

Common platform for e-procurement

NES

Jostein Frømyr, project coordinator

Presentation at IBX

March 22, 2007

- Introduction about NES
 - *What is NES?*
 - *Our use of UBL 2.0*
- The NES deliverables
 - *Profiles*
 - *Guidelines and code lists*
 - *Validation tools*
- NES and other standards initiatives
 - *Alignment between NES and OIOUBL*
 - *Convergence UBL – UN/CEFACT*
 - *SEPA*
 - *e2b Forum*
- Implementation and continued work

International corporation

NES

- Corporation between a group of countries and organisations
 - **Denmark**
 - *Danish Ministry of Science, Technology and Innovation (VTU),*
 - *Danish IT and Telecom Agency (ITST)*
 - **Sweden**
 - *Single Face To Industry (SFTI), the public sector initiative in Sweden to promote e-business by the Swedish National Financial Management Authority (ESV), Swedish Association of Local Authorities and Regions (Sveriges Kommuner och Landsting), and Swedish Administrative Development Agency (Verva)*
 - **Norway**
 - *Norwegian Ministry of Government Administration and Reform eProcurement Secretariat (www.ehandel.no)*
 - *NorStella / e2b Forum (an e-invoicing initiative in the private sector supported by the government - www.e2b.no).*
 - **Finland**
 - *State Treasury*
 - *Tieke Finnish Information Society Development Centre*
 - **England**
 - *OGC buying solutions under Office of Government Commerce*
 - **Iceland**
 - *The Financial Management Authority (Fjárfýsla Ríkisins).*
 - *Iceland Committee on e-business and Trade Procedures" ICEPRO*
- To facilitating practical use of electronic collaboration based on available international standards
- Focusing on basic e-procurement functions



- The purpose of NES is to
 - *facilitate interoperability and practical use of e-procurement both in domestic and cross border trade*
 - Even if the participants in the working group are mainly from the public sector, the group will try to include both business-to-business and business-to-government e-commerce/e-procurement in its work.
 - *facilitate harmonisation of different types of e-procurement documents*
 - This provides an opportunity to base e-procurement documents and processes on a coordinated Northern European subset.
 - *contribute to the development and use of an international standard for e-procurement*

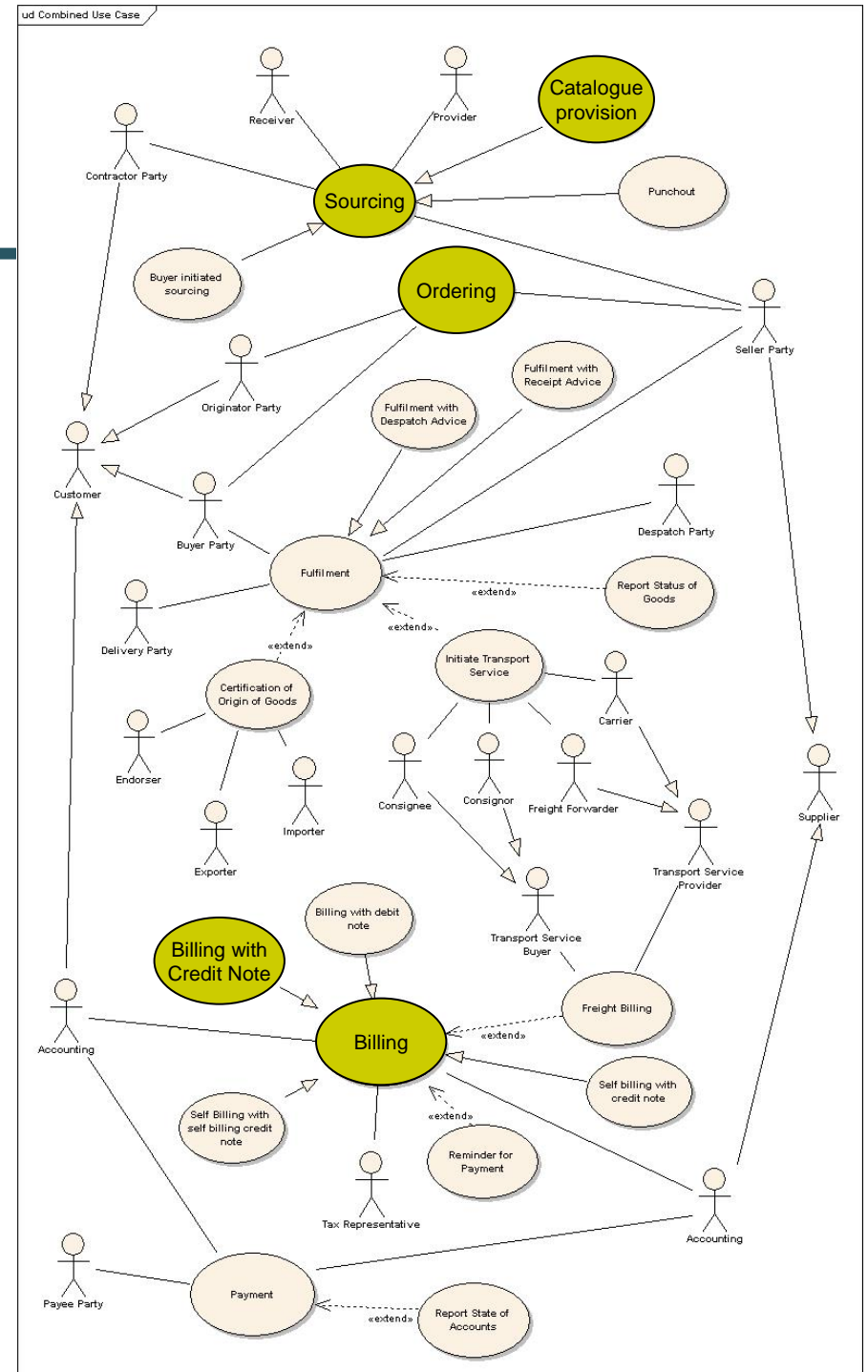
... based on international standards **NES**

- NES identified UBL as a free and open format, which at the time when NES was started presented the greatest potential for realizing large-scale e-commerce both in a domestic and a cross-border trade
- UBL is an open and freely available library of XML documents for e-commerce
 - *Version 1 was released as an OASIS standard in May 2004*
 - *Version 2 was released as an OASIS standard in December 2006*
 - 31 business documents covering an extended e-procurement process and transport
 - Based on ebXML Core Components - ISO 15000-5
- Furthermore NES recognises the importance of the standardisation work in progress within UN/CEFACT and are actively working for the adoption of the UBL-specifications in the UN/CEFACT framework

NES supports and is committed to the ongoing convergence between UBL and UN/CEFACT

Business processes supported by UBL

- UBL 2.0 extends the order-to-invoice processes of UBL 1.0 to cover a supply chain from sourcing to payment, including the commercial collaborations of international trade.
- NES provides support for the basic e-procurement functions



Use of UBL 2.0 Business Documents

NES

- **Application Response**
- Attached Document
- Bill of Lading
- **Catalogue**
- Catalogue Deletion
- **Catalogue Item Specification Update**
- **Catalogue Pricing Update**
- Catalogue Request
- Certificate of Origin
- **Credit Note**
- Debit Note
- Despatch Advice
- Forwarding Instructions
- Freight Invoice
- **Invoice**
- **Order**
- Order Cancellation
- Order Change
- Order Response
- **Order Response Simple**
- Packing List
- Quotation
- Receipt Advice
- Reminder
- Remittance Advice
- Request For Quotation
- Self Billed Credit Note
- Self Billed Invoice
- **Statement**
- Transportation Status
- Waybill

Used by both NES and OIOUBL - Used by OIOUBL

e-procurement is more than just exchange of messages

NES

- **Business processes and scenarios**
based on a common application of UBL applicable for both domestic and cross border trade
- **Business rules and recommendations**
for the use of the UBL XML documents
- **A common subset** of the UBL XML documents reflecting the needs expressed in the business rules
- **Formal rules for validation** of the business rules expressed as Schematron
- **General guidelines and code lists** for the use of UBL

Business Process
& scenarios
Business Rules
Business Content

Syntax implementation
based on UBL 2.0

Guidelines
&
Code lists

NES deliverables

NES

-
- Profile Definition Normative
 - Profiled Message Definition Normative
 - Guidelines Normative
 - Code lists Normative

 - Validation tools
 - *Restricted XML schema* Informative
 - *Schematron* Informative

-
- A description of one or more related business processes supported by the exchange of a defined set of electronic business documents in order to fulfil a defined business purpose.
 - Two profiles may contain the same messages, but with different content and/or business rules
 - The receiver of a “NES message” need to identify the relevant Profile before applying validation and processing of the message content.

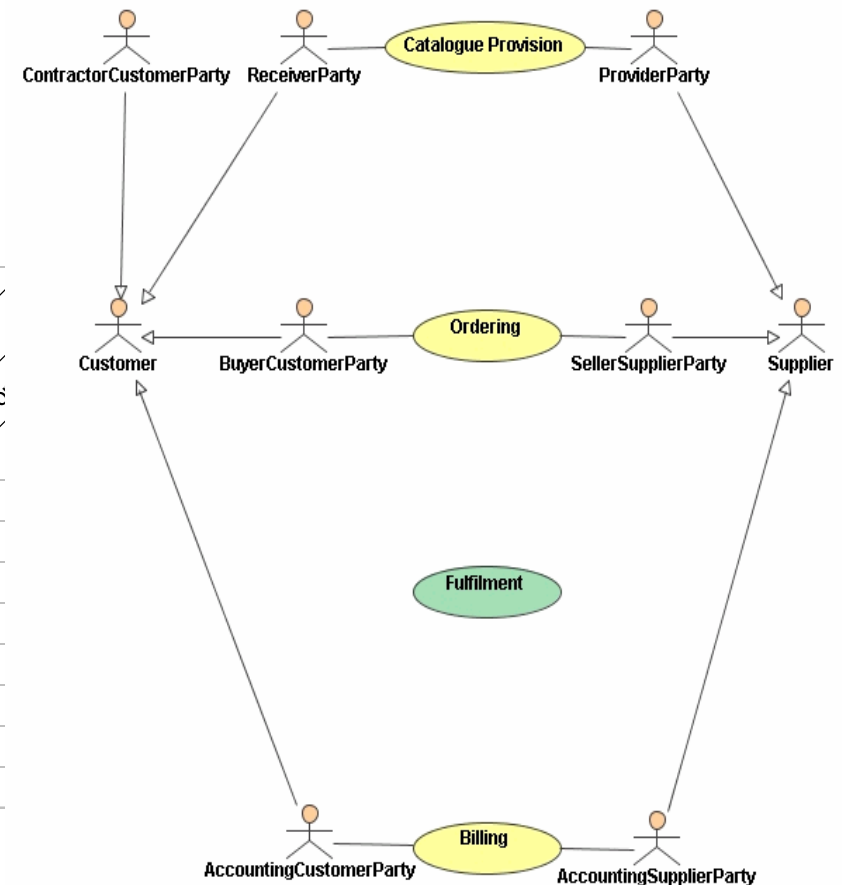
- The NES profiles are
 - *designed to support cross country and domestic trade*
 - *based on legal/fiscal requirements and agreed best practices*
- Each NES profile should be recognised as an independent implementation
- Compliance to NES is measured against NES profiles in the following way:
 - *All elements, mandatory and optional, listed in a profile must be understood by anyone receiving the message and claiming to be compliant with the profile stated in the message.*
 - *Any bilateral additions to messages in a NES profile means that the companies should not use the NES profile ID in the message.*
 - *Recipient can reject messages that contain elements outside of the profile or elements not in line with the cardinality of the profile.*

Profiles in NES phase 1

NES

- Supporting basic e-procurement functions
- Deliverables were published for public review at the end of December 2006
- **Final release in March 2007**

NES Profile	Catalogue	Catalogue Item Update	Catalogue Price Update	Order	Order Response Simple	Invoice	Credit Note	Applicatio
Catalogue Only	X							X
Catalogue with updates	X	X	X					X
Basic Order Only				X				
Basic Invoice Only						X		
Basic Billing						X	X	X
Basic Billing with dispute						X	X	
Basic Procurement				X	X	X	X	
Simple Procurement				X	X	X	X	X

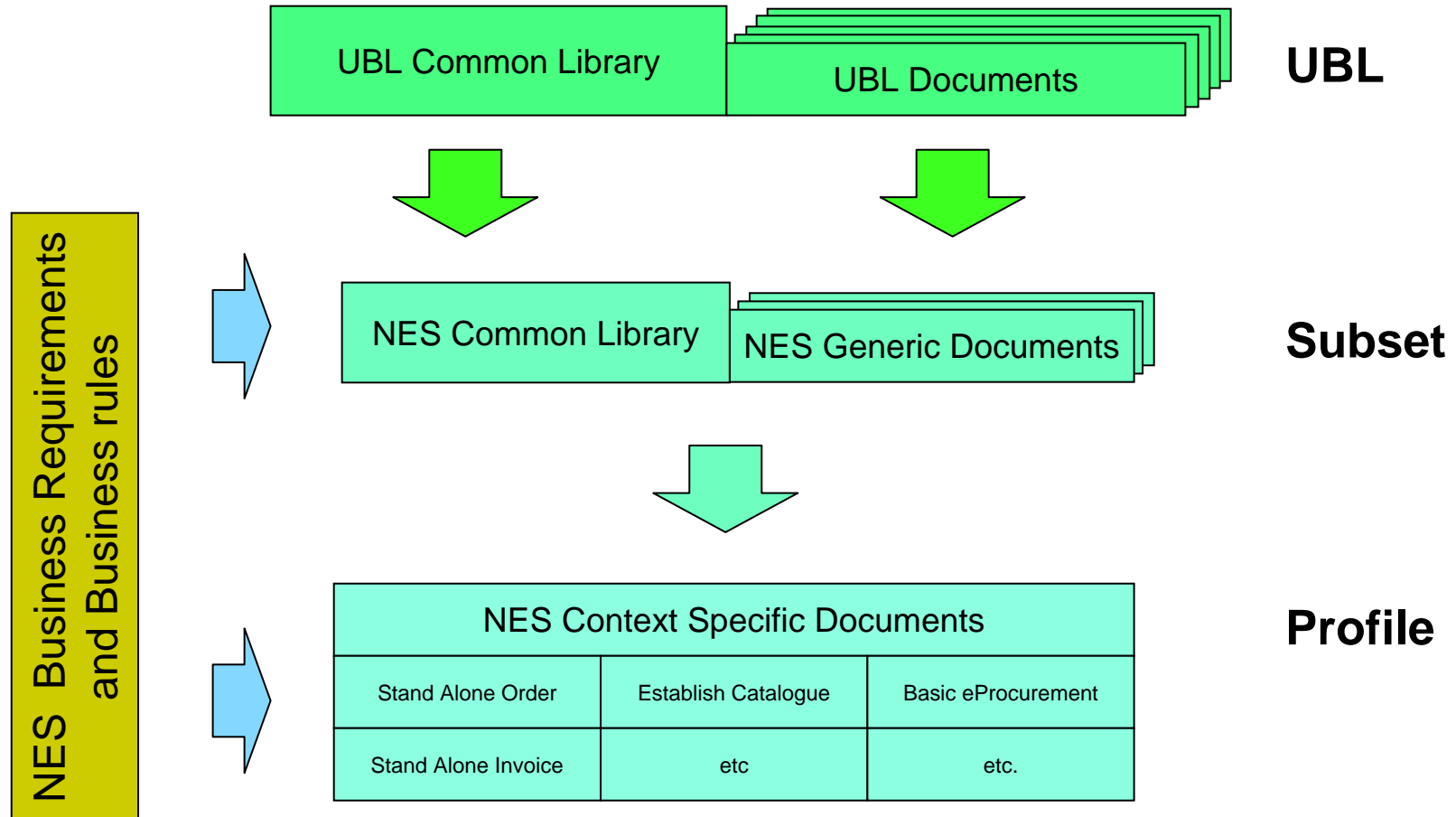


Why these profiles?

- They are simple and straight-forward
- They address key issues related to procurement control, especially in decentralised organisations
- Procurement systems are used more and more
 - *To show framework contracts, and to guide buyers to buy from them*
 - *To register requisitions, and to obtain advance attestation*
 - *Register delivery*
 - *And to automatically reconcile invoices*
- That is
 - *Buying against catalogue is common*
- But also invoices outside such control have to be dealt with, e.g. in a workflow type of system
- We try to have a migration path ready for those who wish to move more transactions into procurement systems

Documentation approach

NES

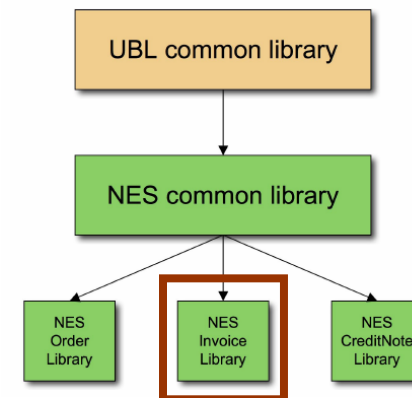
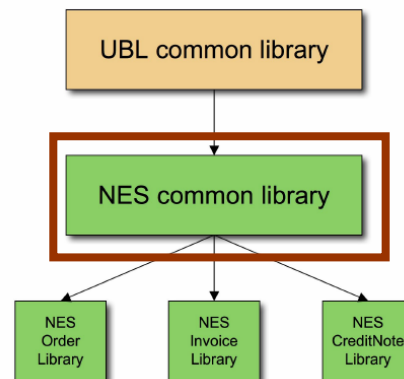
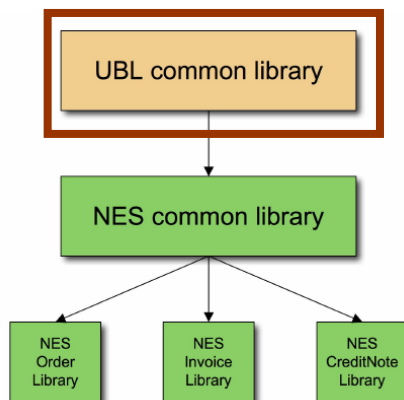


Levels of restriction

- ⊕ C Delivery, Details
- ⊕ ● A Delivery, Identifier
- ⊕ ● A Delivery, Quantity
- ⊕ ● A Delivery, Minimum_Quantity, Quantity
- ⊕ ● A Delivery, Maximum_Quantity, Quantity
- ⊕ ● A Delivery, Actual_Delivery Date, Date
- ⊕ ● A Delivery, Actual_Delivery Time, Time
- ⊕ ● A Delivery, Latest_Delivery Date, Date
- ⊕ ● A Delivery, Latest_Delivery Time, Time
- ⊕ ● A Delivery, Tracking Identifier, Identifier
- ⊕ ● C Delivery, Delivery_Address, Address
- ⊕ ● C Delivery, Delivery_Location, Location
- ⊕ ● C Delivery, Requested Delivery_Period, Period
- ⊕ ● C Delivery, Promised Delivery_Period, Period
- ⊕ ● C Delivery, Estimated Delivery_Period, Period
- ⊕ ● C Delivery, Delivery_Party, Party
- ⊕ ● C Delivery, Despatch

- ⊕ C Delivery, Details
- ⊕ ● A Delivery, Identifier
- ⊕ ● A Delivery, Quantity
- ⊕ ● X Delivery, Minimum_Quantity, Quantity
- ⊕ ● X Delivery, Maximum_Quantity, Quantity
- ⊕ ● A Delivery, Actual_Delivery Date, Date
- ⊕ ● A Delivery, Actual_Delivery Time, Time
- ⊕ ● A Delivery, Latest_Delivery Date, Date
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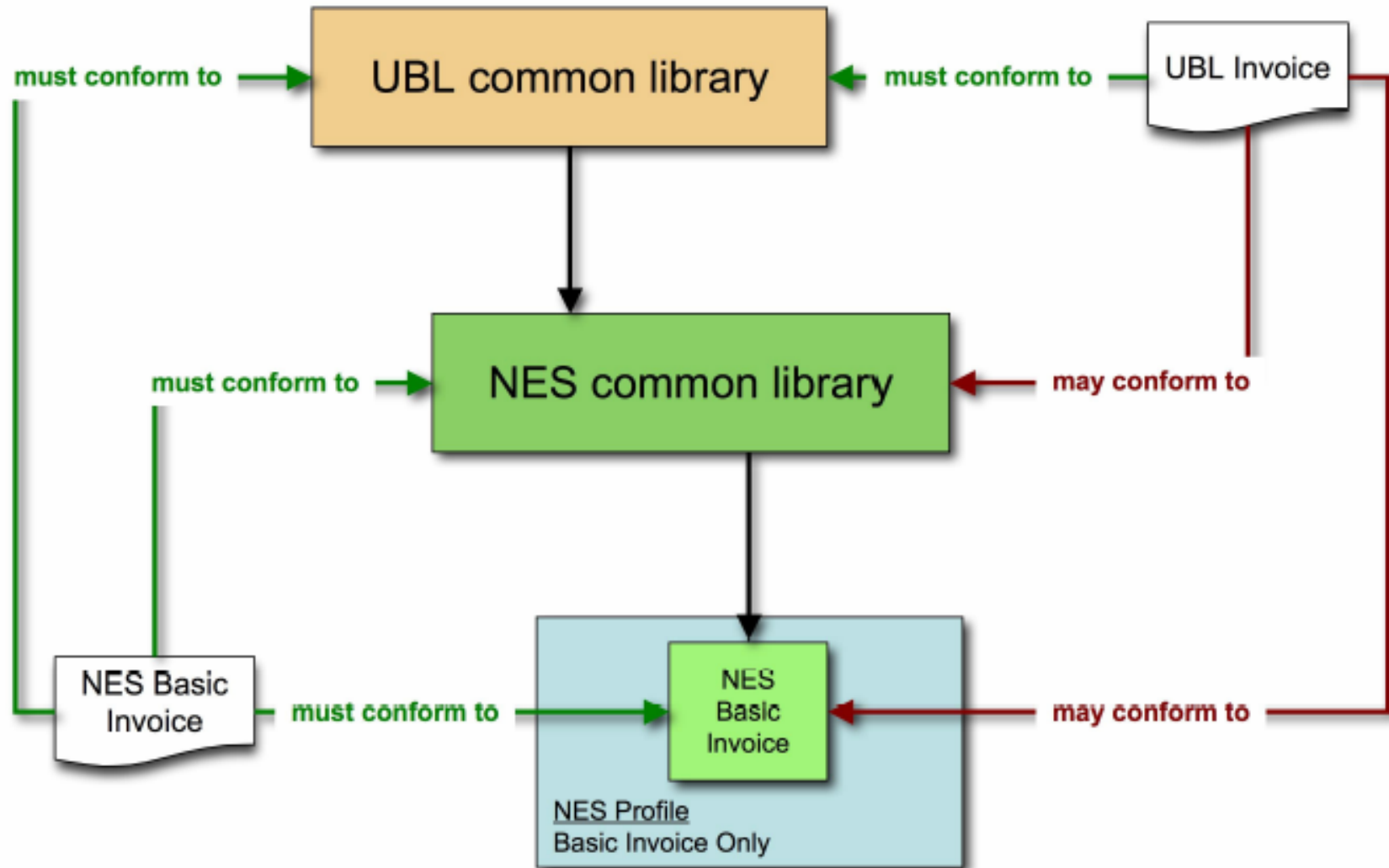
The "must understand" principle

NES

- Any party claiming conformance to a NES profile is expected to:
 - *Support all of the functions and business rules described for that profile*
 - *Be able to send and receive all of the messages defined by the profile*
 - *Be able to understand all of the elements, mandatory or optional, in the Profiled Message Definitions*
- The intent is to facilitate interoperability with limited or no additional agreements

Conformance

NES



- A community
 - *Strong public sector commitment in Nordic countries*
 - *OIOXML → OIOUBL*
 - *UBL*
- A harmonized specification covering the full procurement process
- Prepared for cross border trade
- Reduced need for bilateral agreements
 - *But give possibility to agree on extensions if needed*
- Real-time validation tools
- Open and free standards

- For documents and other information, see <http://www.nesubl.eu/>

NES and other standards initiatives

NES

Convergence UBL – UN/CEFACT
SEPA
National formats

NES supports and is committed to the ongoing convergence between UBL and UN/CEFACT

- An unified UN/CEFACT standard for supply chain and transport
- Convergence
 1. *Business requirements level (all UBL & CEFACT documents)*
 2. *Technical level*
 3. *Customisation level – UBL guidelines*
- Timescale
 - *Business level convergence – end 2007*

Cooperation agreement

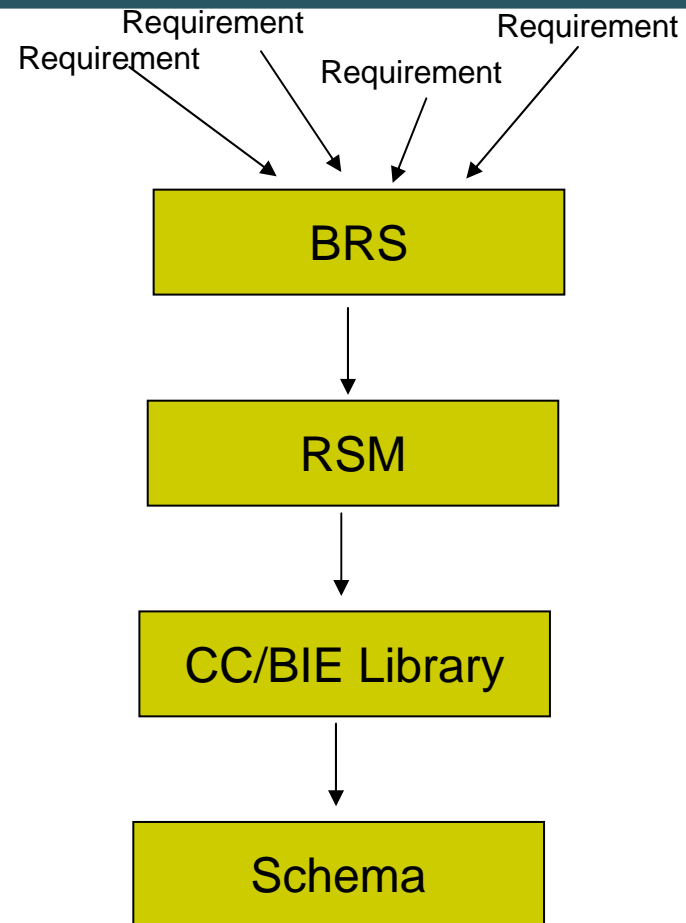
- UN/CEFACT recognizes UBL 2 as appropriate first-generation XML documents for eBusiness.
- For OASIS and UN/CEFACT:
 - *future UN/CEFACT deliverables constitute the upgrade path for UBL, and*
 - *the maintenance of UBL 2 remains with the OASIS UBL TC.*
- In the expectation that UN/CEFACT will produce its own integrated set of XML schemas within a period of three years, OASIS will produce no further major versions of UBL past UBL 2.
- OASIS will grant UN/CEFACT a perpetual, irrevocable license to create derivative works based on UBL.

Work plan

Ref.	Document (s)	Meeting	Completion Target
1.1	Invoice (including Credit Note and Debit Note)	3 day workshop 26 th to 28 th July 2006 CEN Offices, Brussels	November 2006
1.2	Credit Note, Debit note and Remittance Advice	3 day workshop September 2006	November 2006
1.3	Order	3 day workshop November 2006	March 2007
1.4	Order response. Order response simple, Order change, Order cancellation	3 day workshop December 2006	March 2007
2	Despatch Advice, Packing list and Receipt Advice	3 day workshop January 2007	May 2007
3	Cataloguing Messages	2 x 3 day workshop March 2007 April 2007	September 2007
4	Self Billing (incl. Self Billed Credit Note), Application Response and Accounting Token	3 day workshop July 2007	October 2007
5	Request for Quotation and Quotation	Set up project team at the UN/CEFACT forum meeting of October 2006	November 2007
5	Reminder	Set up project team at the UN/CEFACT forum meeting of October 2006	November 2007
5	Statement	Set up project team at the UN/CEFACT forum meeting of October 2006	November 2007

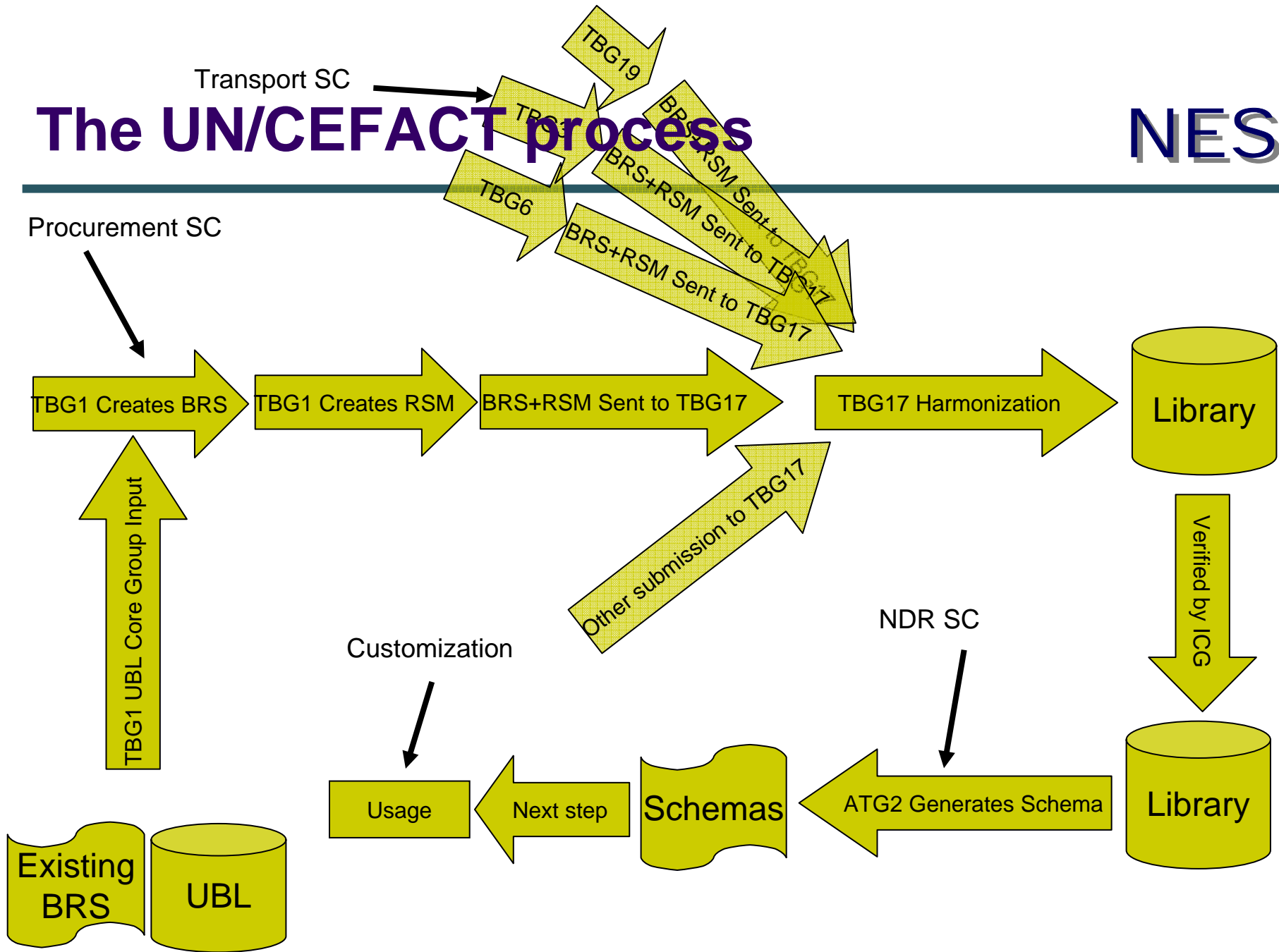
The UN/CEFACT process

NES



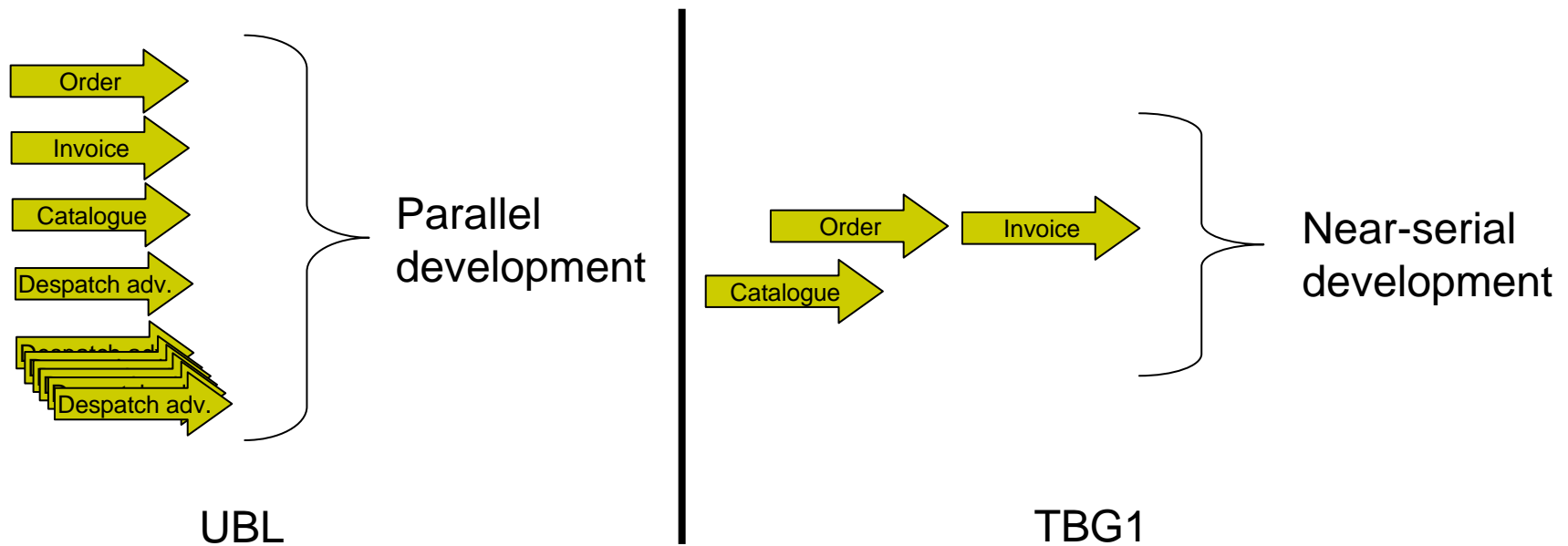
The UN/CEFACT process

NES



Differences in approach

NES



- CEFACT BUREAU/ UBL TC
- TBG1 - Supply Chain
- TBG3 – Transport
- Core Components
- Naming and Design Rules
- Code Lists
- Message Assembly

-
- Within the SEPA initiative there are activities to establish a European standard for eInvoice
 - The NES members recognize that in many countries the banks are an important entry point to SME's in introducing eInvoicing
 - NES is therefore keeping a close dialog with the banking sector in the participating countries
 - NES has been very pleased to be invited to participate in the informal expert group set down by the commissions to identify a possible roadmap for e-Invoicing and payments related standardization initiatives within the financial sector.
 - The purpose is to set the scene for a future agenda and better co-ordination of the relevant initiatives and organizations
 - At a later stage a more formal Task Force will take over and bring the established roadmap forward.

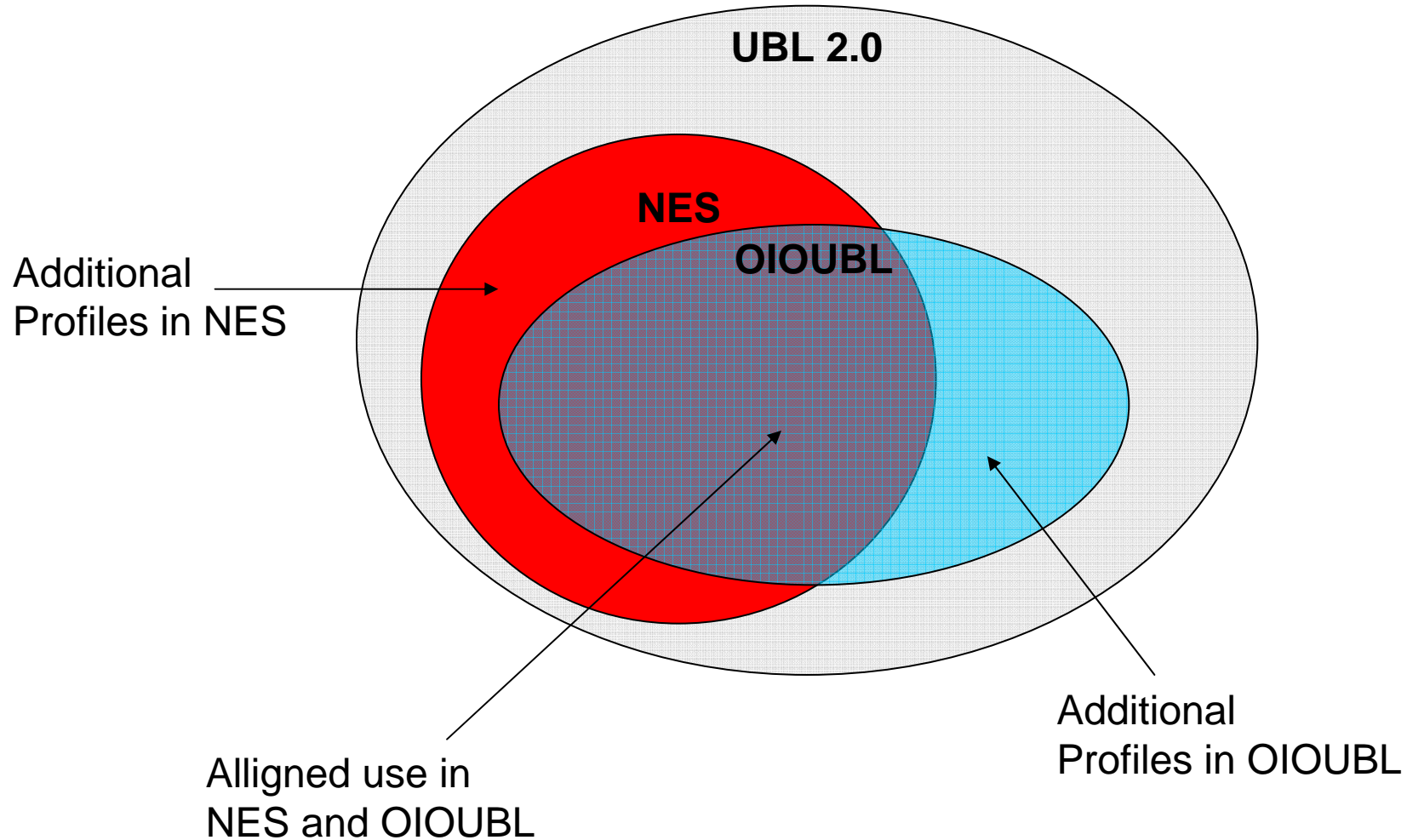
National formats

NES

- FINVOICE (Finland)
- SveFaktura (Sweden)
- E2b (Norway)
- OIOXML (Denmark)
- OIOUBL (Denmark)

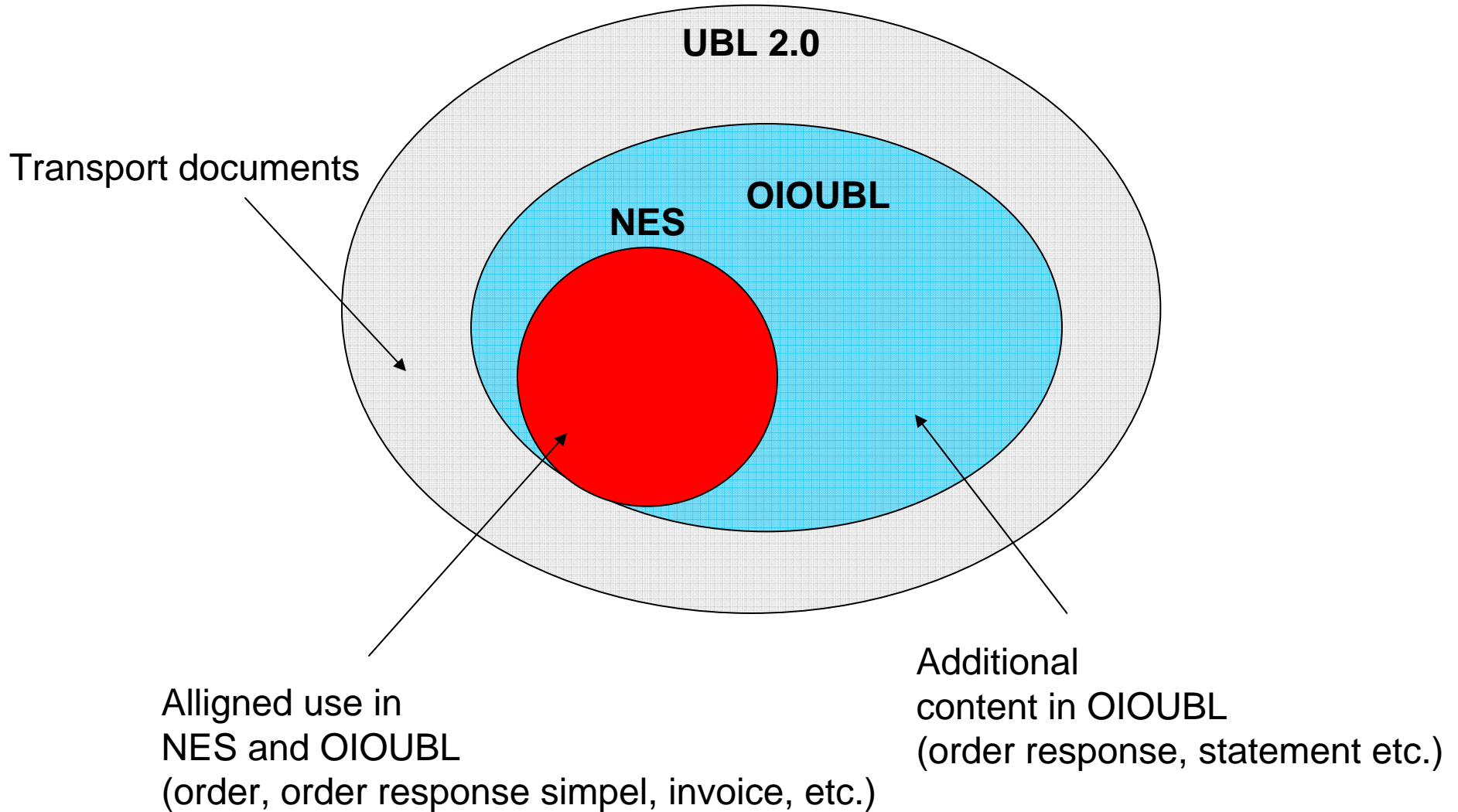
NES – OIOUBL profile alignment

NES



NES – OIOUBL content alignment

NES



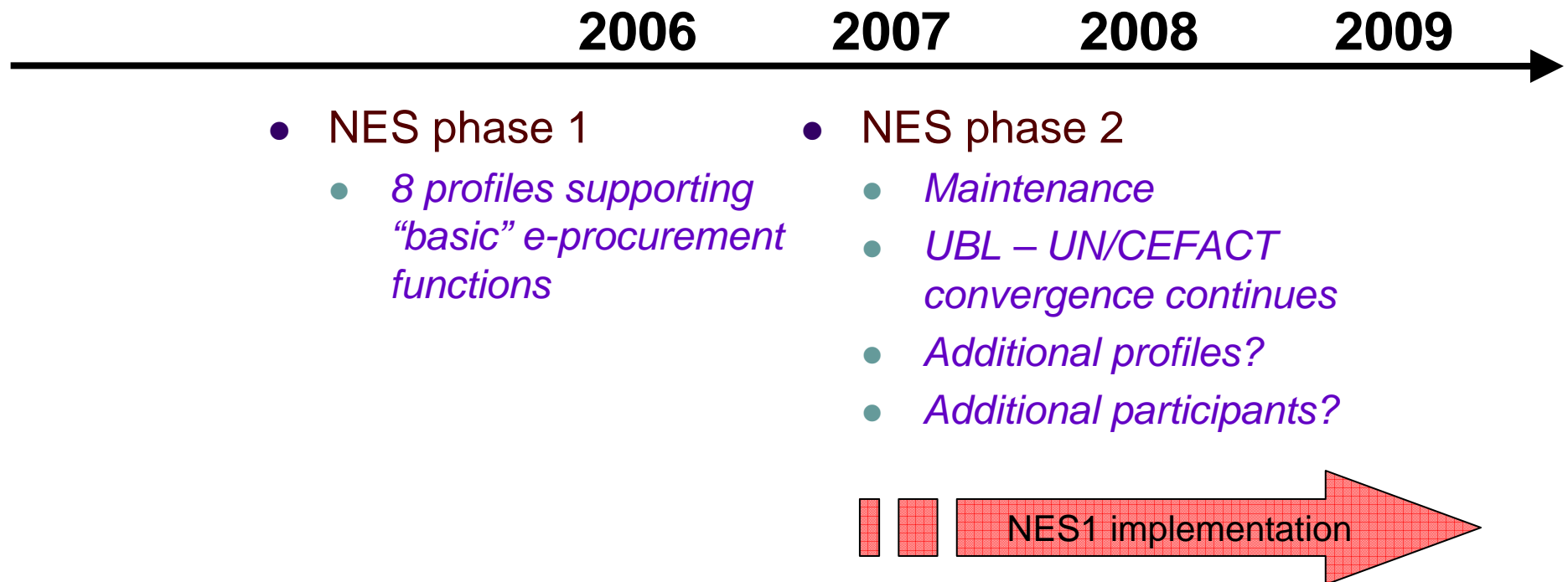
Implementation

NES

The work continues

NES

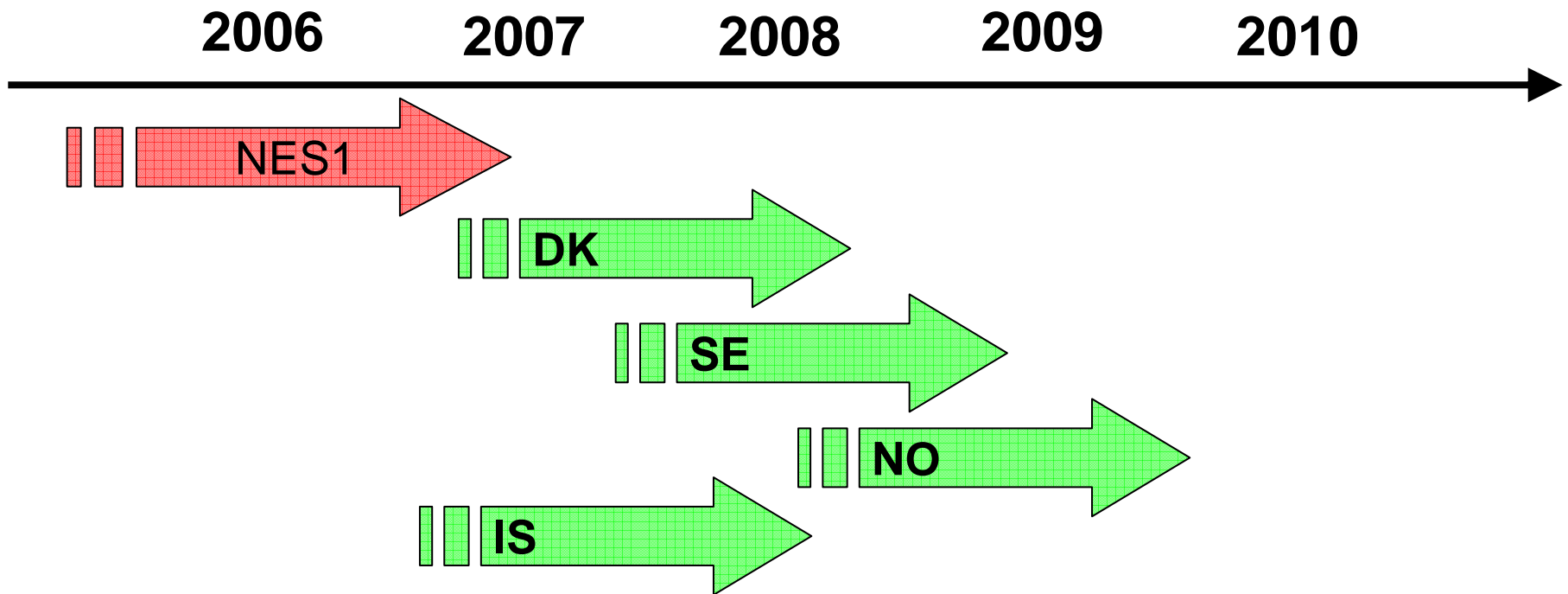
- The cooperation continues to support implementation and continued development.



Implementation

NES

- Implementation is done within the respective countries
- Each country has their own priorities and targets



- Will continue to support OIOXML for invoicing
- Will implement OIOUBL during the summer of 2007

- No final commitment on the use of NES for eProcurement
- A competition on services for eProcurement services has been lanced
 - *Not yet decided if NES will be mandatory from the beginning of the service period (early 2008)*
 - *An option is to switch to NES at a later date*
- Are closely following the corporation between NES and SEPA
- The new service agreement on eInvoicing starts on December 1, 2007
 - *Will make use of the Finvoice during the first period*
 - *Contract has provisions for switching to an European eInvoice standard (i.e. NES).*

- No final commitment on the use of NES for eProcurement
- Initiatives under way to establish “Norsk Refransekatalog”
 - *Will include NES as a recognized (or recommended) standard*
- Initiative under way amongst 3 ministries to evaluate how to introduce eInvoicing in public sector
 - *Likely that NES will be established as preferred format*

Sweden

NES

- Are already in the process of implementing NES with selected government agencies.

- No specific plans for implementation of NES at this point in time

Catalogue profiles in NES

NES

Jostein Frømyr, project coordinator

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Catalogue as part of sourcing

NES

-
- Catalogue is one of the three kinds of sourcing defined by UBL
 - *Catalogue provision*
 - *Customer initiated sourcing*
 - Request for Quote - Quote
 - *Punchout*
 - Transfer of information from the Sellers shopping basket
 - NES only deals with Catalogue provision

Within Catalogue Provision several business processes are identified

NES

- Business processes identified by UBL:
 - *Create Catalogue*
 - *Update Item Specification*
 - *Update Catalogue Pricing*
 - *Delete Catalogue*
- NES only provides support for parts of the Business Processes identified by UBL

- Any conditions specified in the contract shall overrule those stated in the common Catalogue.
- A Catalogue exchange shall be between one Provider and one Receiver Party.
- A classification system may have its own set of properties.
- A classification scheme shall have metadata.
- A Catalogue may have a validity period.
- A Catalogue should include item classifications.
- Classification schemes should include standard and specific properties.
- A Catalogue may refer to the lot (sub-section) of a contract.
- A Catalogue may explicitly specify the framework contract reference.
- A Catalogue may refer to a DPS contract number.
- When a Catalogue item is updated, the item shall be replaced in the Catalogue.
- When a Catalogue item is updated, historical information about replaced or updated items must be available to reconcile with outstanding transactions.
- Prices may be updated independently of other Catalogue information.
- Catalogue distribution may be Provider or Receiver Party initiated.
- If a Receiver initiates a request for a Catalogue, they may request an entire Catalogue or only updates to either pricing or item specification details.
- Whether Receiver Party initiated or not, the decision to issue a new Catalogue or update an existing one shall be at the discretion of the Provider Party.
- If an updated Catalogue is issued, then an action code shall define the status of the items in the Catalogue.

- The use of Catalogues is one way to do sourcing
 - *The only way currently supported by NES*
- Facilitates a common and unique identification and description of products and services available for purchase
- Different types of Catalogues:
 - *General sales catalogue*
 - *Framework agreement*
- NES will support Catalogues use for both General Sales Catalogue and Framework Agreement.
 - *i.e. a Catalogue may or may not reference a Framework Agreement*

- Supplier – Customer Catalogue
 - *One catalogue contains products supplied by one Seller to one Customer*

- Multi Party Catalogue
 - *Allows one Catalogue to contain products supplied by several Sellers to many Buyers*
 - *Supplier and Customer is defined on Catalogue Lined level*

Maintenance of Catalogues

NES

- Can be implemented using distinct update documents
 - *Item Specification Update*
 - *Price Update*
- Indication of an action code (add, change, delete) for each line in the Catalogue document
- NES will support both approaches
 - *In two different profiles*

Maintenance of Catalogues using the Catalogue document

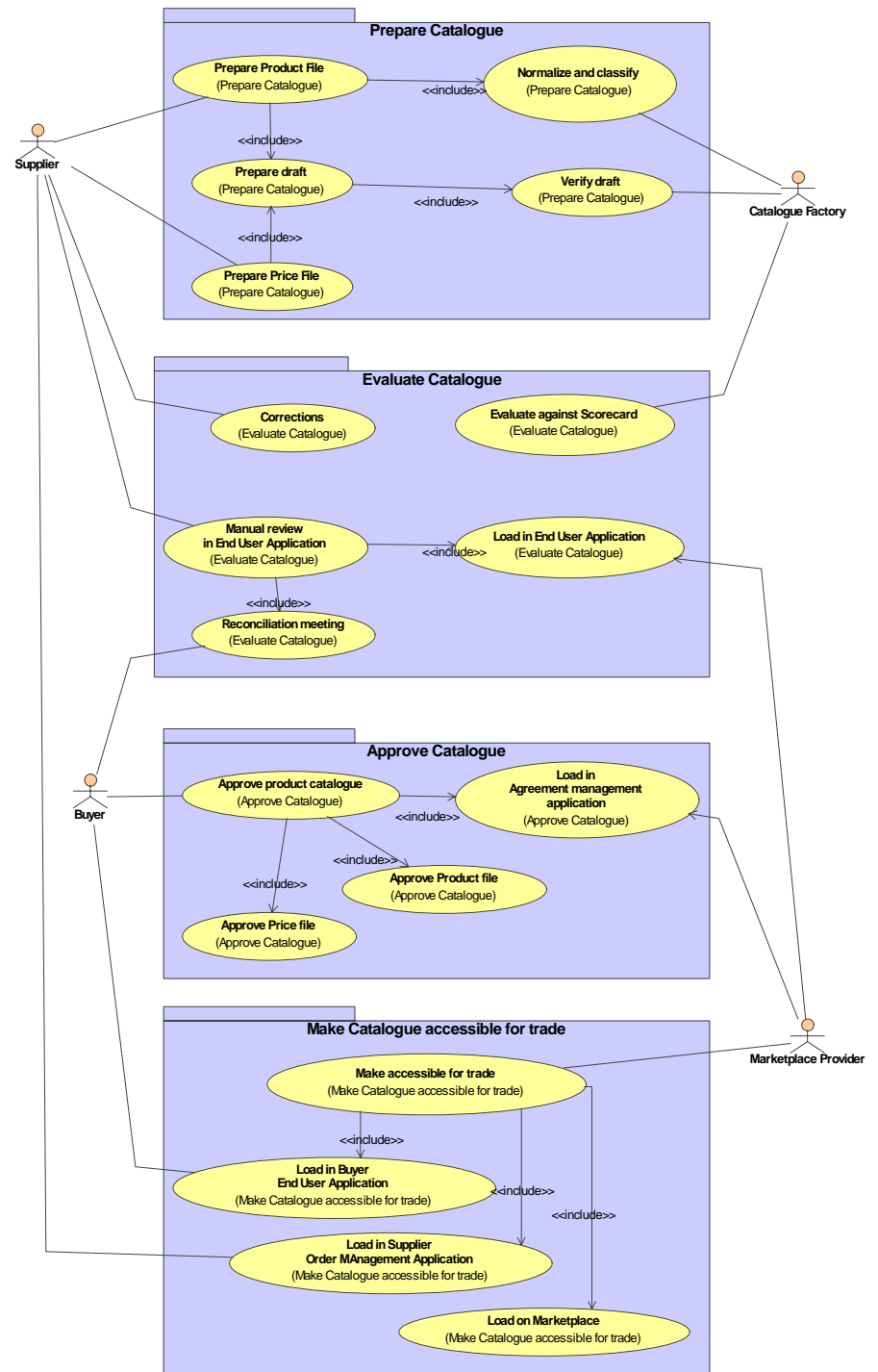
NES

- Two possible implementations are foreseen:
 - *Full replace*
 - each Catalogue document provides a full and correct catalogue that will replace the previous catalogue → no need for action code at line level
 - *Delta*
 - each Catalogue document provides only those lines for which a change has occurred, replace will apply at line level → action code at line level should be mandatory
- NES will promote the second approach:
 - *For the first catalogue all lines should have an action code = Add.*
 - *In subsequent exchanges only lines subject to change (add, update, delete) will be included. For update the full catalogue line will be replaced.*

-
- Supplier – Customer Catalogue
 - *Catalogue Only*
 - *Catalogue with Updates*
 - Information content in the two profiles are the same – the processes are different
 - Changes implemented in NES following public review
 - *Changes in business process for “Catalogue with updates” to clarify difference between the profiles*
 - *Changes to information content to better align with OIOUBL*
 - Multi Party Catalogue
 - *Possibly in NES2*

Catalogue quality

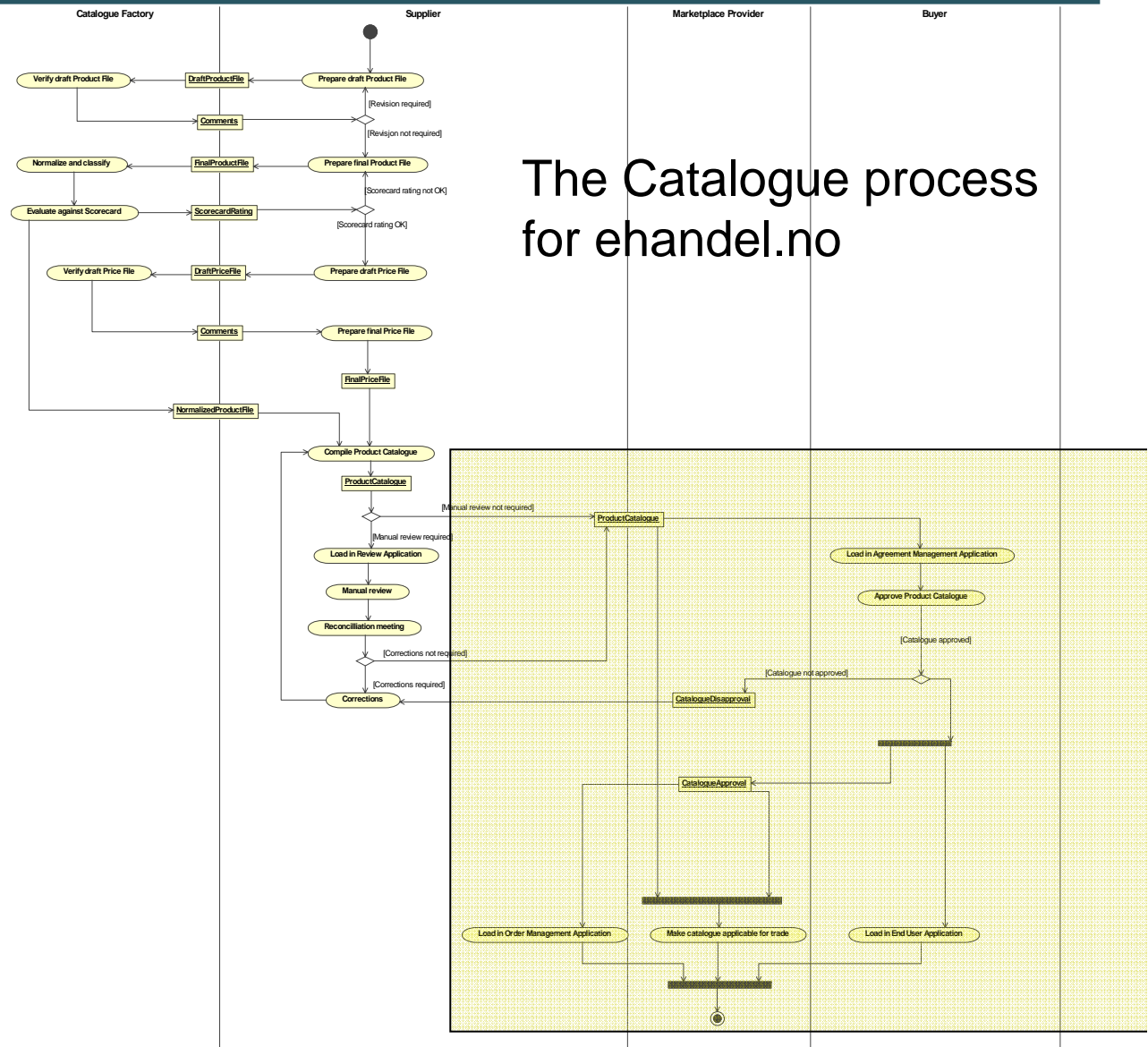
- To achieve a good quality catalog focus should be placed on the process of **creating** the catalogue, not only the **transfer** of the catalogue.
- Catalogue quality is out of scope for UBL and thus also for NES.



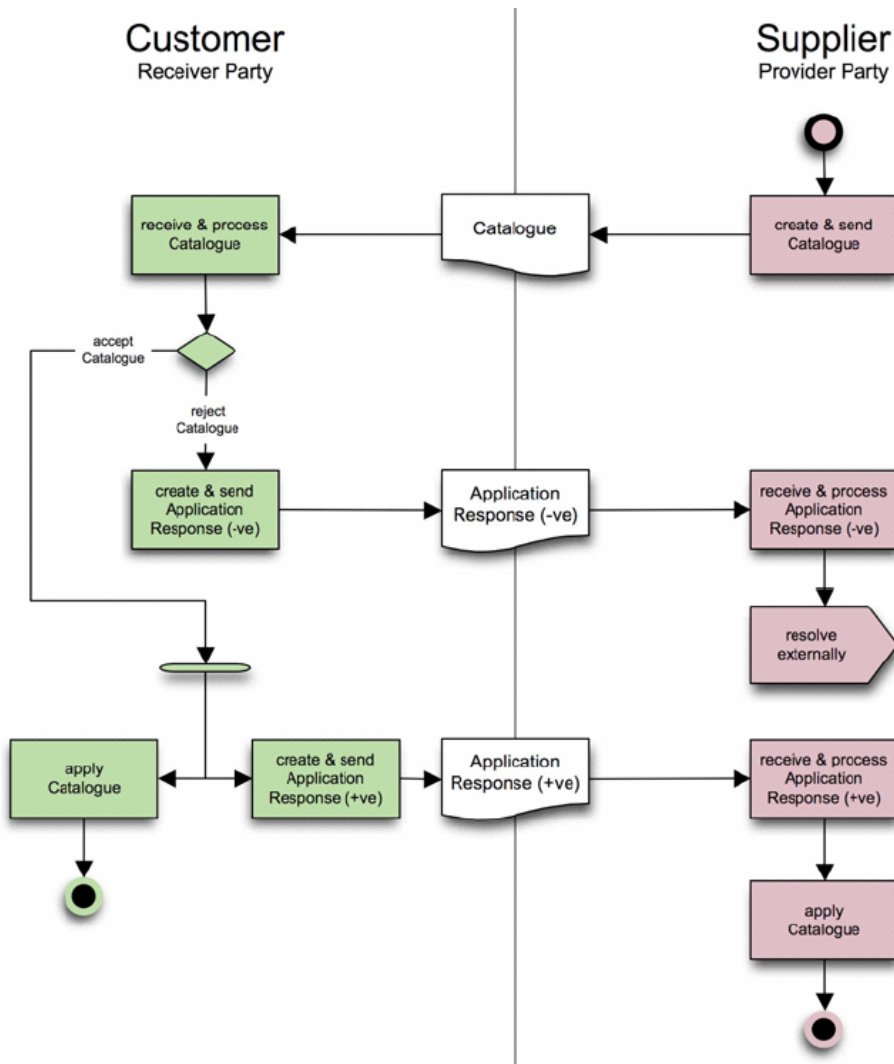
Creation vs. Transfer of catalogue

NES

- The processes defined for NES are focusing on the **transfer** of a Catalogue and not on the process of **creating** the Catalogue



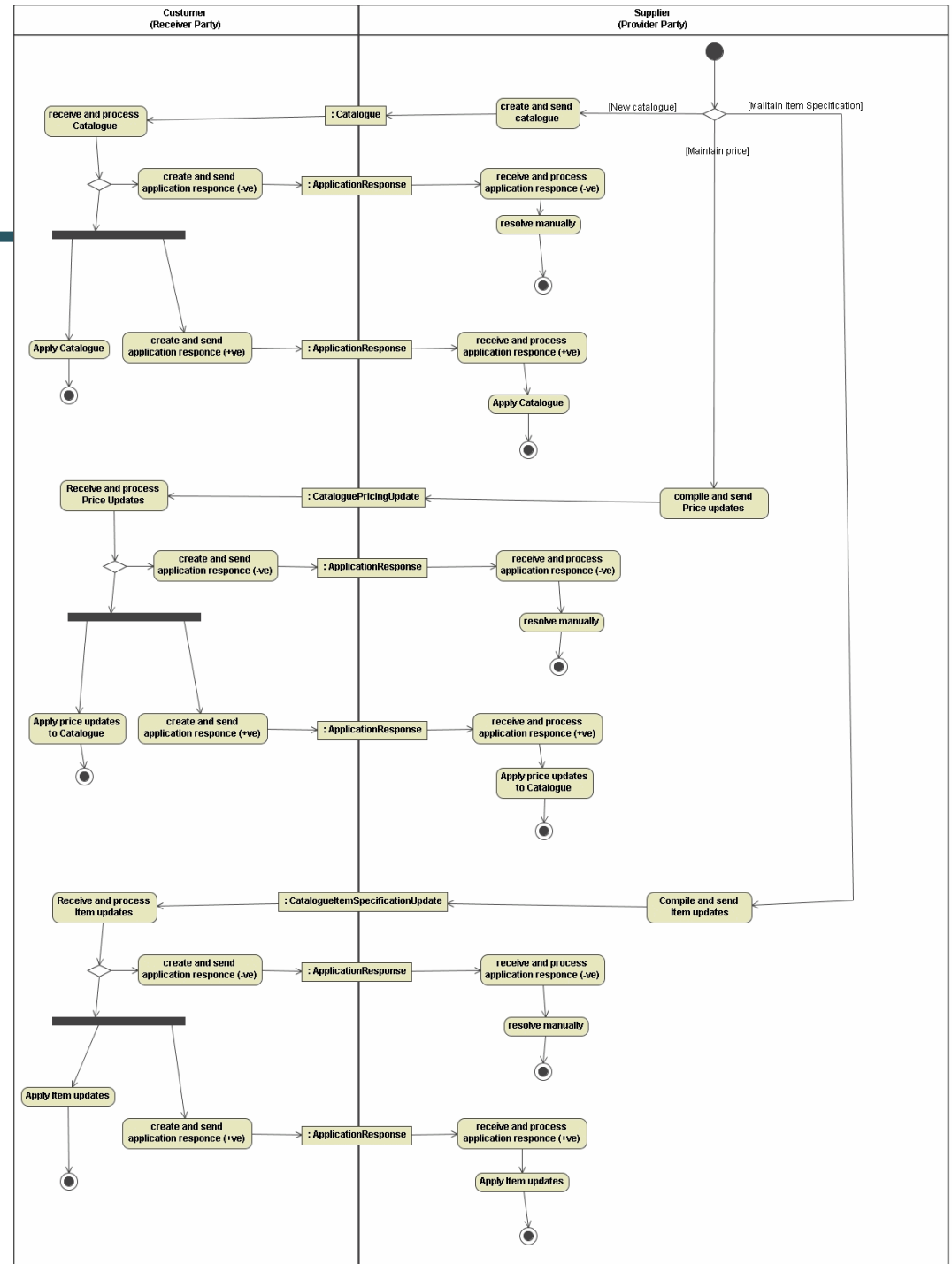
Catalogue Only Process



- This profile describes a process comprising only an electronic Catalogue.
- It allows a Supplier (or third party acting on a Supplier's behalf – Provider) to send a Customer (or third party acting on a Customer's behalf – Receiver) describing items (goods or services) available for purchase.
- This profile allows the Catalogue document to update an existing Catalogue by replacing entire Catalogue Lines.
 - *In this case, the Catalogue document will contain only the Catalogue Lines that are to be added, deleted and/or updated.*
 - *To facilitate this usage, the Catalogue Line contains an action code describing how the recipient should process the Catalogue Line.*
- This process is intended to result in acceptance or rejection of the Catalogue in full by the use of an Application Response.

Catalogue With Updates

- Essentially the same process, but updates are done by separate messages with their own accept/reject processes.



Parties and their roles

NES

- **Supplier – Provider**
 - The Provider Party can be the Supplier or a third party managing the Catalogue on the Supplier's behalf
- **Supplier – Seller**
 - The party responsible for handling Buyer services.
 - If the Provider Party is not the seller of the products, it is possible to specify Seller Supplier Party.
 - The Seller Supplier Party may be specified at either Catalogue document level (single Supplier Catalogue) or at Catalogue Line level (multi Supplier Catalogue).
 - The Seller party is legally responsible for providing the goods and services to the Buyer.
 - Also known as Sales Point, Provider, Customer Manager.
- **Customer – Receiver**
 - The Receiver Party can be the Customer or, for example, a portal or marketplace hosting or managing the Catalogue on the Customer's behalf.
- **Customer – Contractor**
 - The party responsible for the contract to which the Catalogue relates.
 - If the Receiver Party is not the party eventually buying the items in the Catalogue, it is possible to specify Contractor Customer Party.
 - If the Catalogue is not available to all Customers, a specific Contractor Customer Party must be specified at Catalogue document level only i.e. the
 - Catalogue cannot apply to a group of Customers.
 - Also known as Purchasing Manager.

Establish Catalogue Business Requirements

NES

- the Provider sends an electronic Catalogue that can be received and processed by the Receiver
- the Catalogue must contain all information necessary for its use i.e. it shall not rely on the availability of external references such as a centralised repository of product information
- the Catalogue must support:
 - *integrity, authentication and auditing of information content*
 - *item price comparison*
 - *specification of:*
 - item components
 - item accessories
 - required (additional) items
 - replacement items
 - complementary items
- seasonal pricing of the same item by specifying different prices depending on specific validity periods
- specification of the type of tax applicable to an item in a specific location
- identification of items by specification of their attributes and dimensions
- identification of item instances.

Catalogue Only Business Rules

NES

- **At Document level**
 1. *prices expressed in a Catalogue must apply to one specific Customer or to all Customers (a general Catalogue).*
 2. *if a contract between the Customer and the Supplier exists, its terms overrule those stated in the Catalogue.*
 3. *a Catalogue without a stated validity period is assumed to have unlimited validity.*
 4. *acceptance and rejection apply to the entire Catalogue (including additions, updates and deletions)*
- **At Line level**
 1. all Catalogue Lines must contain an item (goods or service) with an identifier.
 2. all Catalogue Lines must contain an action code specifying whether the recipient should 'add', 'update' or 'delete' the Catalogue Line; on initial transmission, all Catalogue Lines should be set to 'add'.
 3. all items must have an order unit and a price per unit.
 4. although items may be classified by a number of schemes, one of the item classifiers must be UN/SPSC1 for all items.
 5. hazardous item information must be provided if the item is indicated as being hazardous.

Catalogue Only Exceptions

NES

- Electronic tendering is out of scope of this profile.
- Catalogue negotiation, request and deletion processes are external.
- The Catalogue cannot be used to express different prices for a specific group of Customers.

Catalogue Only

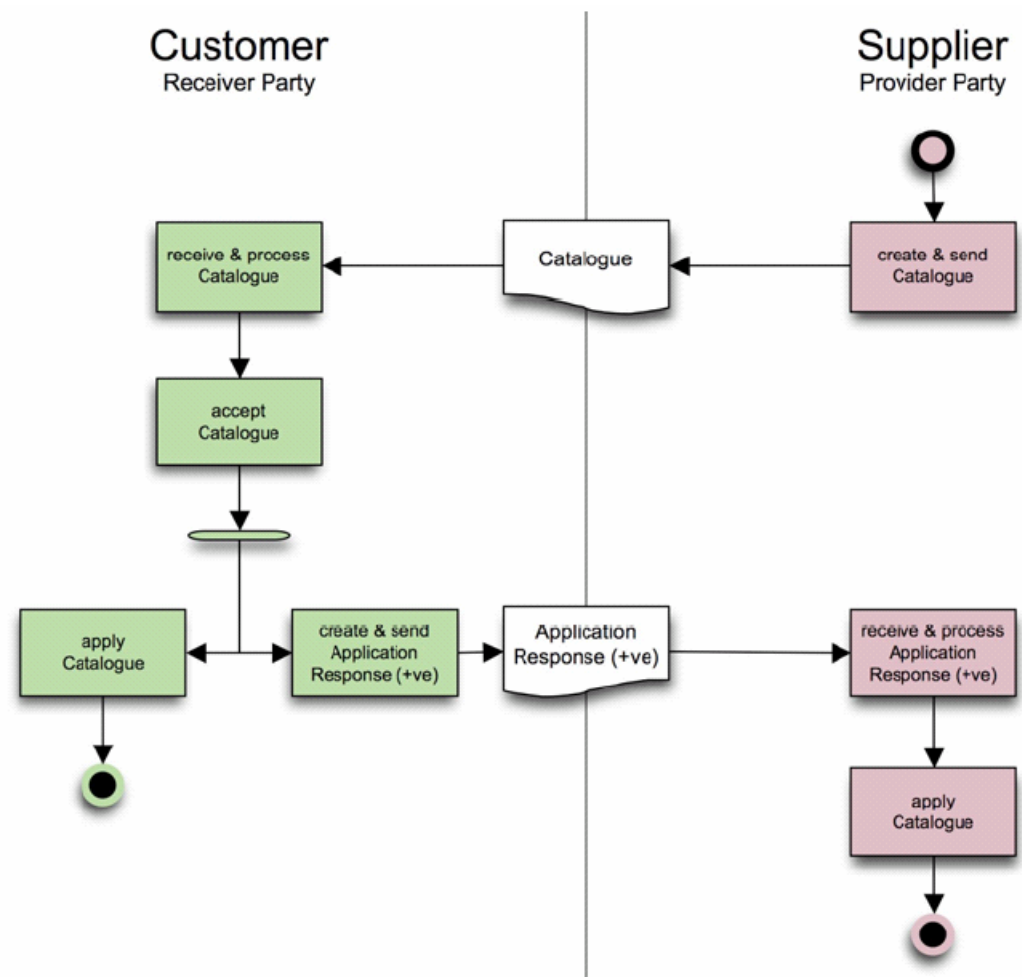
Pre- and Post conditions

NES

- Pre-conditions
 - the Provider and the Receiver have identified each other.
 - the Receiver has agreed to accept electronic Catalogues that use the standard.
- Post-conditions (scenarios)
 - accepted Catalogue
 - rejected Catalogue

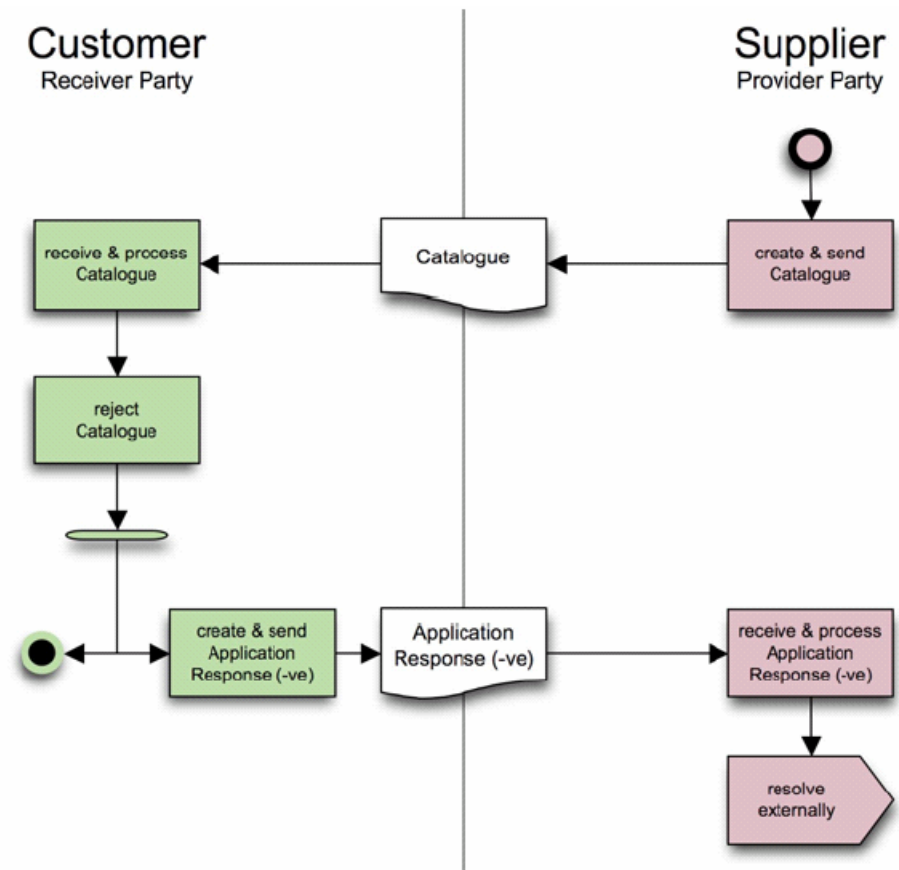
Catalogue Only Accepted Catalogue

- The Receiver accepts the Catalogue in full and sends a positive Application Response the Provider.
- The Catalogue is made available for trade by the Receiver and Provider (Customer and Supplier).



Catalogue Only Rejected Catalogue

- The Receiver rejects the Catalogue in full and sends a negative Application Response to the Provider.
- The Catalogue is not made available for trade; resolution is external.



Information content in Catalogue messages

NES

Jostein Frømyr, project coordinator

Presentation at Verva
March 6, 2007

Changes following public review

NES

- Changes in information content of the catalogue messages have been implemented following the public review in order to
 - *achieve better alignment with OIOUBL and*
 - *to ensure consistency between the three catalogue related messages.*

Catalogue

High level structure

NES

- Catalogue
 - *Catalogue identification and validity*
 - *Trading terms*
 - *Parties*
 - *Catalogue lines*
 - Line identification
 - Warranty
 - Product components
 - Taxes
 - Comparison prices
 - Price
 - Prices and their validity
 - Allowance and charges
 - *Product specification*
 - Product identification
 - Description
 - Instances

<http://www.nesubl.eu/>