

**UN/CEFACT
MultiModal Transport (MMT)
Reference Data Model**

Project Presentation

Sue Probert

on behalf of

**UN/CEFACT Supply Chain PDA
International Transport & Logistics Domain**

MMT Project Announcement

<http://www1.unece.org/cefact/platform/display/CNP/P1023+--+ODP+1+--+Project+Inception>

October 27th 2014 – UN/CEFACT Home Page

Call for Participation on Project “Multi Model Transport Reference Model (MMT)”.

Following approval of the "[Multi Modal Transport Reference Data Model \(MMT\) Project](#)" this is to announce a call for participation.

This Project concerns developing a Multi Modal Transport (MMT) reference data model, as a limited structured subset of the UN/CEFACT ebXML Core Components Library, providing semantic links especially between the Core Components and the EDIFACT implementations.

To register interest in participating or for more information please contact Mr. David Hesketh (email: david.hesketh@hmrc.gsi.gov.uk).

MMT Project Purpose

- The purpose of the project is to develop a Multi Modal Transport (MMT) reference data model, being a limited structured subset of the UN/CEFACT ebXML Core Components Library, providing semantic links especially between the Core Components and the EDIFACT implementations (in particular the worldwide implementation guidelines produced by ITIGG - International Transport Implementation Guidelines Group) a subgroup of previous TBG3. Other data model standards of interest to the transport sector will be considered, such as standards from individual modes of transport, the IATA CargoXML standards and other related sectors such as cross-border regulation covered by the scope of the WCO Data Model.
- For several years work has been done to define a data pipeline for supply chain visibility, transport and cross-border regulatory agencies. The MMT project will contribute a standardised reference data model as a base pillar for a globally defined data pipeline.

MMT Project Goals

- Providing Exchange Syntax Neutral Reference Data Model for Supporting Domain Data Exchange Interoperability
- Supporting Cross-Border Regulatory Interfaces
- Providing Migration Paths from UN/EDIFACT and UN/Layout Documents
- Providing mappings to Related Data Models

MMT Project Deliverables

- a) **A structured MultiModal Transport reference data model based on the latest release of CCL v2.01**
- b) **Semantics links with the Transport UN/EDIFACT messaging and other standards/data dictionaries (TDED, TDID, ITIGG, GS1, WCO data Model, UBL.....) to support increased interoperability between data exchange structures and standard mappings with different trading partners**
- c) **Guidelines to produce XML messages based on the UN/CEFACT NDR (Naming and Design Rules) v2.1**

This project is strongly related to the parallel **Common Framework for Freight Information Exchange project** proposal (also announced today!) to develop an information note. Both projects are interested in freight data exchange interoperability. The MMT project's deliverables will provide a strong semantic framework as a major contribution to the common framework project. It is important for these two projects to be collaborative in nature and share elements of importance between their respective team members.

MMT Project Contributions

- UN/CEFACT Core Components Library – CCL v2.01
- UNECE Recommendations and Code Lists
- UN/EDIFACT EDI documents/messages relating to Road, Maritime and Air Transport, Railroad, Authorities, including IMO FAL Forms
- Recommendations from ITIGG ((International Transport Implementation Guidelines Group)
- Guide to the UN/EDIFACT containers messages (SMDG/TBG3/ITIGG)
- BRS for International Forwarding and Transport
- WCO Data Model
- UBL Standards
- IATA CargoXML
- Plus others as become available

MMT Project Leadership

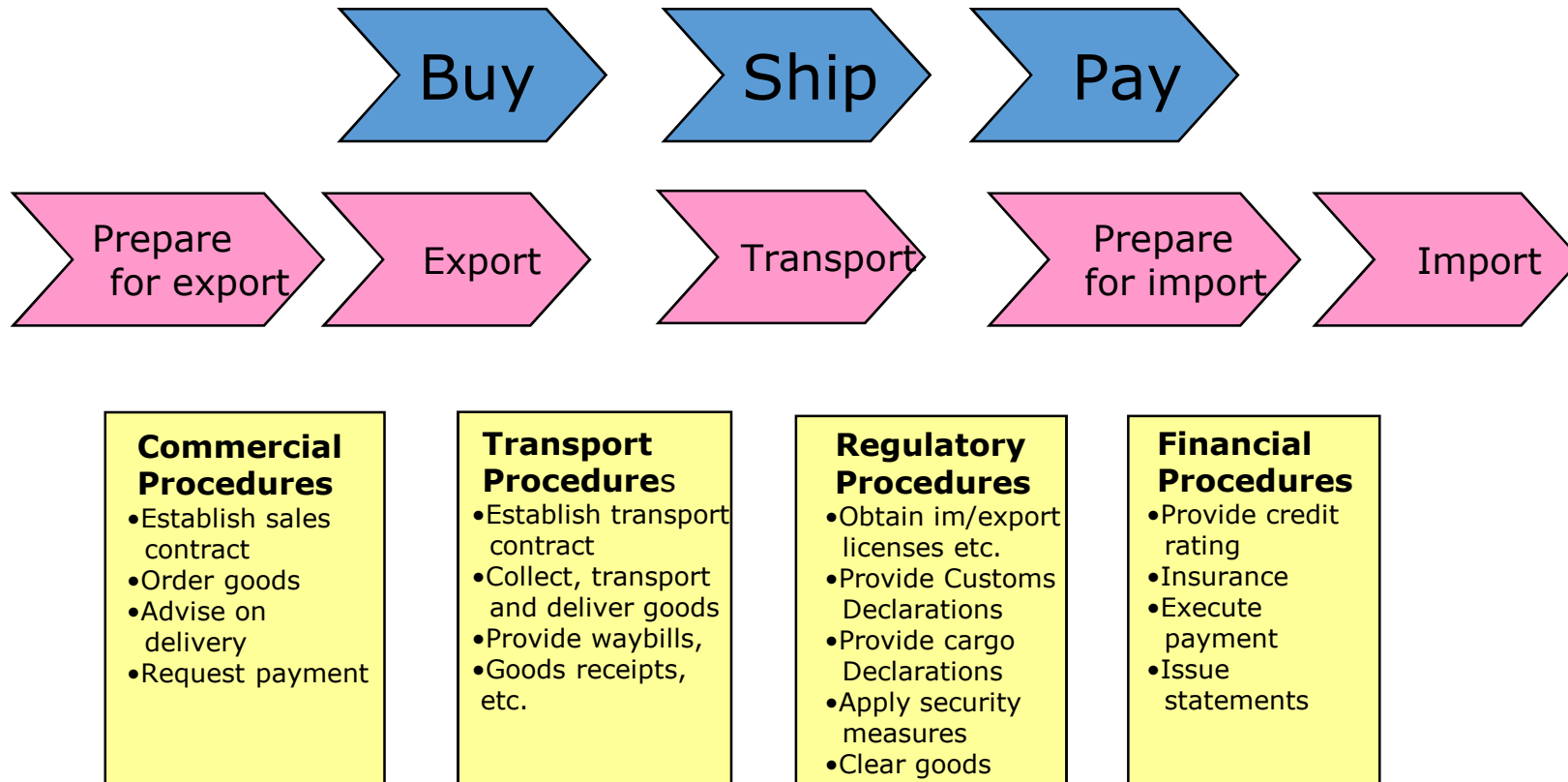
- Leader Mr David Hesketh (UK Customs)
- Co-Leader Ms Anne Sandretto (FR TLF)
- Lead Editor Ms Sue Probert (SEPIAeb)
sue.probert@sepiaeb.com

Basis for Semantic Interoperability

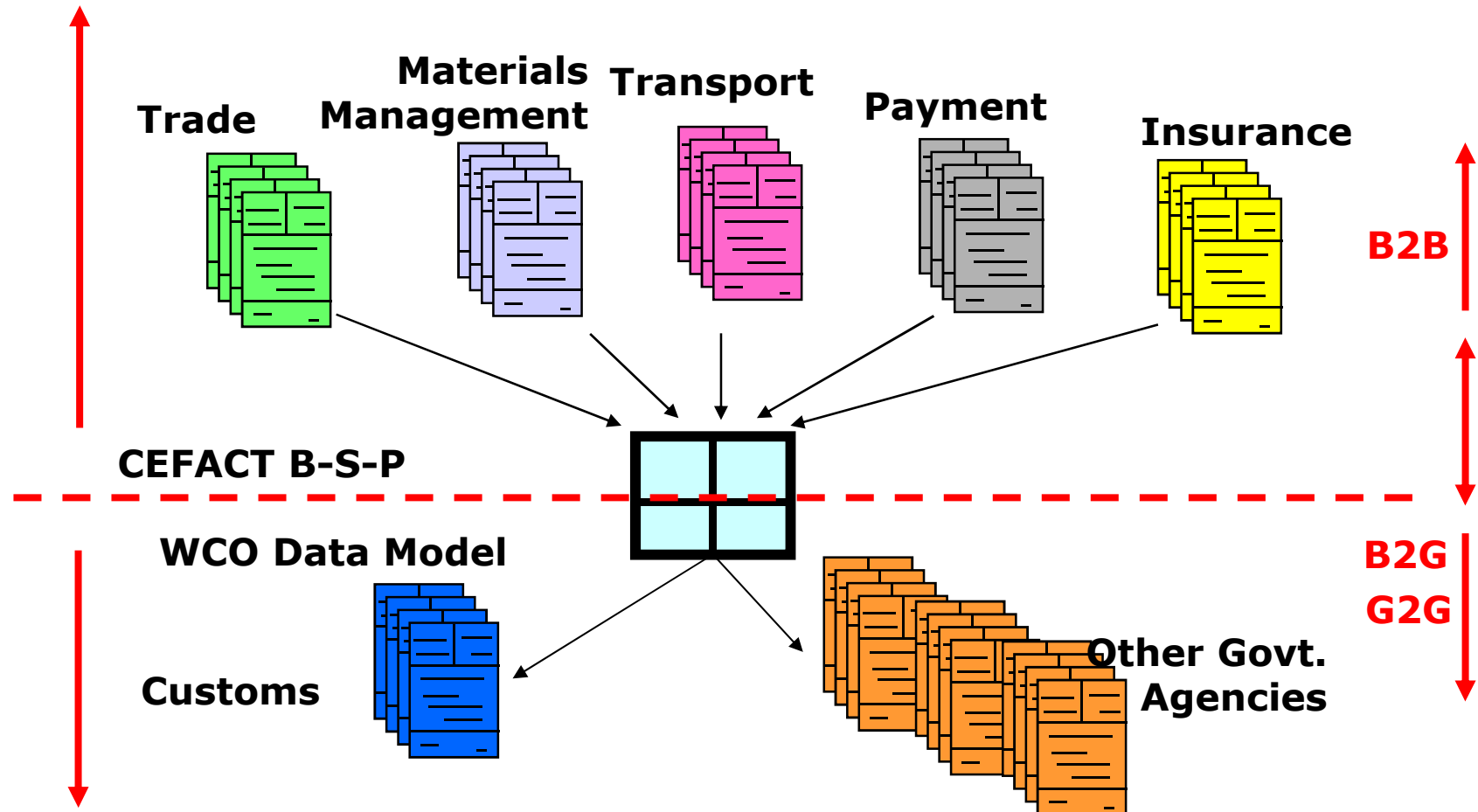
Agreed and Harmonised

- Party and Role Definitions
- Semantic Anchors
- Message Structures
- Contextualised Code Subsets
- Contextualised Business Rules

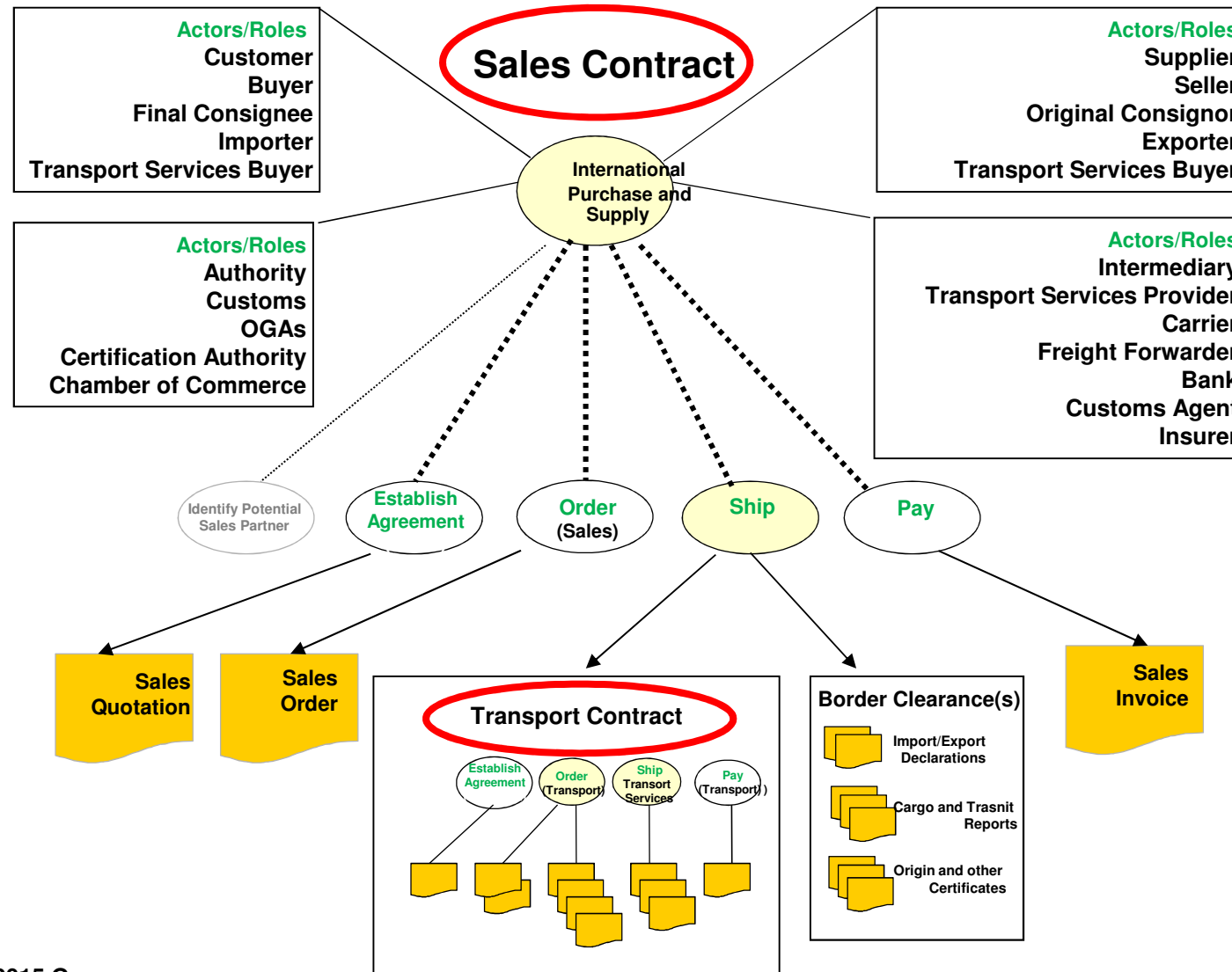
UN/CEFACT Buy/Ship/Pay (BSP) Business Process Reference Model



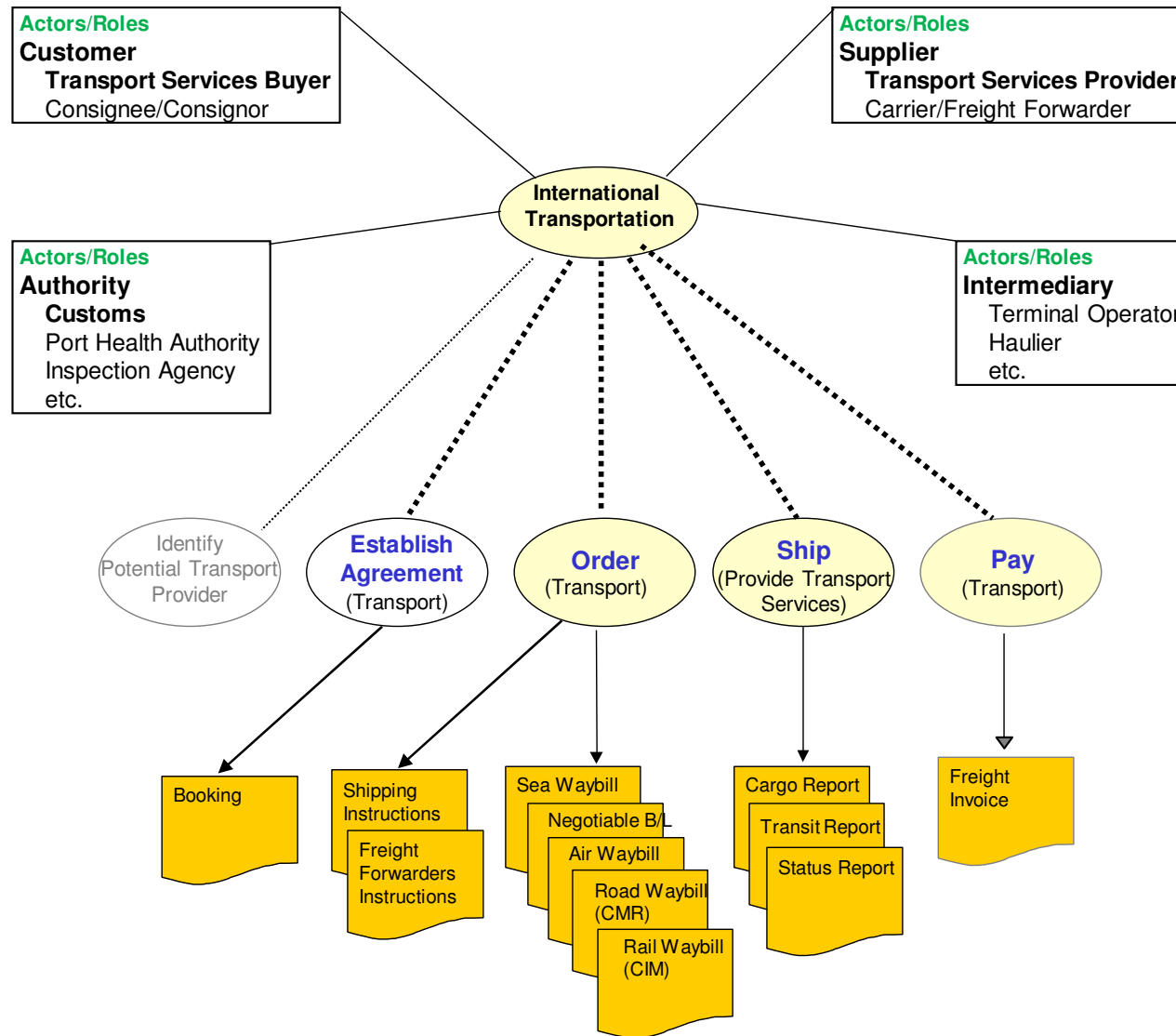
Single Windows document families



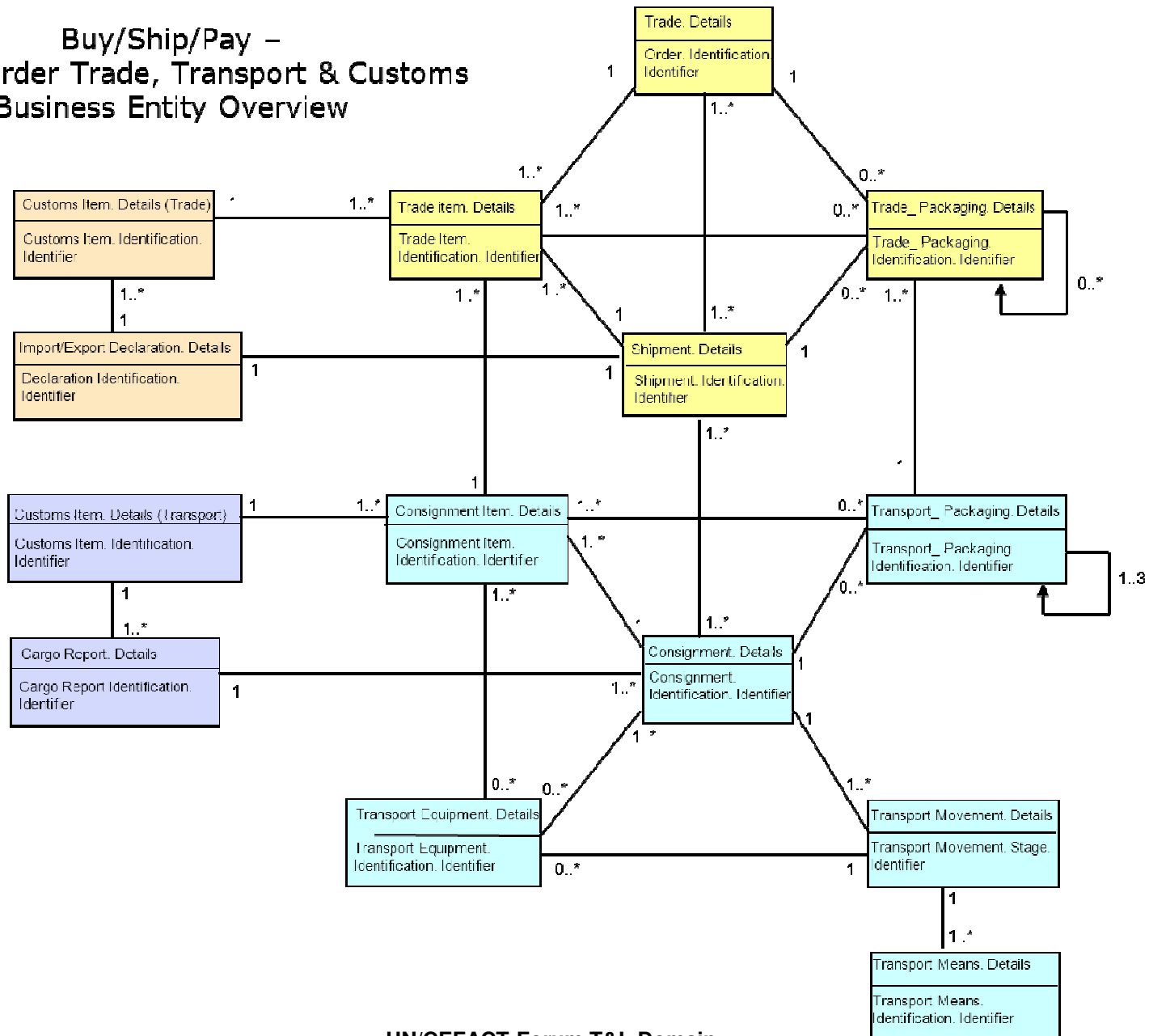
The Relationship between the Sales and Transport Service Contracts



The Transport Service Contract



Buy/Ship/Pay – Cross-Border Trade, Transport & Customs Business Entity Overview



UN/CEFACT Transport & Logistics Domain within the Supply Chain PDA

Rich Heritage built over many years...

Members

Modal
Organisations

Transport
eCommunity
Groups

Transport
Companies

Liaisons

ISO TC204 &
TC154

WCO

Agriculture
Domain

Insurance
Domain
etc.

Cast of
Characters
too many to
mention

...

UN/CEFACT Transport & Logistics Domain Scope

Processes

Commercial -
*Booking,
Instruction,
Status Tracking
etc.*

Operations -
*Container Handling
etc.*

Regulatory Interfaces -
*Cargo Reports
IMO/FAL
Dangerous Goods
Port Health
CITES
etc.*

Geographic Reach

Global

Principles

**Multimodal and
Intermodal**

**FCL and LCL -
Single and
Multiconsignment
Consolidation/
Deconsolidation**



ITIGG is a subgroup of the T&L Domain and is an international group of experts engaged in the development and implementation of UN/EDIFACT standard messages for electronic trading in the transport industry.

ITIGG has developed and published harmonised UN/EDIFACT guidelines for through consistent recommendations which apply across all modes.

ITIGG Principles and rules for UN/EDIFACT implementation

- **General Recommendations**

Recommendations on segment, data element and code usage which should be applied to all messages implemented for use by the transport industry. All specific recommendations for particular messages reflect these basic principles.

- **Transport Freight Movements** - version 2.0

Recommendations for use of the (IFTMBC), Shipping or Forwarding Instructions (IFTMIN), Bills of Lading or Waybills (IFTMCS) and Arrival Notices (IFTMAN), as well as the multi-consignment IFCSUM message.

- **Transport Equipment Movements** - version 2.0 (maritime)

(Operational Equipment-based Messages - CO****) for use of the UN/EDIFACT Container Message Set - O**** messages, including messages for Gate Movement Reports and Equipment Status Changes (CODECO), Ship Loading and Discharge (COPRAR and COARRI) and Equipment Movement Pre-notification (COPARN), amongst others.

- **Application Acknowledgement Message** - version 2.0

Recommendations for use of the UN/EDIFACT APERAK message.

- **Status Tracking Messages** version 2.0 (multimodal)

Recommendations for use of the UN/EDIFACT messages for requesting and reporting cargo/consignment status and consignment tracking (IFTSTQ/IFTSTA).

- **Transport Equipment Damage & Repair Message** - version 1.0

Recommendations for use of the UN/EDIFACT DESTIM message.

- **Dangerous Goods Messages** - version 1.0

Recommendations for use of the UN/EDIFACT IFTIAG and IFTDGN messages.

- **Berth Management Message** - version 1.0

Recommendations for use of the UN/EDIFACT BERMAN message

ITIGG Principles and rules - Example

RECOMMENDATION JM4/354 - USE OF THE RFF TRIGGER SEGMENT WITHIN THE RFF GROUP WITHIN THE TDT GROUP

FUNCTION OF THE SEGMENT

This RFF segment is the trigger segment of the RFF Group and is used to specify a reference which applies to the stage or means of transport specified in the preceding TDT segment.

RECOMMENDED SEGMENT USAGE

Use of the RFF trigger segment within this group is mandatory in all messages with one repeat.

RECOMMENDED SEGMENT DETAIL

MSG	REC	ELEMENT	DESCRIPTION	SIZE/TYPE
M M	C506	REFERENCE		
M M	1153	Reference qualifier		an..3
		AAY	Carrier's agent reference number	
		CN	Carrier's reference number	
		CV	Container operators reference number	
		[SSX]	Ship's Stay Reference	
		ABZ	Vehicle License number (registration number)	
		VON	Voyage number (Alternative)	
		VT	Motor Vehicle Identification Number (VIN number)	
C R	1154	Reference number		an..35
C O	1156	Line number		an..6
C X	4000	reference version number		-

NOTES ON RECOMMENDATION

- 1153: The code VON is only required if a second voyage number is to be transmitted, other than the vessel operator's number which always appears in the TDT.
The code CV refers to a slot charterer on a vessel, or a vessel sharing partner.

International Forwarding & Transport Business Requirements Specification Version 1.0

3. Objectives

To standardise the business processes, the business transactions and the information entities for the multimodal international transport and logistics domain by producing a syntax neutral business process model and a corresponding data model (class diagram) covering forwarding and transportation, incorporating current and developing standards and positioning this within the International Supply Chain Reference Model.

The business information entities described in the class diagram have been developed such that they can be reusable across all industries and modes of transport.

- It is recommended that each mode of transport and or each industry sector should base the development of their more specific forwarding and transportation BRS on this multimodal multi-sectoral BRS in order to satisfy their particular business requirements.
- It is also strongly recommended that this BRS should be used as a key reference point during the development of any transport related BRS especially the data model (class diagram).

Basis for Semantic Interoperability

Agreed and Harmonised

- Party and Role Definitions
- Semantic Anchors
- Message Structures
- Contextualised Code Subsets
- Contextualised Business Rules

Key Parties and Roles - Trade and Transport

Sales Order Contract	Transport Service Contract	Definition
Seller	Original Consignor/Original Shipper	The party selling goods or services as stipulated in a Sales Order Contract.
Buyer	Final Consignee/Ultimate Consignee	The party to whom goods are sold services as stipulated in a Sales Order Contract.
	Transport Services Buyer (Consignor or Consignee)	The buyer of transport services as stipulated in a Transport Service Contract.
	Transport Services Provider (Carrier or Freight Forwarder)	The provider i.e. seller of transport services as stipulated in a Transport Service Contract.
	Consignor	The party consigning goods as stipulated in a Transport Service Contract.
	Consignee	The party receiving a consignment of goods as stipulated in a Transport Service Contract.
	Carrier	The party which provides transport services.
	Freight Forwarder	The party undertaking the forwarding of goods by provision of transport, logistics, associated formalities services etc.
	Despatch Party	The party from whom the goods are collected or taken over by the transport services provider. Operational term is 'Pick-up Place'.
	Delivery Party	The party to which goods should be delivered by the transport services provider. Operational term is 'Place of Positioning'.
Ship From	Original Despatch Party	The party from whom goods will be or have been originally shipped.
Ship To	Final Delivery Party/Ultimate Delivery Party	The party to whom goods will be or have been ultimately shipped.

Semantic Anchors

Shipment

A shipment is an identifiable collection of one or more Trade Items (available to be) transported together from the Seller (Original Consignor/Shipper), to the Buyer (Final/Ultimate Consignee):

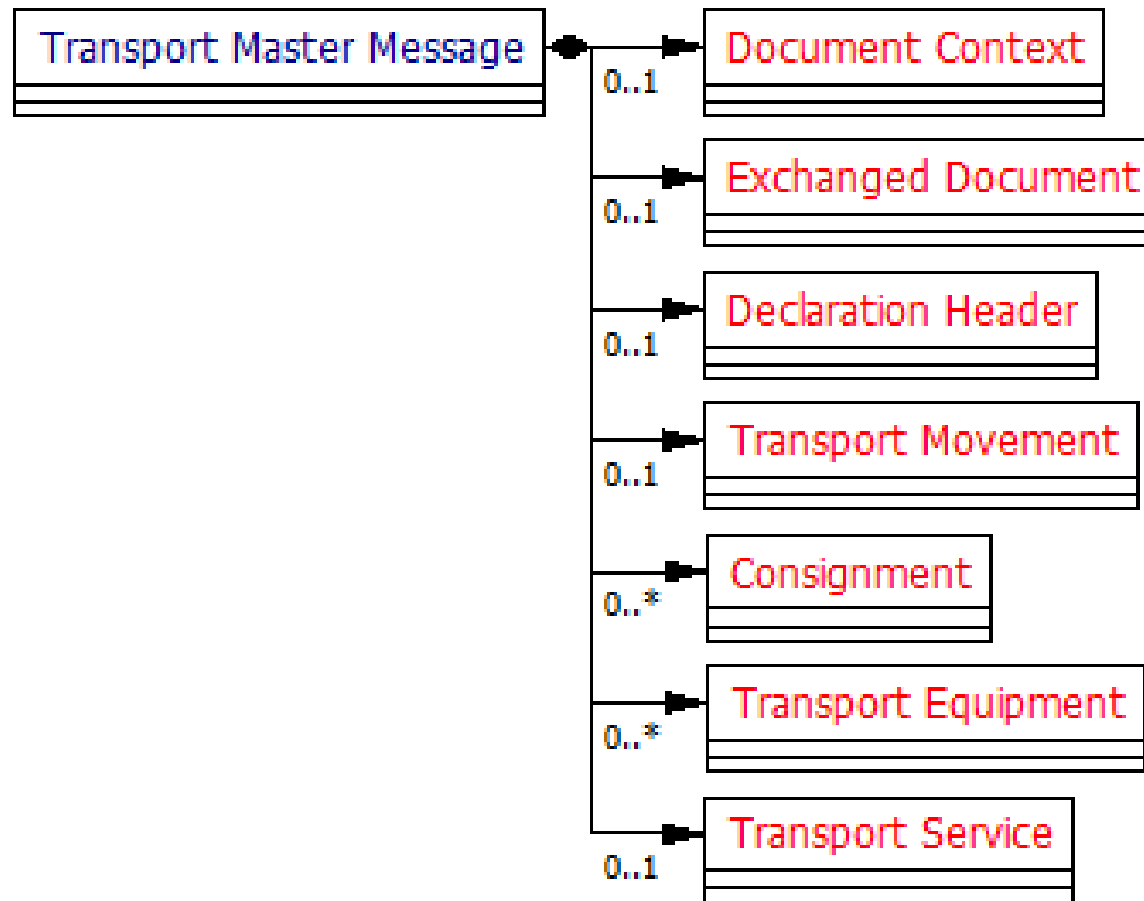
- A Shipment can only be destined for one Buyer
- A Shipment can be made up of some or all Trade Items from one or more Sales Orders
- A Shipment can have only one Customs UCR
- A shipment may form part or all of a Consignment or may be transported in different Consignments.

Consignment

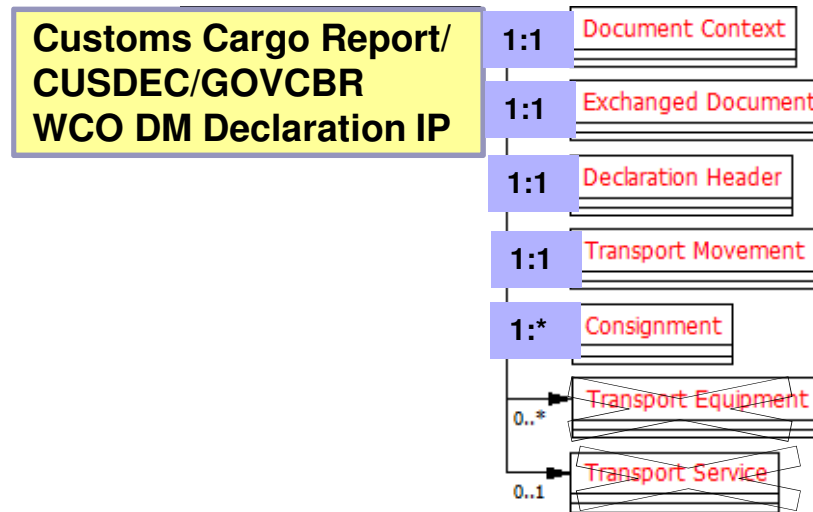
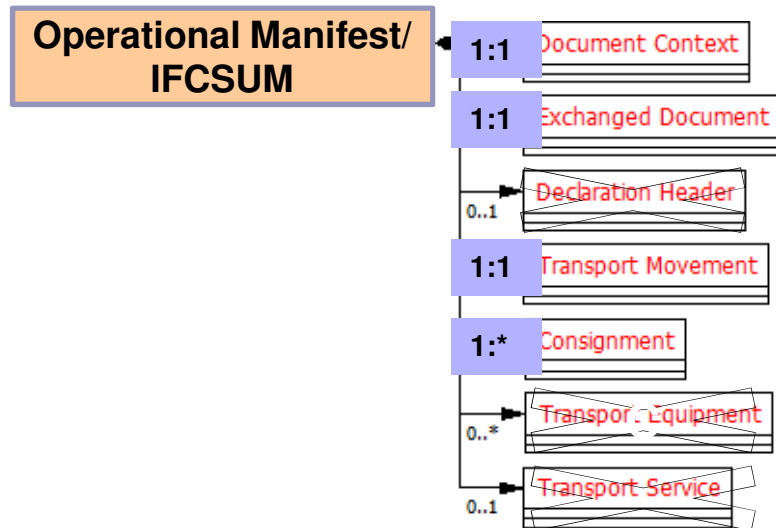
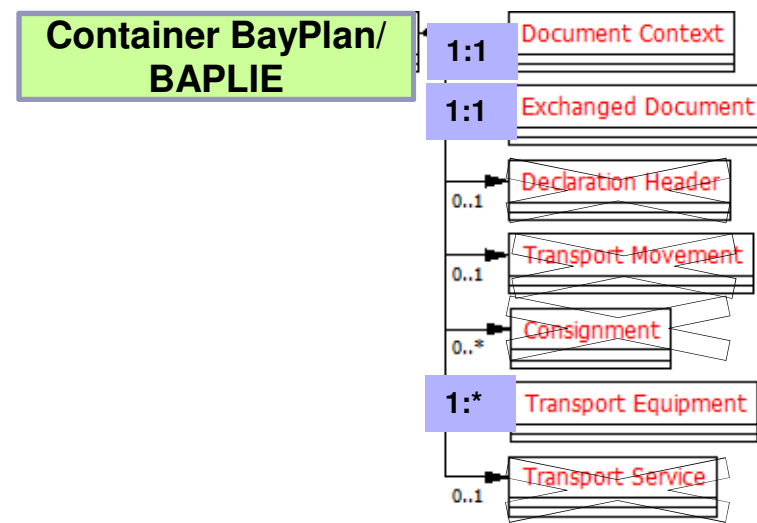
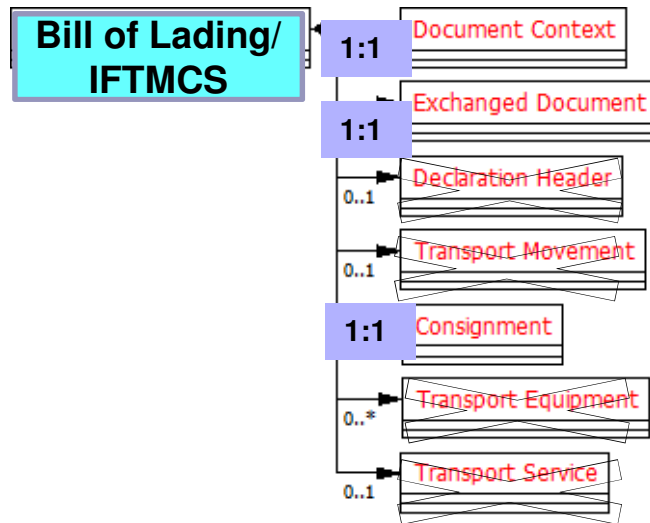
A consignment is a separately identifiable collection of Consignment Items (available to be) transported from one Consignor to one Consignee via one or more modes of transport as specified in one single transport service contractual document:

- A Consignment can only have one Transport Service Buyer
- A Consignment can only have one Transport Service Provider
- A Consignment can only have one Consignor
- A Consignment can only have one Consignee
- The Transport Service Buyer can be either the Consignor or the Consignee
- A Consignment is made up of one or more Consignment Items
- A Consignment can be made up of some or all Trade Items (aggregated into Consignment Items) from one or more Shipments

Master Message Structure



Subset Message Structures



UN/CEFACT Core Component Library (CCL)

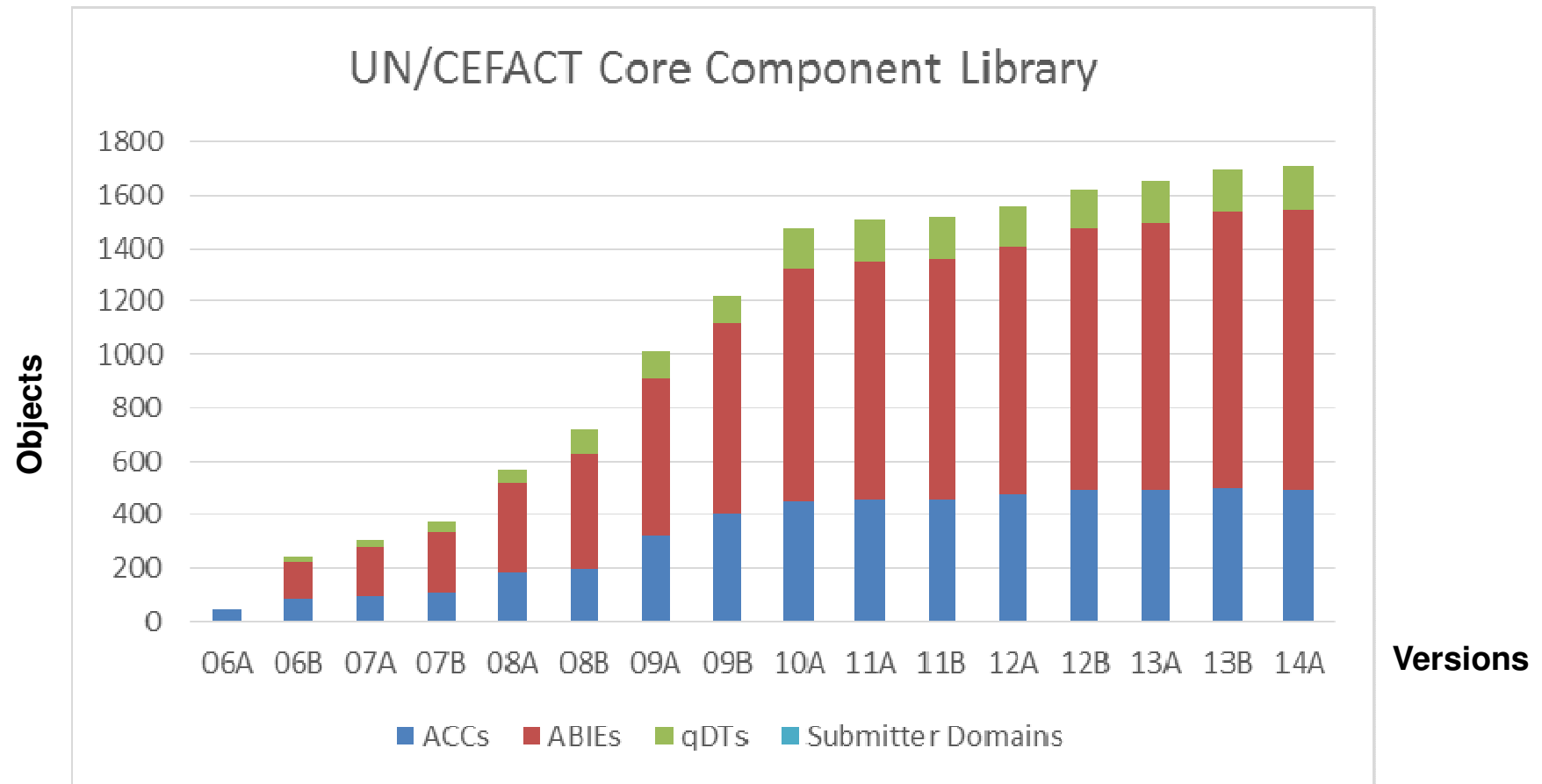
Latest Version D14A

- 1000+ Aggregated Business Entities (ABIEs) in total
- Only **132** ABIEs needed for T&L and Supply Chain (Buy/Ship/Pay)

Reuses of CCL subset for T&L and Supply Chain and T&L Master Message Structure

- Agricultural eCert and Animal Passports
- EU SSXML (Short Sea XML - Scheduling, Booking, Manifest and Status)
- NOSCIFEL (French Project)
- IATA CargoXML
- CITES ePermit
- EU CORE Project (WP10 – data pipeline pilots)
- WCO Data Model cooperation
- Cross-Industry Supply Chain Messages (**BUY Master Message Structure**)

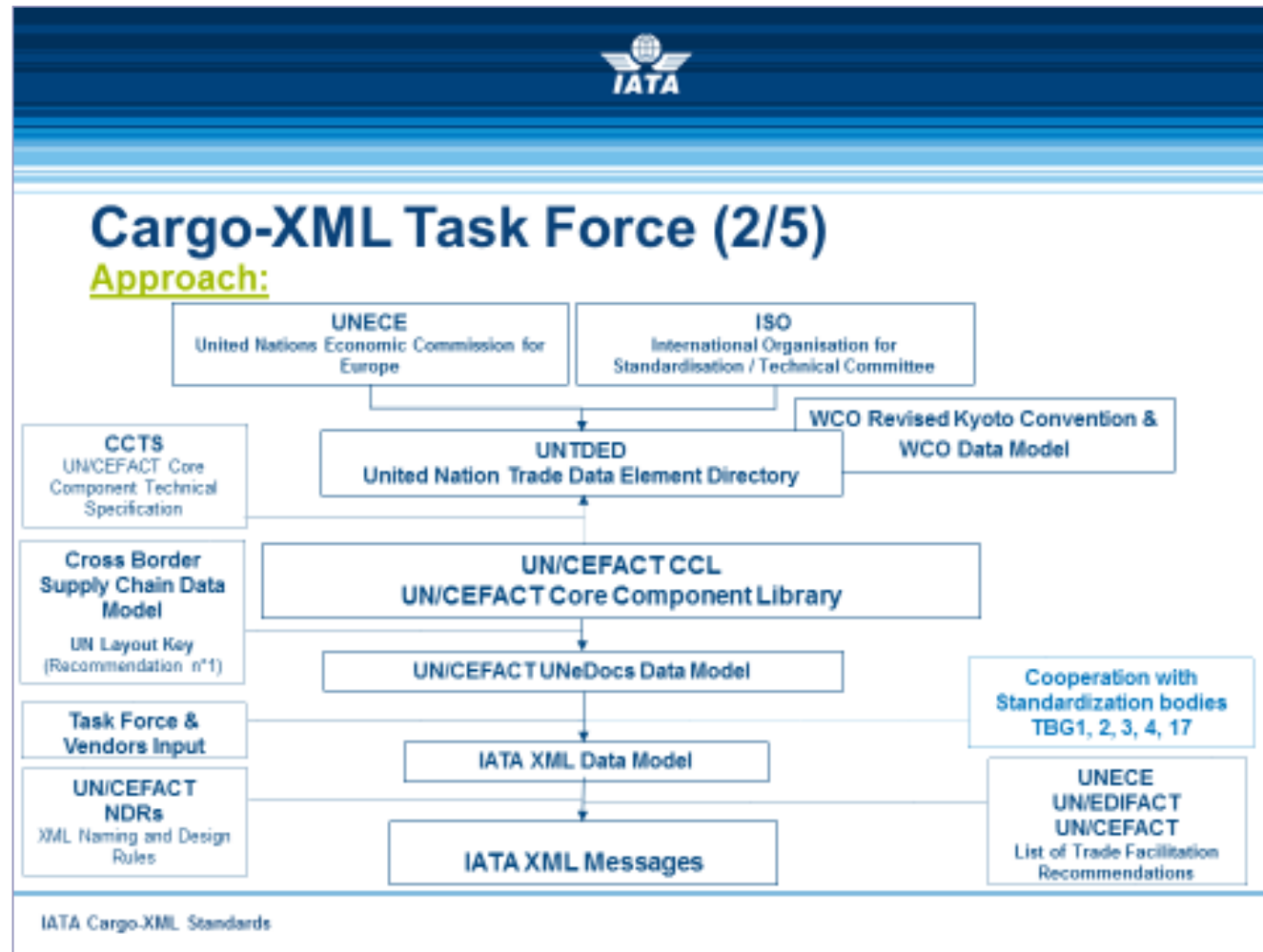
UN/CEFACT Core Component Library



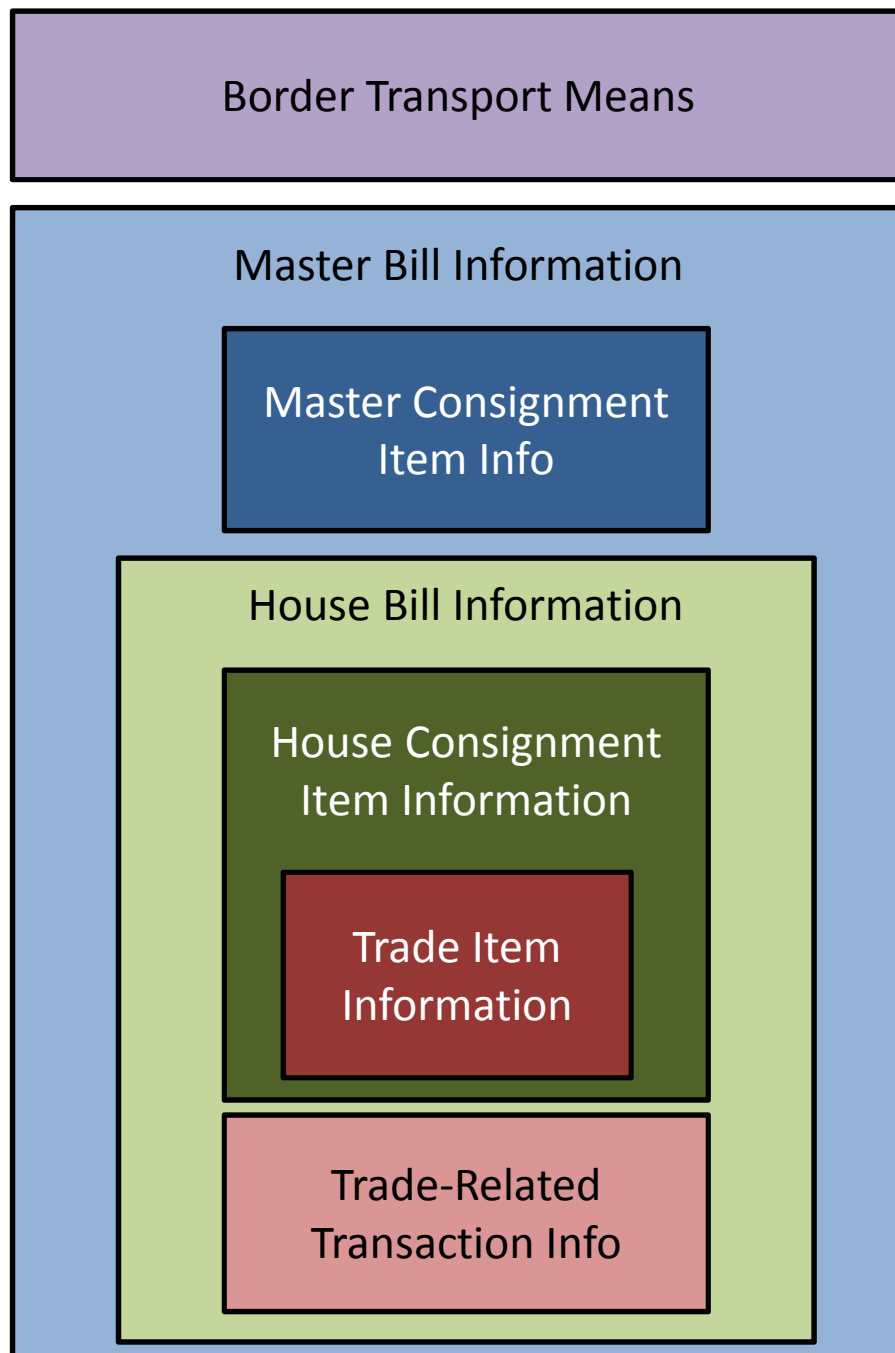
Key:

ABIE - Aggregate Business Information Entities
 ACC - Aggregate Core Component
 qDT - Qualified DataType

IATA CargoXML reuse of Standards



Copyright IATA 2013/14



EU CORE WP10 Data Pipeline

Logic of the relationship of levels of information

Border Transport Means is used for all of the information concerning a Master Bill which will be consistent for all consignments (necessary to be separated for CRE / CRI declarations and bringing in manifests)

If there is a FCL (direct Master), there will still be the layer of 'House Bill' in order to maintain the relationship within the data.

If there are multiple LCL (one Master with multiple Houses established by NVOCCs), then there will be one Master set of data and multiple Houses.

The Trade-Related Transaction information contains the commercial contract information.