Customising UN/CEFACT RDMs as preparation for building standardised APIs

RDM2API Project – UN/CEFACT Standards View

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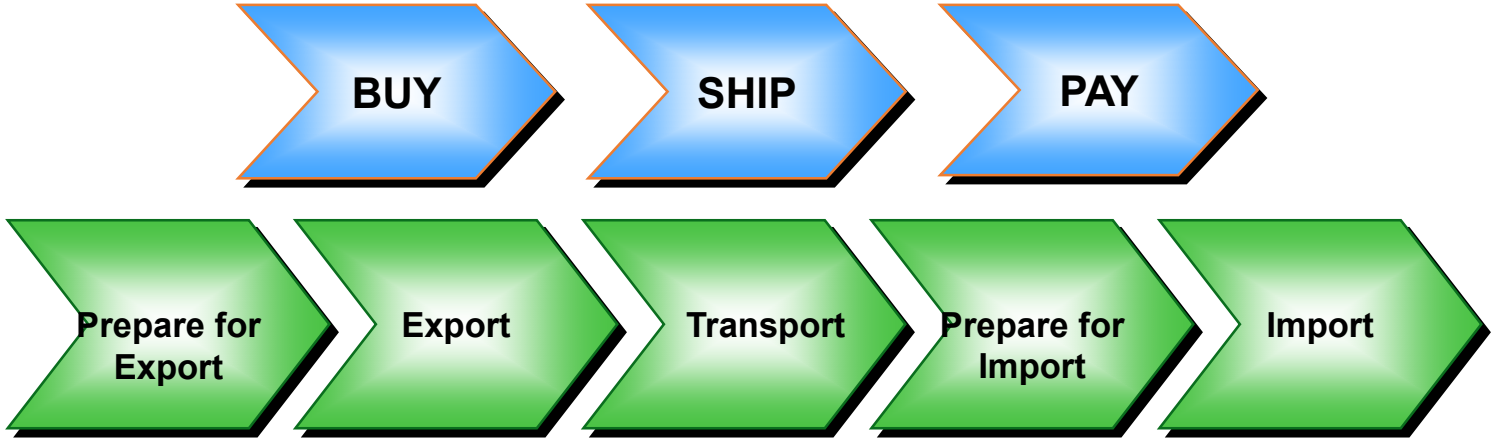
UN/CEFACT International Supply Chain Process Model – Holistic Data Exchange View



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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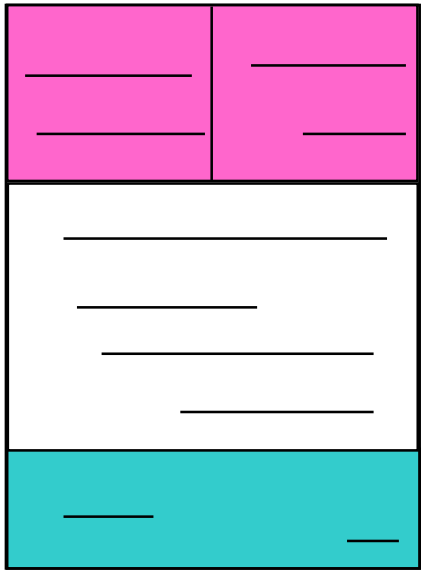
UN Layout Key

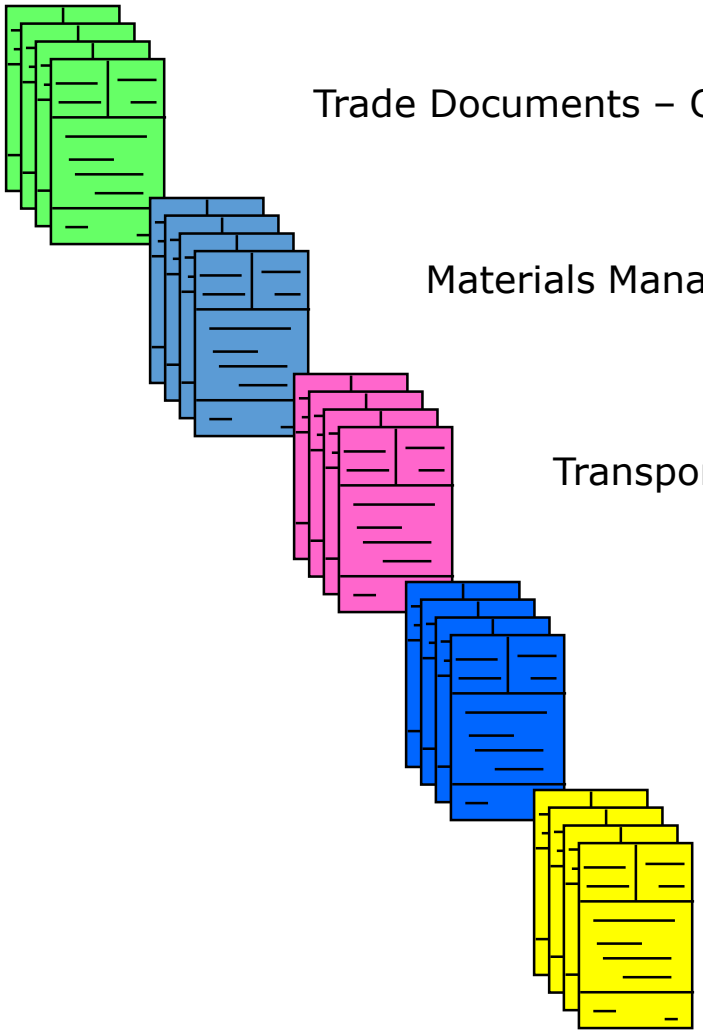
Cross-Sector Transaction Data

Sector Specific Detail e.g.
order line items, goods items ...

Document Function Specific



International Supply Chain B2B Data Exchange Families



Trade Documents – Quotation, Order, Invoice etc.

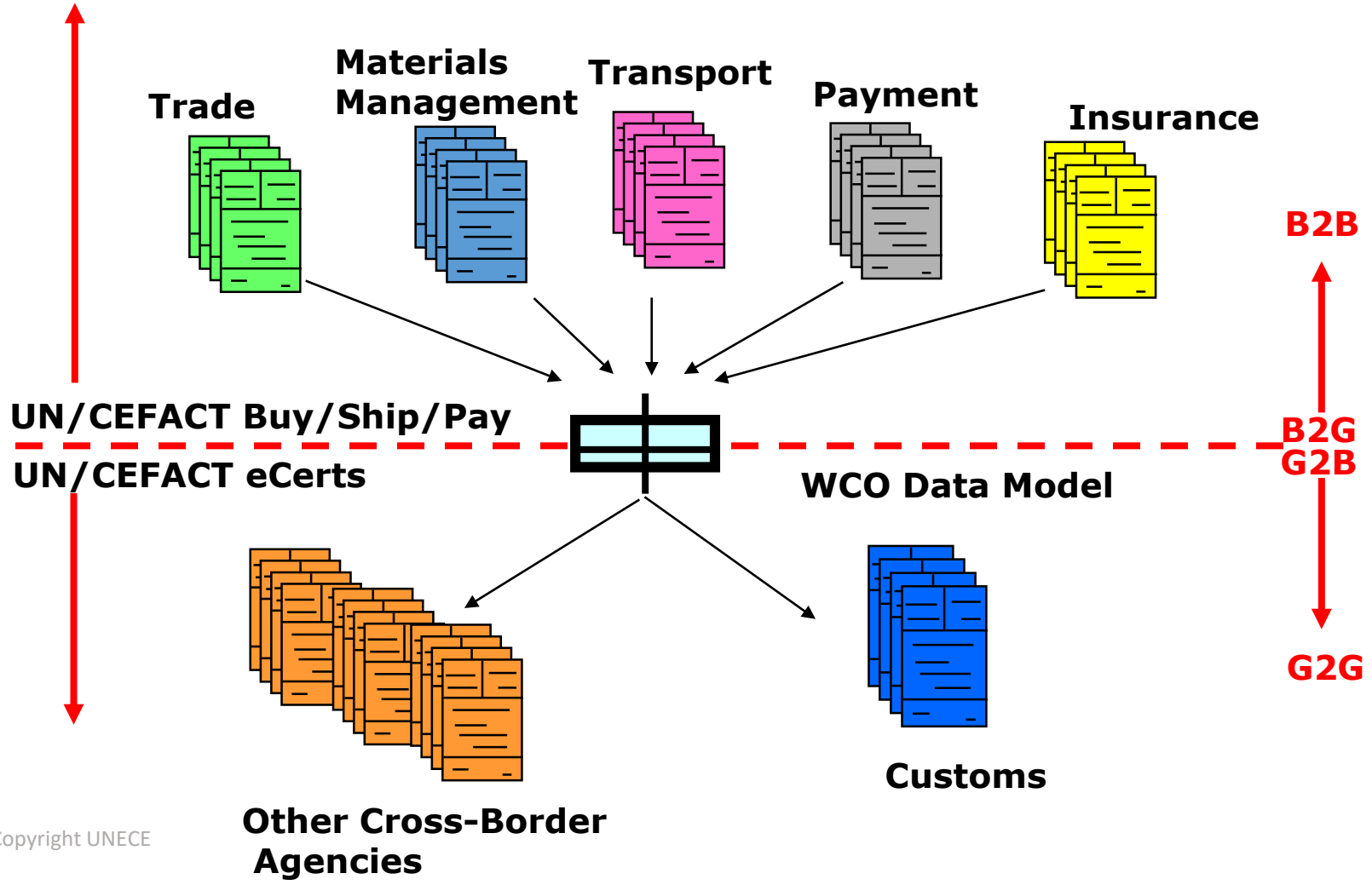
Materials Management Documents – Despatch Advice, Pick List, Packing List etc.

Transport Documents – Bill of Lading, Shipping Instructions etc.

Customs Documents – Export, Import, Transit Declarations, Cargo Reports etc.

Other Regulatory Documents – Cert of Origin, DGN etc.

Single Windows Data Exchange Families



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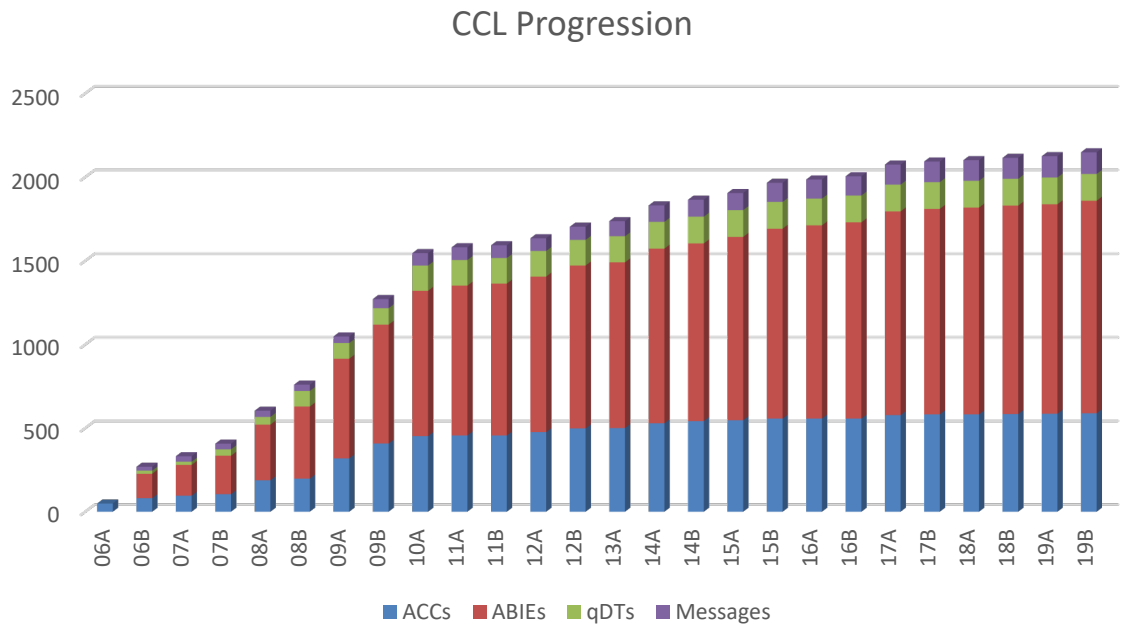
UN/CEFACT Key Semantic Outputs

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

UN/CEFACT Core Component Library



Business Information Entities

Reuses of Object Class Library in different business Contexts

(D19B 1270 BIEs)

Core Components Foundation

Object Class Library

(D19B 589 CCs)

CoreComponent2BusinessInformationEntity

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Example Person Core Component

80 Attributes

27 Associations incl.

- A Alternate Language Code
- A Alternate Language Proficiency Code
- A Director Or Officer Indicator
- A Social Insurance Eligibility Indicator
- A Social Insurance Contract ID
- A Medicare Qualified Indicator
- A Social Security Number Release Authorization C
- A Tax Filing Status Code
- A Affiliate Privacy Response Code
- A Third Party Privacy Response Code
- A Disablement Registration Date Time
- A Role Text
- A Attends School Indicator
- A College Grade Average
- A School Disciplinary Action Indicator
- A Highest Grade Completed Text
- A High School Grade Average Text
- A College Grade Average Value
- A Category Code
- A Role Code
- A In Transit Indicator
- C Residence Address
- C Nationality Country
- C Telephone
- C Fax
- C URI
- C Information Address
- C Alias Person
- C Filiation Person
- C Specified Event
- C Person Financial Situation

17 reuses as

Business Information Entities

- C Main/ABIE/AAA Chart Of Accounts_Person. Details
- C Main/ABIE/AAA Journal_Person. Details
- C Main/ABIE/AAA Report_Person. Details
- C Main/ABIE/AAA Wrap_Person. Details
- C Main/ABIE/Authoritative Signatory_Person. Details
- C Main/ABIE/Contact_Person. Details
- C Main/ABIE/Guest_Person. Details
- C Main/ABIE/Inspection_Person. Details
- C Main/ABIE/Operator_Person. Details
- C Main/ABIE/Payment_Person. Details
- C Main/ABIE/Project_Person. Details
- C Main/ABIE/Representative_Person. Details
- C Main/ABIE/Reserving_Person. Details
- C Main/ABIE/Responsible_Person. Details
- C Main/ABIE/SPS_Person. Details
- C Main/ABIE/TMW_Person. Details
- C Main/ABIE/Transport_Person. Details

Reuse example:

Transport Person for IMO FAL

- C Transport Person
  - C Based on "Person"
  - A ID
  - A Name
  - A Birth Date Time
  - A Language Code
  - A Role Text
  - A Role Code
  - A Category Code
  - A Gender Code
  - A Given Name
  - A Family Name
  - A Birth Country Code
  - A Birthplace Name
  - A In Transit Indicator
  - C Nationality Country
  - C Certified Accreditation
  - C Attained Qualification
  - C Embarkation Location
  - C Disembarkation Location
  - C Travel Identity Document
  - C Travel Visa Document
  - C Crew Travel Effects
  - C Landline Telephone
  - C Mobile Telephone
  - C Email Address

Global Trade – Semantic Anchors for Harmonisation

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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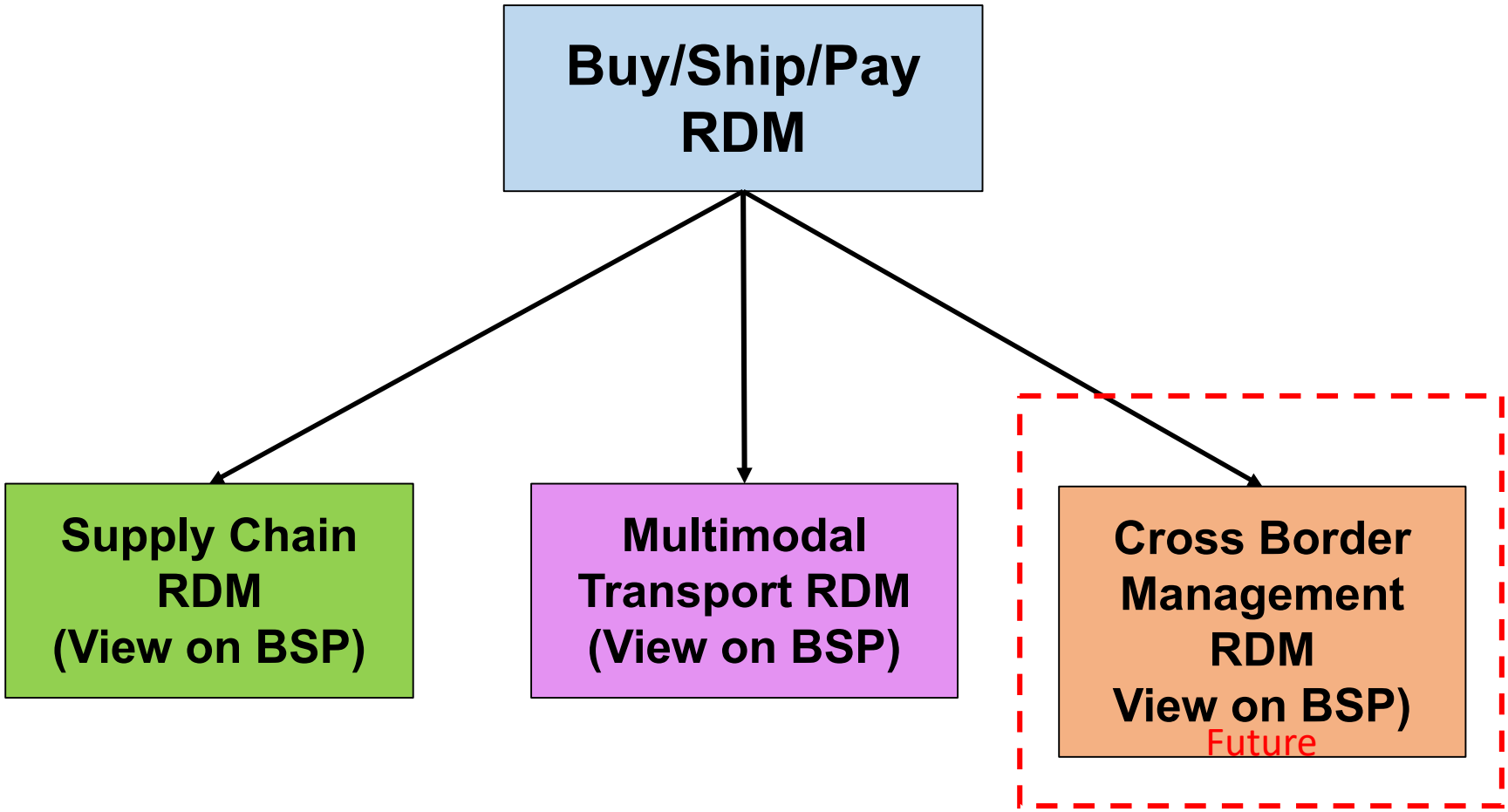
UN/CEFACT evolution/revolution – Reference Data Models

Benefits of UN/CEFACT Semantic Reference Data Models

- Subsets of CCL Business Information Entities by Context
- The support for information sharing, such as enabled by data pipelines, with the timely capture of quality data from original data sources ensuring supply chain visibility
- Reduction of administrative burden by efficient reuse of data shared within a contextualized domain model e.g. BUY/SHIP/PAY
- Standardized data exchange structures, based on common master data exchange structure and independent of exchange syntax
- Common basis for implementing in chosen data exchange syntax(es)/exchange methodologies

Traditional Data Exchange Structure Relationships

UN/CEFACT International Supply Chain Reference Data Model Family



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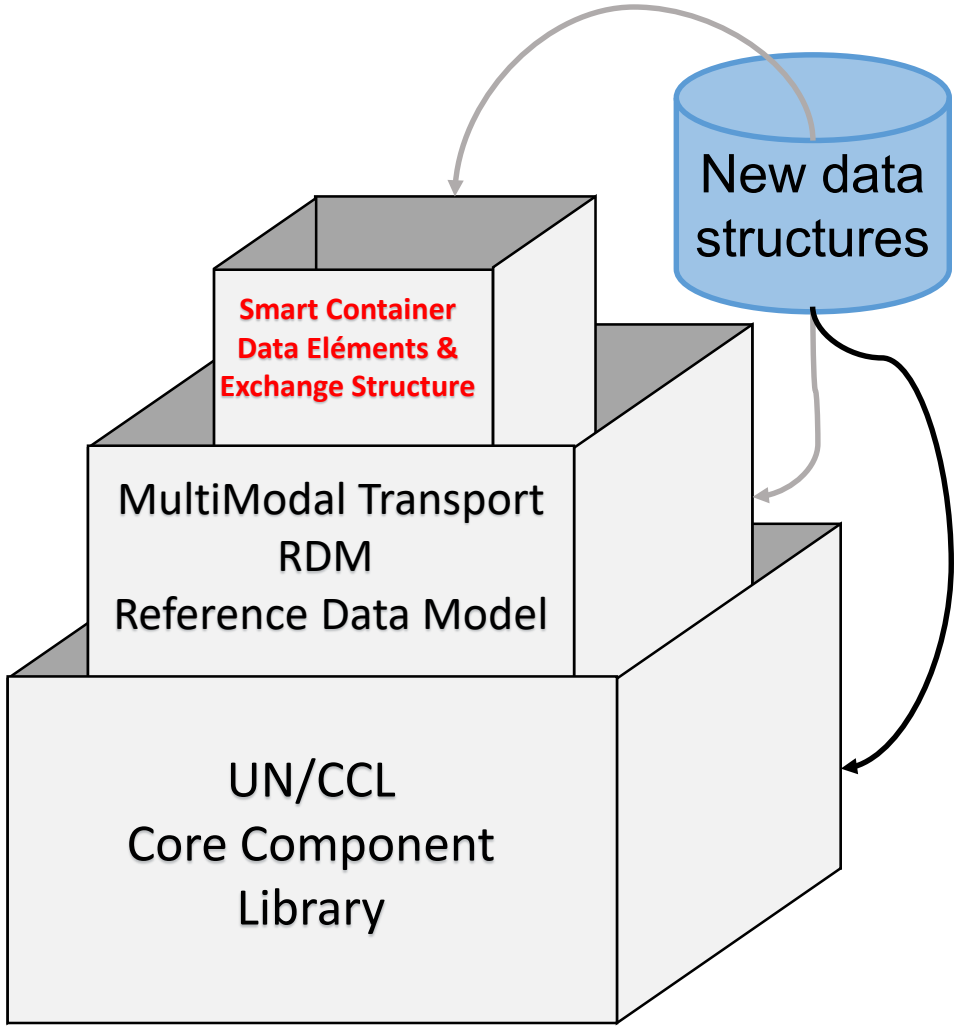
How CCL growth is managed

Library Maintenance Team responsible for

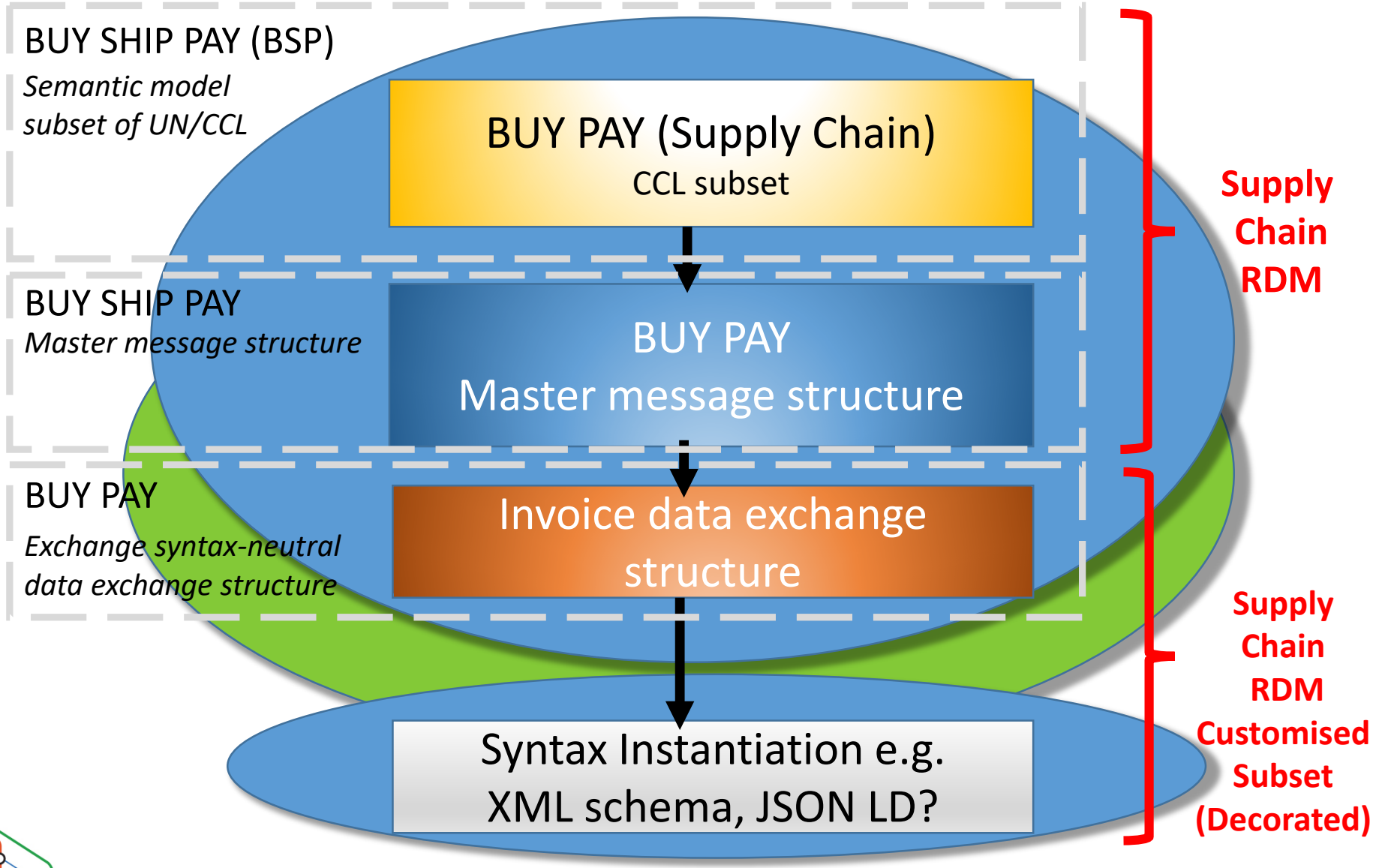
- Cross-Domain Harmonisation

Project Teams responsible for

- Contextualised RDM development, CCL submissions and customised (decorated) subset exchange structures



UN/CEFACT Publication Trade Example: Cross Industry Invoice (CII)



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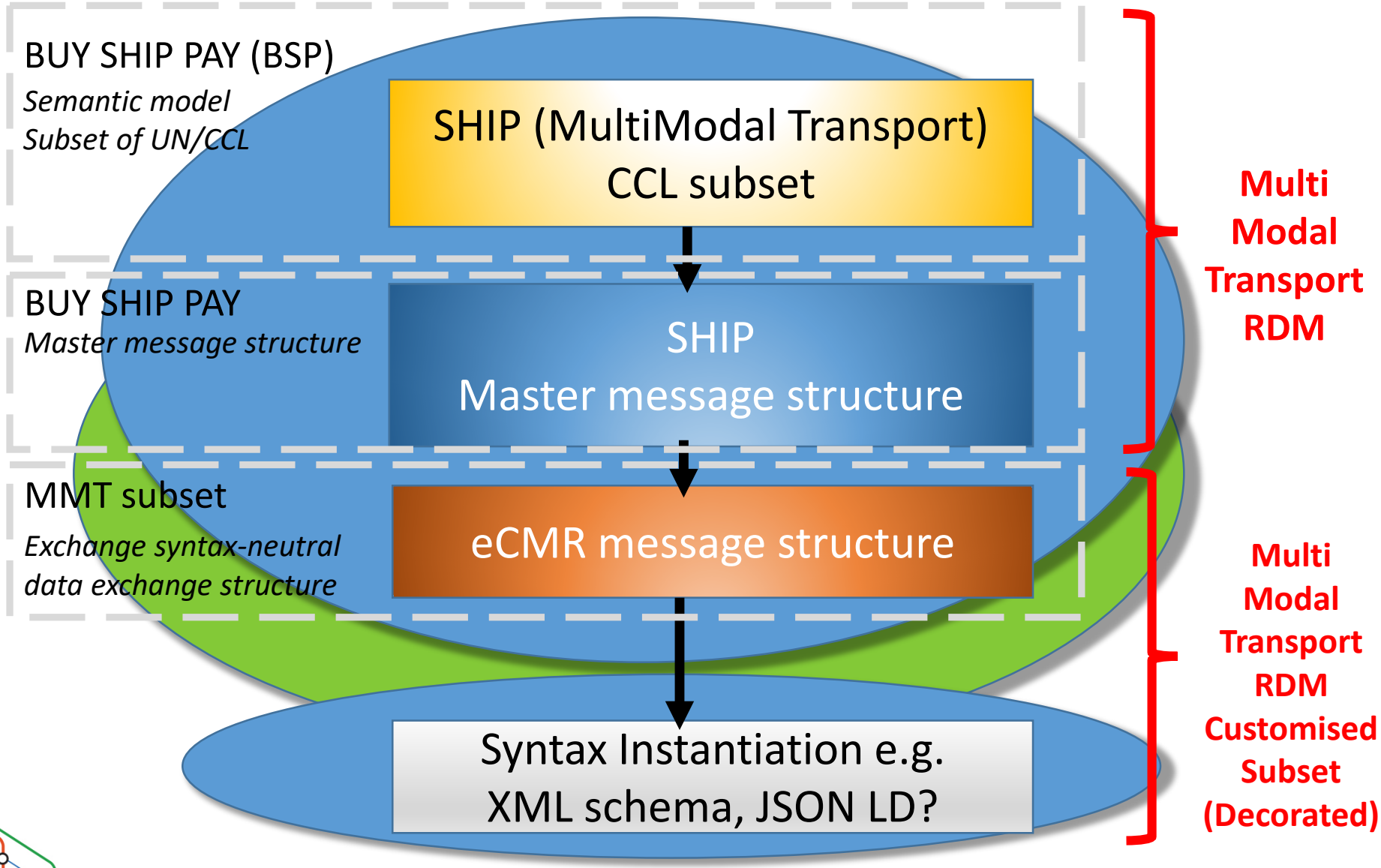
UN/CEFACT Publication Transport Example: electronic Road Consignment Note (eCMR)



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So, If UN/CEFACT Semantics are seen as useful - what are the RDM2API UN/CEFACT Standardisation Possibilities?

- CCL Core Components ⟹ API
- CCL Business Information Entities ⟹ API
- Complete RDM ⟹ API
- Customised (Decorated) RDM Subset ⟹ API

What are the PROs and CONs of each?

What is the API Global Standardisation Requirement

How much of the semantic basis for an API should be a global standard?

- CCL Core Components basis
- CCL Business Information Entities basis
- Complete RDM basis
- Customised (Decorated) RDM Subset basis

UN/CEFACT develops, publishes and maintains each of the above levels – which level is most beneficial for providing basis for standardised APIs?