UN/CEFACT

United Nations Centre for
Trade Facilitation and electronic Business

Data Standards for International Trade

Harmonising Data Exchange Standards for Maritime Logistics

Global Maritime Logistics Dialogue, Brussels

November 30, 2018

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Chair, UN/CEFACT
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Agenda

- Introduction to UN/CEFACT
  - Who we are
  - What we do
  - How we do it
  - Maritime data standards – our history
- The cross-border dimensions and importance of:
  - Multi Modal Standards
  - Semantic Anchors
  - Multi Syntax Reality
  - Cross-border and Regulatory Requirements
- State of play
  - Current projects
  - References

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The UN Centre for Trade Facilitation and electronic Business

Objectives

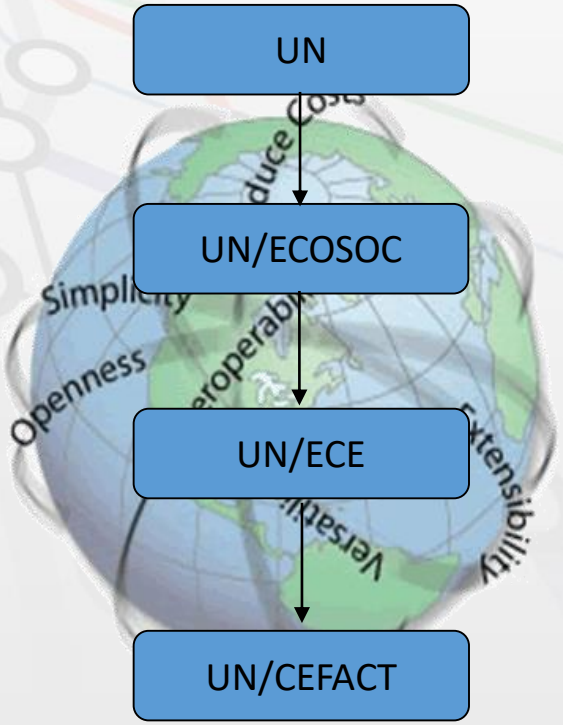
- Simple, transparent and effective processes for global business
- Efficient and automated exchange of information

Outputs

- Global Trade Facilitation and Electronic Business Recommendations and Standards

Means

- Public Private Sector Partnership – over 400 experts from government and business
- Experts meet via internet every week plus two Face-to-Face Forums per year



Global Remit

Unique Credentials

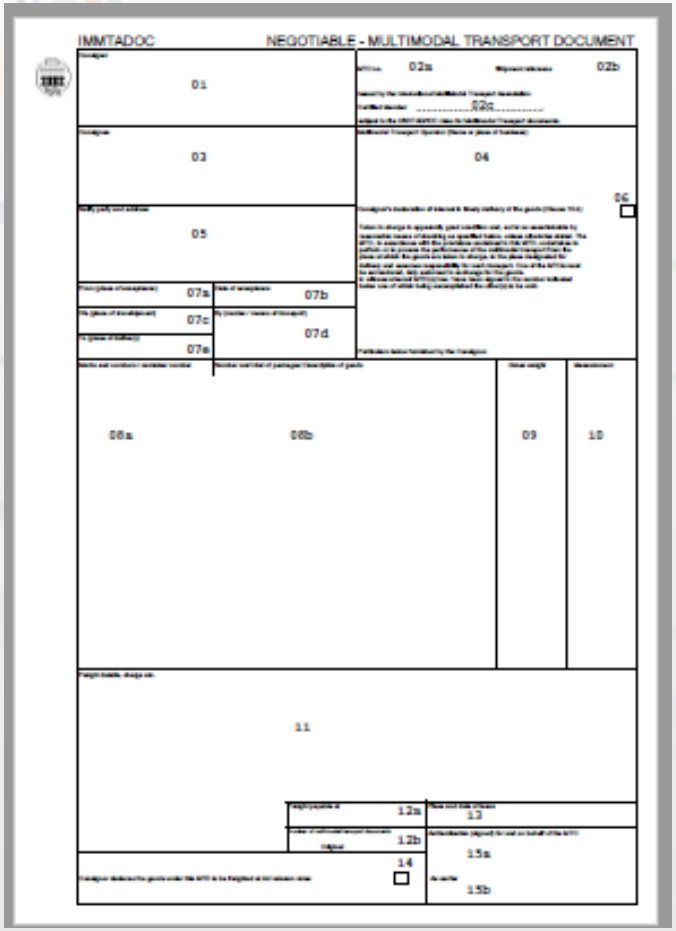
- Global Reach
- UN Blue Badge - SDGs
- Transparency and Independence
- Voluntary Expert Contributions
- Open Development Process
- International Supply Chain = Holistic Focus
- Free-for-use Deliverables
- Trustability - Quality and Longevity

Key Semantic Outputs

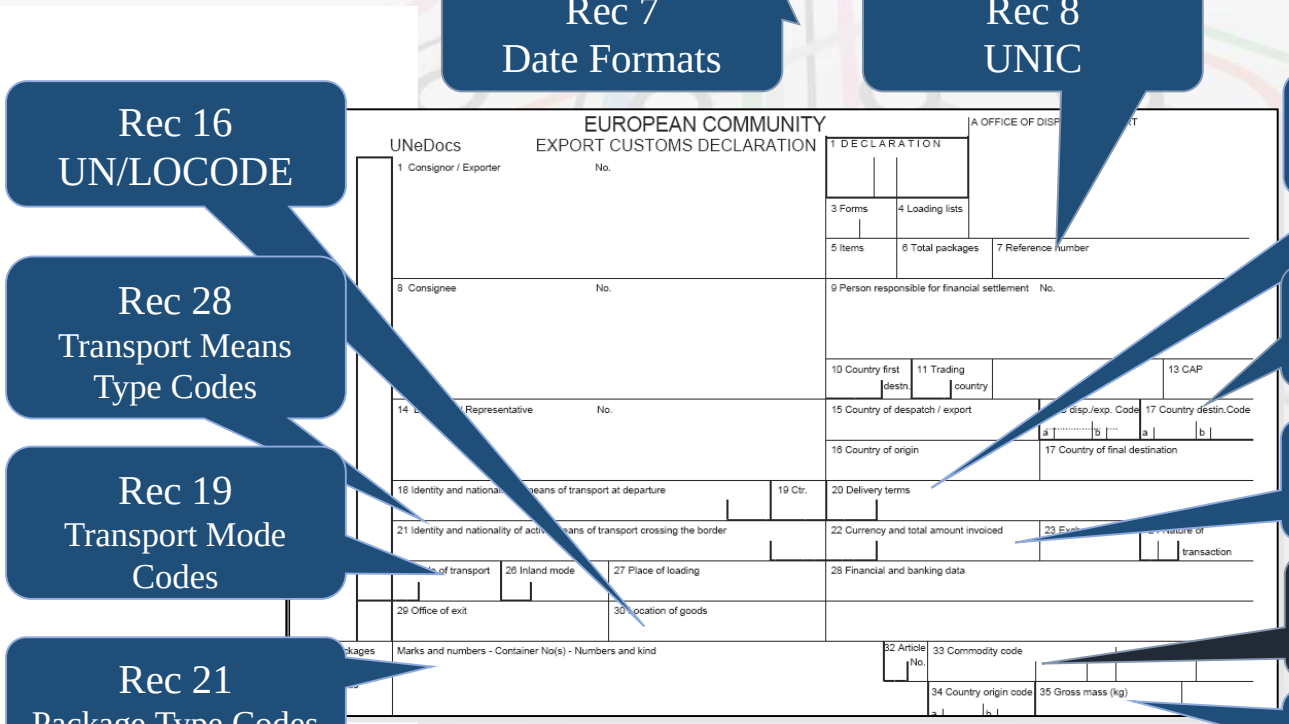
- Internationally developed and agreed Trade Facilitation Recommendation Code Lists
- Internationally developed and agreed Business Standards
- UNTDED (ISO 7372)
- Reference Data Models (Buy/Ship/Pay)
- Continually Maintained Libraries
  - UN Core Component Library (CCL)
  - UN/EDIFACT directories
  - UN/XML Schemas
  - Globally applicable Code Sets (UNCL)

Recommendation 1: UN Layout Key

- Specifically endorsed in the WTO TF Agreement and the WCO Revised Kyoto Convention
- Provides a common basis for the layout of trade-related documents and the information they contain:
  - Endorsed by key international organizations
  - E.g. Basis for the EU Single Administrative Document (SAD)
- All data elements in UNLK aligned documents have electronic equivalents in UN/EDIFACT, UN/CCL, …
- Recommendation has recently been revised



UN/CEFACT – International Code Lists



Rec 7
Date Formats

Rec 8
UNIC

Rec 16
UN/LOCODE

Rec 5 (ICC)
INCOTERMS

Rec 28
Transport Means
Type Codes

Rec 3 (ISO)
Country Codes

Rec 19
Transport Mode
Codes

Rec 9 (ISO)
Currency Codes

Commodity
Codes (WCO HS)

Rec 21
Package Type Codes

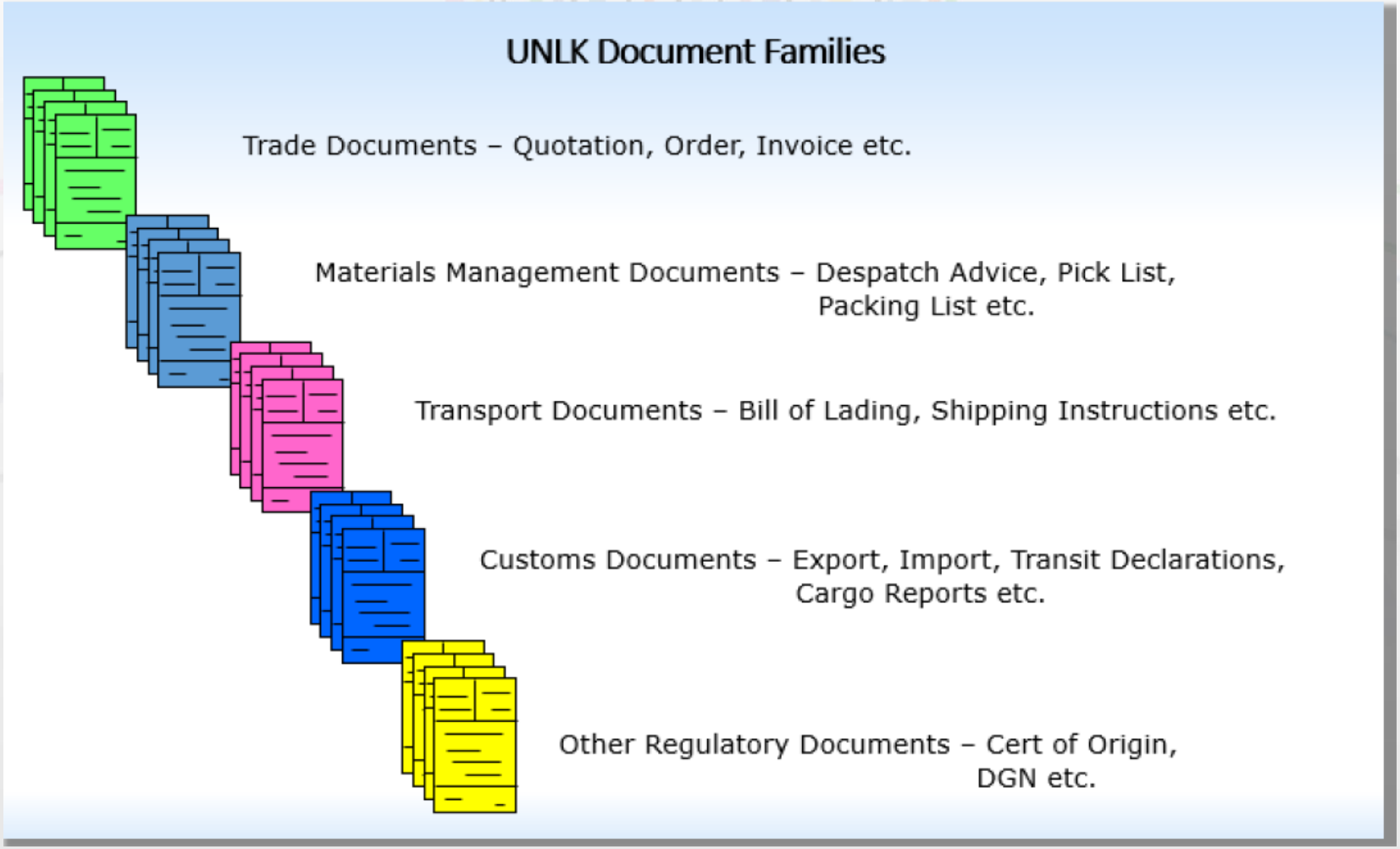
Rec 20 Units of
Measurement

Rec 24
Logistics Status
Codes

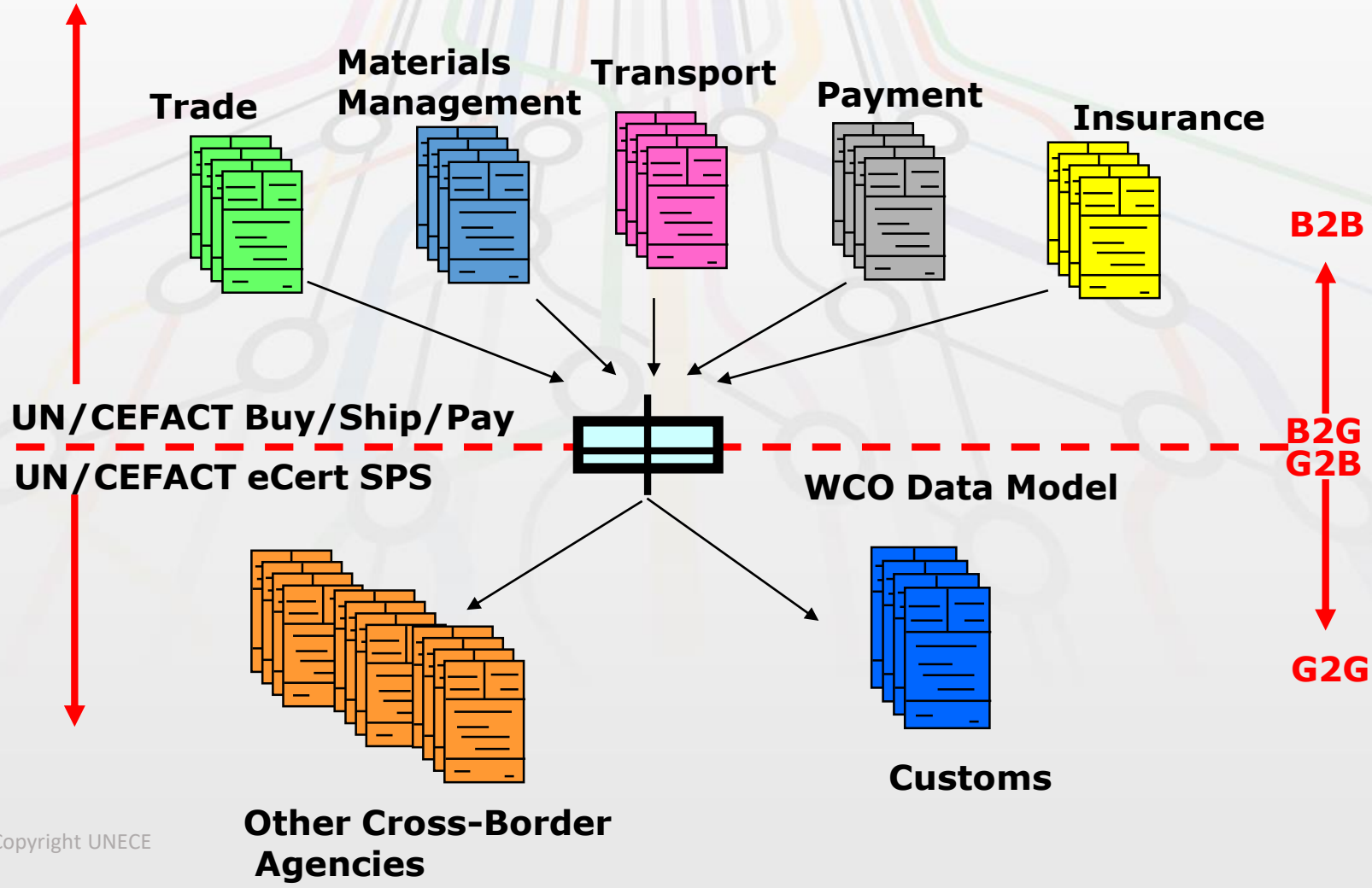
Multiple
UN/EDIFACT
Code Lists (UNCL)

7

UN Layout Key Families



Single Windows Document Families – Border Challenges



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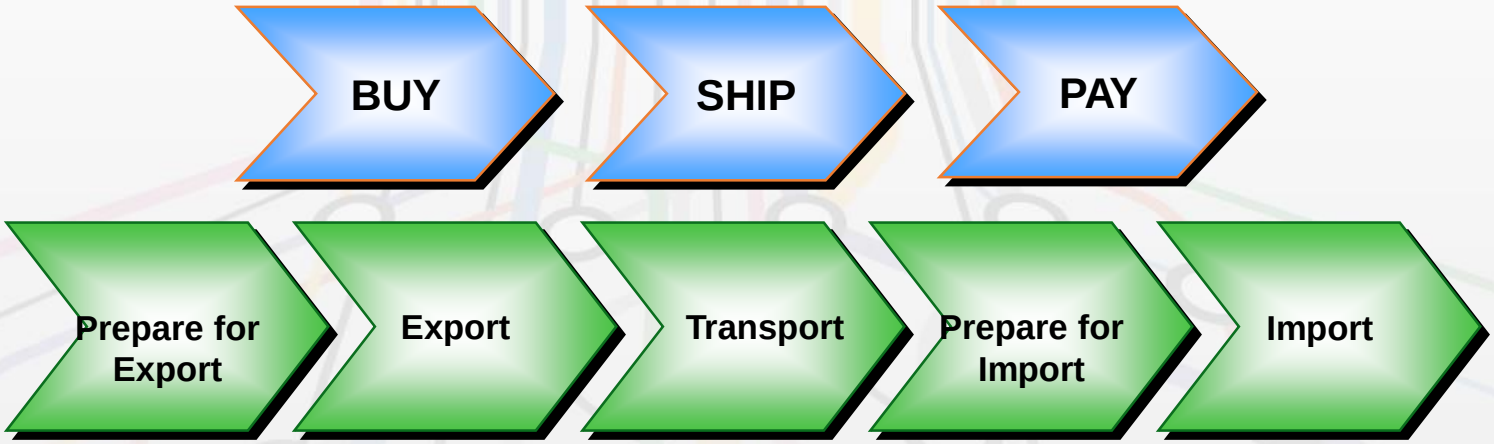
Key Problems challenges by the Private Sector when executing international transactions

- Too many legal requirements still mandating use of paper documents
- Modal specific international transport conventions in an increasingly intermodal or synchromodal transport & logistics world
- Multiple regulatory requirements with unharmonised data definitions and exchange protocols
- Legal goods held back at borders or en route by Customs, Port Health or other cross-border agency due to:
  - Unavailability of accurate data at inspection point
  - Lack of pre-arrival accurate targetting information

UN/CEFACT International Supply Chain Process Model



INVOLVES

Commercial Procedures

- Establish Contract
- Order Goods
- Advise On Delivery
- Request Payment
- Packing
- Inspection
- Certification
- Accreditation
- Warehousing

Transport Procedures

- Establish Transport Contract
- Collect, Transport and Deliver Goods
- Provide Waybills, Goods Receipts Status reports etc.

Regulatory Procedures

- Obtain Import/Export Licences etc
- Provide Customs Declarations
- Provide Cargo Declaration
- Apply Trade Security Procedures
- Clear Goods for Export/Import

Financial Procedures

- Provide Credit Rating
- Provide Insurance
- Provide Finance
- Execute Payment
- Issue Statements

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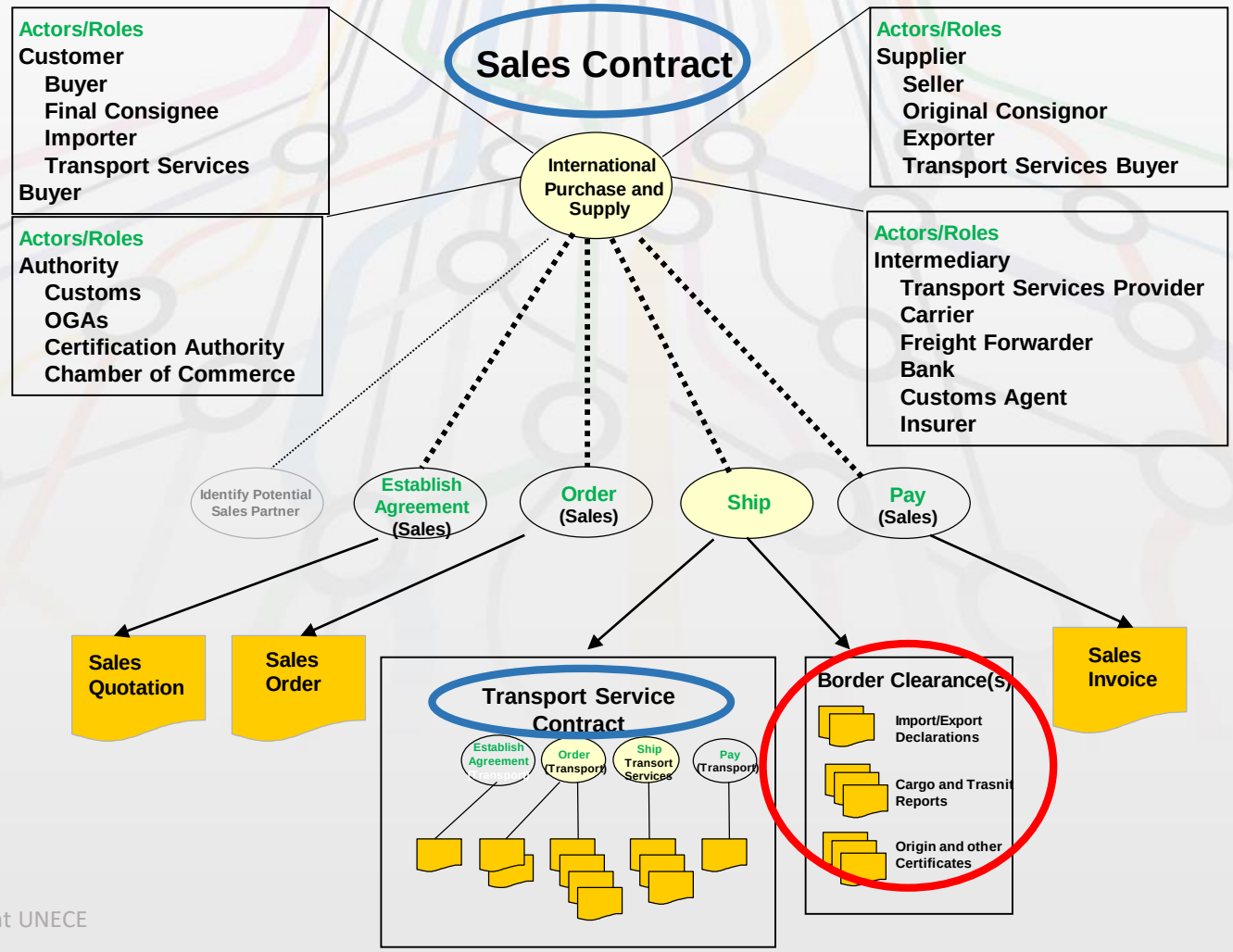
The Relationship between International Sales and Transport Service Contracts



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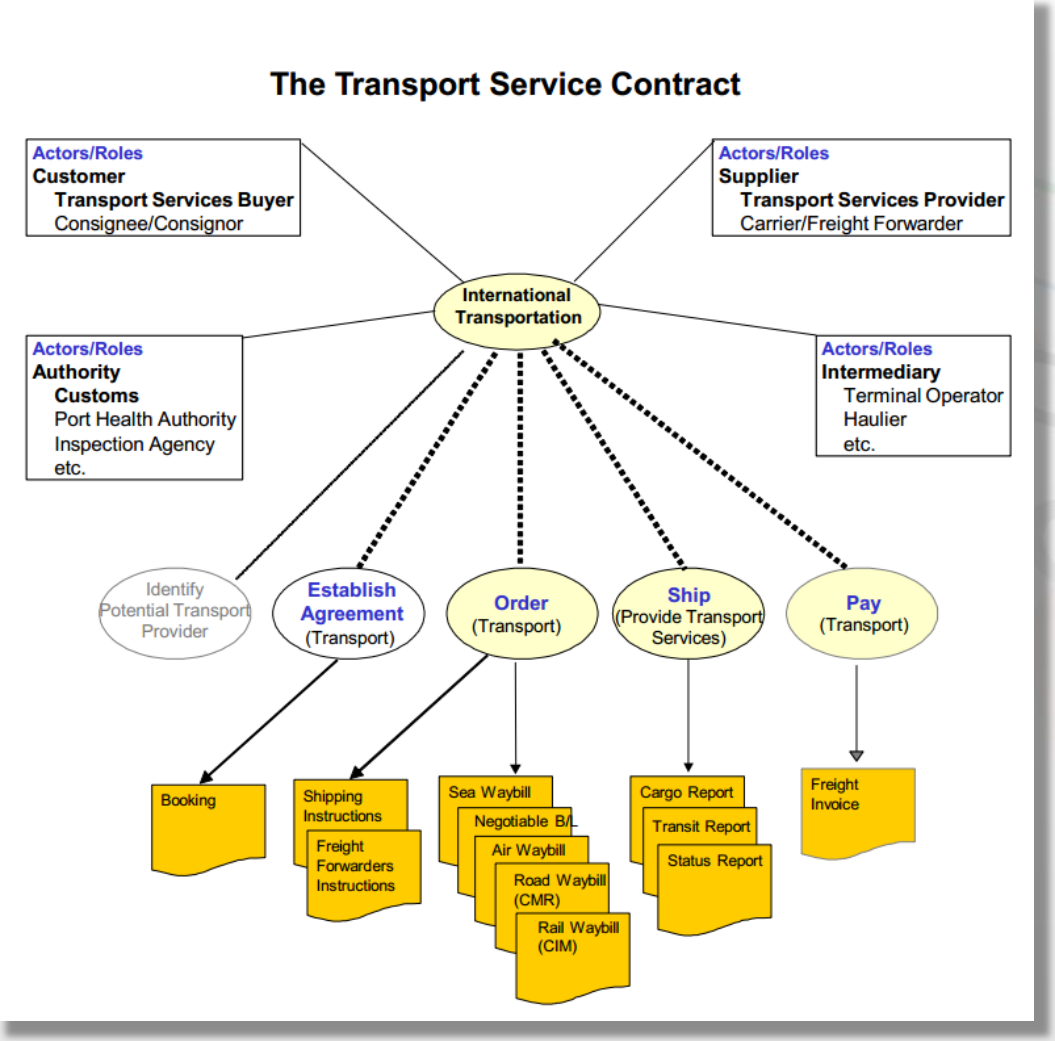
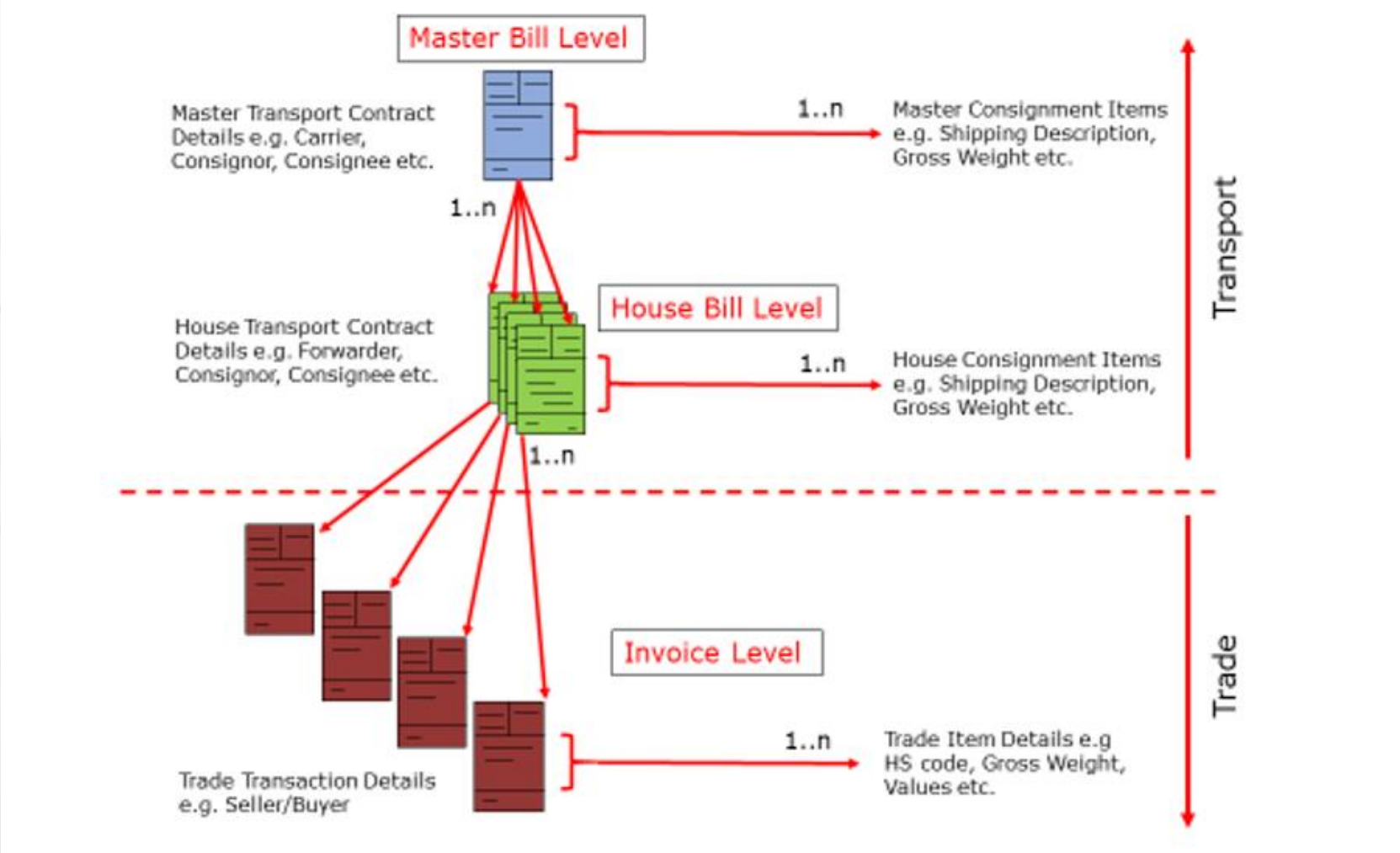
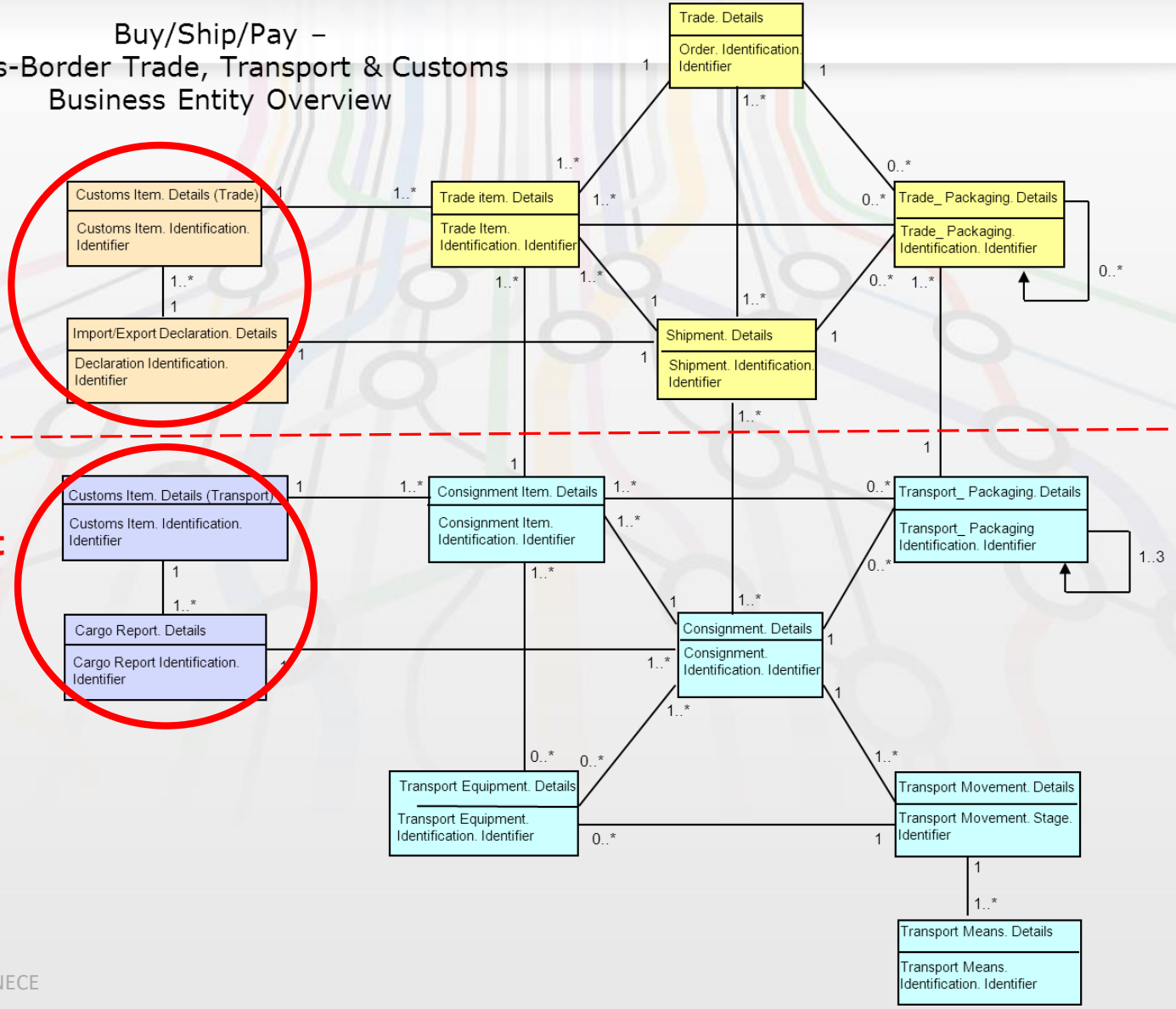
Transport Service Contracts



International Supply Train Contracts



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



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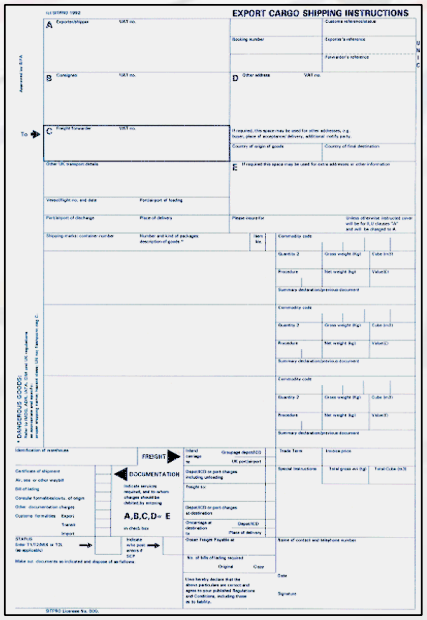
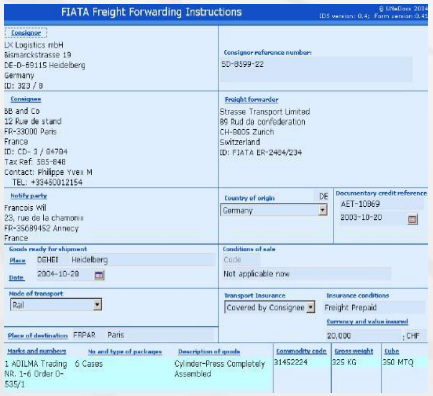
Standards for the Multi Syntax world

Electronic Document Exchange
XML or UN/EDIFACT or other



Paper Document aligned to UN Layout Key

```
<?xml version="1.0" encoding="UTF-8"?>
<n:Invoice
xmlns:n="urn:oasis:names:tc:ubl:Invoice:1.0:0.70"
xsi:schemaLocation="urn:oasis:names:tc:ubl:Invoice:1.
0:0.70
UBL_Library_0p70_Invoice.xsd">
        <cat:ID>token</cat:ID>
        <cat:IssueDate>2003-02-14</cat:IssueDate>
        <n:TaxPointDate>2003-02-
14</n:TaxPointDate>
        <cat:BuyerParty>
                <cat:PartyName>
                <cat:Name>Bills
Microdevices</cat:Name>
                </cat:PartyName>
        </cat:BuyerParty>
        <cat:SellerParty>
                <cat:ID/>
                <cat:PartyName>
                        <cat:Name>Joes Office
Supply</cat:Name>
        </cat:SellerParty>
        <cat:InvoiceLine>
                <cat:ID>1</cat:ID>
                <cat:InvoicedQuantity
unitCode="token">5</cat:InvoicedQuantity>
                <cat:Item>
                        <cat:Description>Pencils, box #2
red</cat:Description>
                </cat:Item>
        </cat:InvoiceLine>
</n:Invoice>
```



Electronic Edit Form

The UN/CEFACT evolution/revolution

Exchange-syntax neutral Reference Data Model approach

- From Document centric to Process driven artefacts *(Contextualized Business Artefacts)*
- Supports Document centric & Process driven workflows and APIs
- Standardized syntax-neutral data exchange structures, based on common Master data exchange structure *(from which complete documents and/or snippets of documents can be created in any chosen syntax e.g. XML, JSON or UN/EDIFACT etc.)*

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UN/CEFACT BUY-SHIP-PAY reference data models

- Cover the data requirements of the international supply chain (BUY-SHIP-PAY) process model
- Share a common library (subset of the UN/CEFACT Core Component Library – CCL)
- Include “Master” exchange syntax neutral message structures for developing process aligned subset structures
- Subset message structures can be realized into any required exchange syntax (e.g. JASON, any XML or EDIFACT etc.)
- Support collaborative information sharing
  - such as enabled by data exchange pipelines

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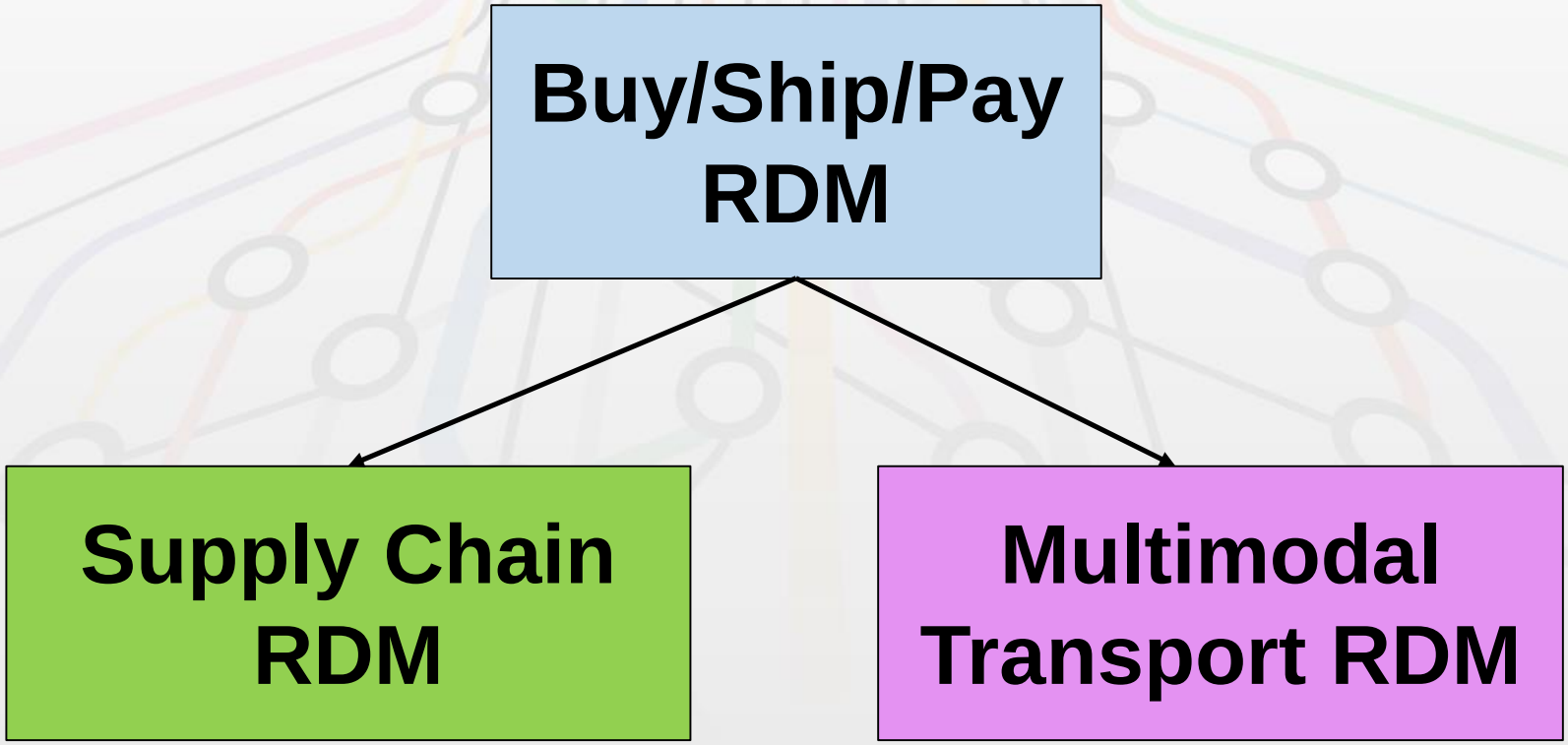
UN/CEFACT International Supply Chain Reference Data Model Family



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Global Trade – Semantic Anchors

- Shipment (Trade Delivery)
- 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

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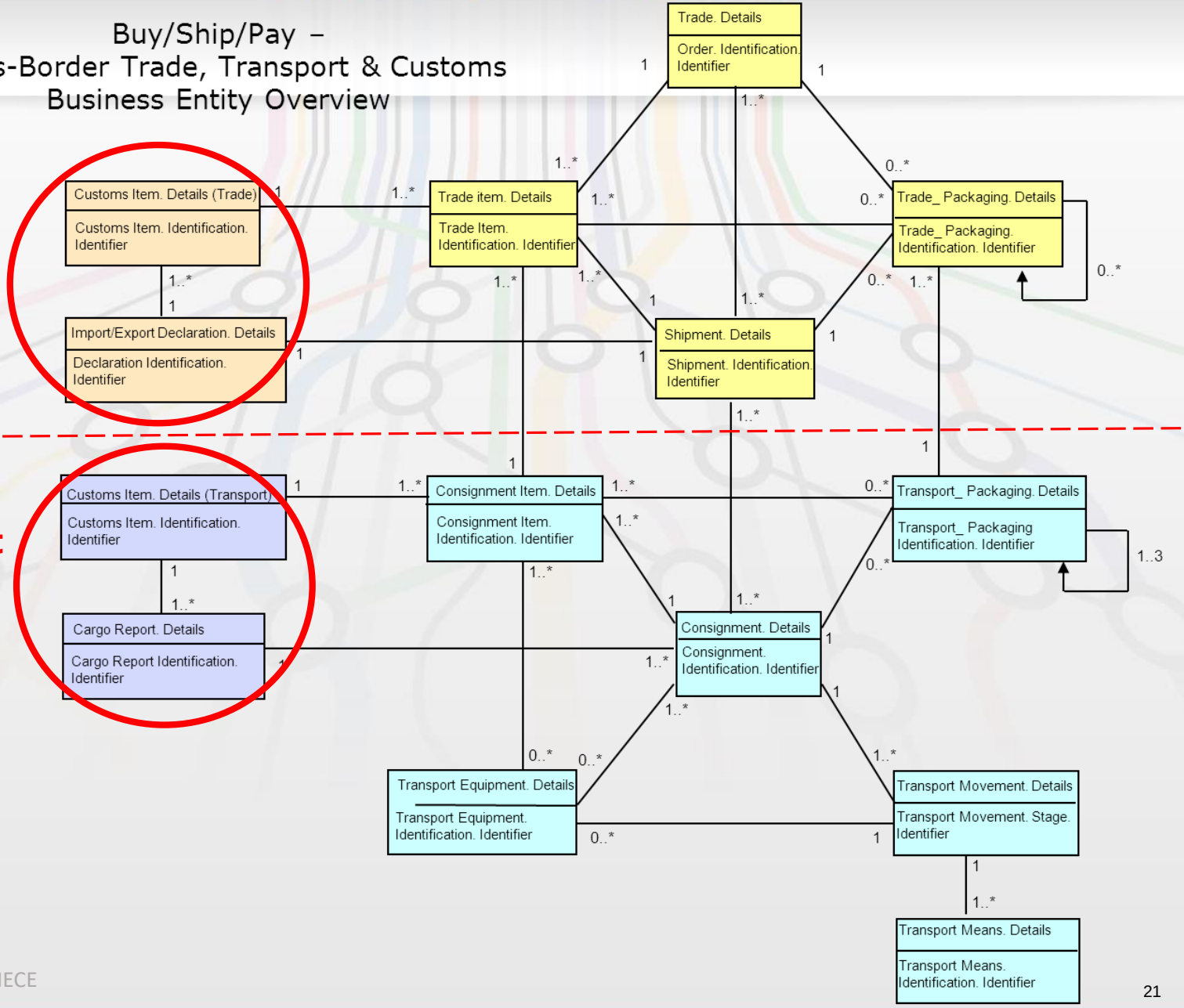
Buy/Ship/Pay – Cross-Border Trade, Transport & Customs Business Entity Overview

Trade Data

Transport Data



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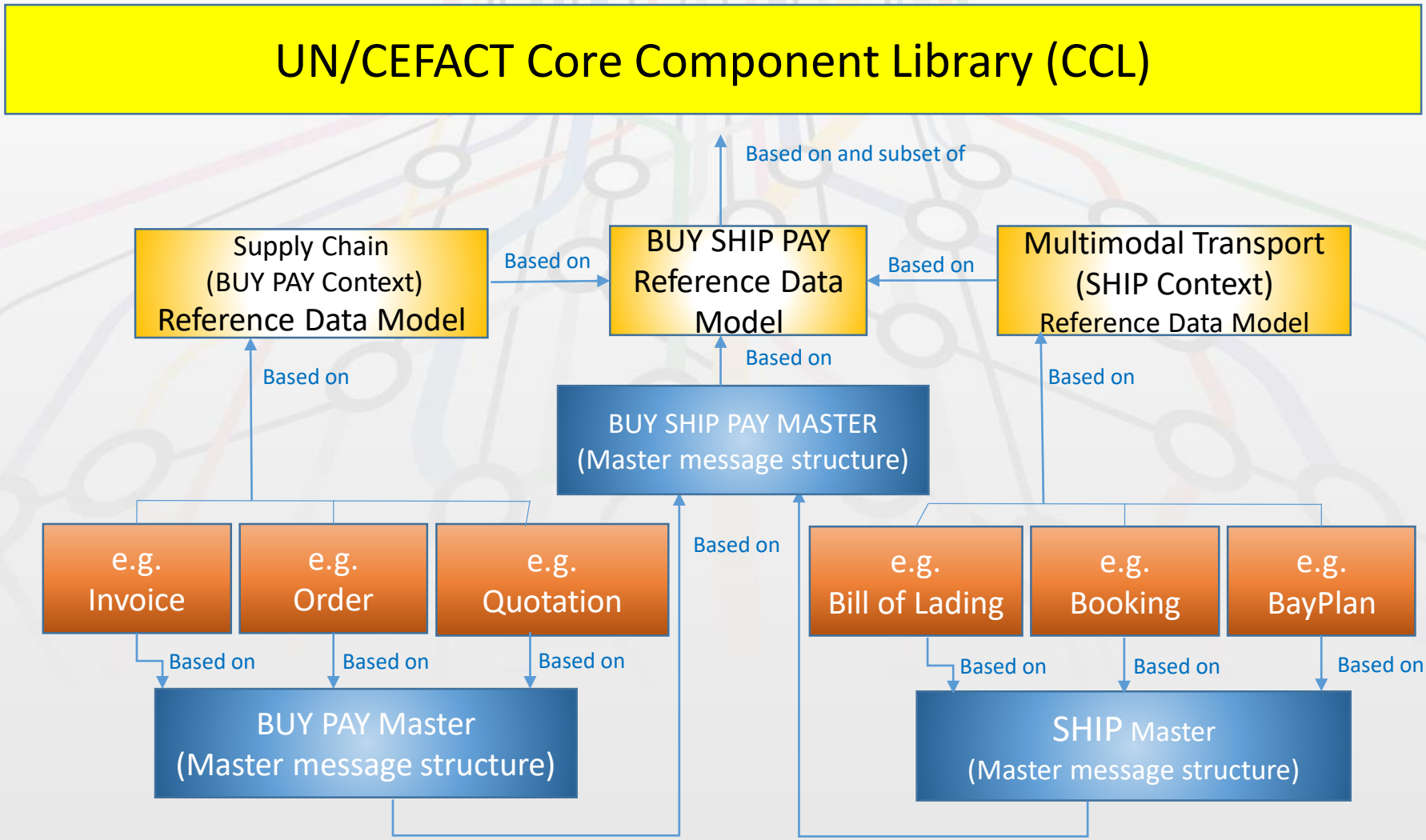
Building semantic models using a common library



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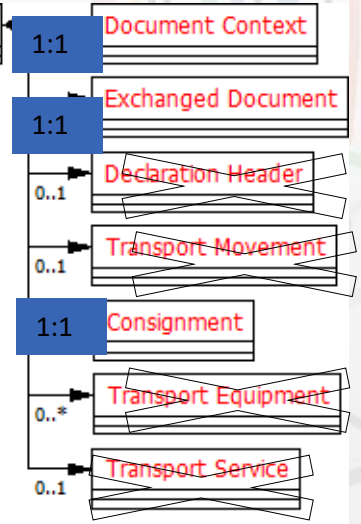
History of Maritime Standards

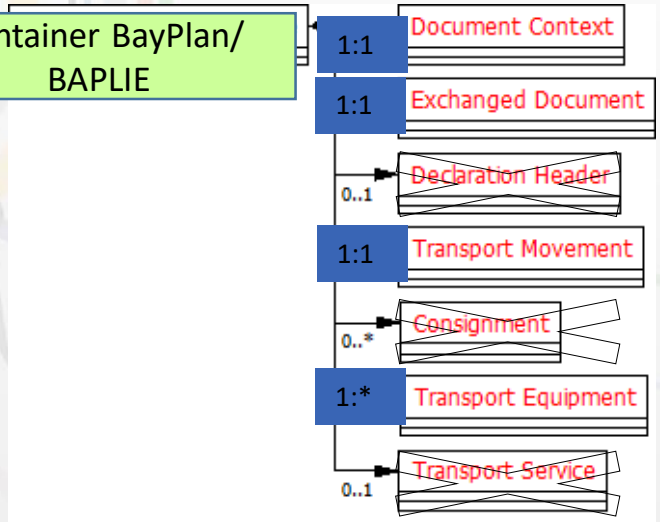
- UN Trade Data Elements Directory and UN Layout Key Document Standards
- UN/EDIFACT – 30 years of message development and increasing implementation
- International Code Lists
- Multi Modal Transport Reference Data Model
- Current emerging technology and methodology projects for the industry

Contextualized messages structures – Multimodal Transport

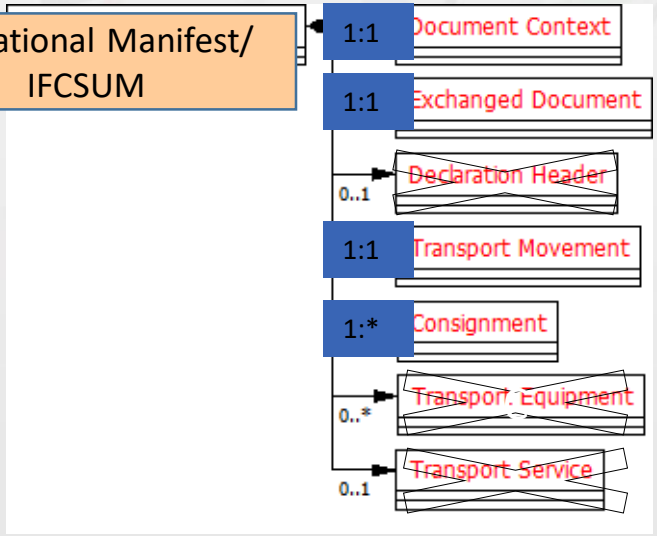
Bill of Lading/ IFTMCS



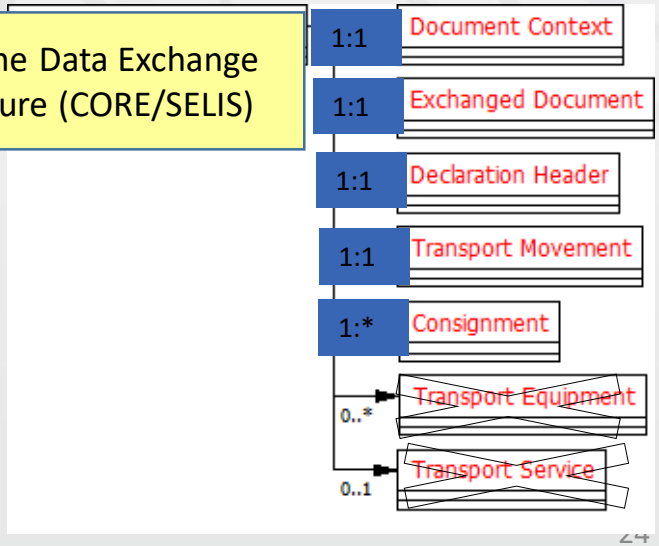
Container BayPlan/ BAPLIE



Operational Manifest/ IFCSUM



Pipeline Data Exchange Structure (CORE/SELIS)



Multimodal Transport Profile Messages

Published:

- eCMR electronic international Road Consignment Note

see https://www.unece.org/cefact/ News section:

> **2 March 2018:** UN/CEFACT is please to announce the publication of its electronic Road Consignment Note (eCMR) standard . This standard provides a free, open specification that will help parties to implement the UNECE Additional Protocol to the CMR Convention concerning the eCMR. For more information, please see the press release.

Future developments:

- Logistics pipeline data exchange structure (PDES)

- Other modal transport contract messages
- Container handling messages
- Bayplan, Verified Gross Mass and Container Handling messages
- IMO FAL messages
- Consignment tracking messages

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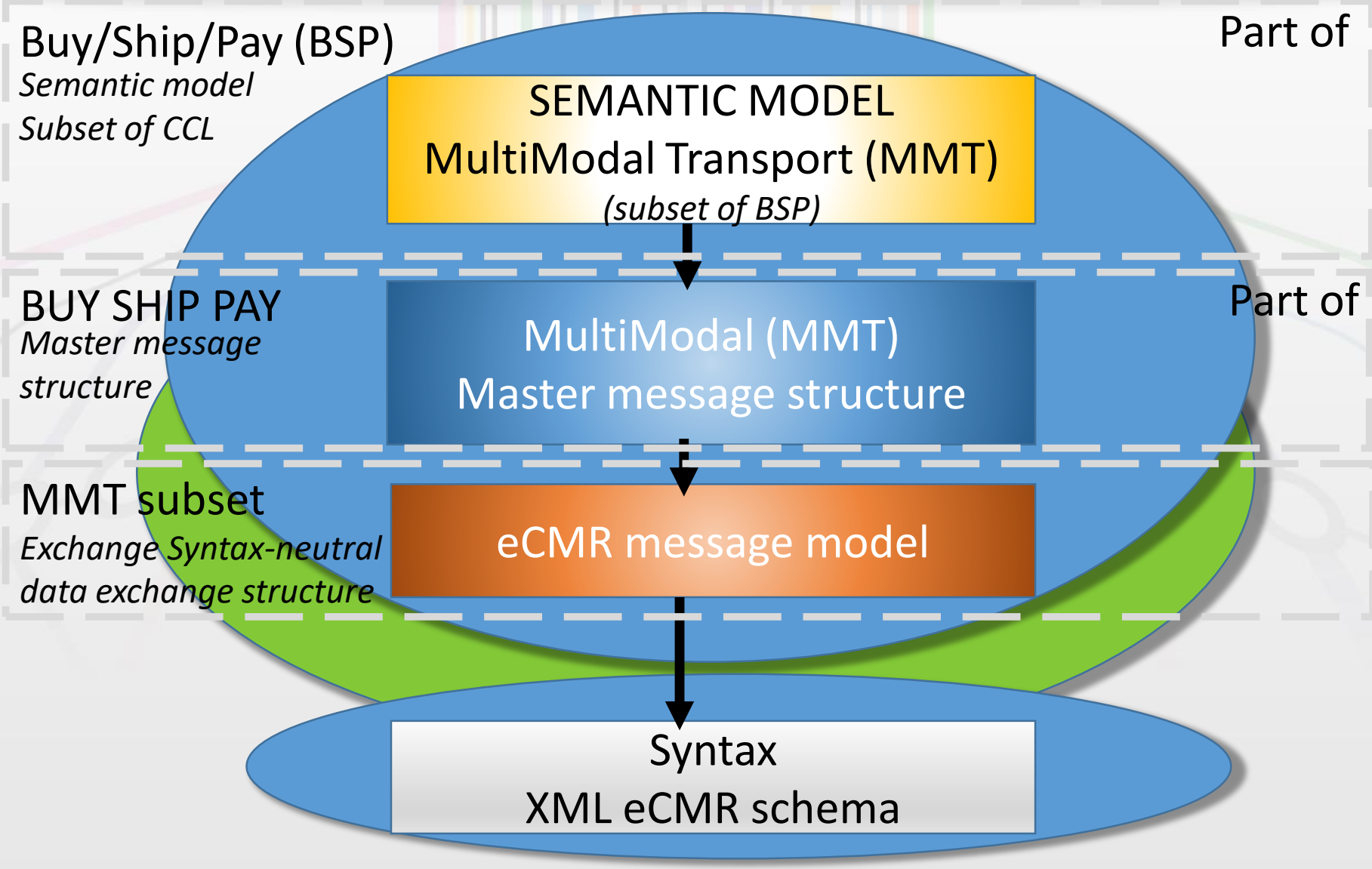
Modal Example: UN/CEFACT eCMR



IMO FAL Ship Reporting Project

- IMO Electronic ship reporting regulation from 2019
- Updated IMO FAL Convention and Compendium to be published 2019
- New Compendium includes port call regulatory requirements data model
- UN/CEFACT Annex project to map the IMO FAL data model to the Multi Modal Reference Data Model and UN/EDIFACT (updated)
- Project members include carriers and port community system providers
- Links to Maritime Single Window initiatives (e.g. EU MSW)

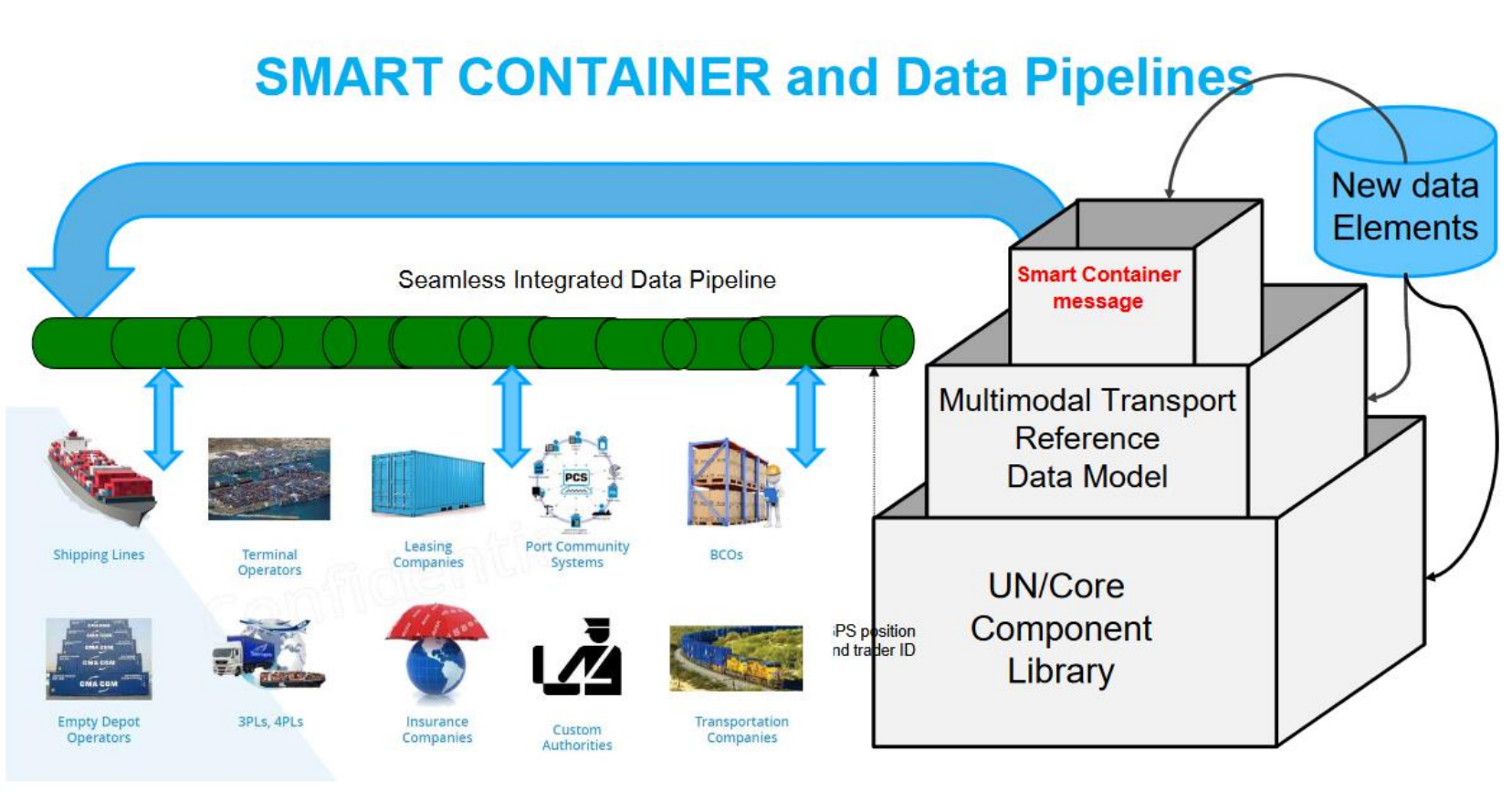
Pipeline Data Exchange Standard Project

- Supply Chain data extracts sent to regulatory agencies at key time points
- Standardised overall data exchange structure
- Quality data from the original source at earliest time
- Regulatory and supply chain visibility benefits

Smart Container Project

- Developing white paper and use cases for using data provided by smart container devices
- Enriching the Multi Modal RDM to include such data
- Defining how smart container data relates to and can benefit existing data exchanges e.g. tracking and tracing, monitoring risks, protecting trade etc.

Smart Container Project



For further information:

Multimodal Transport Data Reference Model (MMT RDM)

- Joint Project Leaders: David Hesketh & Anne Sandretto
- Lead Editor: Sue Probert emai: sue.probert@dial.pipex.com

Next Transport & Logistics meeting:

UN/CEFACT Forum at UNECE Geneva (April 25th/26th)

Domain Coordinators:

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