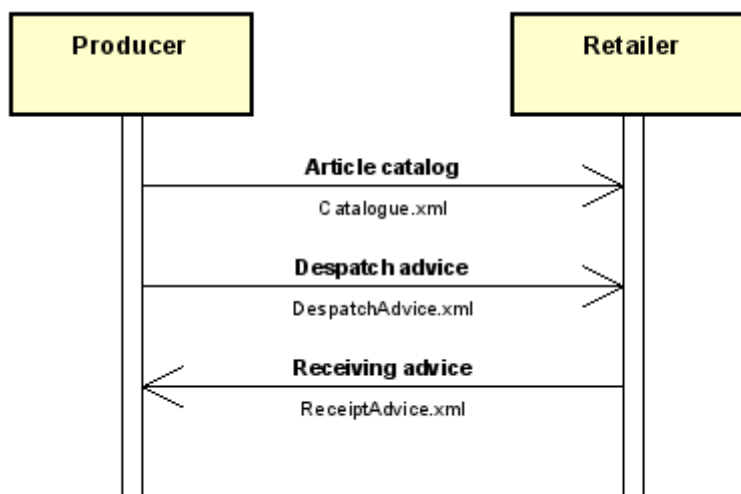
4.1.2.6.1 Transactions inside the activity "Report of sales data"

Action 1 (Request from Retailer to Producer)	
Document Name	Sales report
Action Description	At the end of each sales day a sales report is sent for all sales locations of the retailer

4.1.3 Process "vendor managed inventory - VMI"

Process Name	vendor managed inventory - VMI
Actors	Producer, Retailer
Description	A shop-in-shop area or a store is managed completely by the producer. The logistic concept of VMI can be combined with consignment/concession as well as with charge-on-delivery as financial model. Mostly it is combined with consignment
Activities	<ul style="list-style-type: none"> • Initial stocking of the area by vendor (mandatory¹) • Daily report of sales and inventory movement (mandatory) • Permanent replenishment (mandatory) • Invoicing • Returns initiated by the producer • Price adjustments (mandatory)
Reference to the related ebBP	http://www.moda-ml.net/ebiz-retail/repository/ebbp/v2008-1/en/ebBP_vendormanagedinventoryVMI-1_v2008-1.xml

4.1.3.1 Activity "Initial stocking of the area by vendor"



Activity Name	Initial stocking of the area by vendor (mandatory)
Description	At the beginning of the cooperation the area is stocked. The retailer receives article and delivery information and reports back the goods actually received.
Transactions	<ul style="list-style-type: none"> • Article catalog • Despatch advice • Receiving advice
Post-conditions	The retailers has received the article and delivery information as well as the physical products and reported back the actual quantities received.

¹ "Mandatory" activities represent the minimal implementation of this scenario

4.1.3.1.1 Transactions inside the activity "Initial stocking of the area by vendor"

Action 1 (Request from Producer to Retailer)

Document Name	Article catalog
Action Description	The article information of all articles in the initial delivery is sent to the retailer

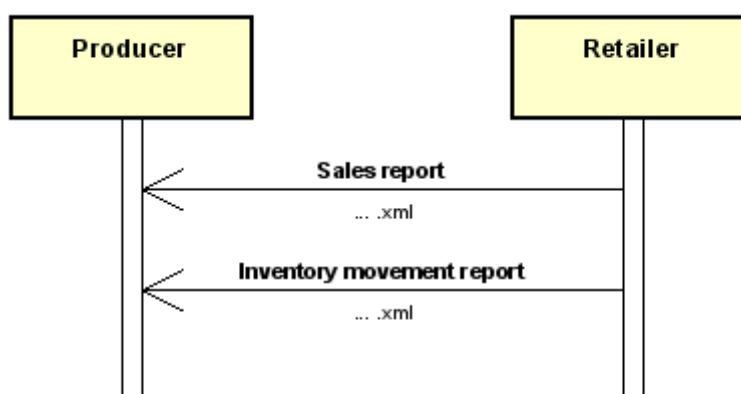
Action 2 (Request from Producer to Retailer)

Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice with date, GTIN and quantity

Action 3 (Response from Retailer to Producer)

Document Name	Receiving advice
Action Description	After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice.

4.1.3.2 Activity "Daily report of sales and inventory movement"



Activity Name	Daily report of sales and inventory movement (mandatory)
Description	Each day the sales and inventory movement information is transferred from the retailer to the producer
Transactions	<ul style="list-style-type: none"> • Sales report • Inventory movement report
Post-conditions	The system of the producer is up-to-date concerning sales and inventory movements. Replenishment can be planned

4.1.3.2.1 Transactions inside the activity "Daily report of sales and inventory movement"

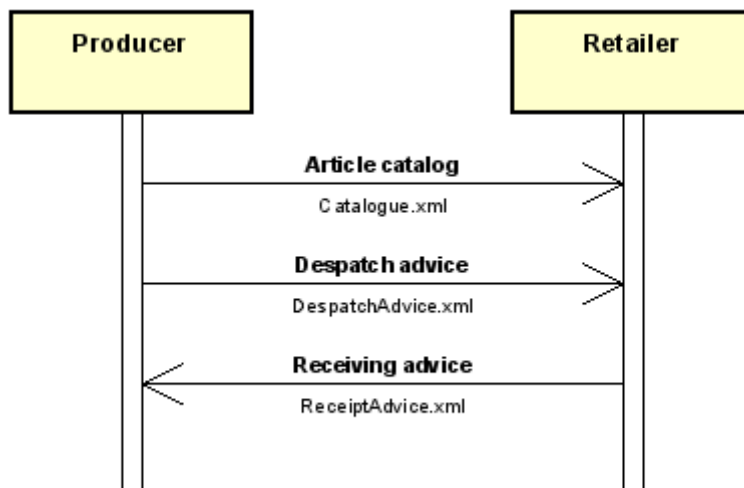
Action 1 (Request from Retailer to Producer)

Document Name	Sales report
Action Description	At the end of each sales day a sales report is sent for all sales locations of the retailer

Action 2 (Request from Retailer to Producer)

Document Name	Inventory movement report
Action Description	At the end of each sales day a inventory movement report is sent for all locations of the retailer at which such an event occurred

4.1.3.3 Activity "Permanent replenishment"



Activity Name	Permanent replenishment (mandatory)
Description	
Transactions	<ul style="list-style-type: none"> • Article catalog • Despatch advice • Receiving advice

4.1.3.3.1 Transactions inside the activity "Permanent replenishment"

Action 1 (Request from **Producer** to **Retailer**)

Document Name	Article catalog
Action Description	The article information of the articles which are sent the first time in this delivery is sent to the retailer

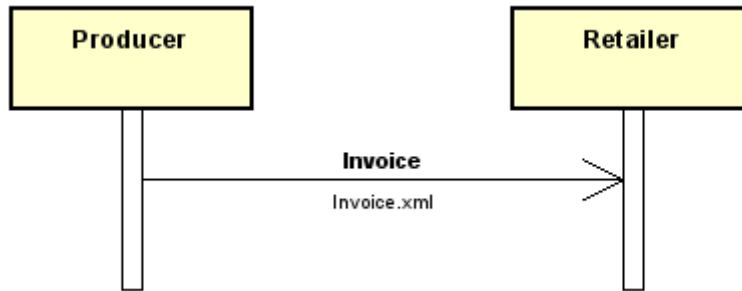
Action 2 (Request from **Producer** to **Retailer**)

Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice with date, GTIN and quantity

Action 3 (Response from **Retailer** to **Producer**)

Document Name	Receiving advice
Action Description	After goods receive the retailer reports back the products which arrived with the delivery announced in the despatch advice

4.1.3.4 Activity "Invoicing"



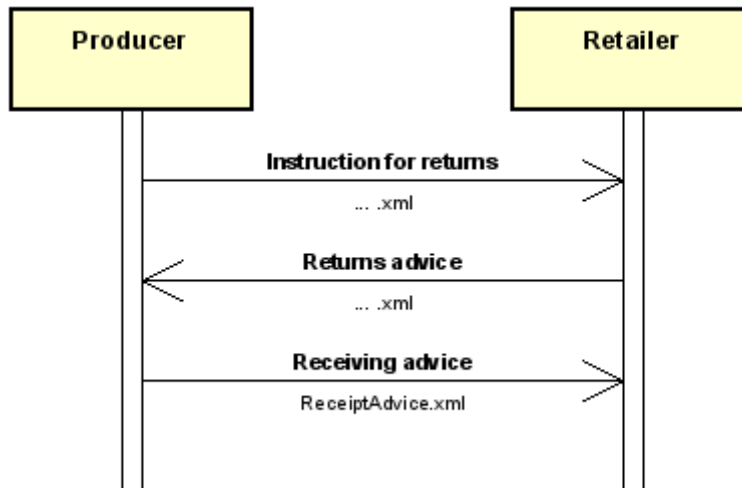
Activity Name	Invoicing
Description	An invoice is send either on delivery or sales base.
Transactions	<ul style="list-style-type: none"> • Invoice
Post-conditions	The retailer knows what to pay

4.1.3.4.1 Transactions inside the activity "Invoicing"

Action 1 (Request from Producer to Retailer)

Document Name	Invoice
Action Description	An invoice is send either for one delivery or the sales of a certain period.

4.1.3.5 Activity "Returns initiated by the producer"



Activity Name	Returns initiated by the producer
Description	If sales in certain places does not fit the scheme, products are reallocated by the producer. Because he cannot request from the retailer to send the products to a competitor, the producer request a return and handles the goods afterwards by himself.
Transactions	<ul style="list-style-type: none"> • Instruction for returns • Returns advice

	<ul style="list-style-type: none"> Receiving advice
Post-conditions	The goods are moved back to the producer for further use.

4.1.3.5.1 Transactions inside the activity "Returns initiated by the producer"

Action 1 (Request from Producer to Retailer)

Document Name	Instruction for returns
Action Description	The producer requests the return of certain quantities of products from the retailer

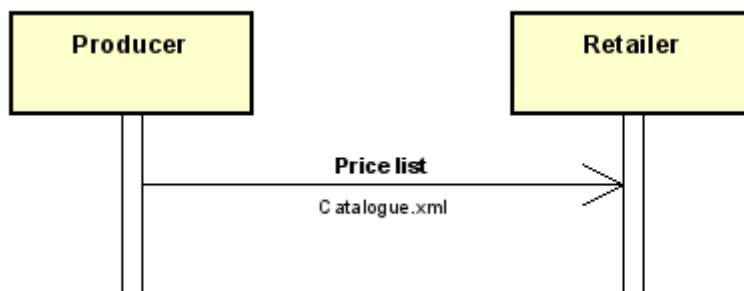
Action 2 (Request from Retailer to Producer)

Document Name	Returns advice
Action Description	The return is announced by the returns advice with date, GTIN and quantity

Action 3 (Response from Producer to Retailer)

Document Name	Receiving advice
Action Description	After goods receive the producer reports back the products which arrived with the delivery announced in the returns advice

4.1.3.6 Activity "Price adjustments"



Activity Name	Price adjustments (mandatory)
Description	On the event of a price change a price list containing the changes is sent from producer to retailer.
Transactions	<ul style="list-style-type: none"> Price list
Post-conditions	Retailer is working with the new prices.

4.1.3.6.1 Transactions inside the activity "Price adjustments"

Action 1 (Request from Producer to Retailer)

Document Name	Price list
Action Description	On the event of a price change a price list containing the changes is sent from producer to retailer

4.2 Downstream scenario: Document models

4.2.1 Document: Article catalog

Document Name	Article catalog
Document description	Total article information sent by the supplier
Generalities or notes about the usage	The message is meant to enable the retailer to build his article base in an automated process. While the information about the single item is not dependent on the scenario the selected items are. In classic preorder and VMI only the articles are selected, which are ordered or delivered. In CRP an special selection of articles is sent
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.2 Document: Order

Document Name	Order
Document description	Order placed by retailer
Generalities or notes about the usage	An order is always meant for one location and one date. In case of CRP (the only use of the order inside our scenarios) it is the weekly order for the replenishment of a certain shop
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.3 Document: Despatch advice

Document Name	Despatch advice
Document description	Information about a delivery sent by the supplier in advance of the delivery
Generalities or notes about the usage	Mostly the despatch advice is send at the same time as the shipment takes place, because only then the information has a sufficient quality.It has to arrive before the goods.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.4 Document: Receiving advice

Document Name	Receiving advice
Document description	Document about the result of a goods-in process sent by the retailer to the supplier
Generalities or notes about the usage	Under normal conditions a receiving advice is related to one despatch advice. The comparison of both documents shows abbreviations between the both and is the initial point to solve problems which occur from that.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.5 Document: Sales report

Document Name	Sales report
Document description	Daily sales report sent by retailer
Generalities or notes about the usage	This document contains the information about the sales • at a certain location • on a certain day • for a certain item (GTIN code) • with a certain price (one line per price really paid) The payload is the quantity of that item at that price. The information is used for the planning of deliveries in VMI or for the issuing of a concession invoice, if such financial model is chosen.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.6 Document: Inventory movement report

Document Name	Inventory movement report
Document description	Report of movement of goods between the locations of a retailer
Generalities or notes about the usage	This document is used to provide information about movement of a certain quantity of items between the locations of a retailer. The ship-to and the ship-from branch are mentioned. The information is normally provided when the items are shipped.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.7 Document: Invoice

Document Name	Invoice
Document description	A document claiming payment for goods or services supplied under conditions agreed between the supplier and the customer. In most cases this document describes the actual financial commitment of goods or services ordered from the supplier.
Generalities or notes about the usage	Related to each delivery an invoice is sent from the producer to the retailer. At the moment it is not always possible to supplant the paper invoice by the electronic document. This is due to the different tax laws in Europe. For the future this is expected.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.8 Document: Inventory report

Document Name	Inventory report
Document description	Report about the quantities on stock
Generalities or notes about the usage	The retailer informs the producer about the quantities of each item which are on stock. This is necessary because sales are not the only reasons items leave the shop. It is needed either for planning purposes (VMI) or financial handling of the gap.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.9 Document: Initial order response

Document Name	Initial order response
Document description	Order data of an order placed by other means (fair, showroom, phone,...) sent by the producer to the retailer
Generalities or notes about the usage	It is not an order confirmation but just an information. The transfer should happen very shortly after the placement of the order (24 hours). The rules about the scope of an order from the order document apply
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.10 Document: Change order response

Document Name	Change order response
Document description	Information about changes in the order during the preproduction phase
Generalities or notes about the usage	This document is sent by the producer to inform the retailer about changes to his order due to changes in the production scheme. (Cancellation of the product, change in time scale) By this the expectations of the retailer are corrected
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.11 Document: Order change reaction

Document Name	Order change reaction
Document description	Reaction of the retailer to a change order response
Generalities or notes about the usage	The document is used to either accept or reject a change order response sent by the producer.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.12 Document: Final order response

Document Name	Final order response
Document description	Information that the planning phase is finished and no more changes are to be expected
Generalities or notes about the usage	If the change order response is used to synchronize the systems this document tells the retailer that no more changes are to be expected. By this it has the quality of an order confirmation.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.13 Document: Instruction for returns

Document Name	Instruction for returns
Document	Instruction of returns sent by the producer

description	
Generalities or notes about the usage	This document is used in the context of the VMI scenario to initiate a return of goods. The producer is requesting products which are badly sold either for use in other places or just to free the area from it.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.14 Document: Returns advice

Document Name	Returns advice
Document description	Announcement of a return of goods sent by the retailer
Generalities or notes about the usage	This document is a special version of a despatch advice traveling the opposite direction. The retailer announces item and quantity to the producer.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.2.15 Document: Price list

Document Name	Price list
Document description	Price changes sent by the producer
Generalities or notes about the usage	The document is used to transfer price changes especially concerning sales prices from the producer to the retailer. This can be either mark-downs or promotional activities.
Source	WWS Profil and TexWeave, reengineered in CecMadeShoe project

4.3 Compliance with GS1 XML

The XML standard specifications used in eBiz TCF downstream is different from the GS1 definition.

From the point of view of interoperability we can define them as equivalent. This means all content used can be mapped in both directions. The reason by we have to limit it lies only in the philosophy of the use profile. A use profile always restricts the scope to the really used business models and the effective content of them. On the other side GS1 XML is designed as a general standard. That means that many potential uses, beyond those in the scope of eBIZ-TCF, are included.

4.4 Recomendations and missing elements

The missing elements related to downstream scenario could be summarised in these direction:

- 1) Uncovered scenarios of logistics and International commerce (logistic management and optimisation; shipping and financial aspects related to International trade with extra-european countries)
- 2) Uncovered scenarios related to customised goods in a wide sense (*made to measure* goods as well as the so called *mass-customised goods*).
- 3) International cross-country invoices (still under development a standardised specification by UN/CEFACT on this purpose; the models proposed in the architecture are state of art but lack of the universality of such kind of specification).
- 4) New data exchange scenarios induced by wide RFID technology adoption.

As a matter of general strategy it is to outline that the main target of the project have been the basic business processes of the TCF sector and that, on the contrary, a large variety of more complex business models are in the field.

A further, more technical, aspect related to downstream scenario is about the absence of a technical infrastructure for strict automatic validation and test of conformance to the specifications due to the nature of the existing specifications: the project has defined a set of use profiles for TCF business, based on UBL specifications but there are not specific XML Schema or Schematron for that profiles. Thus automatic checking is extremely easy towards UBL 2.0 specifications but not towards the further restrictions to UBL imposed by the TCF use profiles.

5 Business Application Layer: Textile Clothing upstream scenarios

5.1 Textile Clothing upstream business processes overview

Process	Activity	Actors	Documents
Fabric subcontracted manufacturing	Subcontracted fabric darning	Fabric Producer Darn Subcontractor	Textile Darn Order Textile Despatch advice Receiving Advice Textile Darn Return Textile Despatch Request Textile in work Inventory report
	Subcontracted warping	Fabric Producer Fabric Subcontractor	Warping Request Warping Offer Warping commission order Yarn Despatch Advice Receiving Advice Textile Order status report
	Subcontracted weaving	Fabric Producer Fabric Subcontractor	Weaving Request Weaving Offer Weaving commission order Yarn Despatch Advice Receiving Advice Textile Order status report Textile Despatch advice Textile Despatch Request Textile in work Inventory report
	Subcontracted fabric dyeing-finishing	Fabric Producer Dyeing/Finishing Sub-contractor	Textile Dyeing-Finishing Request Textile Dyeing-Finishing Offer Textile Dyeing-Finishing Order Textile Despatch advice Receiving Advice Textile Order status report

			Textile Despatch Request Textile in work Inventory report
	Subcontracted fabric printing	Fabric Producer Print shop	Textile printing commission order Textile Despatch advice Receiving Advice Textile Order status report Textile Despatch Request Textile in work Inventory report
Fabric supply	Selection of fabrics	Fabric Producer Apparel Producer	Textile catalogue Fabric Technical Sheet Textile Collection Forecast
	Purchase of fabrics	Apparel Producer Fabric Producer	Textile Purchase Order Textile Order Response Textile Order change Textile Order status report
	Fabric delivery with quality reporting by Producer	Apparel Producer Fabric Producer	Textile Despatch Request Textile Despatch advice Textile Quality Report
	Despatch of fabrics with groupage <i>(Alternative to the previous one)</i>	Apparel Producer Fabric Producer Fabric Controller Apparel Subcontractor	Textile Despatch Request Textile Despatch advice Garment Kit Despatch Request Garment Kit Despatch Advice
	Fabric delivery with quality reporting by Controller <i>(Alternative to the previous one)</i>	Apparel Producer Fabric Controller Fabric Producer Apparel Subcontractor	Textile Collection Forecast Textile Despatch Request Textile Despatch Advice Piece control Order Textile Quality Report Receiving Advice
	Invoicing of fabrics	Fabric Producer Apparel Producer	Textile Invoice
	Garment accessory supply	Purchase of Garment accessory	Apparel Producer Garment Accessory Producer

			Response Garment Accessory Purchase Order Change
	Delivery of Garment accessories	Garment Accessory Producer Apparel Producer	Garment accessory Despatch Advice Garment accessory Despatch Request
Knitwear subcontracted manufacturing	Knitting and assembling	Knittwear Producer Knittwear Subcontractor	Knitting-Clothing Commission Order Yarn Despatch Advice Garment accessory Despatch Advice Receiving Advice Yarn Despatch Request Garment accessory Despatch Request General purpose request Knitting-Clothing Order Status Garment Despatch Request Garment Despatch Advice Textile Invoice Garment in work Inventory report
	Knitwear finishing	Knittwear Producer Knittwear Subcontractor	Knitting-Clothing Commission Order Garment Despatch Advice Receiving Advice General purpose request Knitting-Clothing Order Status Garment Despatch Request Textile Invoice Garment in work Inventory report
On line stock service	Offer stocks on-line	Retail organisation e-service manager	Garment Stock Offer Garment Stock Offer Status Garment Stock Offer Change
Yarn subcontracted manufacturing	Subcontracted dyeing of raw material	Yarn Producer Dyeing/Finishing Sub- contractor	Raw material Dyeing Request Raw material dyeing Offer Raw material Dyeing commission Order Raw material dyeing

			Order Response Raw material dyeing Order Change Raw material Despatch Advice Receiving Advice Raw material order status Raw material in work Inventory report
	Subcontracted spinning of raw material	Yarn Producer Yarn Subcontractor	Spinning Request Spinning Offer Spinning Commission Order Spinnig Order Response Spinning Order Change Raw material Despatch Advice Receiving Advice Yarn Order Status Report Yarn Despatch Advice Yarn in work Inventory report
	Subcontracted yarn twisting	Yarn Producer Yarn Subcontractor	Twisting Request Twisting Offer Yarn Twisting Commission Order Yarn Despatch Advice Receiving Advice Yarn Order Status Report Yarn in work Inventory report
	Subcontracted yarn dyeing	Yarn Producer Dyeing/Finishing Sub- contractor	Yarn Dyeing Request Yarn Dyeing Offer Yarn dyeing commission order Yarn dyeing Order Response Yarn dyeing Order Change Yarn Despatch Advice Receiving Advice Yarn Order Status Report Yarn in work Inventory report
Yarn supply	Purchase of yarn	Fabric Producer Yarn Producer	Yarn Purchase Order Yarn Purchase Order Response Yarn Purchase Order Change

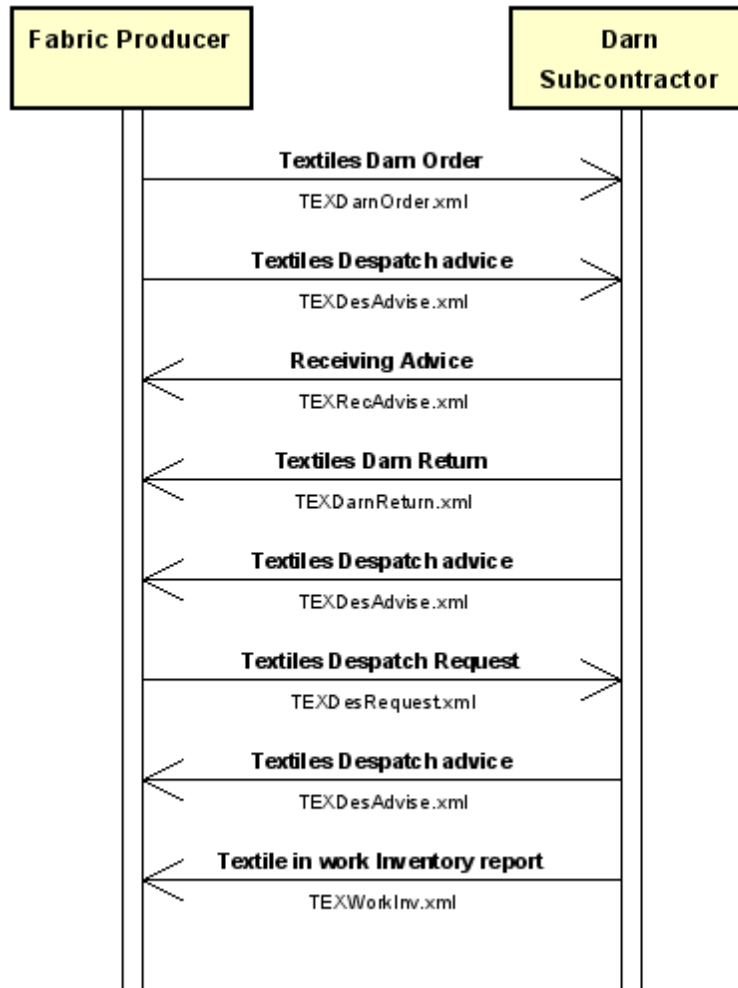
			Yarn Order Status Report
	Delivery of yarn	Fabric Producer Yarn Producer	Yarn Despatch Request Yarn Despatch Advice

5.1.1 Process: Fabric subcontracted darning

Process	Activity	Actors	Documents
Fabric subcontracted darning	Subcontracted fabric darning	Fabric Producer Darn Subcontractor	Textile Darn Order Textile Despatch advice Receiving Advice Textile Darn Return Textile Despatch Request Textile in work Inventory report

Process Name	Fabric subcontracted darning
Actors	Fabric Producer, Darn Subcontractor
Description	Process by which the Fabric Producer commissions to a Subcontractor the screening and darning of the grey fabric.
Activities	<ul style="list-style-type: none"> Subcontracted fabric darning
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_fabricsubcontracteddarning-1_2008-1.xml

5.1.1.1 Activity "Subcontracted fabric darning"



Activity Name	Subcontracted fabric darning
Description	activity by which a Contractor commissions the darning of grey fabric to a Subcontractor
Transactions	<ul style="list-style-type: none"> • Textile Darn Order • Textile Despatch advice • Receiving Advice • Textile Darn Return • Textile Despatch Request • Textile in work Inventory report
Pre-conditions	The Fabric Producer has decided to commission the darning to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner

5.1.1.1.1 Transactions inside the activity "Subcontracted fabric darning"

Action 1 (Request from Fabric Producer to Darn Subcontractor)

Document Name	Textile Darn Order
Action Description	This message is usable to commission the darning of grey fabric

Action 2 (Request from Fabric Producer to Darn Subcontractor)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Subcontractor about the fabric pieces sent for darning

Action 3 (Response from Darn Subcontractor to Fabric Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 4 (Request from Darn Subcontractor to Fabric Producer)

Document Name	Textile Darn Return
Action Description	This message is usable to report to the Commissioner the results of the inspection and the darning operations executed

Action 5 (Request from Darn Subcontractor to Fabric Producer)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) is available

Action 6 (Request from Fabric Producer to Darn Subcontractor)

Document Name	Textile Despatch Request
Action Description	This message is usable to schedule the delivery of the commissioned output product (fabric) at the Commissioner's premises

Action 7 (Response from Darn Subcontractor to Fabric Producer)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) has been despatched

Action 8 (Request from Darn Subcontractor to Fabric Producer)

Document Name	Textile in work Inventory report
Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials

5.1.2 Process: Fabric subcontracted manufacturing

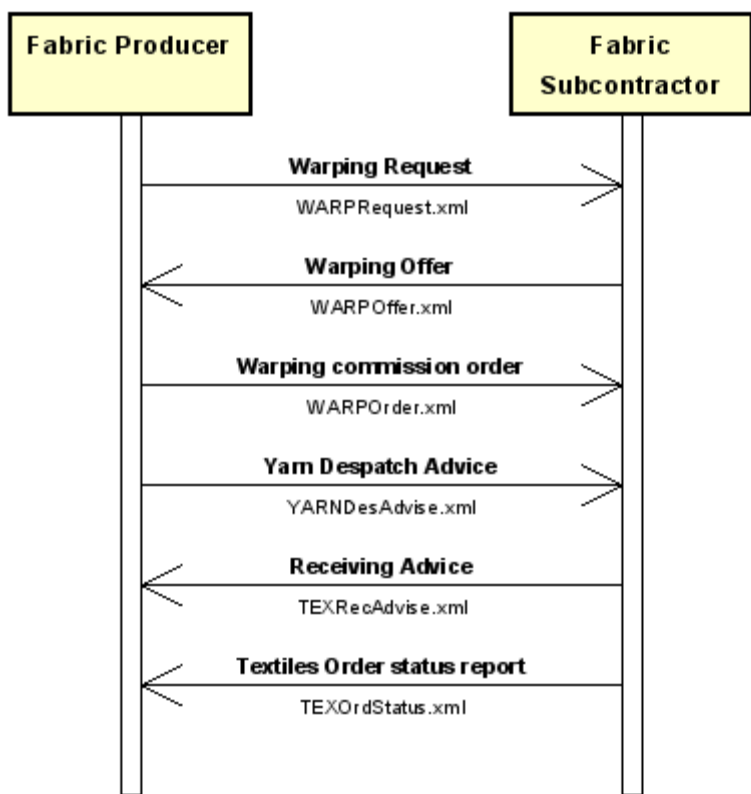
Process	Activity	Actors	Documents
Fabric	Subcontracted warping	Fabric Producer	Warping Request

subcontracted manufacturing		Fabric Subcontractor	Warping Offer Warping commission order Yarn Despatch Advice Receiving Advice Textile Order status report
	Subcontracted weaving	Fabric Producer Fabric Subcontractor	Weaving Request Weaving Offer Weaving commission order Yarn Despatch Advice Receiving Advice Textile Order status report Textile Despatch advice Textile Despatch Request Textile in work Inventory report
	Subcontracted fabric dyeing-finishing	Fabric Producer Dyeing/Finishing Sub-contractor	Textile Dyeing-Finishing Request Textile Dyeing-Finishing Offer Textile Dyeing-Finishing Order Textile Despatch advice Receiving Advice Textile Order status report Textile Despatch Request Textile in work Inventory report
	Subcontracted fabric printing	Fabric Producer Print shop	Textile printing commission order Textile Despatch advice Receiving Advice Textile Order status report Textile Despatch Request Textile in work Inventory report

Process Name	Fabric subcontracted manufacturing
Actors	Fabric Producer, Fabric Subcontractor, Dyeing/Finishing Sub-contractor, Print shop
Description	Fabric production process commissioned to subcontractors; the process starts from raw material and produces finished fabrics. The Fabric

	Producer commissions to specialised Subcontractors some value-added operations of the manufacturing cycle because of specific know-how or scale economies. In this process 3 events are fundamental: the issue of the commission order, the swap of the material, the reporting of the order progress.
Activities	<ul style="list-style-type: none"> • Subcontracted warping • Subcontracted weaving • Subcontracted fabric dyeing-finishing • Subcontracted fabric printing

5.1.2.1 Activity "Subcontracted warping"



Activity Name	Subcontracted warping
Description	activity by which a Contractor commissions a ground warp to a Subcontractor
Transactions	<ul style="list-style-type: none"> • Warping Request • Warping Offer • Warping commission order • Yarn Despatch Advice • Receiving Advice • Textile Order status report

Pre-conditions	The Fabric Producer has decided to commission the warping to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedwarping-1_2008-1.xml

5.1.2.1.1 Transactions inside the activity “Subcontracted warping”

Action 1 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Warping Request
Action Description	This message is usable to request an offer for the ground warping of yarn

Action 2 (Response from Fabric Subcontractor to Fabric Producer)

Document Name	Warping Offer
Action Description	This message is usable to make an offer for the ground warping of yarn

Action 3 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Warping commission order
Action Description	This message is usable to commission the ground warping of yarn

Action 4 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the yarn sent for ground warping

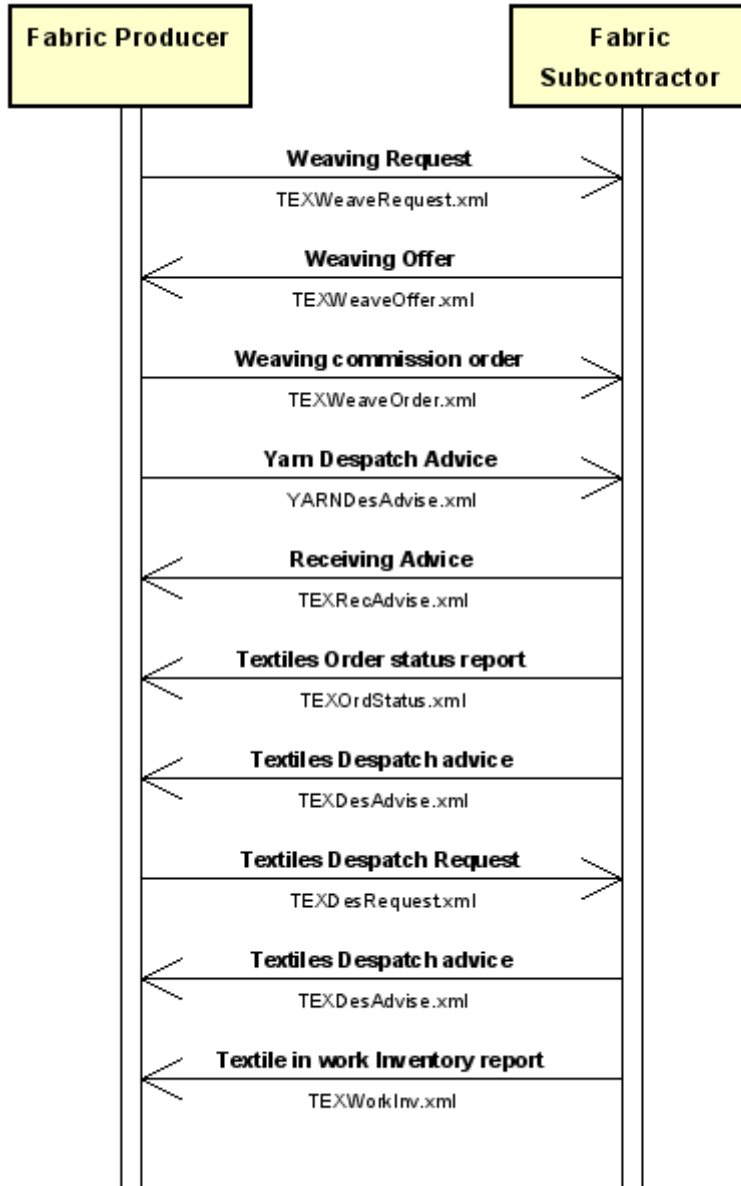
Action 5 (Response from Fabric Subcontractor to Fabric Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 6 (Request from Fabric Subcontractor to Fabric Producer)

Document Name	Textile Order status report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

5.1.2.2 Activity "Subcontracted weaving"



Activity Name	Subcontracted weaving
Description	activity by which a Contractor commissions the weaving of grey fabric to a Subcontractor
Transactions	<ul style="list-style-type: none"> • Weaving Request • Weaving Offer • Weaving commission order • Yarn Despatch Advice • Receiving Advice • Textile Order status report • Textile Despatch advice • Textile Despatch Request

	<ul style="list-style-type: none"> Textile in work Inventory report
Pre-conditions	The Fabric Producer has decided to commission the weaving to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedweaving-1_2008-1.xml

5.1.2.2.1 Transactions inside the activity “Subcontracted weaving”

Action 1 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Weaving Request
Action Description	This message is usable to request an offer for the weaving of yarn

Action 2 (Response from Fabric Subcontractor to Fabric Producer)

Document Name	Weaving Offer
Action Description	This message is usable to make an offer for the weaving of yarn

Action 3 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Weaving commission order
Action Description	This message is usable to commission the weaving of yarn

Action 4 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the yarn sent for weaving

Action 5 (Response from Fabric Subcontractor to Fabric Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 6 (Request from Fabric Subcontractor to Fabric Producer)

Document Name	Textile Order status report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

Action 7 (Request from Fabric Subcontractor to Fabric Producer)

Document	Textile Despatch advice
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Name

Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) is available
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Action 8 (Request from Fabric Producer to Fabric Subcontractor)

Document Name	Textile Despatch Request
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Action Description	This message is usable to schedule the delivery of the commissioned output product (fabric) at the Commissioner's premises
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Action 9 (Response from Fabric Subcontractor to Fabric Producer)

Document Name	Textile Despatch advice
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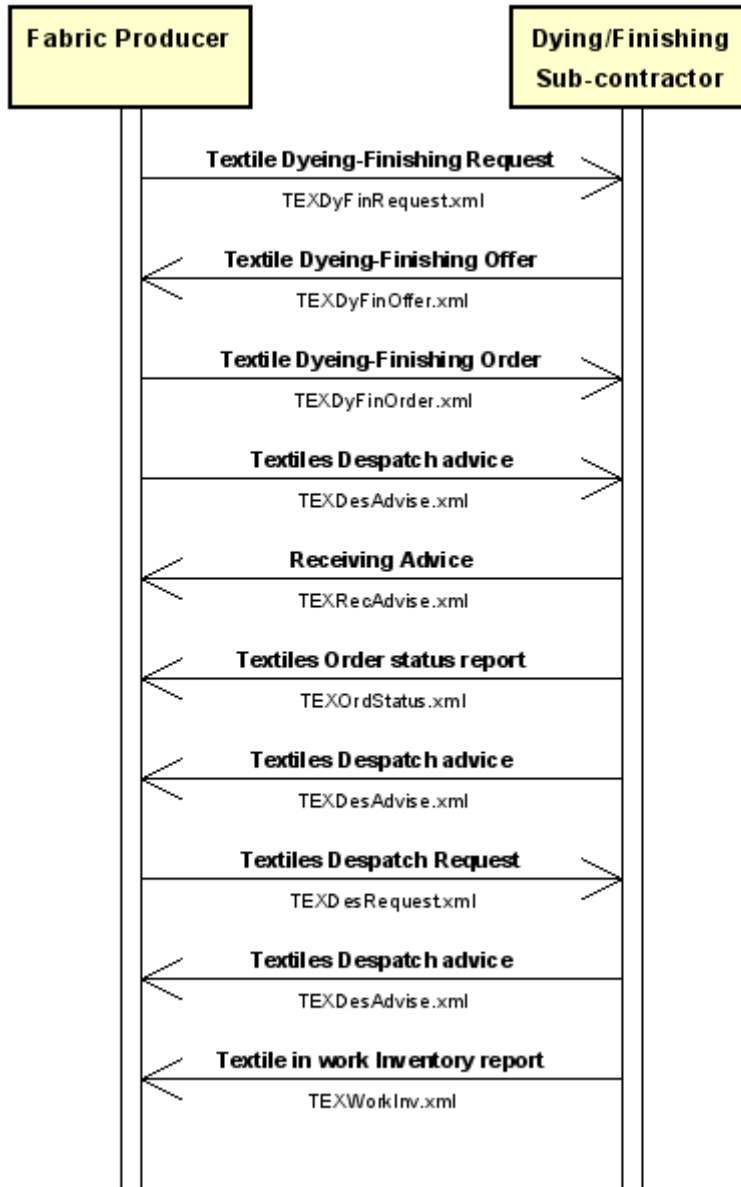
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) has been despatched
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Action 10 (Request from Fabric Subcontractor to Fabric Producer)

Document Name	Textile in work Inventory report
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Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials
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5.1.2.3 Activity "Subcontracted fabric dyeing-finishing"



Activity Name	Subcontracted fabric dyeing-finishing
Description	activity by which a Contractor commissions the dyeing-finishing of grey fabric to a Subcontractor
Transactions	<ul style="list-style-type: none"> • Textile Dyeing-Finishing Request • Textile Dyeing-Finishing Offer • Textile Dyeing-Finishing Order • Textile Despatch advice • Receiving Advice • Textile Order status report • Textile Despatch Request

	<ul style="list-style-type: none"> Textile in work Inventory report
Pre-conditions	The Fabric Producer has decided to commission the dyeing-finishing to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedfabricdyeingfinishing-1_2008-1.xml

5.1.2.3.1 Transactions inside the activity “Subcontracted fabric dyeing-finishing”

Action 1 (Request from Fabric Producer to Dyeing/Finishing Sub-contractor)

Document Name	Textile Dyeing-Finishing Request
Action Description	This message is usable to request an offer for the dyeing-finishing of grey fabric

Action 2 (Response from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document Name	Textile Dyeing-Finishing Offer
Action Description	This message is usable to make an offer for the dyeing-finishing of grey fabric

Action 3 (Request from Fabric Producer to Dyeing/Finishing Sub-contractor)

Document Name	Textile Dyeing-Finishing Order
Action Description	This message is usable to commission the dyeing-finishing of grey fabric

Action 4 (Request from Fabric Producer to Dyeing/Finishing Sub-contractor)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Subcontractor about the grey fabric sent for dyeing-finishing

Action 5 (Response from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 6 (Request from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document Name	Textile Order status report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

Action 7 (Request from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document	Textile Despatch advice
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Name

Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) is available
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Action 8 (Request from Fabric Producer to Dyeing/Finishing Sub-contractor)

Document Name	Textile Despatch Request
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Action Description	This message is usable to schedule the delivery of the commissioned output product (fabric) at the Commissioner's premises
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Action 9 (Response from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document Name	Textile Despatch advice
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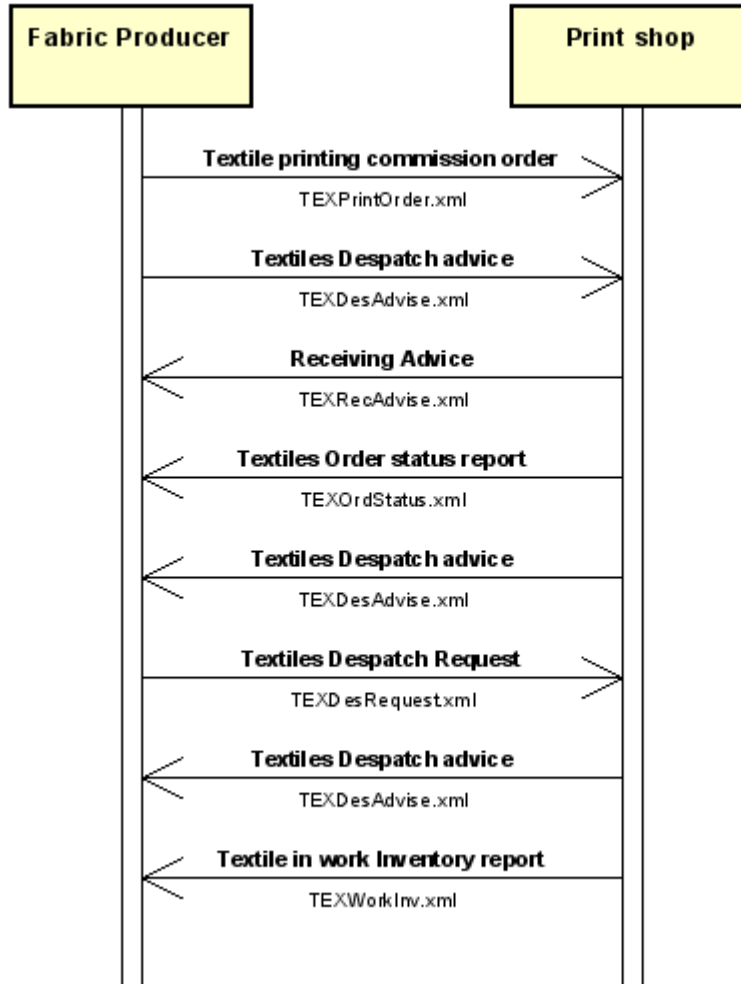
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) has been despatched
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Action 10 (Request from Dyeing/Finishing Sub-contractor to Fabric Producer)

Document Name	Textile in work Inventory report
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Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials
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5.1.2.4 Activity "Subcontracted fabric printing"



Activity Name	Subcontracted fabric printing
Description	activity by which a Contractor commissions the printing of fabric to a Subcontractor
Transactions	<ul style="list-style-type: none"> • Textile printing commission order • Textile Despatch advice • Receiving Advice • Textile Order status report • Textile Despatch Request • Textile in work Inventory report
Pre-conditions	The Fabric Producer has decided to commission the printing to a specialised Subcontractor

Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedfabricprinting-1_2008-1.xml

5.1.2.4.1 Transactions inside the activity “Subcontracted fabric printing”

Action 1 (Request from Fabric Producer to Print shop)

Document Name	Textile printing commission order
Action Description	This message is usable to commission the printing of fabric

Action 2 (Request from Fabric Producer to Print shop)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Subcontractor about the fabric sent for printing

Action 3 (Response from Print shop to Fabric Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 4 (Request from Print shop to Fabric Producer)

Document Name	Textile Order status report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

Action 5 (Request from Print shop to Fabric Producer)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) is available

Action 6 (Request from Fabric Producer to Print shop)

Document Name	Textile Despatch Request
Action Description	This message is usable to schedule the delivery of the commissioned output product (fabric) at the Commissioner's premises

Action 7 (Response from Print shop to Fabric Producer)

Document Name	Textile Despatch advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (fabric) has been despatched

Action 8 (Request from Print shop to Fabric Producer)

Document	Textile in work Inventory report
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Harmonising eBusiness processes and data exchanges
for SMEs in the textile/clothing and footwear sectors in the
Single Market

Name

Action	This message is usable to certify to the Commissioner the Stock and WIP
Description	amount of his materials

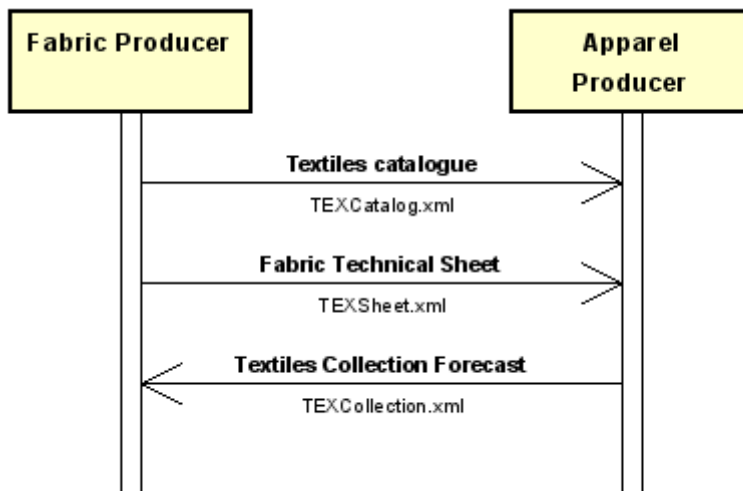
5.1.3 Process: Fabric supply

Process	Activity	Actors	Documents
Fabric supply	Selection of fabrics	Fabric Producer Apparel Producer	Textile catalogue Fabric Technical Sheet Textile Collection Forecast
	Purchase of fabrics	Apparel Producer Fabric Producer	Textile Purchase Order Textile Order Response Textile Order change Textile Order status report
	Fabric delivery with quality reporting by Producer	Apparel Producer Fabric Producer	Textile Despatch Request Textile Despatch advice Textile Quality Report
	Despatch of fabrics with groupage <i>(Alternative to the previous one)</i>	Apparel Producer Fabric Producer Fabric Controller Apparel Subcontractor	Textile Despatch Request Textile Despatch advice Garment Kit Despatch Request Garment Kit Despatch Advice
	Fabric delivery with quality reporting by Controller <i>(Alternative to the previous one)</i>	Apparel Producer Fabric Controller Fabric Producer Apparel Subcontractor	Textile Collection Forecast Textile Despatch Request Textile Despatch advice Piece control Order Textile Quality Report Receiving Advice
	Invoicing of fabrics	Fabric Producer Apparel Producer	Textile Invoice

Process Name	Fabric supply
Actors	Fabric Producer, Apparel Producer, Fabric Controller, Apparel Subcontractor
Description	process that describes the procurement of fabric by Clothing companies or Brand Retailers or other kind of Users (Home textile or automotive)
Activities	<ul style="list-style-type: none"> • Selection of fabrics • Purchase of fabrics • Fabric delivery with quality reporting by Producer • Despatch of fabrics with groupage • Fabric delivery with quality reporting by Controller

- Invoicing of fabrics

5.1.3.1 Activity "Selection of fabrics"



Activity Name	Selection of fabrics
Description	Activity of selection of the fabrics that the Clothing company (or any other User) insert in its Collection (includes the exchange of the products codes, the technical sheets, the anticipation or the forecast about articles to be purchased)
Transactions	<ul style="list-style-type: none"> • Textile catalogue • Fabric Technical Sheet • Textile Collection Forecast
Pre-conditions	The Clothing company must select and reserve the fabric articles to employ in its apparel collection
Post-conditions	The Textile company knows in advance the fabric articles of its catalogue that will be put into production
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_selectionoffabrics-1_2008-1.xml

5.1.3.1.1 Transactions inside the activity "Selection of fabrics"

Action 1 (Request from Fabric Producer to Apparel Producer)

Document Name	Textile catalogue
Action Description	This document is usable both as a sales catalogue and to exchange in advance the product data between the Supplier and the Customer, in order to synchronize their product data-bases. It lists the articles composing the Fabric Producer's offer (codes, descriptions, prices and sales conditions) and can include some of the technical data (composition, weight and width, construction specifications, ...).

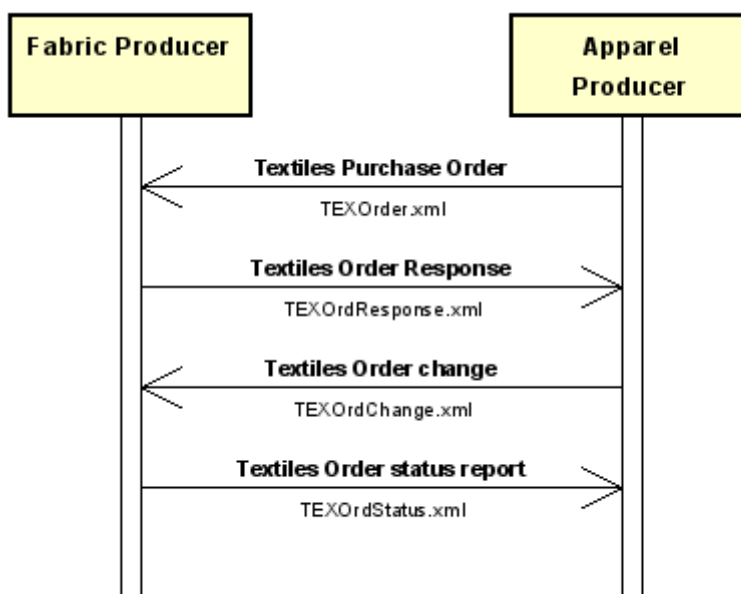
Action 2 (Request from Fabric Producer to Apparel Producer)

Document Name	Fabric Technical Sheet
Action Description	This document is used to provide the Customer (Buyer) with the technical data relevant to describe and characterize the fabric article; i.e.: general data, construction details, measurements of color fastness, dimensional stability and mechanical properties

Action 3 (Request from Apparel Producer to Fabric Producer)

Document Name	Textile Collection Forecast
Action Description	This document is used to notify to the Fabric Producer the articles of his Offer that are considered for future acquisition or use in the Apparel Season Collection. The same document can also be used by the Client to request the Fabric Technical Sheet and/or notify the buyer's article code to the Producer.

5.1.3.2 Activity "Purchase of fabrics"



Activity Name	Purchase of fabrics
Description	Activity of purchase of fabrics, includes monitoring of the advancements of the order.
Transactions	<ul style="list-style-type: none"> • Textile Purchase Order • Textile Order Response • Textile Order change • Textile Order status report
Pre-conditions	The Clothing company has defined the fabric articles that will order (article

	identifiers, quantities, delivery dates)
Post-conditions	The Textile company has processed and executed the order received
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_purchaseoffabrics-1_2008-1.xml

5.1.3.2.1 Transactions inside the activity "Purchase of fabrics"

Action 1 (Request from Apparel Producer to Fabric Producer)

Document Name	Textile Purchase Order
Action Description	The message is issued by the Apparel Producer to purchase fabric articles.

Action 2 (Response from Fabric Producer to Apparel Producer)

Document Name	Textile Order Response
Action Description	The message is issued by the Fabric Producer in response to a purchase order. The Producer must, in any case, return an Order Response for any Order received, where, for each item, he notifies the acceptance as it is (C), the variation (V) or the cancellation (A).

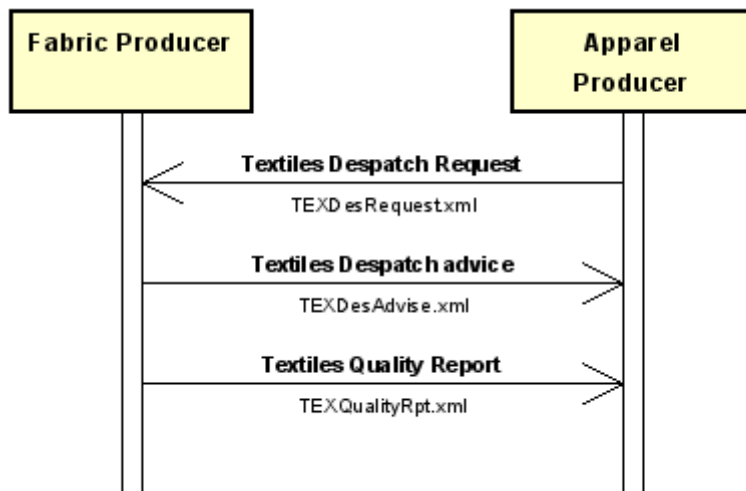
Action 3 (Request from Apparel Producer to Fabric Producer)

Document Name	Textile Order change
Action Description	The Apparel Producer sends to the Fabric Producer an Order Change any time he must modify some conditions of his previous Order (eg. to cancel items not delivered in time) or amend errors (eg. invalid prices).

Action 4 (Request from Fabric Producer to Apparel Producer)

Document Name	Textile Order status report
Action Description	The message is issued by the Fabric Producer to report to his Client the status of his Orders and the updated delivery dates, with the possibility of splitting an order line into several consignments.

5.1.3.3 Activity "Fabric delivery with quality reporting by Producer "



Activity Name	Fabric delivery with quality reporting by Producer
Description	Activity of delivering the fabrics to the Clients or their SubContractors without the intervention of a Controller
Transactions	<ul style="list-style-type: none"> • Textile Despatch Request • Textile Despatch advice • Textile Quality Report
Pre-conditions	The Clothing company agrees to accept the fabric pieces with self-certification of the Manufacturer
Post-conditions	The fabric pieces are delivered to the Clothing company with the only quality certification made by the Manufacturer
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_fabricdeliverywithqualityreportingbyproducer-1_2008-1.xml

5.1.3.3.1 Transactions inside the activity "Fabric delivery with quality reporting by Producer "

Action 1 (Request from Apparel Producer to Fabric Producer)	
Document Name	Textile Despatch Request
Action Description	The message is issued to plan the delivery of the fabric pieces that are in the "ready for despatch" status (see the document "Textile Order Status").This document enables the Buyer to modify some date of its Order (delivery dates and places)
Action 2 (Response from Fabric Producer to Apparel Producer)	
Document Name	Textile Despatch advice
Action	The message is issued to anticipate the details the articles actually

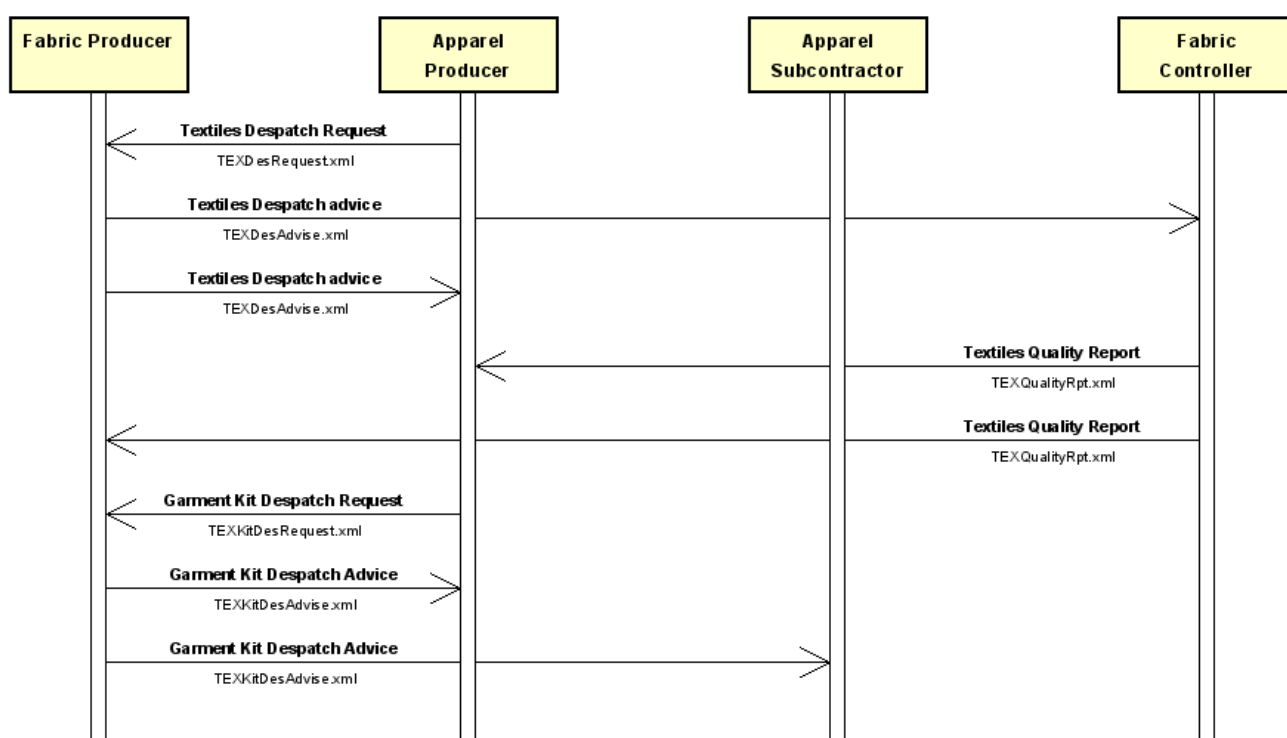
Description despatched.

Action 3 (Request from Fabric Producer to Apparel Producer)

Document Name Textile Quality Report

Action Description The message is issued by the Fabric Producer as "quality certificate" of the fabric piece, mainly to anticipate the details on the existence, position and classification of faults in order to accelerate and improve the following apparel manufacturing.

5.1.3.4 Activity "Despatch of fabrics with groupage"



Activity Name Despatch of fabrics with groupage

Description In this scenario, the Fabric Producers agree to send fabrics and accessories ordered by the Apparel Producer to a Logistics Company or directly to the Apparel Subcontractor specified by the Apparel Producer. The Apparel Producer send a Despatch Request of the "kit" to the Fabric Producer or to the Logistics company so that it can make the "groupage" (fabric, buttons, fastners...) and send it to the specified Subcontractor. At this point, the Logistics company (or the Fabric Producer) sends the Despatch Advise to the Apparel Producer to confirm the shipping; the same document is sent to the Subcontractor to anticipate the information about the material it will receive.

Transactions	<ul style="list-style-type: none"> • Textile Despatch Request • Textile Despatch advice • Textile Quality Report • Garment Kit Despatch Request • Garment Kit Despatch Advice
Pre-conditions	The Clothing company has contracted the Fabric Producer or a Logistics company for the "groupage" service (fabric pieces and accessories grouped together in the apparel kit)
Post-conditions	The fabric pieces are delivered to the SubContractor of the Clothing company controlled and assembled in apparel kits
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_despatchoffabricswithgroupage-1_2008-1.xml

5.1.3.4.1 Transactions inside the activity "Despatch of fabrics with groupage"

Action 1 (Request from Apparel Producer to Fabric Producer)

Document Name	Textile Despatch Request
Action Description	The message is issued to plan the delivery of the fabric pieces that are in the "ready for despatch" status (see the document "Textile Order Status"). This document enables the Buyer to modify some date of its Order (delivery dates and places)

Action 2 (Request from Fabric Producer to Fabric Controller)

Document Name	Textile Despatch advice
Action Description	The message is issued to anticipate to the Fabric Controller the details the articles actually despatched.

Action 3 (Request from Fabric Producer to Apparel Producer)

Document Name	Textile Despatch advice
Action Description	The message is issued to notify to the Apparel Producer the details the articles physically dispatched to the Fabric Controller

Action 4 (Request from Fabric Controller to Apparel Producer)

Document Name	Textile Quality Report
Action Description	The message is issued by the Fabric Quality Controller as "quality certificate" of the fabric piece, mainly to anticipate the details on the existence, position and classification of faults in order to accelerate and improve the following apparel manufacturing.

Action 5 (Request from Fabric Controller to Fabric Producer)

Document Name	Textile Quality Report
Action Description	The message is issued by the Fabric Quality Controller as "quality certificate" to inform the Fabric Producer about the result of its quality

inspection

Action 6 (Request from Apparel Producer to Fabric Producer)

Document Name	Garment Kit Despatch Request
Action Description	The Apparel Producer send the Despatch Request of the "kit" to the Fabric Producer (ALTERNATIVE: to the Logistics company) so that it can make the "groupage (fabric, buttons, fastners...) and send it to the specified Subcontractor.

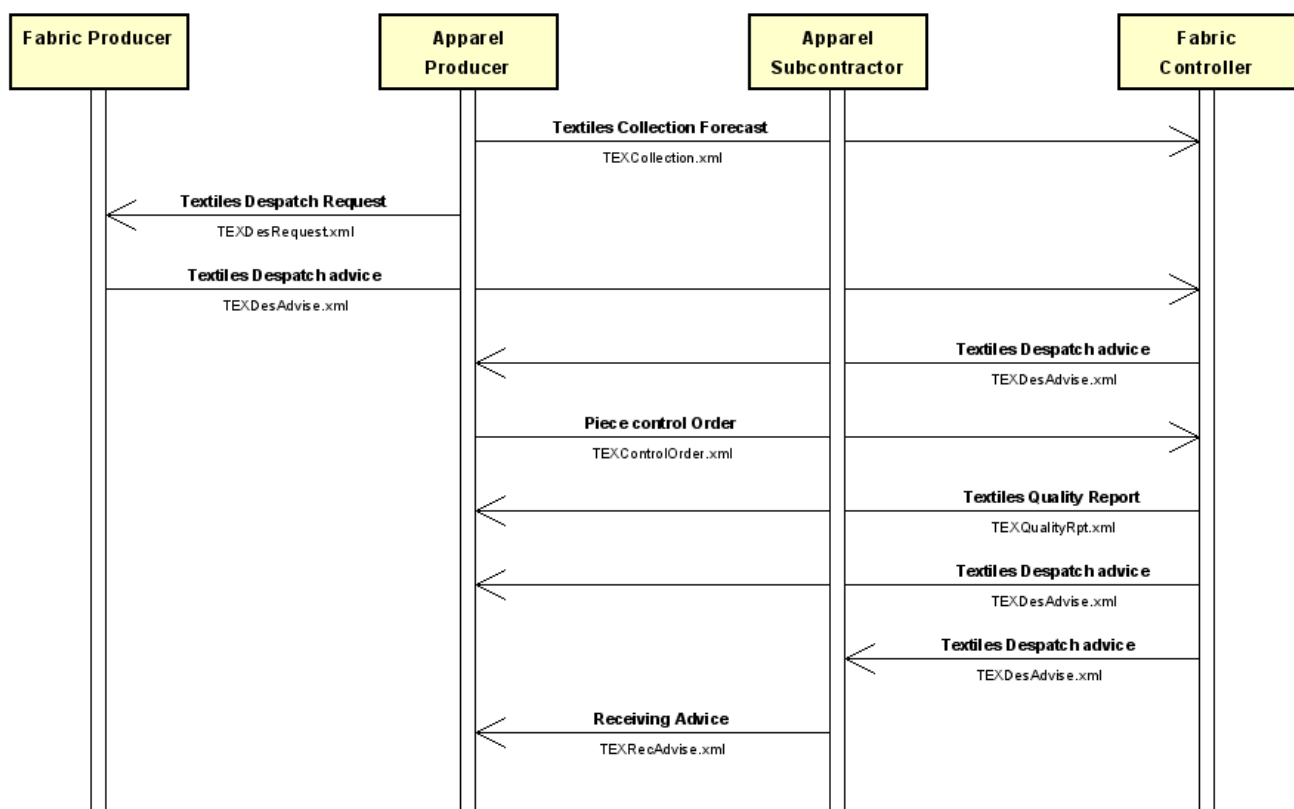
Action 7 (Response from Fabric Producer to Apparel Producer)

Document Name	Garment Kit Despatch Advice
Action Description	The Fabric Producer (ALTERNATIVE: the Logistics company) sends the Despatch Advice to the Apparel Producer to confirm the shipping of the "kit" to the SubContractor.

Action 8 (Request from Fabric Producer to Apparel Subcontractor)

Document Name	Garment Kit Despatch Advice
Action Description	The Fabric Producer (ALTERNATIVE: the Logistics company) sends the Despatch Advice to the Subcontractor to anticipate the information about the material it will receive.

5.1.3.5 Activity "Fabric delivery with quality reporting by Controller "



Activity Name	Fabric delivery with quality reporting by Controller
Description	Activity of delivering the fabrics to the Clients or their SubContractors after the intervention of a Controller (inspection of the pieces)
Transactions	<ul style="list-style-type: none"> • Textile Collection Forecast • Textile Despatch Request • Textile Despatch advice • Piece control Order • Textile Quality Report • Receiving Advice
Pre-conditions	The Clothing company has contracted, for the inspection of the pieces, a Controller which receives the pieces from the Textile manufacturer
Post-conditions	The fabric pieces are delivered to the final destination (Clothing company or Apparel Subcontractor) already certified.
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_fabricdeliverywithqualityreportingbycontroller-1_2008-1.xml

5.1.3.5.1 Transactions inside the activity "Fabric delivery with quality reporting by Controller "

Action 1 (Request from Apparel Producer to Fabric Controller)

Document Name	Textile Collection Forecast
Action Description	In this business scenarios the message is used to notify the Fabric Controller about the fabric articles he will inspect in the season.

Action 2 (Request from Apparel Producer to Fabric Producer)

Document Name	Textile Despatch Request
Action Description	The message is issued to plan the delivery of the fabric pieces that are in the "ready for despatch" status (see the document "Textile Order Status").This document enables the Buyer to modify some date of its Order (delivery dates and places)

Action 3 (Request from Fabric Producer to Fabric Controller)

Document Name	Textile Despatch advice
Action Description	The message is issued to anticipate the details the articles actually despatched.

Action 4 (Request from Fabric Controller to Apparel Producer)

Document Name	Textile Despatch advice
Action Description	The message here is used to notify the Apparel Producer about the upload of the pieces for quality control

Action 5 (Response from Apparel Producer to Fabric Controller)

Document Name	Piece control Order
Action	The document Piece Control Order is used by the Apparel Producer to

Description specify the type of inspection and accessory treatments requested for each fabric piece and the final destination of the fabric piece.

Action 6 (Request from Fabric Controller to Apparel Producer)

Document Name Textile Quality Report

Action Description The message is issued by the Fabric Controller as "quality certificate" of the fabric piece, mainly to anticipate the details on the existence, position and classification of faults in order to accelerate and improve the following apparel manufacturing.

Action 7 (Request from Fabric Controller to Apparel Producer)

Document Name Textile Despatch advice

Action Description The message is issued to anticipate the details the fabric pieces that are to be dispatched after quality control. The physical dispatch can be either to the Client (Apparel Producer) or to a Subcontractor; in the second instance, this is for information only.

Action 8 (Request from Fabric Controller to Apparel Subcontractor)

Document Name Textile Despatch advice

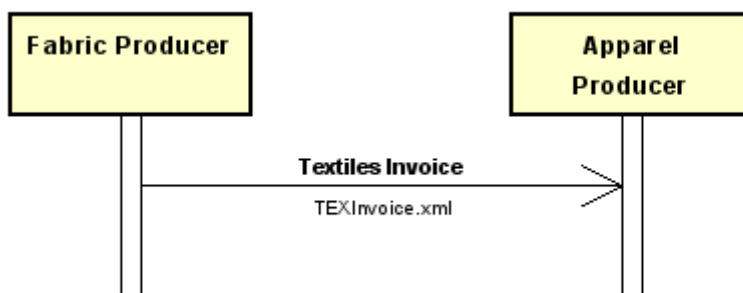
Action Description The message is issued to anticipate the details the fabric pieces that are to be dispatched after quality control when the physical dispatch is to a Subcontractor.

Action 9 (Request from Apparel Subcontractor to Apparel Producer)

Document Name Receiving Advice

Action Description The Receiving Advice can be used by the Subcontractor either to confirm the regular receipt of the fabric pieces or to notify discrepancies between what was declared by the Sender and what was received.

5.1.3.6 Activity "Invoicing of fabrics"



Activity Name	Invoicing of fabrics
Description	Activity that brings to completion the trading between the Fabric Producer and the Apparel Producer, enabling the Fabric Producer to debit the product supplied and any additional service performed.
Transactions	<ul style="list-style-type: none"> Textile Invoice
Pre-conditions	The Fabric Producer has satisfied the Apparel Producer's order under any

	quantitative/qualitative condition.
Post-conditions	The commercial transaction is concluded
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_invoicingoffabrics-1_2008-1.xml

5.1.3.6.1 Transactions inside the activity "Invoicing of fabrics"

Action 1 (Request from Fabric Producer to Apparel Producer)

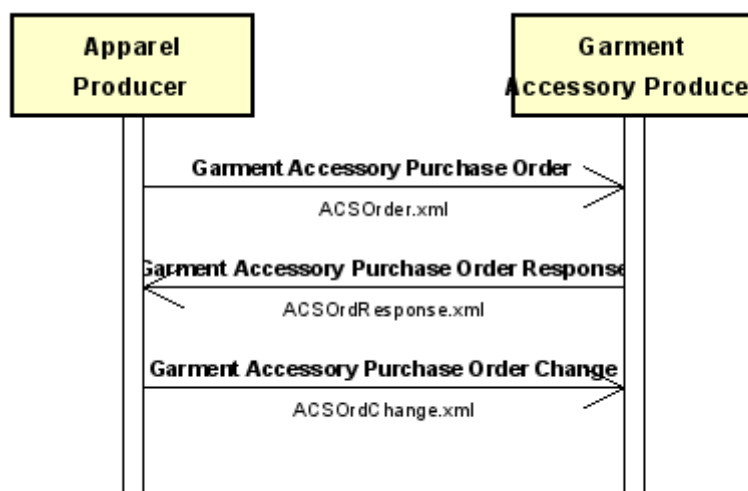
Document Name	Textile Invoice
Action Description	The message can be used by the Fabric Producer to debit its Client for any kind of supply or service. This document can be used to debit standard fabric supply using the option "textItem", and additional goods or services (stocks, batch rests, ..) using the option "prodServItem", even in the same invoice

5.1.4 Process: Garment accessory supply

Process	Activity	Actors	Documents
Garment accessory supply	Purchase of Garment accessory	Apparel Producer Garment Accessory Producer	Garment Accessory Purchase Order Garment Accessory Purchase Order Response Garment Accessory Purchase Order Change
	Delivery of Garment accessories	Garment Accessory Producer Apparel Producer	Garment accessory Despatch Advice Garment accessory Despatch Request

Process Name	Garment accessory supply
Actors	Apparel Producer, Garment Accessory Producer
Description	process that describes the procurement of garment accessories by Clothing companies or Brand Retailers or other kind of Users (Home textile or automotive)
Activities	<ul style="list-style-type: none"> • Purchase of Garment accessory • Delivery of Garment accessories
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_garmentaccessorysupply-1_2008-1.xml

5.1.4.1 Activity " Purchase of Garment accessory "



Activity Name	Purchase of Garment accessory
Description	Activity of purchase of garment accessories, includes monitoring of the advancements of the order.
Transactions	<ul style="list-style-type: none"> • Garment Accessory Purchase Order • Garment Accessory Purchase Order Response • Garment Accessory Purchase Order Change
Pre-conditions	The Clothing company has defined the garment accessories that will order (article identifiers, quantities, delivery dates)
Post-conditions	The Garment Accessory Producer has processed and executed the order received

5.1.4.1.1 Transactions inside the activity " Purchase of Garment accessory "

Action 1 (Request from Apparel Producer to Garment Accessory Producer)

Document Name	Garment Accessory Purchase Order
Action Description	The message is issued by the Apparel Producer to purchase garment accessories

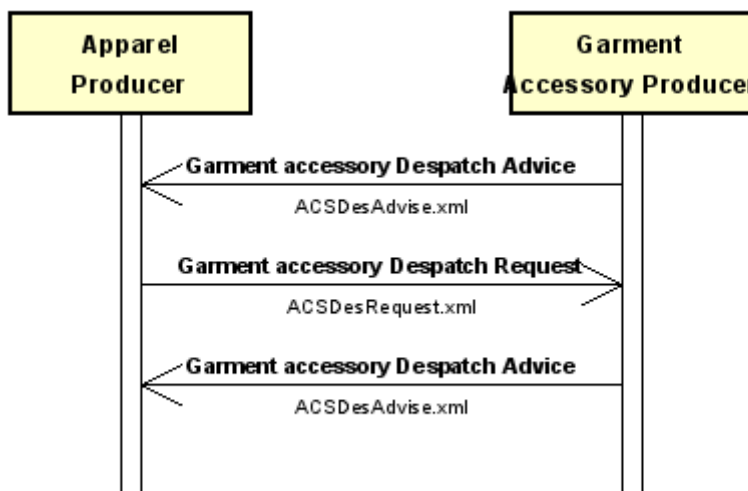
Action 2 (Response from Garment Accessory Producer to Apparel Producer)

Document Name	Garment Accessory Purchase Order Response
Action Description	The message is issued by the Garment Accessory Producer in response to a purchase order. The Producer must, in any case, return an Order Response for any Order received.

Action 3 (Request from Apparel Producer to Garment Accessory Producer)

Document Name	Garment Accessory Purchase Order Change
Action Description	The Apparel Producer sends to the Garment Accessory Producer an Order Change any time he must modify some conditions of his previous Order (eg. to cancel items not delivered in time) or amend errors (eg. invalid prices).

5.1.4.2 Activity "Delivery of Garment accessories"



Activity Name	Delivery of Garment accessories
Description	Activity of delivering the garment accessory to the Clients.
Transactions	<ul style="list-style-type: none"> • Garment accessory Despatch Advice • Garment accessory Despatch Request
Pre-conditions	The Clothing company agrees to accept the garment accessories with self-certification of the Manufacturer
Post-conditions	The garment accessories are delivered to the Clothing company with the only quality certification made by the Manufacturer

5.1.4.2.1 Transactions inside the activity "Delivery of Garment accessories"

Action 1 (Request from Garment Accessory Producer to Apparel Producer)

Document Name	Garment accessory Despatch Advice
Action Description	The message is issued to notify to the Apparel Producer that the garment accessories are available for despatch. This document enables the Buyer to plan the deliveries.

Action 2 (Request from Apparel Producer to Garment Accessory Producer)

Document Name	Garment accessory Despatch Request
Action Description	The message is issued to plan the delivery of the garment accessories. This document enables the Buyer to modify some date of its Order (delivery dates and places)

Action 3 (Response from Garment Accessory Producer to Apparel Producer)

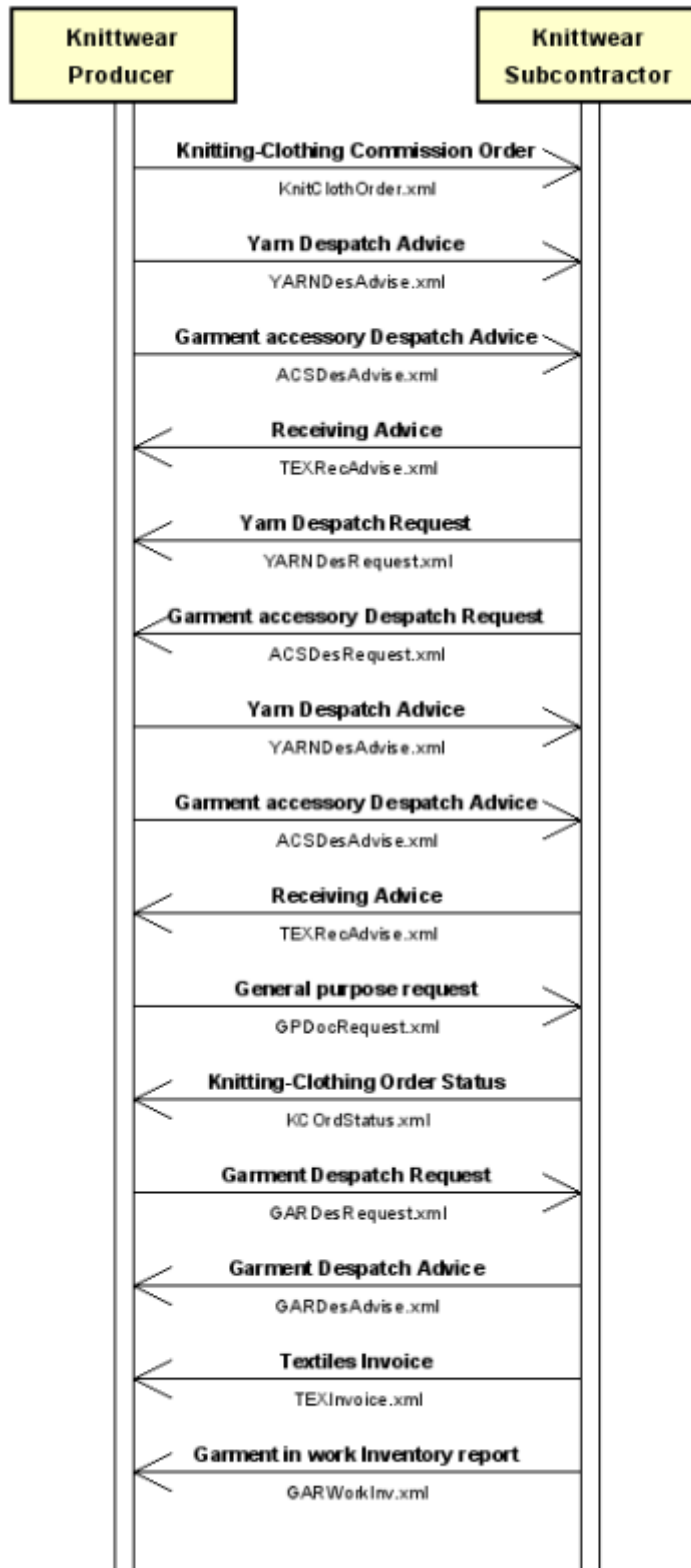
Document Name	Garment accessory Despatch Advice
Action Description	The message is issued to anticipate the details the articles actually despatched.

5.1.5 Process: Knitwear subcontracted manufacturing

Process	Activity	Actors	Documents
Knitwear subcontracted manufacturing	Knitting and assembling	Knittwear Producer Knittwear Subcontractor	Knitting-Clothing Commission Order Yarn Despatch Advice Garment accessory Despatch Advice Receiving Advice Yarn Despatch Request Garment accessory Despatch Request General purpose request Knitting-Clothing Order Status Garment Despatch Request Garment Despatch Advice Textile Invoice Garment in work Inventory report
	Knitwear finishing	Knittwear Producer Knittwear Subcontractor	Knitting-Clothing Commission Order Garment Despatch Advice Receiving Advice General purpose request Knitting-Clothing Order Status Garment Despatch Request Textile Invoice Garment in work Inventory report

Process Name	Knitwear subcontracted manufacturing
Actors	Knittwear Producer, Knittwear Subcontractor
Description	Subcontracted production of the knitwear; the input of the process is yarn and accessories ; the phasis of the process include knitting, cutting, assembling and finishing (washing, ironing, labelling, ..etc...)
Activities	<ul style="list-style-type: none"> • Knitting and assembling • Knitwear finishing
Reference to the related	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_knitwearsubcontractedmanufacturing-1_2008-1.xml

5.1.5.1 Activity "Knitting and assembling"



Activity Name	Knitting and assembling
Description	Activity concerning the production process for the knitwear; the main steps

	of the process are knitting, cutting, assembling.
Transactions	<ul style="list-style-type: none"> • Knitting-Clothing Commission Order • Yarn Despatch Advice • Garment accessory Despatch Advice • Receiving Advice • Yarn Despatch Request • Garment accessory Despatch Request • General purpose request • Knitting-Clothing Order Status • Garment Despatch Request • Garment Despatch Advice • Textile Invoice • Garment in work Inventory report
Pre-conditions	The knitwear Producer externalises the knitting and assembling operations
Post-conditions	The knitting and assembling commission order has been executed

5.1.5.1.1 Transactions inside the activity “Knitting and assembling”

Action 1 (Request from Knittwear Producer to Knittwear Subcontractor)

Document Name	Knitting-Clothing Commission Order
Action Description	The knitting-clothing Commission order is used by the Knitwear Producer to commit to a Sub-contractor the manufacturing of knitwear or clothing articles

Action 2 (Request from Knittwear Producer to Knittwear Subcontractor)

Document Name	Yarn Despatch Advice
Action Description	The message is issued to anticipate the details of the yarn articles actually despatched to the subcontractor for the execution of the subcontracted operation

Action 3 (Request from Knittwear Producer to Knittwear Subcontractor)

Document Name	Garment accessory Despatch Advice
Action Description	The message is issued to anticipate the details of the accessory articles actually despatched to the subcontractor for the execution of the subcontracted operation

Action 4 (Response from Knittwear Subcontractor to Knittwear Producer)

Document Name	Receiving Advice
Action Description	The Receiving Advice can be used by the Receiver of goods (received for commissioned works) either to confirm the regular receipt of goods or to notify discrepancies between what was declared by the Sender and what was received and accepted.

Action 5 (Request from Knittwear Subcontractor to Knittwear Producer)

Document Name	Yarn Despatch Request
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Name	
Action Description	The message is issued to require an additional delivery of the yarn articles to the subcontractor for the execution of the subcontracted operation
Action 6 (Request from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Garment accessory Despatch Request
Action Description	The message is issued to require an additional delivery of the accessory articles to the subcontractor for the execution of the subcontracted operation
Action 7 (Request from Knittwear Producer to Knittwear Subcontractor)	
Document Name	Yarn Despatch Advice
Action Description	The message is issued to reply to a request of additional delivery of yarn articles for the execution of the subcontracted operation
Action 8 (Request from Knittwear Producer to Knittwear Subcontractor)	
Document Name	Garment accessory Despatch Advice
Action Description	The message is issued to reply to a request of additional delivery of accessories for the execution of the subcontracted operation
Action 9 (Response from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Receiving Advice
Action Description	The Receiving Advice can be used by the Receiver of goods (received for commissioned works) either to confirm the regular receipt of goods or to notify discrepancies between what was declared by the Sender and what was received and accepted.
Action 10 (Request from Knittwear Producer to Knittwear Subcontractor)	
Document Name	General purpose request
Action Description	This document is used by the Commissioner to request the status of its commission orders
Action 11 (Request from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Knitting-Clothing Order Status
Action Description	The message is issued by the Subcontractor to report to his Client the status of his Commission Orders and the updated delivery dates
Action 12 (Request from Knittwear Producer to Knittwear Subcontractor)	
Document Name	Garment Despatch Request
Action Description	This message is a request issued by the Commissioner for delivery planning of the product commissioned
Action 13 (Response from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Garment Despatch Advice
Action Description	The message is issued by the Sub-contractor to anticipate the despatch of the articles manufactured under commissioned order

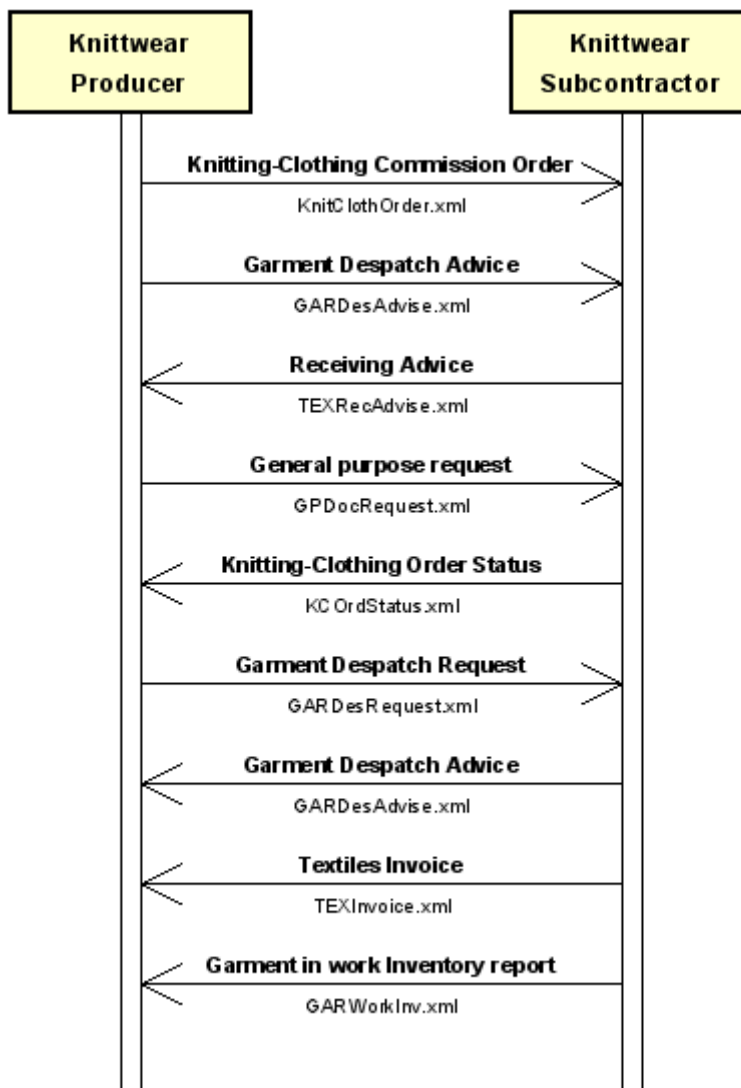
Action 14 (Request from Knittwear Subcontractor to Knittwear Producer)

Document Name	Textile Invoice
Action Description	This document allows the Sub-contractor to request payment for its works

Action 15 (Request from Knittwear Subcontractor to Knittwear Producer)

Document Name	Garment in work Inventory report
Action Description	This document can be used by a Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work items (Client's property) stocked at the Subcontractor's premises.

5.1.5.2 Activity "Knitwear finishing"



Activity Name	Knitwear finishing
Description	Activity concerning the final processing of knitwear (washing, shrinking, ironing, labelling, ..)
Transactions	<ul style="list-style-type: none"> • Knitting-Clothing Commission Order • Garment Despatch Advice • Receiving Advice • General purpose request • Knitting-Clothing Order Status • Garment Despatch Request • Textile Invoice • Garment in work Inventory report
Pre-conditions	The knitwear Producer externalises the finishing operations operations
Post-conditions	The knitwear finishing commission order has been executed

5.1.5.2.1 Transactions inside the activity "Knitwear finishing"

Action 1 (Request from Knitwear Producer to Knitwear Subcontractor)

Document Name	Knitting-Clothing Commission Order
Action Description	The knitting-clothing commission order is used by the Knitwear Producer to commit to a Sub-contractor the finishing of knitwear or clothing articles

Action 2 (Request from Knitwear Producer to Knitwear Subcontractor)

Document Name	Garment Despatch Advice
Action Description	The message is issued to anticipate the details of the knitwear articles actually despatched to the subcontractor for the execution of the subcontracted operation

Action 3 (Response from Knitwear Subcontractor to Knitwear Producer)

Document Name	Receiving Advice
Action Description	The Receiving Advice can be used by the Receiver of goods (received for commissioned works) either to confirm the regular receipt of goods or to notify discrepancies between what was declared by the Sender and what was received and accepted.

Action 4 (Request from Knitwear Producer to Knitwear Subcontractor)

Document Name	General purpose request
Action Description	This document is used by the Commissioner to request the status of its commission orders

Action 5 (Response from Knitwear Subcontractor to Knitwear Producer)

Document Name	Knitting-Clothing Order Status
Action Description	The message is issued by the Subcontractor to report to his Client the status of his Commission Orders and the updated delivery dates

Action 6 (Request from Knitwear Producer to Knitwear Subcontractor)

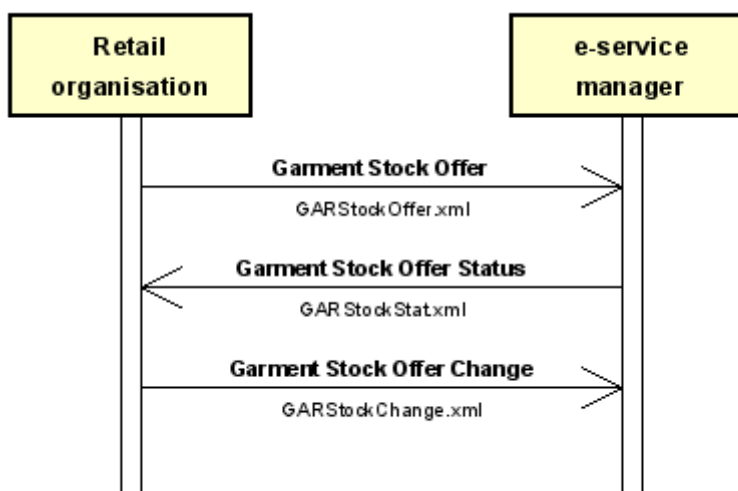
Document Name	Garment Despatch Request
Action Description	This message is a request issued by the Commissioner for delivery planning of the product commissioned
Action 7 (Response from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Garment Despatch Advice
Action Description	The message is issued by the Sub-contractor to anticipate the despatch of the articles finished under commissioned order
Action 8 (Request from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Textile Invoice
Action Description	This document allows the Sub-contractor to request payment for its works
Action 9 (Request from Knittwear Subcontractor to Knittwear Producer)	
Document Name	Garment in work Inventory report
Action Description	This document can be used by a Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work items (Client's property) stocked at the Subcontractor's premises.

5.1.6 Process: On line stock service

Process	Activity	Actors	Documents
On line stock service	Offer stocks on-line	Retail organisation e-service manager	Garment Stock Offer Garment Stock Offer Status Garment Stock Offer Change

Process Name	On line stock service
Actors	Retail organisation, e-service manager
Description	On line service to offer/retrieve of stocks of textile/Clothing products
Activities	<ul style="list-style-type: none"> Offer stocks on-line
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_onlinestockservice-1_2008-1.xml

5.1.6.1 Activity "Offer stocks on-line"



Activity Name	Offer stocks on-line
Description	Offer stocks of textile/Clothing products
Transactions	<ul style="list-style-type: none"> Garment Stock Offer Garment Stock Offer Status Garment Stock Offer Change
	<ul style="list-style-type: none">

5.1.6.1.1 Transactions inside the activity "Offer Stocks on-line"

Action 1 (Request from Retail organisation to e-service manager)

Document Name	Garment Stock Offer
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Action Description	
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Action 2 (Response from e-service manager to Retail organisation)

Document Name	Garment Stock Offer Status
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Action Description	
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Action 3 (Request from Retail organisation to e-service manager)

Document Name	Garment Stock Offer Change
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Action Description	
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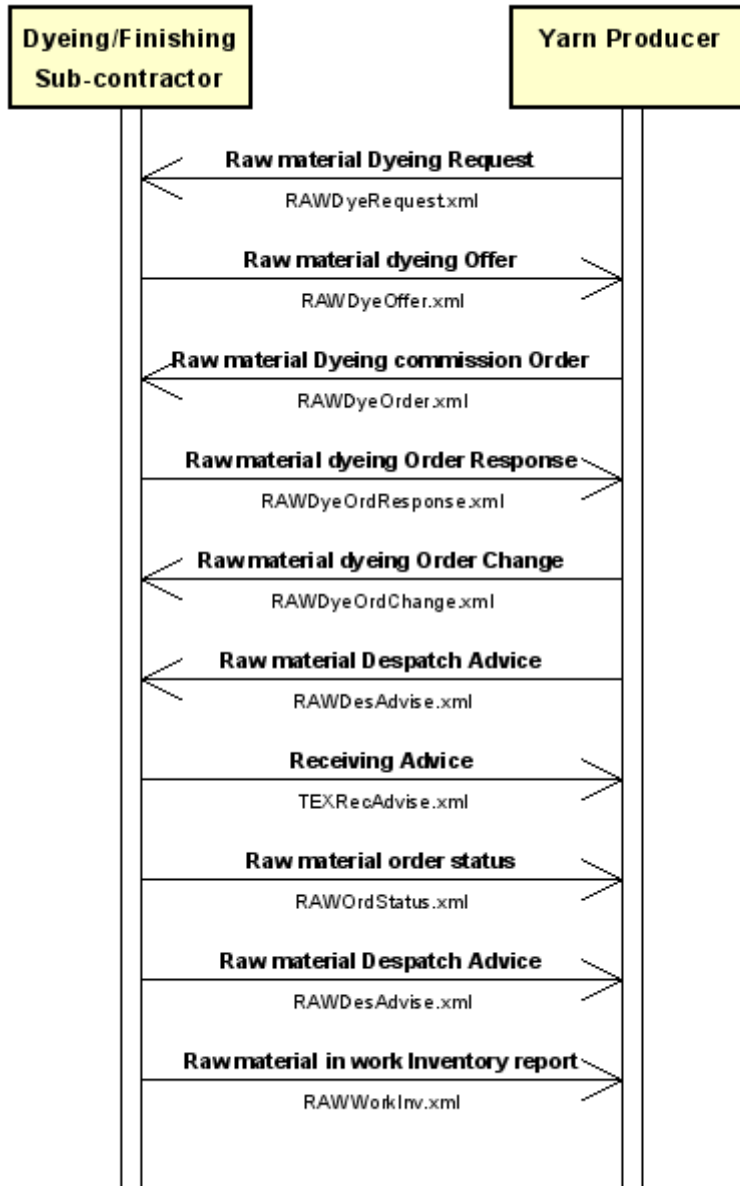
Process: Yarn subcontracted manufacturing

Process	Activity	Actors	Documents
Yarn subcontracted manufacturing	Subcontracted dyeing of raw material	Yarn Producer Dyeing/Finishing Sub-contractor	Raw material Dyeing Request Raw material dyeing Offer Raw material Dyeing commission Order Raw material dyeing Order Response Raw material dyeing Order Change Raw material Despatch Advice Receiving Advice Raw material order status Raw material in work Inventory report
	Subcontracted spinning of raw material	Yarn Producer Yarn Subcontractor	Spinning Request Spinning Offer Spinning Commission Order Spinnig Order Response Spinning Order Change Raw material Despatch Advice Receiving Advice Yarn Order Status Report Yarn Despatch Advice Yarn in work Inventory report
	Subcontracted yarn twisting	Yarn Producer Yarn Subcontractor	Twisting Request Twisting Offer Yarn Twisting Commission Order Yarn Despatch Advice Receiving Advice Yarn Order Status Report Yarn in work Inventory report
	Subcontracted yarn dyeing	Yarn Producer Dyeing/Finishing Sub-contractor	Yarn Dyeing Request Yarn Dyeing Offer Yarn dyeing commission order Yarn dyeing Order Response Yarn dyeing Order Change Yarn Despatch Advice

			Receiving Advice Yarn Order Status Report Yarn in work Inventory report
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Process Name	Yarn subcontracted manufacturing
Actors	Yarn Producer, Dyeing/Finishing Sub-contractor, Yarn Subcontractor
Description	Yarn production process commissioned to subcontractors; the process starts from raw material and produces finished yarns. The Yarn Producer commissions to specialised Subcontractors some value-added operations of the manufacturing cycle because of specific know-how or scale economies. In this process 3 events are fundamental: the issue of the commission order, the swap of the material, the reporting of the order progress.
Activities	<ul style="list-style-type: none"> • Subcontracted dyeing of raw material • Subcontracted spinning of raw material • Subcontracted yarn twisting • Subcontracted yarn dyeing

5.1.6.2 Activity "Subcontracted dyeing of raw material"



Activity Name	Subcontracted dyeing of raw material
Description	Activity of commissioning to a Subcontractor the dyeing of raw material.
Transactions	<ul style="list-style-type: none"> • Raw material Dyeing Request • Raw material dyeing Offer • Raw material Dyeing commission Order • Raw material dyeing Order Response • Raw material dyeing Order Change • Raw material Despatch Advice • Receiving Advice • Raw material order status • Raw material in work Inventory report

Pre-conditions	The Yarn Producer has decided to commission the dyeing of raw material to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontracteddyeingofrawmaterial-1_2008-1.xml

5.1.6.2.1 Transactions inside the activity “Subcontracted dyeing of raw material”

Action 1 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Raw material Dyeing Request
Action Description	This message is usable to request an offer for the dyeing of raw material

Action 2 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Raw material dyeing Offer
Action Description	This message is usable to make an offer for the dyeing of raw material

Action 3 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Raw material Dyeing commission Order
Action Description	This message is usable to commission the dyeing of raw material

Action 4 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Raw material dyeing Order Response
Action Description	This message is usable in response to a commission order for the dyeing of raw material

Action 5 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Raw material dyeing Order Change
Action Description	This message is usable to change a commission order for the dyeing of raw material

Action 6 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Raw material Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the raw material sent for dyeing

Action 7 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 8 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Raw material order status
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

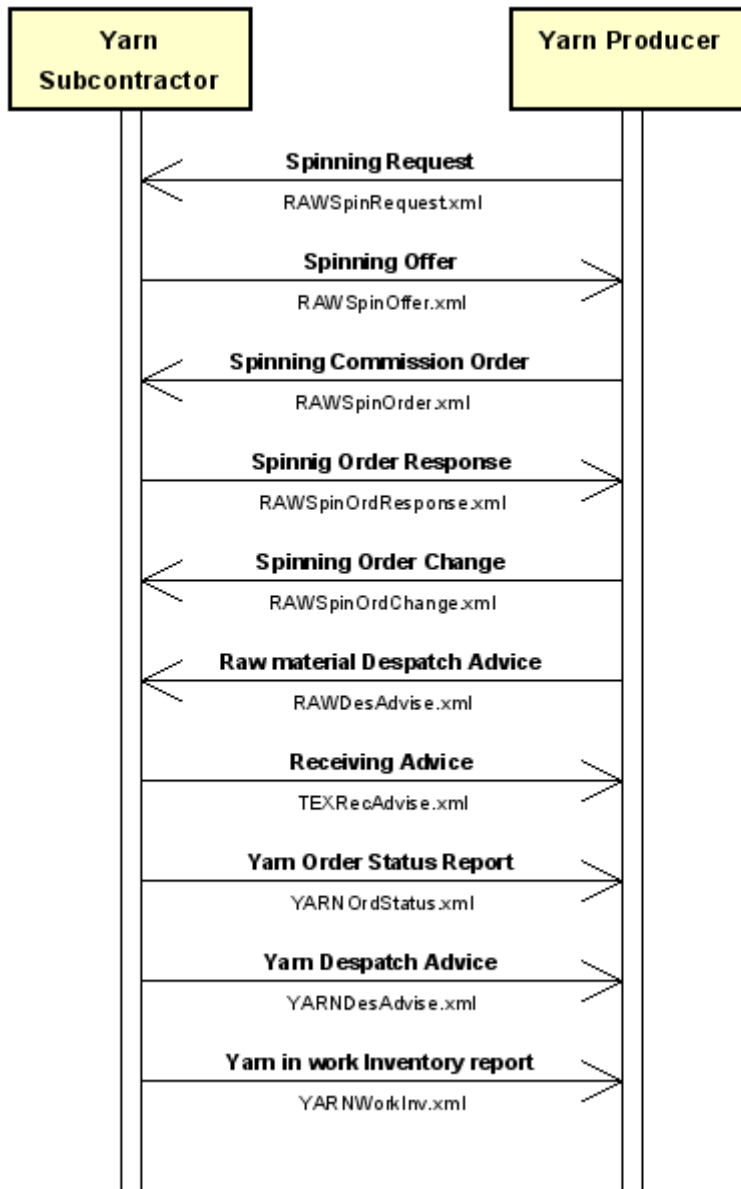
Action 9 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Raw material Despatch Advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (raw material) has been despatched

Action 10 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Raw material in work Inventory report
Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials

5.1.6.3 Activity "Subcontracted spinning of raw material "



Activity Name	Subcontracted spinning of raw material
Description	Activity of commissioning to a Subcontractor the spinning of raw material.
Transactions	<ul style="list-style-type: none"> • Spinning Request • Spinning Offer • Spinning Commission Order • Spinnig Order Response • Spinning Order Change • Raw material Despatch Advice • Receiving Advice • Yarn Order Status Report • Yarn Despatch Advice • Yarn in work Inventory report

Pre-conditions	The Yarn Producer has decided to commission the spinning to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedspinningofrawmaterial-1_2008-1.xml

5.1.6.3.1 Transactions inside the activity “Subcontracted spinning of raw material”

Action 1 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Spinning Request
Action Description	This message is usable to request an offer for the spinning of raw material

Action 2 (Response from Yarn Subcontractor to Yarn Producer)

Document Name	Spinning Offer
Action Description	This message is usable to make an offer for the spinning of raw material

Action 3 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Spinning Commission Order
Action Description	This message is usable to commission the spinning of raw material

Action 4 (Response from Yarn Subcontractor to Yarn Producer)

Document Name	Spinnig Order Response
Action Description	This message is usable in response to a commission order for the spinning of raw material

Action 5 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Spinning Order Change
Action Description	This message is usable to change a commission order for the spinning of raw material

Action 6 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Raw material Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the raw material sent for spinning

Action 7 (Response from Yarn Subcontractor to Yarn Producer)

Document Name	Receiving Advice
Action Description	This message is usable to cerify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 8 (Request from Yarn Subcontractor to Yarn Producer)

Document Name	Yarn Order Status Report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders

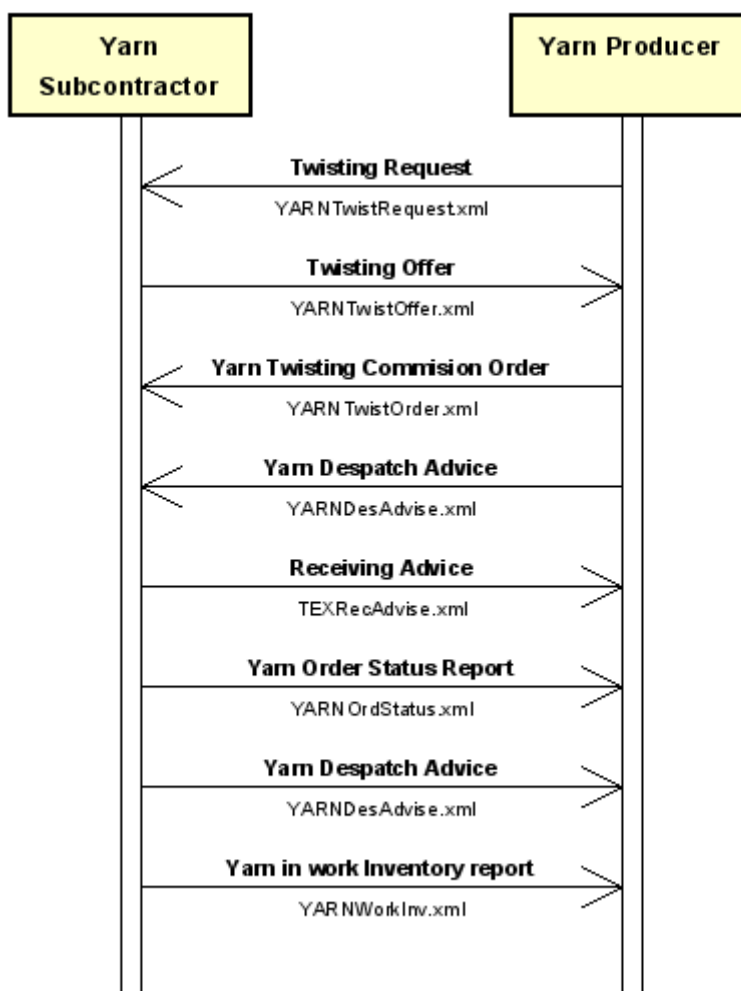
Action 9 (Request from Yarn Subcontractor to Yarn Producer)

Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (yarn) has been despatched

Action 10 (Request from Yarn Subcontractor to Yarn Producer)

Document Name	Yarn in work Inventory report
Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials

5.1.6.4 Activity "Subcontracted yarn twisting"



Activity Name	Subcontracted yarn twisting
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Description	Activity of commissioning to a Subcontractor the twisting of yarn.
Transactions	<ul style="list-style-type: none"> • Twisting Request • Twisting Offer • Yarn Twisting Commission Order • Yarn Despatch Advice • Receiving Advice • Yarn Order Status Report • Yarn in work Inventory report
Pre-conditions	The Yarn Producer has decided to commission the twisting to a specialised Subcontractor
Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedyarntwisting-1_2008-1.xml

5.1.6.4.1 Transactions inside the activity "Subcontracted yarn twisting"

Action 1 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Twisting Request
Action Description	This message is usable to request an offer for the twisting of yarn

Action 2 (Response from Yarn Subcontractor to Yarn Producer)

Document Name	Twisting Offer
Action Description	This message is usable to make an offer for the twisting of yarn

Action 3 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Yarn Twisting Commission Order
Action Description	This message is usable to commission the twisting of yarn

Action 4 (Request from Yarn Producer to Yarn Subcontractor)

Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the yarn sent for twisting

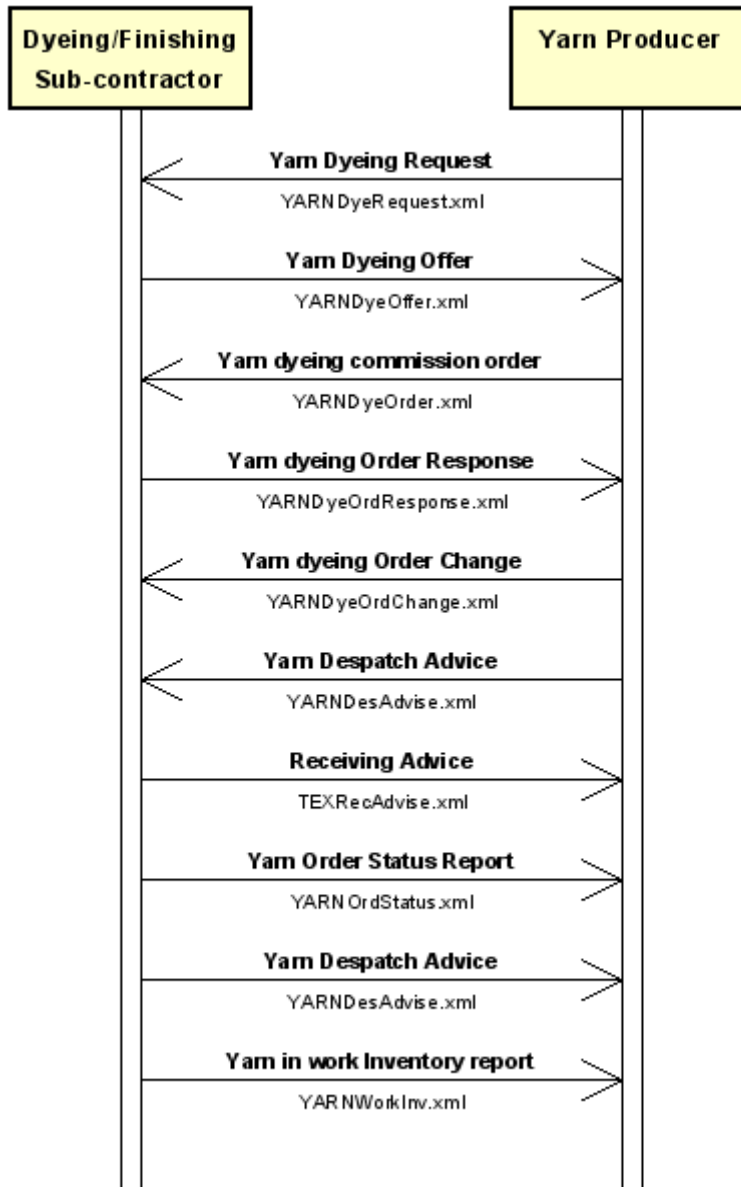
Action 5 (Response from Yarn Subcontractor to Yarn Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 6 (Request from Yarn Subcontractor to Yarn Producer)

Document Name	Yarn Order Status Report
Action Description	This message is usable to report to the Commissioner the progress of his commission orders
Action 7 (Request from Yarn Subcontractor to Yarn Producer)	
Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Commissioner that the commissioned output product (yarn) has been despatched
Action 8 (Request from Yarn Subcontractor to Yarn Producer)	
Document Name	Yarn in work Inventory report
Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials

5.1.6.5 Activity "Subcontracted yarn dyeing"



Activity Name	Subcontracted yarn dyeing
Description	Activity of commissioning to a Subcontractor the dyeing of yarn.
Transactions	<ul style="list-style-type: none"> • Yarn Dyeing Request • Yarn Dyeing Offer • Yarn dyeing commission order • Yarn dyeing Order Response • Yarn dyeing Order Change • Yarn Despatch Advice • Receiving Advice • Yarn Order Status Report • Yarn in work Inventory report
Pre-conditions	The Yarn Producer has decided to commission the dyeing to a specialised Subcontractor

Post-conditions	The commission order has been executed and the finished (output) product has been delivered back (or made available) to the Commissioner
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_subcontractedyarndyeing-1_2008-1.xml

5.1.6.5.1 Transactions inside the activity “Subcontracted yarn dyeing”

Action 1 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Yarn Dyeing Request
Action Description	This message is usable to request an offer for the dyeing of yarn

Action 2 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Yarn Dyeing Offer
Action Description	This message is usable to make an offer for the dyeing of yarn

Action 3 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Yarn dyeing commission order
Action Description	This message is usable to commission the dyeing of yarn

Action 4 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Yarn dyeing Order Response
Action Description	This message is usable in response to a commission order for the dyeing of yarn

Action 5 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Yarn dyeing Order Change
Action Description	This message is usable to change a commission order for the dyeing of yarn

Action 6 (Request from Yarn Producer to Dyeing/Finishing Sub-contractor)

Document Name	Yarn Despatch Advice
Action Description	This message is usable to inform the Subcontractor about the yarn sent for dyeing

Action 7 (Response from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Receiving Advice
Action Description	This message is usable to certify to the Commissioner the receipt of the material sent for the commission (see preceding activity)

Action 8 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Yarn Order Status Report
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Action Description	This message is usable to report to the Commissioner the progress of his commission orders
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Action 9 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Yarn Despatch Advice
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Action Description	This message is usable to inform the Commissioner that the commissioned output product (yarn) has been despatched
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Action 10 (Request from Dyeing/Finishing Sub-contractor to Yarn Producer)

Document Name	Yarn in work Inventory report
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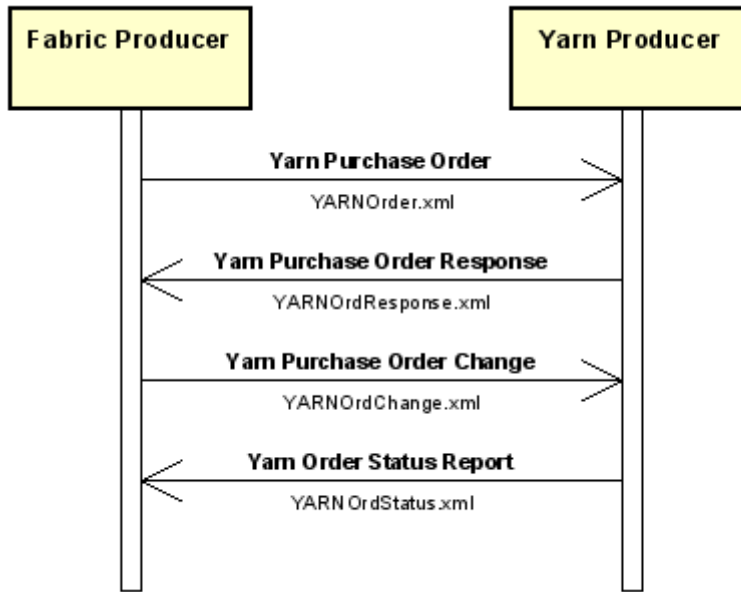
Action Description	This message is usable to certify to the Commissioner the Stock and WIP amount of his materials
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5.1.7 Process: Yarn supply

Process	Activity	Actors	Documents
Yarn supply	Purchase of yarn	Fabric Producer Yarn Producer	Yarn Purchase Order Yarn Purchase Order Response Yarn Purchase Order Change Yarn Order Status Report
	Delivery of yarn	Fabric Producer Yarn Producer	Yarn Despatch Request Yarn Despatch Advice

Process Name	Yarn supply
Actors	Fabric Producer, Yarn Producer
Description	Process of supplying of yarns (usually for production of fabrics, knittwear; sometimes directly to clothing suppliers and other industrial users and to final customers)
Activities	<ul style="list-style-type: none"> • Purchase of yarn • Delivery of yarn
Reference to the related ebBP	http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/ebBP_yarnsupply-1_2008-1.xml

5.1.7.1 Activity "Purchase of yarn"



Activity Name	Purchase of yarn
Description	Activity of purchase of yarns, includes monitoring of the advancements of the order.
Transactions	<ul style="list-style-type: none"> • Yarn Purchase Order • Yarn Purchase Order Response • Yarn Purchase Order Change • Yarn Order Status Report
Pre-conditions	The Fabric Producer has defined the yarn articles that will order (article identifiers, quantities, delivery dates)
Post-conditions	The Yarn Producer has processed and executed the order received

5.1.7.1.1 Transactions inside the activity “Purchase of yarn”

Action 1 (Request from Fabric Producer to Yarn Producer)

Document Name	Yarn Despatch Request
Action Description	The message is issued to plan the delivery of the yarn products that are in the "ready for despatch" status (see the document "Yarn Order Status"). This document enables the Buyer to modify some date of its Order (delivery dates and places)

Action 2 (Response from Yarn Producer to Fabric Producer)

Document Name	Yarn Despatch Advice
Action Description	The message is issued to anticipate the details the articles actually despatched.



Harmonising eBusiness processes and data exchanges
for SMEs in the textile/clothing and footwear sectors in the
Single Market

5.2 Textile Clothing Upstream scenario: Document models

5.2.1 Document: Textile Darn Order

Document Name	Textile Darn Order
Document description	Document sent by the Fabric Producer to the Darn Subcontractor to request the darning services (reports the list of the darning operations and related information for each)
Generalities or notes about the usage	<p>The document "Textile Darn Order" is used by the Fabric Producer to specify the darning operations required on each fabric piece and possibly the standard (or maximum) worktimes allowed with the related prices.</p> <p>The Order can refer to one or more pieces and can be used either in conjunction with the "Textile Despatch Advise" (1 DA : 1 Order) or independently.</p> <p>In the first instance the reference to the Despatch Advise must be given in the Header; in the second each piece can have at item level its reference to the transport document with which was sent to the Subcontractor.</p> <p>EACH ITEM CONTAINS A JOB ORDER FOR ONE OR MORE PIECES OF THE SAME TEXTILE ARTICLE.</p> <p>The Job cost can be calculated from a metre rate or from an hourly rate times a given operation time or from a combination of both.</p>
Source	Moda-ML, TexWeave

5.2.2 Document: Textile Despatch advice

Document Name	Textile Despatch advice
Document description	Advice for despatch of fabric sent by the Supplier
Generalities or notes about the usage	<p>The message is issued to anticipate the details the articles actually despatched. The same message can be used with the client for sale and with the subcontractor for working operation (eg. darn disposition).</p> <p>This document can be used:</p> <ul style="list-style-type: none"> - as a standard despatch advice - as a pre-despatch notification of the goods that are to be despatched. <p>Each document item must correspond with a well defined fabric article (article + pattern + color) and must identify the actual pieces that make it up; for each item is possible to reference the Order line that is delivered.</p>
Source	Moda-ML, TexWeave

5.2.3 Document: Receiving Advice

Document Name	Receiving Advice
Document description	Receiving Advise of the goods received upon purchase or for commissioned works
Generalities or	The Receiving Advise can be used by the Receiver of goods (purchased

notes about the usage	or received for commissioned works) either to confirm the regular receipt of goods or to notify discrepancies between what was declared by the Sender and what was received and accepted. The present document must always be used in coupling with the Despatch Advise document. It is recommended to issue one Receiving Advise against one Despatch Advise
Source	Moda-ML, TexWeave

5.2.4 Document: Textile Darn Return

Document Name	Textile Darn Return
Document description	Document that the Fabric Producer receives from the Darn Subcontractor to notify the execution of the darning services
Generalities or notes about the usage	<p>The document "Textile Darn Return" is used by the Darn Subcontractor to specify the darning operations performed on each fabric piece and possibly the worktimes invoiced.</p> <p>The document can refer to one or more pieces and can be used either in conjunction with the "Textile Despatch Advise" (1 DA : 1 Return) or independently.</p> <p>In the first instance the reference to the Despatch Advise must be given in the Header; in the second each piece can have at item level its reference to the transport document with which was returned to the Client.</p> <p>EACH ITEM CONTAINS A JOB REPORTING FOR ONE OR MORE PIECES OF THE SAME TEXTILE ARTICLE.</p> <p>The Job cost reporting can be calculated from a metre rate or from an hourly rate times a given operation time or from a combination of both.</p>
Source	Moda-ML, TexWeave

5.2.5 Document: Textile Despatch Request

Document Name	Textile Despatch Request
Document description	Request for despatch of fabric (allows to specify destination and delivery date)
Generalities or notes about the usage	<p>The message is issued to plan the delivery of the fabric pieces that are in the "ready for despatch" status (see the document "Textile Order Status"). This document enables the Buyer to modify some date of its Order (delivery dates and places)</p> <p>This document can be used:</p> <ul style="list-style-type: none"> - as a standard despatch request - as a despatch request that, at the same time, cancels a previous request referenced there in <p>Each document item must correspond with a well defined fabric article (article + pattern + color) and for each item is possible to reference the Order line that is delivered.</p>
Source	Moda-ML, TexWeave

5.2.6 Document: Textile in work Inventory report

Document Name	Textile in work Inventory report
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Document description	Inventory report of Textile in work
Generalities or notes about the usage	The present document can be used by a Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work Textile items (Client's property) stocked at the Subcontractor's premises. This inventory may refer to all the goods of one Commission issuer or just to those related to one Commission order; item quantities may be subdivided by type of stock and physical location.
Source	Moda-ML

5.2.7 Document: Warping Request

Document Name	Warping Request
Document description	Request to Subcontractor for Warping
Generalities or notes about the usage	The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the warping. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.8 Document: Warping Offer

Document Name	Warping Offer
Document description	Offer from Subcontractor for the warping
Generalities or notes about the usage	The Offer is used by a Subcontractor to respond to the Request of a Fabric Manufacturer for the warping of a yarn. The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.9 Document: Warping commission order

Document Name	Warping commission order
Document	Warping commission order

description	
Generalities or notes about the usage	<p>The Warping commission order is used by a Fabric Manufacturer to commit to a Subcontractor the warping of yarn</p> <p>When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor</p> <p>As a general rule, the warping commission order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product</p> <p>It must be noted that this end product can be, in turn, a component for a successive manufacturing operation</p> <p>The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML

5.2.10 Document: Yarn Despatch Advice

Document Name	Yarn Despatch Advice
Document description	Advice for despatch of a yarn supply sent by the Producer or by the Subcontractor
Generalities or notes about the usage	<p>The message is issued to anticipate the details the articles actually despatched. The same message can be used with the client for sale and with the subcontractor for working operation (eg. dyeing).</p> <p>This document can be used:</p> <ul style="list-style-type: none"> - as a standard despatch advice - as a pre-despatch notification of the goods that are to be despatched. <p>Each document item must correspond with a well defined fabric article (article + color); for each item it is possible to reference the Order line that is delivered.</p>
Source	Moda-ML, TexWeave

5.2.11 Document: Textile Order status report

Document Name	Textile Order status report
Document description	Report of the Order status of fabric (informs about the foreseen delivery date)
Generalities or notes about the usage	<p>The message is issued by the Fabric Producer to report to his Client the status of his Orders and the updated delivery dates, with the possibility of splitting an order line into several consignements.</p> <p>The message may concern all the articles ordered (Type = H "historic"), all the articles ordered and not yet delivered (type = C "complete") or just the articles in the "ready for shipment" status (type = S "for shipping").</p> <p>The status report can be given for each article or for each Order line.</p>
Source	Moda-ML, TexWeave

5.2.12 Document: Weaving Request

Document Name	Weaving Request
Document description	Request to Subcontractor for Weaving
Generalities or notes about the usage	The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the weaving. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.13 Document: Weaving Offer

Document Name	Weaving Offer
Document description	Offer from Subcontractor for the weaving
Generalities or notes about the usage	The Offer is used by a Subcontractor to respond to the Request of a Fabric Manufacturer for the weaving of a yarn. The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.14 Document: Weaving commission order

Document Name	Weaving commission order
Document description	Waeving commission order
Generalities or notes about the usage	The Weaving commission order is used by a Fabric Manufacturer to commit to a Subcontractor the weaving of yarn When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can used this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor As a general rule, the weaving commission order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product It must be noted that this end product can be, in turn, a component for a

	<p>successive manufacturing operation The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML, TexWeave

5.2.15 Document: Textile Dyeing-Finishing Request

Document Name	Textile Dyeing-Finishing Request
Document description	Request to Subcontractor for textile Dyeing/Finishing
Generalities or notes about the usage	<p>The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the dyeing/finishing of fabric. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)</p>
Source	Moda-ML

5.2.16 Document: Textile Dyeing-Finishing Offer

Document Name	Textile Dyeing-Finishing Offer
Document description	Offer from Subcontractor for the dyeing/finishing of fabric
Generalities or notes about the usage	<p>The Offer is used by a Subcontractor to respond to the Request of a Fabric Manufacturer for the dyeing/finishing of a fabric. The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)</p>
Source	Moda-ML

5.2.17 Document: Textile Dyeing-Finishing Order

Document Name	Textile Dyeing-Finishing Order
Document description	Dyeing-finishing Order commissioned to a Subcontractor (contains the parameters and the sequence of the operations to be performed)
Generalities or notes about the	The Textile Dyeing-Finishing Order is issued when a Contractor commits to a Subcontractor a work required to transform a fabric material into

usage	something usable for apparel production. This work Order can include one or several operations of the fabric manufacturing cycle specifying their sequence.
Source	Moda-ML

5.2.18 Document: Textile printing commission order

Document Name	Textile printing commission order
Document description	Printing commission order for a fabric
Generalities or notes about the usage	<p>The Printing commission order is used by a Fabric Manufacturer to commit to a Subcontractor the printing of fabric</p> <p>When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor</p> <p>As a general rule, the Printing commission order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product</p> <p>It must be noted that this end product can be, in turn, a component for a successive manufacturing operation</p> <p>The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML, TexWeave

5.2.19 Document: Textile catalogue

Document Name	Textile catalogue
Document description	Trade document containing the prices and the technical properties of the Textile articles offered by the manufacturer.
Generalities or notes about the usage	<p>This document is usable less for a sales catalogue than to exchange in advance the product data between the Supplier and the Customer, in order to synchronize their product data-bases.</p> <p>It lists the articles composing the Fabric Producer's offer (codes, descriptions, prices and sales conditions) and can include some of the technical data (composition, weight and width, construction specifications, ...).</p>
Source	Moda-ML, TexWeave

5.2.20 Document: Fabric Technical Sheet

Document Name	Fabric Technical Sheet
Document description	Technical document describing the commercial details and the construction properties of the fabric
Generalities or	This document is used to provide the Customer (Buyer) with the technical

notes about the usage	data relevant to describe and characterize the fabric article; i.e.: - general data - construction details - measurements of color fastness, dimensional stability and mechanical properties
Source	Moda-ML, TexWeave

5.2.21 Document: Textile Collection Forecast

Document Name	Textile Collection Forecast
Document description	Document used by the Apparel Producer to inform the Fabric Producer about the articles of his interest or expected supply and foreseen volumes of production (no details on colours and variants)
Generalities or notes about the usage	The document "Textile Collection Forecast" is used to notify to the Fabric Producer the articles of his Offer that are considered for future acquisition or use in the Season Collection. The same document can also be used by the Client to request the Fabric Technical Sheet and/or notify his article code to the Producer. Each article notified must be identified at SKU level by the Supplier's code. An estimated quantity can be supplied only for information. In some business scenarios this message may be used to notify the Textile Controller about the fabric articles he will inspect in the season
Source	Moda-ML, TexWeave

5.2.22 Document: Textile Purchase Order

Document Name	Textile Purchase Order
Document description	Purchase order to the Fabric Producer.
Generalities or notes about the usage	The message is issued by the Apparel Producer to purchase fabric articles. Three types of order are possible: - "standard", when the order is completely defined - "blanket", when some of the data are left out for subsequent definition (eg. colour) - "call off", when it defines and closes a "blanket order" The "standard" and the "call off" order is an authorization to ship and invoice well defined fabric articles in well defined quantities, dates, locations and prices. The "blanket" order provides the anticipation of some data to the supplier.
Source	Moda-ML, TexWeave

5.2.23 Document: Textile Order Response

Document Name	Textile Order Response
Document description	Order Response sent by the Fabric Producer (enables changes to the order).
Generalities or	The message is issued by the Fabric Producer in response to a purchase

notes about the usage	<p>order.</p> <p>The Producer must, in any case, return an Order Response for any Order received, where, for each item, he notifies the acceptance as it is (C), the variation (V) or the cancellation (A).</p> <p>Basic function of the message is to notify acceptance or to request modifications or cancellations concerning:</p> <ol style="list-style-type: none"> 1) suppliable quantities 2) dates and places of delivery 3) prices <p>The Order Response can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Response (accepted + varied + cancelled) must always equal the sum of the quantities in the Order.</p>
Source	Moda-ML, TexWeave

5.2.24 Document: Textile Order change

Document Name	Textile Order change
Document description	Order Change sent to the Fabric Producer (allows to change destination, quantity, delivery date)
Generalities or notes about the usage	<p>The Apparel Producer sends to the Fabric Producer an Order Change any time he must modify some conditions of his previous Order (eg. to cancel items not delivered in time) or amend errors (eg. invalid prices).</p> <p>Basic function of the message is to replace an invalid Order with a valid Order, amending:</p> <ul style="list-style-type: none"> - suppliable quantities - dates and places of delivery - prices <p>The Order Change can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Change (confirmed + varied + cancelled) must always equal the sum of the quantities in the original Order.</p>
Source	Moda-ML, TexWeave

5.2.25 Document: Textile Quality Report

Document Name	Textile Quality Report
Document description	Quality report of the fabric piece (contains defects or non-conformances of the pieces, eventually the related bonuses)
Generalities or notes about the usage	<p>The message is issued either by the Fabric Producer and/or by the Fabric Quality Controller as "quality certificate" of the fabric piece, mainly to anticipate the details on the existence, position and classification of faults in order to accelerate and improve the following apparel manufacturing.</p> <p>Each document refers either to one piece of fabric, identified by its id. number (TQ type ="S"ingle) or to several pieces belonging to the same shipment (TQ type="M"ultiple) and likewise identified.</p> <p>The following classes of data can be reported in the document:</p>

	<ul style="list-style-type: none"> - physical dimensions and overall allowance - fabric faults and their positions - test value of conformance to specifications and tailorability - the reporting of the inspection.
Source	Moda-ML, TexWeave

5.2.26 Document: Garment Kit Despatch Request

Document Name	Garment Kit Despatch Request
Document description	Despatch request of a garment kit sent by an Apparel Producer to a Logistic Operator or Fabric Producer or Controller
Generalities or notes about the usage	<p>In this scenario, the Fabric Producers agree to send fabrics and accessories ordered by the Apparel Producer to a Logistics Company or directly to the Apparel Subcontractor specified by the Apparel Producer. The Apparel Producer send a Despatch Request of the "kit" to the Fabric Producer or to the Logistics company so that it can make the "groupage (fabric, buttons, fastners...)" and send it to the specified Subcontractor. At this point, the Logistics company (or the Fabric Producer acting as) send the Despatch Advise to the Apparel Producer to confirm the shipping; the same document is sent to the Subcontractor to anticipate the information about the material it will receive.</p> <p>This document is relative to the Despatch Request of the "kit" and can concern one or several Subcontractors.</p> <p>The basic principles are:</p> <ul style="list-style-type: none"> - one line item must correspond to one "kit" and one Subcontractor - every kit is made of one or more fabrics of which the single pieces can be identified, plus several accessories - as for the roles: the Apparel Producer is "buyer", the Logistics company is "supplier" and the Subcontractor is "third party"
Source	Moda-ML, TexWeave

5.2.27 Document: Garment Kit Despatch Advice

Document Name	Garment Kit Despatch Advice
Document description	Despatch advise of a garment kit sent by a Apparel Producer or by a Logistic Operator or Fabric Controller or Producer on his behalf to a Apparel Subcontractor
Generalities or notes about the usage	<p>In this scenario, the Fabric Producers agree to send fabrics and accessories ordered by the Apparel Producer to a Logistics Company or directly to the Apparel Subcontractor specified by the Apparel Producer. The Apparel Producer send a Despatch Request of the "kit" to the Fabric Producer or to the Logistics company so that it can make the "groupage (fabric, buttons, fastners...)" and send it to the specified Subcontractor. At this point, the Logistics company (or the Fabric Producer acting as) send the Despatch Advise to the Apparel Producer to confirm the shipping; the same document is sent to the Subcontractor to anticipate the information about the material it will receive.</p> <p>This document is relative to the Despatch Advise of the "kit" and can concern one Subcontractor only.</p> <p>The basic principles are:</p> <ul style="list-style-type: none"> - one line item must correspond to one "kit" and one Subcontractor

	<ul style="list-style-type: none"> - every kit is made of one or more fabrics of which the single pieces can be identified, plus several accessories - as for the roles: the Apparel Producer is "buyer", the Logistics company is "supplier" and the Subcontractor is "third party"
Source	Moda-ML, TexWeave

5.2.28 Document: Piece control Order

Document Name	Piece control Order
Document description	Document sent by the Fabric Buyer to the Textile Controller to specify the type of inspection requested for the fabric piece (usually indicated by means of an "inspection code")
Generalities or notes about the usage	<p>The document "Piece Control Order" is used by the Fabric Buyer to specify the type of inspection and accessory treatments requested for each fabric piece.</p> <p>The Order can refer to one or more pieces and can be used either in conjunction with the "Textile Despatch Advise" (1 DA : 1 Order) or independently.</p> <p>In the first instance the reference to the Despatch Advise must be given in the Header; in the second each piece can have at item level its reference to the document with which it was registered by the Controller.</p> <p>Each line item refers to one fabric piece and indicates the inspection code and the ultimate receiver of the piece.</p>
Source	Moda-ML

5.2.29 Document: Textile Invoice

Document Name	Textile Invoice
Document description	Invoice used to debit supplies and works or miscellaneous services in the Textile-Clothing industry
Generalities or notes about the usage	<p>The document "Textile invoice" can be used to debit the Client for any kind of supply or service.</p> <p>This document can be used to debit standard supply using the option "texItem", and additional goods or services using the option "prodServItem", even in the same invoice.</p> <p>The use of quantity and unit price is mandatory only with "texItem".</p>
Source	Moda-ML

5.2.30 Document: Garment Accessory Purchase Order

Document Name	Garment Accessory Purchase Order
Document description	Purchase order to the Garment Accessories Producer (Supplier)
Generalities or notes about the usage	<p>The message is issued to purchase garment accessories.</p> <p>Three types of order are possible:</p> <ul style="list-style-type: none"> - "standard", when the order is completely defined - "blanket", when some of the data are left out for subsequent definition (eg. colour)

	- “call off”, when it defines and closes a “blanket order” The “standard” and the “call off” order is an authorization to ship and invoice well defined fabric articles in well defined quantities, dates, locations and prices. The “blanket” order provides the anticipation of some data to the supplier.
Source	Moda-ML

5.2.31 Document: Garment Accessory Purchase Order Response

Document Name	Garment Accessory Purchase Order Response
Document description	Order Response sent by the Garment accessory Producer(Supplier) (enables changes to the order).
Generalities or notes about the usage	<p>The message is issued by the Garment Accessory Producer (Supplier) in response to a purchase order.</p> <p>The Producer must, in any case, return an Order Response for any Order received, where, for each item, he notifies the acceptance as it is (C), the variation (V) or the cancellation (A).</p> <p>Basic function of the message is to notify acceptance or to request modifications or cancellations concerning:</p> <ol style="list-style-type: none"> 1) suppliable quantities 2) dates and places of delivery 3) prices <p>The Order Response can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Response (accepted + varied + cancelled) must always equal the sum of the quantities in the Order.</p>
Source	Moda-ML

5.2.32 Document: Garment Accessory Purchase Order Change

Document Name	Garment Accessory Purchase Order Change
Document description	Order Change sent to the Garment Accessory Producer (Supplier) (allows to change destination, quantity, delivery date)
Generalities or notes about the usage	<p>The Apparel or the Fabric Producer sends an Order Change any time he must modify some conditions of his previous Order (eg. to cancel items not delivered in time) or amend errors (eg. invalid prices).</p> <p>Basic function of the message is to replace an invalid Order with a valid Order, amending:</p> <ul style="list-style-type: none"> - suppliable quantities - dates and places of delivery - prices <p>The Order Change can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Change (confirmed + varied + cancelled) must always equal the sum of the quantities in the original Order.</p>
Source	Moda-ML

5.2.33 Document: Garment accessory Despatch Advice

Document Name	Garment accessory Despatch Advice
Document description	Advice for despatch of the garment accessory sent by the Supplier
Generalities or notes about the usage	<p>The message is issued to anticipate the details the articles actually despatched. The same message can be used with the client for sale and with the subcontractor for working operation.</p> <p>This document can be used:</p> <ul style="list-style-type: none"> - as a standard despatch advice - as a pre-despatch notification of the goods that are to be despatched. <p>Each document item must correspond with a well defined fabric article (article + pattern + color); for each item is possible to reference the Order line that is delivered.</p>
Source	Moda-ML

5.2.34 Document: Garment accessory Despatch Request

Document Name	Garment accessory Despatch Request
Document description	Request for despatch of garment accessories (allows to specify destination and delivery date)
Generalities or notes about the usage	<p>The message is issued to plan the delivery of the garment accessories that are in the "ready for despatch" status (see the document "Order Status").</p> <p>This document enables the Buyer to modify some date of its Order (delivery dates and places)</p> <p>This document can be used:</p> <ul style="list-style-type: none"> - as a standard despatch request - as a despatch request that, at the same time, cancels a previous request referenced there in <p>Each document item must correspond with a well defined garment accessory article (article + pattern + color) and for each item is possible to reference the Order line that is delivered.</p>
Source	Moda-ML

5.2.35 Document: Knitting-Clothing Commission Order

Document Name	Knitting-Clothing Commission Order
Document description	Knitting/clothing commission order
Generalities or notes about the usage	<p>The knitting-clothing commisio is used by the Knitwear or Clothing Company to commit to a Sub-contractor the manufacturing of knitwear or clothing articles</p> <p>Each commission order can include one or more operations of the manufacturing cycle, each one correspondind to a line item</p> <p>The document can be used either to order the manufacturing of finished goods or of component parts of them.</p> <p>When the Commissioner orders a sequence of operations to different Sub-contractors, he can use this document also to dispose the delivering of semifinished goods from one Sub-contractor to the next.</p>

	This document specifies only the technology (when necessary) and the characteristics of the final product and of the initial goods (components) to be used in the manufacturing The output product specified in each line item can be the input component in a following line item also in the same Commission order.
Source	Moda-ML

5.2.36 Document: Yarn Despatch Request

Document Name	Yarn Despatch Request
Document description	Request for despatching of yarn
Generalities or notes about the usage	The message is issued to plan the delivery of the yarn articles that are in the "ready for despatch" status (see the document "Yarn Order Status"). This document enables the Buyer to modify some date of its Order (delivery dates and places) This document can be used: - as a standard despatch request - as a despatch request that, at the same time, cancels a previous request referenced there in Each document item must correspond with a well defined fabric article (article + color) and for each item is possible to reference the Order line that is delivered.
Source	Moda-ML

5.2.37 Document: General purpose request

Document Name	General purpose request
Document description	Request for a specific electronic document as indicated in the instance
Generalities or notes about the usage	-
Source	Moda-ML

5.2.38 Document: Knitting-Clothing Order Status

Document Name	Knitting-Clothing Order Status
Document description	Knitting/Clothing Order status
Generalities or notes about the usage	The message is issued by the Subcontractor to report to his Client (Apparel Producer) the status of his Commission Orders and the updated delivery dates, with the possibility of splitting an order line into several consignments. The message may concern all the articles ordered (Type = H "historic"), all the articles ordered and not yet delivered (type = C "complete") or just the articles in the "ready for shipment" status (type = S "for shipping"). For each article, the status report can be consolidated or partial for each

	Order line.
Source	Moda-ML

5.2.39 Document: Garment Despatch Request

Document Name	Garment Despatch Request
Document description	Request for despatch of garment articles (knitwear or clothing items); allows to specify destination and delivery date.
Generalities or notes about the usage	The message is issued by the Client to request/plan the delivery of the sendable article. The same message can be used from/ to a sub-contractor for commissioned operations. This document can be used: - as a standard request as a change notification of a previous request .
Source	Moda-ML

5.2.40 Document: Garment Despatch Advice

Document Name	Garment Despatch Advice
Document description	Advice for despatch of clothing or knitwear items.
Generalities or notes about the usage	The message is issued by the Clothing Manufacturer to anticipate the details the articles actually despatched. The same message can be used from/ to a sub-contractor for commissioned operations. This document can be used: - as a standard despatch advice - as a pre-despatch notification of the goods that are to be despatched. Each document item must correspond with a well defined garment article (SKU); for each item is possible to reference the Order line that is delivered.
Source	Moda-ML

5.2.41 Document: Garment in work Inventory report

Document Name	Garment in work Inventory report
Document description	Inventory report of knitwear or clothing in work
Generalities or notes about the usage	The present document can be used by a Knitwear or Clothing Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work Textile items (Client's property) stocked at the Subcontractor's premises. This inventory may refer to all the goods of one Commission issuer or just to those related to one Commission order; item quantities may be subdivided by type of stock and physical location.
Source	Moda-ML

5.2.42 Document: Garment Stock Offer

Document Name	Garment Stock Offer
Document description	On-line sales offer of garment stock
Generalities or notes about the usage	The document is issued by the Trade organisation or the Garment company to create an offer of garment stock through the e-Stockflow service. Each document line must deal with one stock item in one definite location. The description of the stock item includes the classification per category and sex and the assortment of color/sizes.
Source	Moda-ML

5.2.43 Document: Garment Stock Offer Status

Document Name	Garment Stock Offer Status
Document description	Status of an on-line sales Offer of garment stock
Generalities or notes about the usage	The document is issued by the e-Stockflow Service Provider to respond to an Offer of garment stock or to notify the status of the Offer. Each document line must refer to one line of a former "Stock Offer", of which is notified either the loading or the following development of the dealing
Source	Moda-ML

5.2.44 Document: Garment Stock Offer Change

Document Name	Garment Stock Offer Change
Document description	Change of an On-line sales offer of garment stock
Generalities or notes about the usage	The document is issued by the Trade organisation or the Garment company to modify an offer of garment stock through the e-Stockflow service. Each document line must refer to one line of a former "Stock Offer", that can be cancelled (attribute "act" = A) or modified (attribute "act" = V); in the latter case the definition and classification of the article, the new assortment color/size as well as the new quantity and/or price should be specified
Source	Moda-ML

5.2.45 Document: Raw material Dyeing Request

Document Name	Raw material Dyeing Request
Document description	Request to Subcontractor for the Dyeing of raw material
Generalities or notes about the usage	The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the dyeing of a raw material. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.:

	combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.46 Document: Raw material dyeing Offer

Document Name	Raw material dyeing Offer
Document description	Offer from Subcontractor for the Dyeing of raw material
Generalities or notes about the usage	The Offer is used by a Subcontractor to respond to the Request of a Yarn Manufacturer for the dyeing of a raw material. The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.47 Document: Raw material Dyeing commission Order

Document Name	Raw material Dyeing commission Order
Document description	Dyeing commission Order for a raw material
Generalities or notes about the usage	The Raw material Dyeing commission order is used by a Yarn Manufacturer to commit to a Subcontractor the dyeing of a raw material required to transform the material into yarn usable for fabric production. This work order can include one or several operations of the dyeing cycle. When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor As a general rule, the Raw material dyeing commission order specifies only the characteristics of the end product of each operation and specifies the components used to manufacture that product It must be noted that this end product can be, in turn, a component for a successive manufacturing operation
Source	Moda-ML

5.2.48 Document: Raw material Despatch Advice

Document Name	Raw material Despatch Advice
Document description	Despatch advise of the raw material to be transformed

Generalities or notes about the usage	Document usable by the Commissioner to inform the Subcontractor about the shipment of raw material to be worked
Source	Moda-ML

5.2.49 Document: Raw material order status

Document Name	Raw material order status
Document description	Order status report for works on the raw material
Generalities or notes about the usage	The message is issued to report to the Client the status of his Orders and the updated dates of delivery, with the possibility of splitting the order line into several consignements.
Source	Moda-ML

5.2.50 Document: Raw material in work Inventory report

Document Name	Raw material in work Inventory report
Document description	Inventory report of the raw material in work
Generalities or notes about the usage	The present document can be used by a Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work raw material items (Client's property) stocked at the Subcontractor's premises. This inventory may refer to all the goods of one Commission issuer or just to those related to one Commission order; item quantities may be subdivided by type of stock and physical location.
Source	Moda-ML

5.2.51 Document: Spinning Request

Document Name	Spinning Request
Document description	Request to Subcontractor for Spinning
Generalities or notes about the usage	The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the spinning of a raw material. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.52 Document: Spinning Offer

Document Name	Spinning Offer
Document description	Offer from Subcontractor for the spinning of raw material
Generalities or notes about the usage	<p>The Offer is used by a Subcontractor to respond to the Request of a Yarn Manufacturer for the spinning of a raw material.</p> <p>The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)</p>
Source	Moda-ML

5.2.53 Document: Spinning Commission Order

Document Name	Spinning Commission Order
Document description	Spinning commission Order for a raw material
Generalities or notes about the usage	<p>The Spinning Commission Order is used by a Yarn Manufacturer to commit to a Subcontractor the spinning of raw material required to transform the material into yarn usable for fabric production. This work Order can also include one or several operations on the raw material (see Table T200).</p> <p>When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor</p> <p>As a general rule, the Spinning Commission Order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product</p> <p>It must be noted that this end product can be, in turn, a component for a successive manufacturing operation</p> <p>The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML

5.2.54 Document: Yarn Order Status Report

Document Name	Yarn Order Status Report
Document description	Status report of a yarn order (indicate the foreseen delivery date)
Generalities or notes about the	The message is issued to report to the Client the status of his Orders and the updated dates of delivery, with the possibility of splitting the order line

usage	into several consignements. The message may concern all the articles ordered (Type = H "historic"), all the articles ordered and not yet delivered (type = C "complete") or just the articles in the "ready for shipment" status (type = S "for shipping"). The status report can be given for each article or for each Order line.
Source	Moda-ML, TexWeave

5.2.55 Document: Yarn in work Inventory report

Document Name	Yarn in work Inventory report
Document description	Inventory report of yarn in work
Generalities or notes about the usage	The present document can be used by a Subcontractor to inform his Client (Commission issuer), periodically or on demand, about the quantity of pre-works or in-work Yarn items (Client's property) stocked at the Subcontractor's premises. This inventory may refer to all the goods of one Commission issuer or just to those related to one Commission order; item quantities may be subdivided by type of stock and physical location.
Source	Moda-ML

5.2.56 Document: Twisting Request

Document Name	Twisting Request
Document description	Request to Subcontractor for Twisting
Generalities or notes about the usage	The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the twisting of a yarn. The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.57 Document: Twisting Offer

Document Name	Twisting Offer
Document description	Offer from Subcontractor for the twisting of yarn
Generalities or notes about the usage	The Offer is used by a Subcontractor to respond to the Request of a Yarn Manufacturer for the twisting of a yarn. The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications =

	"xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)
Source	Moda-ML

5.2.58 Document: Yarn Twisting Commission Order

Document Name	Yarn Twisting Commission Order
Document description	Twisting Commission Order for a yarn
Generalities or notes about the usage	<p>The Twisting Commission Order is used by a Yarn Manufacturer to commit to a Subcontractor the twisting of yarn required to transform the material into yarn usable for fabric production. This work Order can include one or several operations of the twisting cycle.</p> <p>When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor</p> <p>As a general rule, the Twisting Commission Order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product</p> <p>It must be noted that this end product can be, in turn, a component for a successive manufacturing operation</p> <p>The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML, TexWeave

5.2.59 Document: Yarn Dyeing Request

Document Name	Yarn Dyeing Request
Document description	Request to Subcontractor for Dyeing of yarn
Generalities or notes about the usage	<p>The Request is used by a Yarn Manufacturer to request from a Subcontractor an Offer for the dyeing of a yarn.</p> <p>The Request is structured in four levels: Macro-type of Work Requested = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations requested 0 "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)</p>
Source	Moda-ML

5.2.60 Document: Yarn Dyeing Offer

Document Name	Yarn Dyeing Offer
Document description	Offer from Subcontractor for the dyeing of yarn
Generalities or notes about the usage	<p>The Offer is used by a Subcontractor to respond to the Request of a Yarn Manufacturer for the dyeing of a yarn.</p> <p>The Offer is structured in four levels: Macro-type of Work offered = document root (7 types of Request) Product Family = document qualifier (type of product with reference to the manufacturing process; e.g.: combed yarn, jacquard weaved fabric, ..) Product Specifications = "xxxSpecs" (technical characteristics and properties of the product) Operations offered = "XXXMnfrOperation" (details of the works requested) Quantities, unit measures and prices must be referred to the third level (Line Item)</p>
Source	Moda-ML

5.2.61 Document: Yarn dyeing commission order

Document Name	Yarn dyeing commission order
Document description	Dyeing commission order for a yarn
Generalities or notes about the usage	<p>The Yarn Dyeing commission order is used by a Yarn Manufacturer to commit to a Subcontractor the dyeing of yarn required to transform the material into yarn usable for fabric production. This work order can include one or several operations of the dyeing cycle.</p> <p>When the Issuer of the Commission requires different manufacturing operations in sequence to different Subcontractors, he can use this document not only as work order but also as a despatch order to send the semi-finished product to a successive Subcontractor</p> <p>As a general rule, the Yarn dyeing commission order specifies only the manufacturing technology (if required) and the characteristics of the end product of each operation and specifies the components used to manufacture that product</p> <p>It must be noted that this end product can be, in turn, a component for a successive manufacturing operation</p> <p>The definition of any "manufacturing parameters" is left to the Subcontractor; sometimes however these parameters can be specified by the Issuer of the Commission itself, that can define machines and machine parameters in the Commission Order</p>
Source	Moda-ML, TexWeave

5.2.62 Document: Yarn Purchase Order

Document Name	Yarn Purchase Order
Document description	Purchase order of yarns
Generalities or notes about the usage	<p>The Purchase Order is issued by a Fabric or Knittwear Producer to procure yarn.</p> <p>Key elements of this type of Order, besides quantities and delivery dates,</p>

	<p>are</p> <ol style="list-style-type: none"> 1- the yarn product code, showing article, color and additional coding 2- the technical and construction specifications of the yarn product and the possible specification of "special treatments" 3- the detailed specifications referring to packing and packaging
Source	Moda-ML, TexWeave

5.2.63 Document: Yarn Purchase Order Response

Document Name	Yarn Purchase Order Response
Document description	Order Response sent by the Yarn Producer (Supplier)
Generalities or notes about the usage	<p>The message is issued by the Yarn Producer in response to a purchase order.</p> <p>The Producer must, in any case, return an Order Response for any Order received, where, for each item, he notifies the acceptance as it is (C), the variation (V) or the cancellation (A).</p> <p>Basic function of the message is to notify acceptance or to request modifications or cancellations concerning:</p> <ol style="list-style-type: none"> 1) suppliable quantities 2) dates and places of delivery 3) prices <p>The Order Response can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Response (accepted + varied + cancelled) must always equal the sum of the quantities in the Order.</p>
Source	Moda-ML

5.2.64 Document: Yarn Purchase Order Change

Document Name	Yarn Purchase Order Change
Document description	Order Change sent to the Yarn Producer (Supplier)
Generalities or notes about the usage	<p>The Client sends to the Yarn Producer an Order Change any time he must modify some conditions of his previous Order (eg. to cancel items not delivered in time) or amend errors (eg. invalid prices).</p> <p>Basic function of the message is to replace an invalid Order with a valid Order, amending:</p> <ul style="list-style-type: none"> - suppliable quantities - dates and places of delivery - prices <p>The Order Change can show a number of lines different from the related Purchase Order, when variations/cancellations have occurred so as to create the splitting of an Order Line.</p> <p>However the sum of the quantities of the lines in the Order Change (confirmed + varied + cancelled) must always equal the sum of the quantities in the original Order.</p>
Source	Moda-ML



Harmonising eBusiness processes and data exchanges
for SMEs in the textile/clothing and footwear sectors in the
Single Market

5.3 Recommendations and missing elements

In terms of scenarios there is a set of business collaborations that are covered only partially: they are related to the subcontracting for clothing and apparel. In the existing standardised specifications there is explicit support for only a part of these collaborations (knitwear subcontracting, dyeing).

Furthermore it is to stress that the nature itself of the upstream transactions is flexible and continuously changing, so it is advisable to investigate on what (new) kind of specifications and tools are necessary to support and speed-up the 'setup' of the collaborative processes and their related flow of data between independent organisations.

On this purpose the ebBP representations of the reference collaborative processes could be a support but its efficacy is to be demonstrated in the field.

It has to be noted the existence of the OntoModa ontology, output of the Leapfrog IP project that could be considered as the formal representation of the semantics associated to the TexWeave/Moda-ML specifications.

A second completely different area arises from the diffusion of new paradigms:

- the diffusion of technical and functional textiles requires new type of information and a more collaborative and knowledge intensive exchange of information across the organisations (and an oculte management of confidentiality and IPR on the knowledge)
- virtual prototyping, virtual try-on and virtual design of clothings (and of generic goods made of textile materials) ask for similar enhancement of the scenarios and data models to be considered.

As a general recommendation it should be considered relevant that the upstream relationships, being very complex and tailored on the specific productive organisation (and procedures) require flexible and highly dynamic supports for the collaborations that, still, are not in place.

6 Business Application Layer: Footwear Upstream scenarios

6.1 Footwear upstream business processes overview

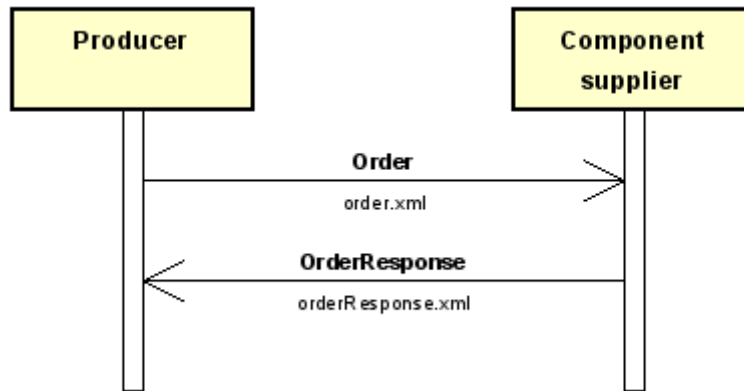
Process	Activity	Actors	Documents
Component supply	Transfer Of Order	Producer, Component Supplier	Order, Order Response
	Status Report	Producer, Component Supplier	Order Status Request, Order Status Report
	Technical Specification	Producer, Component Supplier	Technical Specification Report
	Delivery	Producer, Component Supplier	Despatch Advice Receiving Advice

6.1.1

6.1.2 Process: component supply

Process Name	Component supply
Actors	Producer, component supplier
Description	Components are ordered by the supplier and the process is monitored by status reports. Finally the delivery is announced and confirmed.
Activities	<ul style="list-style-type: none"> • transfer of order • status report • technical specifications • delivery
Reference to the related ebBP	http://spring.bologna.enea.it/ebiz-footwear/repository/ebbp/v2008-1/en/ebBP_Componentsupply-1_v2008-1.xml

6.1.2.1 Activity "Transfer of order"

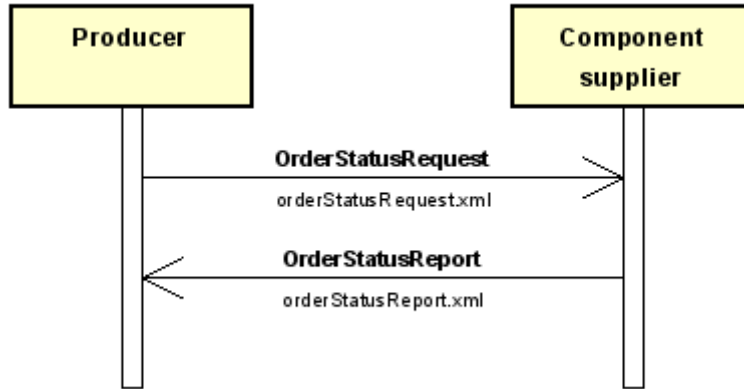


Activity Name	Transfer of order
Description	The order is sent from the producer to the component supplier and confirmed by the order response.
Transactions	Order transfer
Post-conditions	Order data is available in both systems

6.1.2.1.1 Transactions inside the activity "Transfer of order"

Action 1 (Request from Producer to Component Supplier)	
Document Name	Order
Action Description	The order is sent from producer to component supplier.
Action 2 (Response from Component Supplier to Producer)	
Document Name	Order Response
Action Description	The order is confirmed by the component supplier.

6.1.2.2 Activity "Status Report"



Activity Name	Status report
Description	At certain points of the process the producer requests the status of the fulfillment of the order. The supplier answers with status report.
Transactions	Status transfer
Pre-conditions	Producer needs information about the order status.
Post-conditions	Order status is available at the producer.

6.1.2.2.1 Transactions inside the activity "Status Report"

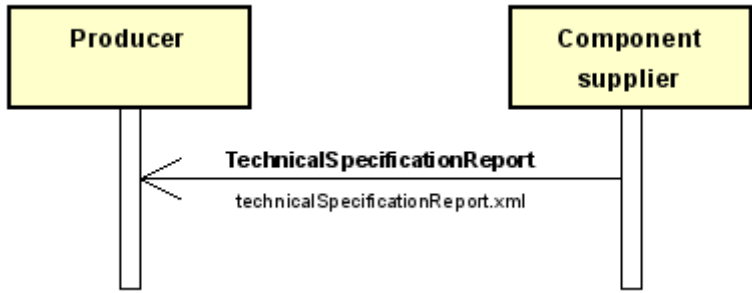
Action 1 (Request from Producer to Component Supplier)

Document Name	Order status request
Action Description	The producer requests a report about the status of his order.

Action 2 (Response from Component Supplier to Producer)

Document Name	Order status report
Action Description	The status request is answered by the status report.

6.1.2.3 Activity "Technical Specifications"

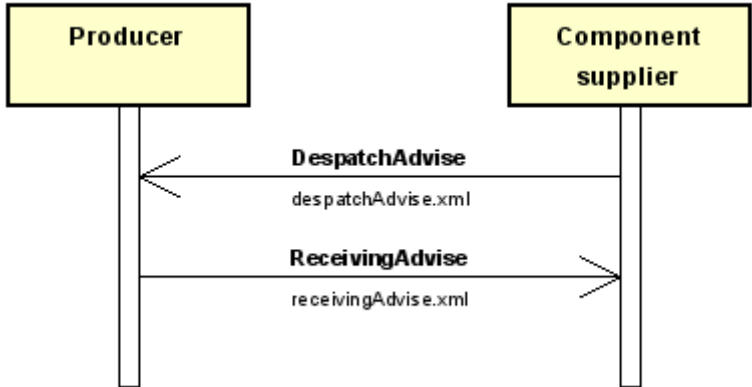


Activity Name	Technical specifications
Description	The detailed technical specifications of the produced components are transferred from supplier to producer.
Transactions	Specifications transfer
Pre-conditions	Production is finished
Post-conditions	Detailed technical information about componets is available at the producer.

6.1.2.3.1 Transactions inside the activity "Technical Specifications"

Action 1 (Request from Component Supplier to Producer)	
Document Name	Technical specifications report
Action Description	The technical details of the components are reported

6.1.2.4 Activity "Delivery"



Activity Name	Delivery
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Description	Delivery of components is advised and confirmed.
Transactions	Delivery transfer
Pre-conditions	Supplier dispatched the components
Post-conditions	Delivery is confirmed

6.1.2.4.1 Transactions inside the activity "Delivery"

Action 1 (Request from Component Supplier to Producer)

Document Name	Despatch advice
Action Description	The delivery is announced by the despatch advice

Action 2 (Request from Producer to Component Supplier)

Document Name	Receiving advice
Action Description	After goods receive the producer reports back the products which arrived with the delivery announced in the despatch advice.

6.2 Footwear Upstream scenario: Document models

6.2.1 Document: OrderChangeRequest

Document Name	OrderChangeRequest
Document description	The order change request document is sent by a buyer to a supplier to change an existing order.
Generalities or notes about the usage	The order change request specifies an existing order and contains the full new, changed order.
Source	EFNET, Shoenet

6.2.2 Document: DeliveryNote

Document Name	DeliveryNote
Document description	The delivery note document is sent from a supplier to a buyer to specify the details of a certain delivery.
Generalities or notes about the usage	The delivery note is created when all information about the delivery is available. The general announcement is done by the despatch
Source	EFNET, Shoenet

6.2.3 Document: ReceivingConfirmation

Document Name	ReceivingConfirmation
Document description	The receiving confirmation document is sent from a buyer to a supplier to confirm the receiving of goods in detail.
Generalities or notes about the usage	A receiving confirmation document is always related to a delivery note document. It contains the goods receipt in detail.
Source	EFNET, Shoenet

6.2.4 Document: RequestForQuotation

Document Name	RequestForQuotation
Document description	A request for quotation is sent from a buyer to a supplier to request a quotation for the specified goods.
Generalities or notes about the usage	As the identification of goods in the upstream process is sometimes very complicated the range might differ from an article identification to a technical specification sheet.
Source	EFNET, Shoenet

6.2.5 Document: Quotation

Document Name	Quotation
Document description	The quotation document is sent by a supplier to a buyer as reaction of a request for quotation document.
Generalities or notes about the usage	As the identification of goods in the upstream process is sometimes very complicated the range might differ from an article identification to a technical specification sheet.
Source	EFNET, Shoenet

6.2.6 Document: Claim

Document Name	Claim
Document description	The claim document is sent from a buyer to a supplier to specify any claims he has because of bad service.
Generalities or notes about the usage	A claim may be for commercial compensation or replacement of damaged goods.
Source	EFNET, Shoenet

6.2.7 Document: Invoice

Document Name	Invoice
Document description	The invoice document is sent from a supplier to a buyer to specify the amounts and other commercial topics he asks for his services.
Generalities or notes about the usage	Under normal conditions an invoice is related to a delivery or an order. There might be different terms due to special agreements.
Source	EFNET, Shoenet

6.2.8 Document: ProFormaInvoice

Document Name	ProFormaInvoice
Document description	The proforma invoice document is used when a regular invoice can not be produced but a commercial document is necessary due to legal needs.
Generalities or notes about the usage	This document is mainly produced for reasons of the custom authority when products are moved and no real business transaction is behind that movement, i.e. delivery to a plant which belongs to the company.
Source	EFNET, Shoenet

6.2.9 Document: CreditNote

Document Name	CreditNote
Document	The credit note document is sent from a supplier to a buyer to correct an

description	existing invoice (after a claim).
Generalities or notes about the usage	In general the credit note is of the same structure as the invoice.
Source	EFNET, Shoenet

6.2.10 Document: LineProposal

Document Name	LineProposal
Document description	The line proposal document is sent from a supplier to a buyer to make a proposal for a specific collection which the supplier wants to produce for that buyer.
Generalities or notes about the usage	Line Proposal Document
Source	EFNET, Shoenet

6.2.11 Document: Order

Document Name	Order
Document description	The order document is sent by a buyer to a supplier to order goods, finished or parts, in a certain quantity at a certain time.
Generalities or notes about the usage	Because in the upstream process the identification of goods is not as clearly defined as on the downstream side, it is possible to identify the ordered products in different ways. The range is from a GTIN to a reference to a technical specifications report.
Source	EFNET, Shoenet

6.2.12 Document: OrderResponse

Document Name	OrderResponse
Document description	The order response document is sent by a supplier to a buyer to indicate either, acceptance, rejection or change to an order.
Generalities or notes about the usage	The document can be handled either in a simple way, just specifying acceptance or rejection of a whole order document. In this case no details are transmitted. The other use is for change. Then all details have to be specified.
Source	EFNET, Shoenet

6.2.13 Document: OrderStatusRequest

Document Name	OrderStatusRequest
Document description	The order status request document is sent by a buyer to supplier to request status information either about a specific order or about all open orders.

Generalities or notes about the usage	If buyerordernumber or supplierordernumber are specified, the request is meant for one specific order. Else a status about all open orders is requested.
Source	EFNET, Shoenet

6.2.14 Document: OrderStatusReport

Document Name	OrderStatusReport
Document description	The order status report document is sent from a supplier to a buyer to specify information about the status of the processing of a certain order.
Generalities or notes about the usage	The order status report is either sent as a reply to an order status request or on a regular basis scheduled by an agreement between the partners
Source	EFNET, Shoenet

6.2.15 Document: TechnicalSpecificationReport

Document Name	TechnicalSpecificationReport
Document description	The technical specification report is sent by a supplier to a buyer to specify the details of a product.
Generalities or notes about the usage	Technical Specification Report Document
Source	EFNET, Shoenet

6.2.16 Document: DespatchAdvise

Document Name	DespatchAdvise
Document description	The despatch advice document is sent from a supplier to a buyer to announce a delivery in general.
Generalities or notes about the usage	The despatch advice document is only a very general announcement of a delivery. The details are specified in the delivery note document.
Source	EFNET, Shoenet

6.2.17 Document: ReceivingAdvise

Document Name	ReceivingAdvise
Document description	The receiving advice document is sent from a buyer to a supplier to confirm the receiving of a delivery in general.
Generalities or notes about the usage	No details are in the message. For a detailed statement the receiving confirmation is used.
Source	EFNET, Shoenet

7 Business Layer: Product Classification

7.1 Overview of existing product classification for T/C/F

Product classification is critical to the functioning of any industry in the knowledge based market of today. In the e-business context, product classification is the basis to design electronic catalogues.

A harmonised product classification will help buyers to easily find the products listed in these catalogues, to order and purchase them. It will help all the trading partners to create and maintain quality relationships. A standardised classification structure will help manufacturers to easily classify their products.

The objective of eBiz-TCF has been to provide trading partners a common description being accessible by all parties involved in the value chain. It serves the industry and retailers in their electronic business transactions and facilitate electronic procurement. It ensures visibility to European niche products on the international scene. It is a key to a more open market and increase the competitiveness on the world stage.

Different product classifications do exist for TCF sector, all with different structures, history and use.

Overview of the product classifications for TCF without being complete:

- **Dialog Textil – Bekleidung** (DTB) a German group of companies who joined forces for the TC sector. The product classification can be found on their website (<http://www.dialog-dtb.de>) if you are a member. A version of 2002 can be found on <http://www.pranke.com/en/services/wwsprofil/index.htm> (click on *product groups*) or, a more recent version, on http://www.moda-ml.org/ebiz-retail/repository/classification/DO510-010-v1-DTB_product%20classification_February%202009.pdf.
- **GS1** developed product classification schemes for different sectors, including textile and footwear. The Global Data Synchronisation Network (GDSN) is a cornerstone of electronic business practice and is used by more than 5000 retailers and suppliers. The **Global Product Classification** (GPC) is the chosen classification system for GDSN. Sellers and buyers need to group products the same way globally to ensure effective data synchronization in the GDSN and to enable product search. In addition it can be cross-referenced to existing other proprietary trading partners classification systems. GPC linked to GTINs (the Global Trade Identification Numbers are the most worldwide spread identification of consumer good products) enables huge use of POS (Point Of Sale) data consolidation. An overview of GPC for all sectors including clothing and footwear, is available at <http://gpcbrowser.gs1.org/>.

- **EAS** has been developed by a number of German buying groups and is used in some countries (german system) for footwear.
- **FEDAS**, the umbrella association of the European sports goods manufacturers' associations, has been working on a giant task for several years: in the electronic data exchange within the sports goods sector. It wants to ensure, for instance, that all computers interlinked with each other will know what ski can be found for what sort of activity in the shelves of the specialist outlets. To accomplish this task the association created the FEDAS Product Classification Key together with experts from the brand-name industry and the big trade corporations. This code has been available in the Internet at <http://www.fedas.com> since 2000. On October 1, 2002 the updated version 2.0 of the code was launched on the web. The FEDAS Product Classification Key is an essential prerequisite for a smooth and precise data exchange between the trade and the industry. It is indispensable to have order data featured in electronic catalogues. Amongst other things this data includes the EAN article code, which is an identification code for all goods on SKU level – Stock Keeping Unit – alongside a currency code, a country code and supplier codes (Incoterms).
- **eCat project of CEN.** Interoperability of catalogues and harmonization of product classification systems is a key issues for industry for reaping the full benefits from eBusiness. Multilingualism in the European Union is often seen as an obstacle for the European economy in terms of competition and of the opening up of new markets, but is has also political dimensions relating to consumer protection, freedom to move, etc. Products and services are sold in the language of the target market. eCommerce and eBusiness can function well, only if the virtual and all their major elements (product classification schemes, user interfaces, product catalogues, etc.) are multilingual from the outset. This would create insurmountable financial barriers for SMEs. Workshop eCAT1 was set up in 2002 by CEN with the support of the European Commission, Enterprise and Industry Directorate General, to address these concerns.

7.2 Matching with the requirements

Connecting companies electronically between each other can only be achieved if the data required within the industry are gathered once at one source and then are transmitted between the IT systems directly. For example, in order to transmit article data it is important that one can depend on industry standards. In this way, additional internal work to translate external data into internal formats (manually or with conversion tables) can be avoided.

Only with the help of an efficient product classification, companies will be able to enjoy the enclosed benefits as:

- a uniform and unique product classification avoids additional internal processing to translate external data into internal formats (manually or with conversion tables);
- product classification supports buying programmes by allowing buyers to pre-select groups, product groups and applicable products;
- a common language for category management thus speeding up the ability to react to consumer needs;

- elimination of redundant activities and improvement of data integrity and accuracy of product set-up, maintenance and catalogues;
- being cross-referenced to existing proprietary trading partner classification systems;
- enabling potential use of POS data consolidation.

The classifications systems for both sectors can be reviewed and modifications proposed but all proposals will take into the need for a common system to inter-operate with existing local classification systems and the particular needs of the sectors which require different levels of categorisation and flexibility in order to allow niche productions as well as seasonal product innovations.

7.3 Downstream Standards

7.3.1 Standards for identification

For identification the standards of GS1 will be used only. These are:

- GLN (global location number) for parties and locations
- GTIN (global trade item number) for articles, represented by
 - . EAN (European article number)
 - . UPC (universal product code)
 - . SSCC (serial shipping container code) for packages

A retailer needs a GLN for headquarter, every branch and all locations involved either in the logistics or the financial process. For a single store retailer all this is the same which results in one GLN.

In more complex business organizations GLN for shop-in-shop areas might be useful. The producer needs separate identifications for special business models. Especially if charge-by-delivery and consignment models are used with the same customer, different identifications should identify the processes as different logical suppliers.

7.3.2 Standards for classification

The article classification is important as a tool to support the automated insertion of article data at the retailer's side.

For product group classification the GPC is globally proposed by GS1.

Other regional/national classifications have a regional use, like, in Germany, EAS for footwear, DTB product groups for textile/clothing and FEDAS for sports. They are the most widespread standards for product group classifications.

For color and article class it is recommended to use the definitions from the WWS profile (<http://www.pranke.com/en/services/wwsprofil/index.htm>, in "code lists").

Concerning size there is no transnational running standard but there is the CEN workgroup WG10 TC248 draft specifications (pr EN13402-4, [13]) for the "Size designation of clothes -Coding system" that still is a draft not implemented.

Because of this the producer should use his national size schema and the retailer will assign the local codes by a lookup table.

RMS providers should build their article inserting process in a way, that these classifications, together with GTIN and three level identification of article number, color code and size code, are sufficient for the task.

Good practices: the use of DTB product groups for TC sector

Why using DTB product groups should be considered a good practice?

There are two main reasons for the use of the DTB product groups. The first is saving efforts compared to the use of individual groups. The second and even more important reason is to have the necessary deepness in classification to map it to the own product groups in the process of automated insert of the article information.

The first reason is saving efforts. It is possible to map the specifications of each supplier individually but this means a lot of work. From this knowledge we looked for a standard some years ago. While for the internal use inside a retail company a lot of reasons may influence the decision in a special way, the decision for an inter-company standard has only one criteria, the level of definition has to be deep enough. At the time the decision was taken the DTB specification fulfilled this condition best. By now more than a hundred producers are using the DTB product groups which is an important argument because that also means that nearly all retailers using EDI have a mapping table from DTB to own groups. In consequence there is no additional effort for a new supplier if it is using the DTB specifications.

The second reason is the necessary level of detail in the specification. The DTB product groups are a six digit number which consists of five levels.

Digit 1	main area	clothing
Digit 2	area	men
Digit 3-4	main group	jacket
Digit 5	group	indoor
Digit 6	sub group	jeans

To be of real use the specification has to be used at least down to group level better to sub group level. On a higher level the information is useless because the retailer is not able to map to his own groups in a unique way and the goal of automated creation of the article data set is missed.

8 Middleware and communication layers

8.1 The approach

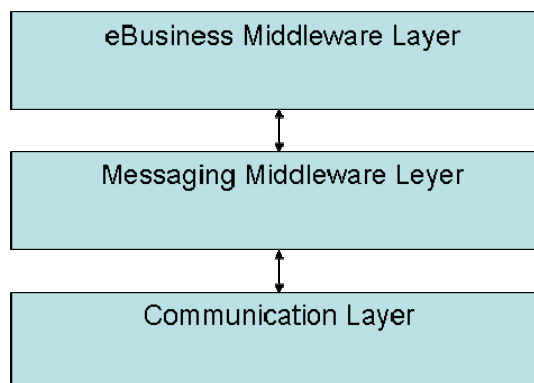
8.1.1 An overview

The section introduces the idea of an European Textile Clothing and Footwear Network (ETCFN), a virtual eBusiness network, where the business level communication is based on the harmonised standards specifications (described above), and for which we make some recommendations regarding physical communications in order to achieve an optimum mix between flexibility and interoperability.

The network is made of eBusiness partners (various actors in the TCF supply chains) and connectivity service providers (Hubs) or application service providers (ASPs) (the last ones provide various business logic services in addition to the connectivity services).

As specified in section 2 the methodology that we have followed is based on standards specifications on 3 distinct layers: business layer, middleware layer and communication layer. This section is dedicated to the middleware and communication layers.

The middleware and communication layers of the reference architecture follow the following scheme (see also Section 3).



The purpose of the eBusiness Middleware layer is to formalise the agreements between collaboration partners in such a way to allow for automatic configuration of the underlying Messaging Middleware Layer. The eBusiness Middleware layer can provide also for additional services on top of the Messaging Middleware, such as data format and content transformations, business process management (process integrity control, exception handling, error handling).

The Messaging Middleware allows for automatic configuration of the communication layer and provides for additional services on top of it (such as routing, message reliability, security-related services, etc.).

The communication layer's function is to physically transport the messages and is based on Internet protocols (HTTP for synchronous communication and SMTP for asynchronous communication).

8.1.2 The approach of eBiz-TCF project

The middleware and communication layers are not sector-specific, they concern the communication systems and applications in general. It is out of the scope of the project eBiz-TCF to harmonise the existing standards at these levels, as well as to define precise guidelines of how to use existing standards in order to obtain interoperability (standard profiling).

However, eBusiness is not possible without implementation of software and communication systems that can exchange and proceed the standard business documents. Therefore we have decided to recommend a set of standard specifics on the middleware layer and basic guidelines for their use, with the point of view of creating the ETCFN basis. The approach that is adopted within each pilot project is based on the use of the same middleware within the pilot, so that interoperability on middleware level can be achieved. The middleware used in each pilot follows the specific of a recognised middleware standard, but the way such standards are used can differ from pilot to pilot (and thus middleware level interoperability is not guaranteed across pilot projects).

It is out of scope of the project eBiz-TCF to analyse such standards and to delimit interoperable profiles from them that apply to the requirements of the Textile/Clothing and Footwear sectors. Still, if true interoperability is to be achieved, the more detailed development of the ETCFN should be re-considered in a successive Europe-wide research and development effort. Here our goal is to put the base for the creation of ETCFN by:

1. Selecting the standards on which the middleware solutions are to be based;
2. Providing descriptions for best practices and data models regarding each standard-based approach.
3. Providing for first harmonisation attempts of data models based on best practices and experience from pilot projects. Due to their immaturity such data models are not mandatory for the project pilots, but are only setting the base for the future ETCFN.

The schema below shows which standards are recommended within the project. The following three basic approaches have been adopted:

- SMTP/POP-based approach implementing full EDI over Internet.^{1, 2}
- ebXML-based approach corresponding to XML (instead of EDI) eBusiness.
- Web Services-based approach, corresponding to advanced distributed computing paradigms in the context of eBusiness.

1 At present EDIINT family of standards for EDI over Internet, such as AS1, AS2 and AS4 are not considered, due to their lack of adoption in the TCF sectors and the high complexity of the administration in case of many anonymous connections, which is very complicated for SME companies.

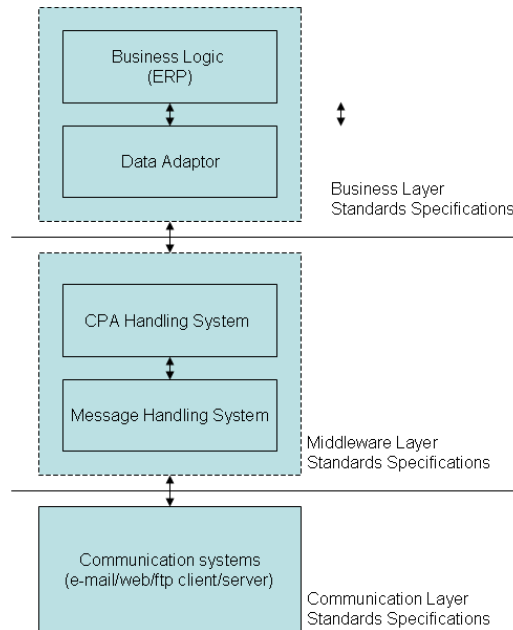
2 At present this approach is based on SMTP/POP, with proprietary message envelope formats, but will be migrated into SOAP-compliant messaging middleware within the end of the project.

	ebXML	Web Services	SMTP/POP
E-Business Middleware	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> ebCPPA+ ebBP </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> BPEL WSDL UDDI </div>	
Messaging Middleware	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> ebMS (SOAP with attachements) </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> SOAP (Web Services) </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> SOAP with attachements </div>
Communication	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> SMTP </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> HTTP </div>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> SMTP </div>

Abstract content models, best practices and examples are presented for each of the three approaches in Appendices D and E . The SOAP-based data models for the ebXML and SMTP/POP-based approaches have undergone a first harmonisation, and have the same content. Note that FTP protocols are not included in the communication layer of the architecture, due to the difficulties related to them in tracking message sending and receiving.

8.1.3 eBusiness and Messaging middleware, a vision

As a first step it is appropriate to analyse which kind of software components are necessary in order to implement eBusiness between two enterprises. The figure below shows the basic software systems/components corresponding to the three standards layers identified within section 2. (Methodology).



We assume that at the premises of each trading partner, there is a system which handles the various business data (usually an ERP or MIS- Management Information System).

Often the trading partners use pre-existing software for these business functions, which is configured and adapted for their needs. In order to implement eBusiness according to the standards-based approach of the project eBiz-TCF, it is necessary to provide for a software interface (typically a software component with the function of data adapter) that is doing the translation between proprietary data formats and data models into those recommended as standards within the project.

At the middleware layer, there can be software components and/or systems which perform functions such as:

- Configuration of collaboration partners agreements, as far as collaboration business processes are concerned, or characteristics of the underlying communication channel, related to its security and reliability features. (eBusiness middleware).
- Message Handling systems (transaction management, security management, reliability, and error handling.).

It is not necessary that such middleware systems are implemented, any kind of information (including business transactions) can be transferred directly via e-mail or web, but in this case the partners should be aware that these communication channels do not provide for proper security and reliability mechanisms, and if something goes wrong, could be hard to handle eventual disputes between trading partners. In fact, it depends on what are the requirements of each business partner with respect to security and logistics of services and what are their agreements regarding these aspects, in order to handle and solve any future disputes.

In the end at the communication layer, we have software systems typical for Internet: web server and client, e-mail server and client, etc. The communication software could be configured via the middleware, or alternatively, the collaboration partner

agreements and message handling functionalities could be fixed within the business level software or within non-automatic procedures of the partners. In the reality we do not recommend the option of implementing the middleware functions within the business level software, due to the fact that it is inflexible and would require software re-writing in order to include new partners or to change agreement rules.

8.2 An European Network: ETCFN

8.2.1 Overview

The European Textile/Clothing/Footwear Network is a concept adopted by the eBiz:TCF project in order to assure connectivity between any two players from the TCF sectors which adopt e-business solutions. In fact one of the main problems in adoption of e-Business solutions (and not only in the TCF sectors) is when new partners are joining a consolidated network of trading partners, or when a given company begins e-collaboration with new clients or suppliers. The idea behind ETCFN is to assure connectivity between any two companies engaged in e-collaboration. . A pre-requisite for this is that all the actors adopt the business specifications recommended within the eBiz-TCF project and that all the actors have access to e-mail and web servers. In order to be able to create the ETCFN it is also necessary to reach agreements regarding the middleware (both eBusiness and Messaging middleware) used by the various actors.

In this section, the concept for such a network will be outlined in terms of main actors, their roles and communication models. Recommendations about use of middleware compliant to international standards will be provided and specified in more details. However, it is out of scope of the project eBiz-TCF to harmonise such sector-independent standards and to supply detailed and interoperable middleware architecture. Nevertheless, a follow-up research effort would be the creation of the ETCFN, based on interoperable standard specifications on both business and middleware layers.

8.2.2 Main actors in ETCFN and communication models

The main elements of the ETCFN are:

- End-users (companies from the TCF sectors, which engage in e-business or their corresponding Application Service Providers)
- Connectivity hubs (service providers that implement and maintain the middleware functions)
- Open Document Brokers (service providers that act as a gateway between different middleware options, e.g. web-services, ebXML or SMTP/POP-based) or that connect hubs (and their corresponding clients) .

There are two types of nodes in this network:

- Leave nodes: these are the end users, which can be companies from the TCF sectors (in the case they host their business applications) or otherwise their Application Service Providers (organisations, which host the business application and provide application level services to sector players).
- Intermediate nodes: Connectivity hubs or Open Document Brokers that facilitate the communication between leave nodes.

Two inter-organisational communication models are considered in this network:: Peer-to –Peer and Hub-Spoke. End-user companies (or alternatively, their ASP providers) that engage directly in eBusiness communicate in P2P mode. They are responsible for managing the middleware (Business and Messaging) functionalities, define (formal or paper-based) collaboration partner agreements, and maintain them through the middleware functions. Hub-to-Hub and ODB-to-ODB communication follows the P2P-mode as well. Hub-Spoke communication models assume the existence of a central entity (hub) which manages the exchanged messages between two end-users, that is the communication between two spokes is done always through the hub.

The table below shows how the communication between different types of ETCFN actors can be implemented within the ETCFN (and within the project eBiz-TCF).

Inter-organisational Communication Model →	Peer-to-Peer	Hub-Spoke
Communication type ↓		
End User-to-End User	ebXML or Web Services	SMTP/POP based (via connectivity hub)
Connectivity Hub –to- Connectivity Hub	SMTP/POP-based, Web Services ¹	SMTP/POP-based or Web Services (via the ODB broker)
ODB-to-ODB	Web Services	-

Only the communication between end-nodes of the ETCFN is considered within the eBiz-TCF project. It can be implemented in a Peer-to-Peer mode (direct exchange of messages between two business partners) or in a Hub-Spoke mode (all the messages between two business partners are passing through a connectivity hub).

The communication between two connectivity hubs and two ODBs fall out of the scope of the project and can be the subject of subsequent R&D efforts. Further research effort is also needed to define a Peer-to-Peer communication in a more generic way within the global ETCFN. For example, two end users communicating in Peer-to-Peer mode can relay on particular services from ODBs (for example, middleware transformation services), without the need to redirect the message traffic through the ODBs. Such more sophisticated Peer-to-Peer communications could be based on the newer Enterprise Service Bus paradigms and need substantial R&D efforts before an adequate take-up approach.

8.2.2.1 Open Document Broker

An open document broker is the backbone element of ETCFN. It provides the full functionality to connect to other ODB, connectivity hubs (CH) or independent End-Users.

The ODB main functions are:

- routing functions (based on standard specifications such as ebMS and EDIINT). Independent End-Users communicate transparently with the Broker when they

¹ This is a future scenario, where Enterprise Service Bus-based architectures for the Connectivity hubs can be considered, in order to avoid forwarding of all the business data between hubs. At present SMTP communication is used, and the entire content of the messages is being forwarded.

need middleware transformation services and are not using a connectivity hub as middleware service provider.

- Gateway functions between the different middleware options, e.g. between ebMS over SMTP and AS1, or between ebMS over HTTP and AS2, or between ebMS over SMTP and the simple option where no middleware is used (SMTP with security extensions). It could be also a gateway to other networks.

The routing function of the ODB, require that adequate security handling should be assured in order to respect communication requirements from end-users sides. Moreover the routing functionality is related to agreeing on a standard way of party identification, finding and storage of party identities and communication profiles.

A detailed architecture of the ODB is out of the project scope. ,

8.2.2.2 Connectivity Hub

A connectivity hub is the focus point for a special group of end-users either of a region or an organization like the provider of a retail management software system or a buying group. It provides access to the ETCFN for the members of its group and other services concerning the communication.

A connectivity hub must be able to provide at least:

- smtp communication for the connected End-Users
- full active security handling

In addition a connectivity hub may provide for business related middleware services, such as transformation of varios data formats into the strandard data formats adopted within EBiz-TCF).

8.2.2.3 Independent End-User

The Independent end-user is an actor from the TCF supply chain. As minimum requirements we have the following:

- Use of ebMS (and eb CPPA) over SMTP or Web Services, when collaborating in P2P mode with other end-users
- Support at least SMTP communication enhanced with basic security mechanisms, when communicating with connectivity hubs
- Communication with the ODB is Web Services , and is in case the end-users needs particular broker services from the ODB, while engaged in Peer-to-Peer collaborations.
-

8.3 Short overview of middleware specifications

8.3.1 E-Business Middleware Layer

The table below gives a short overview of the e-Business middleware specifications recommended for implementation of End User –to- End User communications within the eBiz-TCF project. These reccomendations are not mandatory for the project pilots.

E-Business Middleware Layer	ebXML	Web Service	SMTP/POP based
1 Party (trading partner/service) Information	ebCPPA (CPP)	UDDI, BPEL, WSDL	no
- Party identification/description	ebCPPA (CPP)	UDDI, WSDL	LDAP, LDIF
- Business Process Specification	ebBP	BPEL	no
- Specification of messaging middleware and communication configuration options	eb CPPA	WSDL	no
2 Specification of trading partners agreements	ebCPPA	On paper	On paper
- Negotiation protocol	In preparation (OASIS)	no	no
- Reliable business document delivery and business process control protocols	no	no	no

8.3.2 Messaging Middleware and Communication Layers

The table below gives a short overview of the messaging middleware and communication layer specifications recommended for implementation of End User – to- End User communications within the eBiz-TCF project. These recommendations are not mandatory for the project pilots.

Messaging and Communication Layer Specifications	ebXML	Web Service	SMTP/POP based
Message Envelope configuration	ebMS (SOAP with attachments)	SOAP	ebMS (SOAP with attachments)
Digital signature (message integrity, non-repudiation)	XML signature (X509 certificates)	WS-security	X509 certificate
Message Encryption (message secrecy)	-	WS-security	X509 certificate
Time Stamps (non repudiation)	W3C duration	WS-security	W3C duration
Reliable Messaging	Various options	WS-Reliable Messaging	-
Channels	SMTP	HTTP	SMTP
Channel reliability	-	-	SMTP reliability
Channel Access Control	Various standard-based options	WS-Security	Various standard-based options.
Secure Channel	SSL	HTTPS e other	SSL, TLS

These tables could serve as a guideline for an e-business application within the eBiz:TCF framework. For each specific business case (including pilot cases) it is necessary to decide :

- Which middleware services need to be implemented. We strongly recommend that if automatic configuration of messaging and communication is required, to use the approaches based on standard middleware (ebXML or Web Services).
- Which type of communication is desired to be implemented? For asynchronous communication it can be used ebXML over SMTP or the SMTP/POP approach; for synchronous real-time communications, web services are recommended.
- If requirements include services not considered by the project, submitting a request for enhancing the architecture and trying to base the implementation on standards as much as possible,

8.4 ebXML over SMTP

8.4.1 ebXML and its role

At this stage of the architecture we will consider only ebMS over SMTP

One of the main functionalities that are necessary in order to collaborate through electronic messages is the message exchange mechanisms. This involves to face many problems:

1. The organization and monitored execution of exchange process
2. The agreement between business parties on:
 - transport protocol to messages exchange
 - envelope protocol to messages exchange
 - content of messages to exchange
 - security constraints (signature, encryption, etc.)

The ebXML.org homepage offers this brief characterization of the ebXML project:

“ebXML is a set of specifications that together enable a modular electronic business framework. The vision of ebXML is to enable a global electronic marketplace where enterprises of any size and in any geographical location can meet and conduct business with each other through the exchange of XML-based messages.”

8.4.2 Formalisation of Collaboration Partner Agreements: ebCPPA and ebBP

To enable business collaborations between two or more enterprises through collaboration modelling of the collaboration there are two specifications of ebXML:

- ebXML Business Process Specification Schema (ebBP 2.0.4)
- ebXML Collaboration Protocol Profile and Agreement (CPPA 3.0, produces CPP and CPA)

The **ebXML Business Process Specification Schema (ebBP or BPSS)** is a technical business process specification that provides a generic framework for business process collaborations, both between two parties/partners (binary) and multiparty (expressed as two or more binary collaborations).

The **ebXML Collaboration Protocol Profile and Agreement (CPPA)** OASIS Standard provides definitions for the sets of information used in business collaborations. One set of information (the Profile) contains data about the business partners' technical capabilities to engage in electronic business collaborations with

other partners. The second set of information (the Agreement) contains data that has been agreed to configure the public, shared aspects of the protocols used in the business collaboration protocols.

A Business Partner is an entity that engages in Business Transactions with another Business Partner(s).

The Message-exchange capabilities of a Party may be described by a Collaboration-Protocol Profile (CPP).

A CPA may be created by computing the intersection of the two Partners' CPPs. Included in the CPP and CPA are details of transport, messaging, security constraints, and bindings to an ebBP Business-Process-Specification (or, for short, Process-Specification) document that contains the definition of the interactions between the two Parties while engaging in a specified electronic Business Collaboration.

When the agreement is achieved two parties can express in the agreement, for example, their complementary preferences related to one or more business processes described through ebBP standard:

- which business roles they will play;
- which business documents they will exchange;
- how they will exchange the agreed business documents, etc.

8.4.3 Process definitions

In the eBIZ:TCF project, the ebBP description for the processes of upstream and downstream phases are defined. Such formal definitions of processes are intended to be used within process management application components, which control the correct implementation of a collaboration process.

In detail, the business processes defined through ebBP standard are related to the three main areas of eBIZ and are stored in the following locations:

- Textile/Clothing industry upstream area:
<http://www.moda-ml.net/moda-ml/repository/ebBP/v2008-1/en/>
- Footwear industry upstream area:
<http://spring.bologna.enea.it/ebiz-footwear/repository/ebbp/v2008-1/en/>
- Textile/Clothing and Footwear industry downstream area:
<http://www.moda-ml.net/ebiz-retail/repository/ebbp/v2008-1/en/>

For example, the "*cyclic replenishment program - CRP*" business process of the Downstream Business Application Layer (described in the paragraph 4.1.1), is represented by XML syntax, through ebBP modelling language, in the file:

ebBP_cyclicreplenishmentprogramCRP-1_v2008-1.xml

stored in this location:

http://www.moda-ml.net/ebiz-retail/repository/ebBP/v2008-1/en/ebBP_cyclicreplenishmentprogramCRP-1_2008-1.xml

The CPP profiles and CPA agreements created in the eBIZ context will refer the eBIZ business processes (upstream and/or downstream) defined through ebBP standard. Some examples of CPA agreements XML instances are stored in the following location:

- Textile/Clothing industry upstream area:
<http://www.moda-ml.net/moda-ml/repository/cppa/>
- Footwear industry upstream area:
<http://spring.bologna.enea.it/ebiz-footwear/repository/cppa/>
- Textile/Clothing and Footwear industry downstream area:
<http://www.moda-ml.net/ebiz-retail/repository/cppa/>

For example, an agreement between an Italian party and a Romanian party, that want collaborate on a predefined business process can be described and represented, by XML syntax, through the CPPA standard, in the file:

CPA_IT-12345678909_RO-98765432101_2008-07-10.xml

stored in this location:

http://www.moda-ml.net/ebiz-retail/repository/cppa/CPA_IT-12345678909_RO-98765432101_2008-07-10.xml

In this example, both parties agreed on the "cyclic replenishment program - CRP" business process in the Textile/Clothing and Footwear industry downstream area; the Italian party plays the "Retailer" role and the Romanian party plays the "Producer" role; in this simple example of agreement the parties agreed on "Order", "Despatch advice" and "Invoice" business documents using only a delivery channel SMTP based.

8.4.4 Automatic Configuration of Communication Channels and their services: ebMS

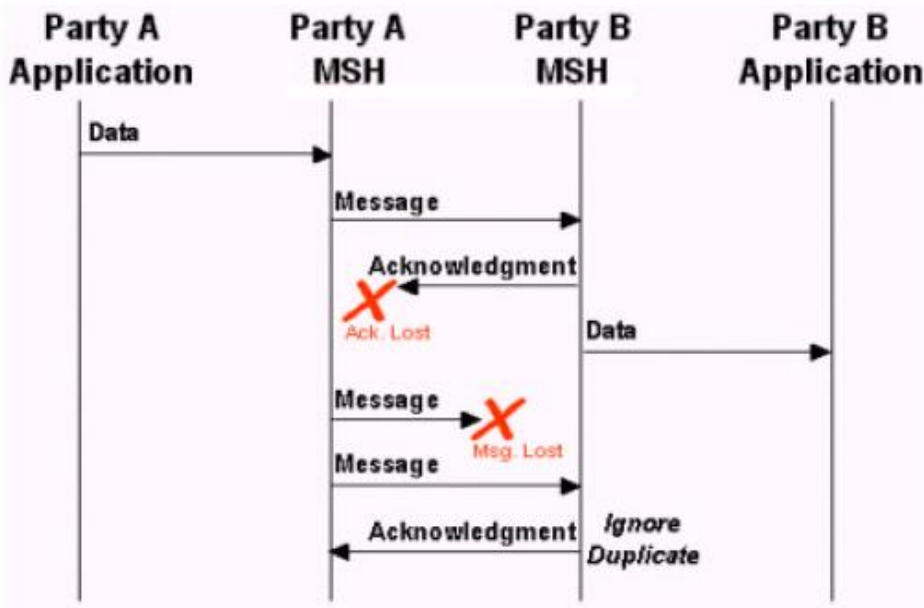
ebMS provides for standard transaction management facilities (in addition to SMTP) and reliability handling. If SMTP without ebMS is used, then the transaction management should be done within the business application logic. With ebMS, the transaction management can be configured and negotiated on Peer-to-Peer basis. The configuration of the transaction management will be done preferably (but not necessarily) with the help of ebCPPA.

The ways ebMS can configure the various services related to the communication channel, such as security, transaction management, reliability, etc are described in more details below.

8.4.5 Message reliability

We will adopt also the following reliability mechanism (see figure). This mechanism consist in receiving an acknowledgement for each business message sent. The business message is re-sent within pre-defined time intervals, until the acknowledgement is not received. On receiver side, eventual duplicates of the message are ignored.

In future versions of the architecture, and according to the requirements of the pilots, other more sophisticated reliability protocols could be considered.



8.5 Web services over HTTP

8.5.1 Overview of Web Services

The W3C Web Services Architecture Working Group defines a Web Service as: “a software system designed to support interoperable machine-to-machine interaction over a network.” (<http://www.w3.org/TR/ws-arch/#whatis>). There are many reasons to choose Web Services based middleware level of an eBusiness network:

- They are based on XML technologies and they are programming platform and language independent. . The client written in the programming language X can communicate with the Web Service written in the programming language Y, without problems.
- They use, mainly, the http transport layer and hence, they can be used without changing the security configuration of the enterprise network.
- They are based on open standards and protocols.

The benefits of use of Web Services can be easily seen, for example, in the case of centralized management of the communications or in the case of a large enterprise that collaborates with small enterprises. The Hub or the larger enterprise can keep its Web Services always on line, charging itself with the main computational effort and keeping the control of the communication level, and the other parties can communicate with the central Hub or larger enterprise using a light software based on a Web Service Client. Web services constitute the default choice, when more recent architectural options, such as Enterprise Service Bus and Service Oriented Architectures are considered.

8.5.2 eBusiness Middleware: BPEL, WSDL and UDDI

The base information needed to enable the communication using the Web Services is the **WSDL** (Web Service Definition Language) that is used to describe a Web Service.

The reference specifications are WSDL 1.1 and WSDL 2.0

The WSDL provides the xml service description as a set of endpoints, which receive the request from the client, process them and return the result to the client.

The **BPEL** 2.0 specification enables the description of a business process. BPEL (Business Process Execution Language) is an xml language, which allows to describe abstract and concrete processes. If the process described is concrete the resulting BPEL specification will be executable within a proper workflow engine and it will be exposed as a Web Service that coordinates and calls the other Web Services executing in this way the business process specified.

The **UDDI** (Universal Description, Discovery and Integration) 3.0.2 specification enables the publication of Web Services catalogues and defines how to make queries to these catalogues. . UDDI is a registry that allows to publish the Web Service on the Internet. It is XML based and hardware independent. UDDI provides three lists: White Pages (containing addresses and contact information of enterprises which expose Web Services), Yellow Pages (based on standard taxonomies of the services) and Green Pages (containing service information about the services exposed).

8.5.3 Messaging Middleware

The suggested setting for the Web Service messages is the use of SOAP over http. The WSDL defines the formats of the data which are received or sent by the corresponding Web Service. .

In particular, there are two important parameters that define the format of the SOAP messages:

- style
- use.

The style of the Web Service can be:

- **RPC:** in this case the request format will be similar to a Remote Procedure Call
- **Document:** the calling to the Web Service will be like the sending of a document

The use can be:

- **Encoded:** in this case the types of the parameters used in the calling will be the types defined in SOAP 1.1 specification;
- **Literal:** in this case the types of the parameters will be specified in an ad hoc schema. This schema will be linked to the corresponding WSDL specification. For example, it could be the xml-schema of the business document.

The WC-I consortium recommends to send and receive XML-eBusiness documents using document/literal Web Services, so that the xml eBusiness message will be directly embedded in the SOAP envelop. The combination rpc/literal is also admitted, while rpc/encoded is indicated as less suitable for the implementation of XML-based eBusiness.

8.5.4 Additional middleware and channel services

The referring specification to implement security in Web Services is **WS-Security**. It enables the use of security tokens, timestamps, encryption, signature at message level. The security at message level is suggested, instead of transport level security, because the message could pass through intermediate nodes, that can not warrant that the encryption is kept during all the trip of the message.

Web Service technology allows the implementation of reliability too. The referring specification is **WS-ReliableMessaging**. It describes a protocol that allows to transmit a message between two nodes in a reliable way. This mechanism allows to know if a message is received, to reject messages previously received and to establish the correct order of the messages.

8.6 SMTP/POP based approach

8.6.1 Overview

In this case the protocol to be used is SMTP/POP with MIME extensions. In this approach all aspects of communication channels and their services are agreed in advance, are not formalised, and the corresponding agreements are implemented in light software components or otherwise are implicit and followed manually by the trading partners. The security services in this approach are limited to access control and authorisation mechanisms (the corresponding informal agreements and protocol used are described below), The reliability services are not considered as well, it is up to the trading partners to implement reliability mechanisms within their applications.

While in EDIFACT a single document is called a message we use the term message for the whole framework which is interchanged at one time. This is due to the fact that most of the transmissions are done using mail technology and the term message has this meaning there.

Each **message** has one or more attachments which are separate files attached to the message. Normally it should be one attachment but under certain circumstances there could be more.

Each **attachment** contains one or more interchanges. Again normally it should be one but

The **interchange** is a XML structure from one sender to one final recipient. It can contain one or more documents. Only for transactional interchanges the restriction to one document is highly recommended. For asynchronous communication it can be any number of documents.

A **document** is the atomic unit of business communication e.g. an order, a delivery note or an invoice.

Content of an attachment

An attachment contains the XML declaration and one interchange.

Example of a simple XML declaration:

```
<?xml version="1.0" encoding="Windows-1252" standalone="yes"?>
```

Interchange Frame

Presently the interchange starts with exactly seven pieces of information before the documents.

They are:

- SenderGLN – the GLN (global location number assigned by GS1) of the originator of the documents, who can be different from the sender of the physical message
- RecipientGLN – GLN of the final recipient of the documents, who can be different from the recipient of the physical message
- InterchangeID – an unique identification of this single interchange
- InterchangeTimeStamp – generation date and time of the interchange
- InterchangeTA – a yes/no parameter indicating if the interchange is for synchronous or asynchronous handling
- NumberOfDocuments - the count of documents inside the interchange
- DocumentType – either a valid document type of ETCFN or the term 'Mixed' if more than one type is in the interchange

Below there is an example of an interchange frame.

```
< ETCFN_INTERCHANGE>
  <SenderGLN>4035811991014</SenderGLN>
  <RecipientGLN>4035811991021</RecipientGLN>
  <InterchangeID>01</InterchangeID>
  <InterchangeTimeStamp>2006-09-
07T12:12:23</InterchangeTimeStamp>
  <InterchangeTA>NO</InterchangeTA>
  <NumberOfDocuments>1</NumberOfDocuments>
  <DocumentType>Mixed</DocumentType>

                                ... document ...
                                ... document ...

</ ETCFN_INTERCHANGE>
```

8.6.2 Security services

Security services are limited to identification and authentication services. The authentication can be by digital certificate, user name/password or simply by means of e-mail address.

The table below gives an overview of the considered authentication methods. The numeric code value is useful in the case of a hub connectivity provider, which differentiates between its clients. In a peer-to-peer approach the choice will be on a single authentication method, due to the fact that each authentication method should be implemented by a separate application/component.

To implement the necessary authentication features with smtp the following RFCs must be (partially) implemented.

- RFC 1869 - SMTP service extensions (EHLO extension)
<http://www.faqs.org/rfcs/rfc1869.html>
- RFC 2554 - SMTP service extensions for authentication
<http://www.faqs.org/rfcs/rfc2554.html>
- RFC 2487 - SMTP service extensions for secure smtp over TLS
<http://www.faqs.org/rfcs/rfc2487.html>

Name	Value	Description
Top Individual	67	<ul style="list-style-type: none"> ▪ by stored public key validated individual certificate of the user ▪ username password authentication
Top Group	65	<ul style="list-style-type: none"> ▪ by stored public key validated individual certificate of the user ▪ group username password authentication
Very high individual	35	<ul style="list-style-type: none"> ▪ by accepted signer validated individual certificate of the user ▪ username password authentication
High individual	19	<ul style="list-style-type: none"> ▪ by accepted signer validated certificate ▪ username password authentication
Standard plus	15	<ul style="list-style-type: none"> ▪ high level username password authentication over secure channel
Standard	11	<ul style="list-style-type: none"> ▪ username password authentication over secure channel
Low plus	7	<ul style="list-style-type: none"> ▪ high level username password authentication
Low	3	<ul style="list-style-type: none"> ▪ username password authentication
Very low	1	<ul style="list-style-type: none"> ▪ registered mail sender identification
Unsecure	0	<ul style="list-style-type: none"> ▪ nonregistered mail sender identification

Table 1. Definition of security levels

9 Conclusions and Recommendations

Some conclusion can be outlined as a first outcome of the activities of definition of an European architecture for eBusiness Harmonisation in the Footwear, Textile Clothing sector.

Firstly, we can observe that, despite its history and the absence of a coreography managed by a core group of market leaders, there is an architecture in place, it is made of many contributions but it appears stable and complete enough to be considered a sectorial reference architecture.

Secondly, its weakness is in the absence of a critical mass of adopters. The pilots will prepare a first group of early adopters but still there is necessity that a work is performed in order to involve standardisation bodies as well as in order to make aware policy makers and industrial managers of its existence and its potential benefits if promoted with a systematic approach.

Thirdly there are open aspects of implementation:

- incremental development are needed, as described in the paragraphs related to the 'Missing elements' along this report (for example in the fields related to communication, product classification, business scenarios)
- methodologies and tools for testing and certifying the compliance and for compliant customisations are necessary in order to have real interoperability between the implementations and in order to reduce the costs for such evaluations.
- further innovative scenarios, derived by the introduction of the outcomes of the research activities, should be analysed and added to the already in place scenarios (for example virtual prototyping, functional textiles, RFID technologies, could be covered).

10 Glossary

ASP

Application service provisioning.

Business applications are not installed locally but on a central server, managed by an ASP Provider, and made available to the user either generally or on-demand based.

CRP

Cyclic replenishment program.

Business model in which the retailer reorders certain products based on a predefined schedule. This needs an availability scheme based on NOS articles.

Fast Moving Fashion Business

All business models in which the decisions about the products are made on short term basis. See CRP and VMI.

GLN

Global location number. Worldwide unique identification of companies or locations inside a company. GS1 standard.

GTIN

Global trade item number. Worldwide unique identification of products (EAN and UPC are parts of GTIN). GS1 standard.

HUB

Service provider for business or communication services.

While inside the local community of a HUB special rules may apply, it takes care of the compliance towards the outside world.

NOS

Never Out of Stock articles (articles that are produced on a basis that makes available through different commercial seasons).

Retailer Management System (RMS)

A system addressing the management of the information of a retail organisation (it is the equivalent of ERP for manufacturers), from order management to the monitoring of the stocks.

Use profile

Integration to a specification that guides the user to implement the specification within a specific domain (a use domain); generally speaking the Use Profile should propose a 'restriction' to the original specifications and assure the back compatibility with it (an instance following the use profile is a valid implementation of the specifications; not viceversa).

VMI

Vendor managed inventory. Business model in which the producer stocks the retailer based on own decisions inside the limits of a general agreement. Often this is combined with consignment or concession.

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