

UN/CEFACT

Reference Data Models

**Anticipating and Following Technological Trends
in eBusiness Data Exchanges**

Mini Conference, Geneva, 27 March 2017

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SCRDM Project Lead
SCRDM Editor
MMT Lead Editor
SCRDM Lead Editor



Mini Conference Background

This Mini Conference will provide participants with information on:

- Reference Data Models (RDMs) for the Supply Chain and the Transport & Logistics domains.

Participants will also get information on:

- Projects
- Concepts
- Deliverables
- Maintenance

Agenda

- | | | |
|-----|-------------------------------------|------------------|
| PM1 | 0. Opening | (Lance Thompson) |
| | 1. Projects | (Rolf Wessel) |
| | 2. Concept of Reference Data Models | (Ian Watt) |

Coffee break/Networking

- | | | |
|-----|---|---------------------|
| PM2 | 3. Reference Data Model High level focus | (Sue Probert) |
| | 4. Maintenance of Reference Data Models | (Sue Probert) |
| | 5. Reference Data Model (technical details) | (Gerhard Heemskerk) |

Anticipating and Following Technological Trends in eBusiness Data Exchanges

Reference Data Models are based on UN/CEFACT principles of:

- Harmonization
- Standardization
- Simplification

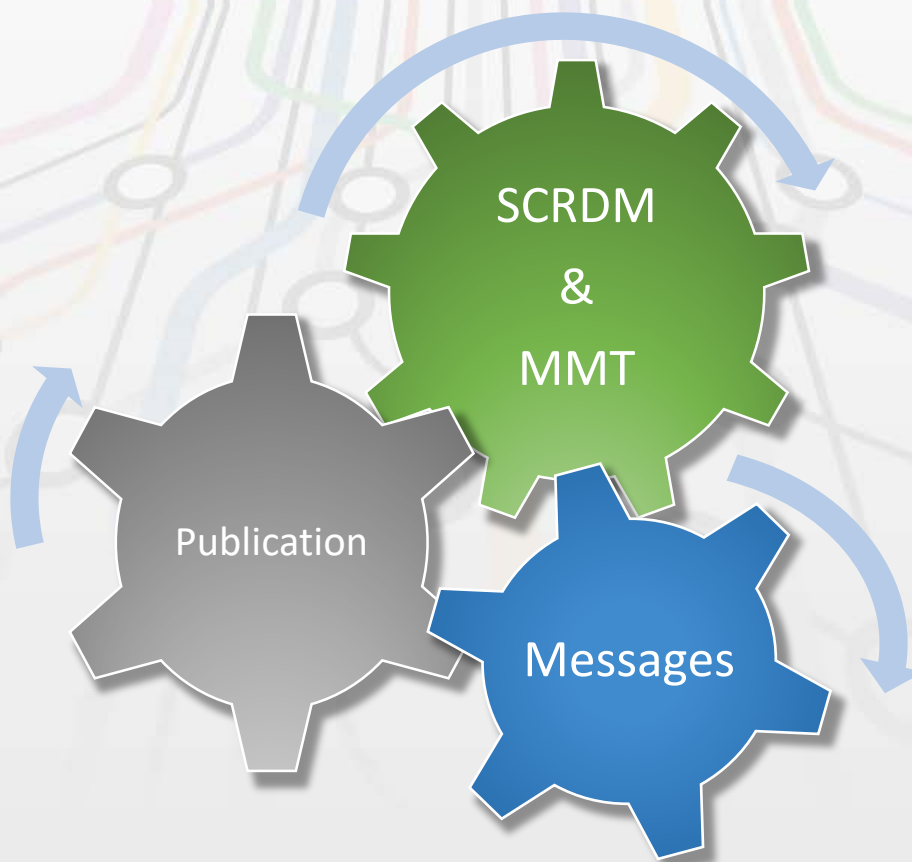
Reference Data Models - Key Aspects:

- Reducing dependency on traditional documents
- Reducing redundancy
- Process driven collaborative workflows & shared artefacts

Key Benefits

- Reduction of administrative burden
- A trusted Reference Data Model
- Enhanced interoperability of data
- Standardized & aligned business data exchange structures
- Supports Document & Process driven collaborations
- Integrated international code lists
- A future proof semantic model (data exchange syntax neutral)

Section 1: Projects



RDM Projects and related projects

Inception:

- | | |
|---|----------|
| 1. Supply Chain Reference Data Model Project (SCRDM) | NOV-2015 |
| 2. Multi Modal Transport (MMT) | SEP-2014 |
| 3. Extension of Cross Industry Invoice technical artefacts | MAY-2016 |
| 4. Extension of Cross Industry Cataloguing, Quotation, Ordering, Delivering and Remittance Advice technical artefacts | JAN-2017 |
| 5. Procedures for Reference Data Model & associated artefacts publication | MAY-2016 |

Project details



Project Teams

Project Purposes

Project Deliverables

SCRDM & Extension Technical Artefacts Cross Industry messages

Project Leadership

Team

Project Leader: Mr Rolf Wessel

Lead Editor : Mr Gerhard Heemskerk

Editing team:

- Andreas Pelekies
- Colin Laughlan
- Hisanao Sugamata
- Ian Watt
- Karina Duvinger
- Lance Thompson
- Mary Kay Blantz
- Natascha Rossner
- Sue Probert
- Ulrike Linde

MMT Project Leadership

Team

Project Leader: Mrs Sandretto & Mr David Hesketh

Lead Editor : Mrs Sue Probert

Editing team:

- Henk Van Maaren
- Marielle Stumm
- Rudi Bauer
- Yoshi Kito
- Dominique Vankemmel

Publication Procedures

Project Leadership

Team

Project Leader: Mrs Ulrike Linde

Editing team:

- Colin Laughlan
- Gerhard Heemskerk
- Karina Duvinger
- Ian Watt
- Lance Thompson
- Mary Kay Blantz
- Sue Probert
- Ulrike Linde

Project Purpose: SCRDM & MMT

Purpose

- Development of semantic models (Reference Data Models) for the Supply Chain and the Transport & Logistics domains
- Easy to use and maintainable semantic framework for the Supply Chain and the Transport & Logistics domains
- Based on the UN/CEFACT Core Component Library (CCL)
- Semantic links between:
 - UN Layout Key documents via TDED references
 - UN/EDIFACT message implementation structures
 - Core Component Library
- Guidelines for using Reference Data Models

Project Purpose: Extension Technical Artefacts

Cross Industry messages

Purpose

- Based on UN/CEFACT Supply Chain Reference Data Model (SCRDM)
- Process Driven XML schemas, based on existing artefacts of:
 - Cataloguing
 - Quotation
 - Ordering
 - Delivering
 - Remittance advice
- The new SCRDM Process driven XML schemas will become modern alternatives to the previously published Document driven XML schemas
- Business requirement consistency will be ensured because the new SCRDM XML schemas will be based on the currently published Business Requirement Specifications (BRSSs)

Project Purpose: Publication Procedures

Purpose

- Define the procedures for the creation and publication of CCL-based Reference Data Models and associated artefacts.
- The process for the publication of Reference Data Models takes account of the following aspects:
 - Relationship with the underlying CCL
 - Validation rules for publication formats
 - Production of the publication bundle
 - Maintenance of Reference Data Models

Project Deliverables: SCRDM, MMT, Extension Technical Artefacts Cross Industry Messages

Deliverables**Generic****RDM**

1. High Level Docs
 - BRS
 - RSM
 - White Paper
2. Guideline

Business Requirements**Supply Chain Transport & domain
Logistics domain****BRSs****Updated BRSs****Reference Data Models****SCRDM &
MMT RDM****Subsets of CCL****SCRDM &
MMT RDM****CCBDA RSMs
messages****Messages****SCRDM &
MMT RDM****Messages
Schemas**

Project Deliverables: Procedures Publication

Deliverables

- Definition of the publication bundle
 - 8 Requirements
 - 4 Publication Formats

Public Review
comments
(if any)
discussed
during forum

		Functional Requirements							
		R01 Publication of the RDM's subset of the CCL R02 Reference to the underlying CCL BIE R03 Presenting the content of the underlying CCL BIE R04 Presenting the RDM in a hierarchical manner R05 Advanced searching capabilities R06 Presenting information in a business and/or technical view R07 Presenting inheritance of restrictions made on different levels R08 Machine-processable information							
Formats	PDF	✓	✓	-	-	-	✓	-	-
	Excel	✓	✓	-	-	-	✓	-	✓
	HTML	✓	✓	-	✓	-	✓	-	-
	Compressed HTML	✓	✓	-	✓	✓	✓	-	-

Figure 1 Mapping of Functionality to the different Publication formats

Project Status

Open Development Process stage	
1. Supply Chain Reference Data Model Project (SCRDM)	Publication
2. Multi Modal Transport (MMT)	Draft
3. Extension of Cross Industry Invoice technical artefacts	Publication
4. Extension of Cross Industry Cataloguing, Quotation, Ordering, Delivering and Remittance Advice technical artefacts	Draft
5. Procedures for Reference Data Model & associated artefacts publication	Public Review

The path forward

- Transition period
 - Further Process Driven XML messages will be derived from the RDMs (e.g. Scheduling)
 - New RDM Process driven XML schemas will become modern alternatives to any previously published Document driven XML schemas

Work for the coming months

You are
welcome
to join
our team

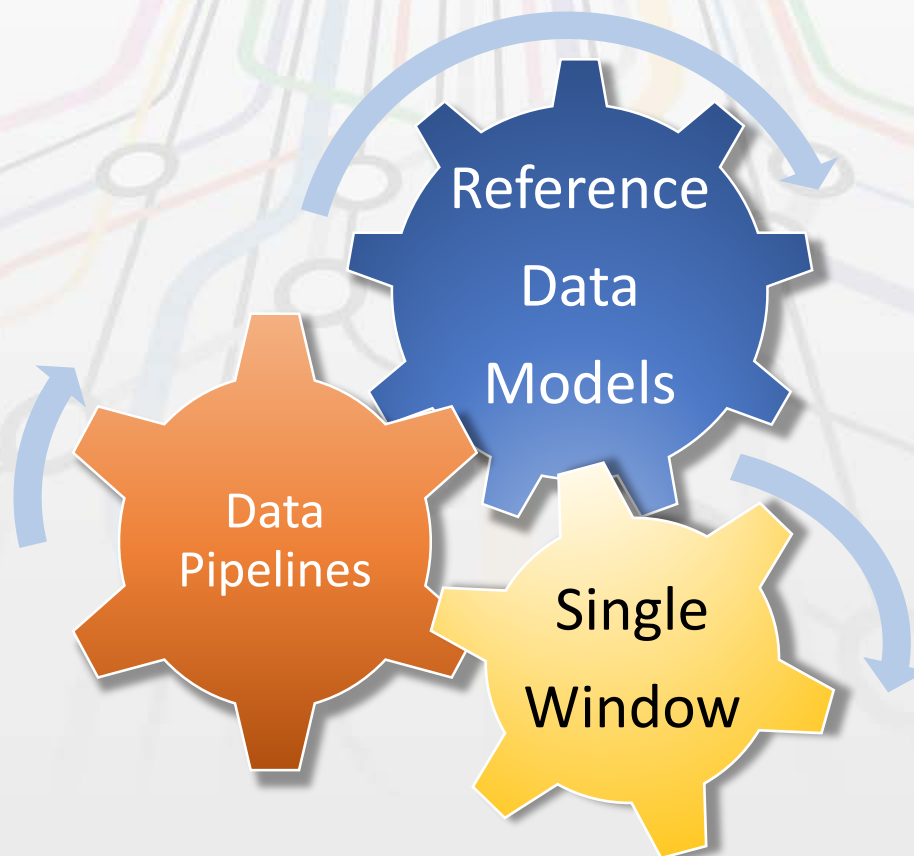
- Internal and Public Review of Message Assemblies (MAs) and updated Business Requirement Specifications (BRSs) for:
 - Cataloguing
 - Quotation
 - Ordering
 - Delivering
 - Remittance Advice
- Preparing publication of updated Business Requirement Specifications (BRSs), Requirement Specification Mappings (RSMs) for Public Review
- Processing the Public Review comments
- Preparing publication of deliverables including the Process Driven XML schemas

End section 1:

Questions on
“The projects” ?



Section 2: Concept of RDMs



Reference Data Model – *WHY?*

“The average international transaction involves 27 to 30 different parties, 40 documents, 200 data elements (30 of which are repeated at least 30 times) and the re-keying of 60-70% of data at least once”.

– United Nations Conference on Trade and Development –

“The average cost of invoicing is USD\$5 per paper invoice, versus \$2 for an electronic invoice”

– UN/CEFACT (UN Centre for Trade Facilitation and Electronic Business) –

“The prevalence of mistakes is evidenced by the Auditor General in Canada who reports that ‘30-50% of all Customs Entries are misclassified’ and by the US Customs Service who report that 62% of customs submissions are considered to have “Major Transactional Discrepancies”.

– Auditor General in Canada –

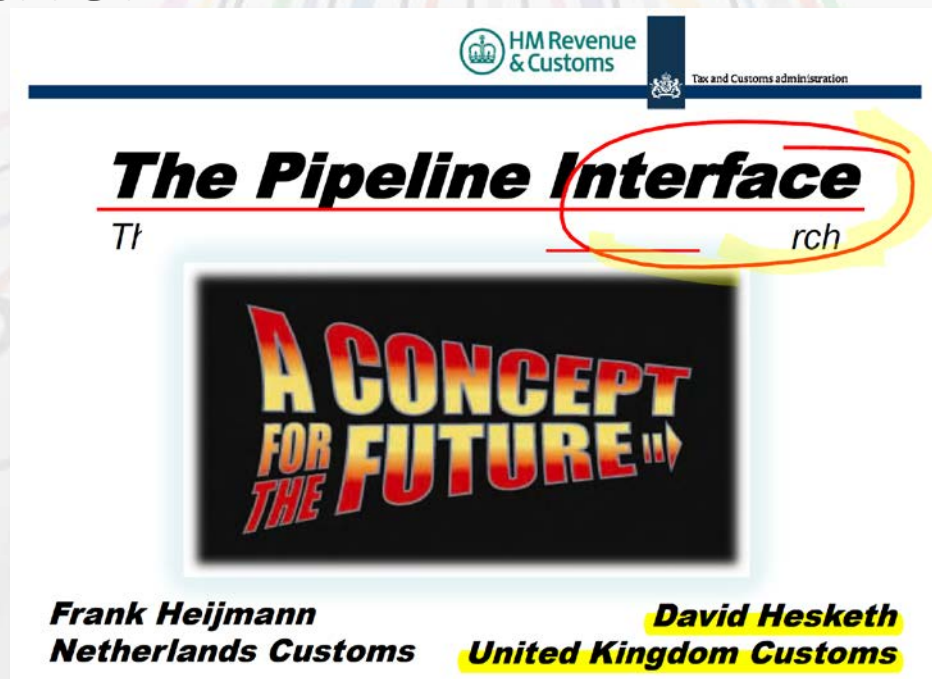
Something had to change...

- we did not try to fix the 400 year old road infrastructure in our cities
- we created super highways to support physical movement



- similarly we have now developed Reference Data Models for defining required Process Driven information flows to be exchanged along super highways for information

Reference Data Models & Data Pipelines fit together

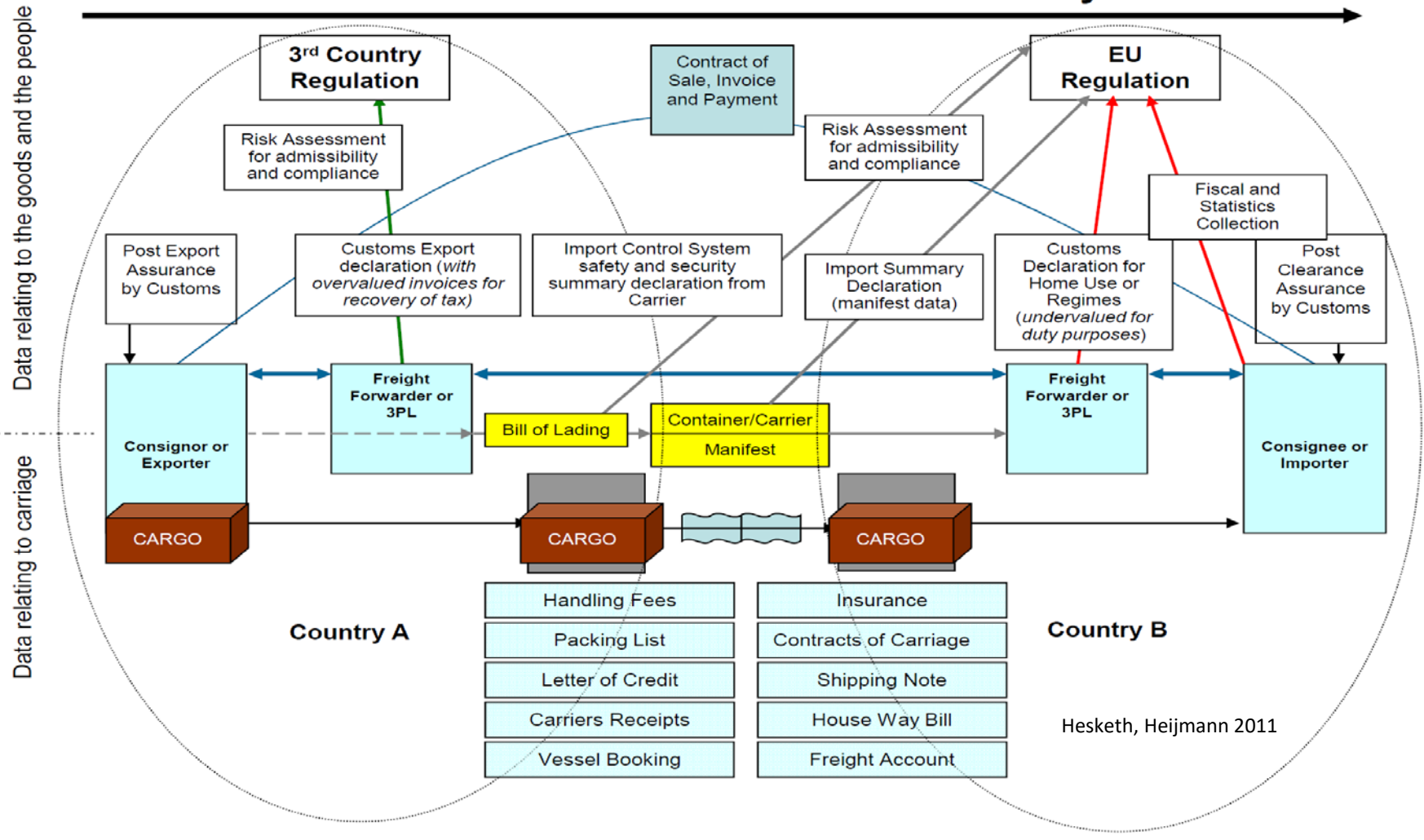


Data Pipeline:

- Information travels from origin to destination and can be accessed by appropriately authorized private and public sector parties to the specific trade transaction.

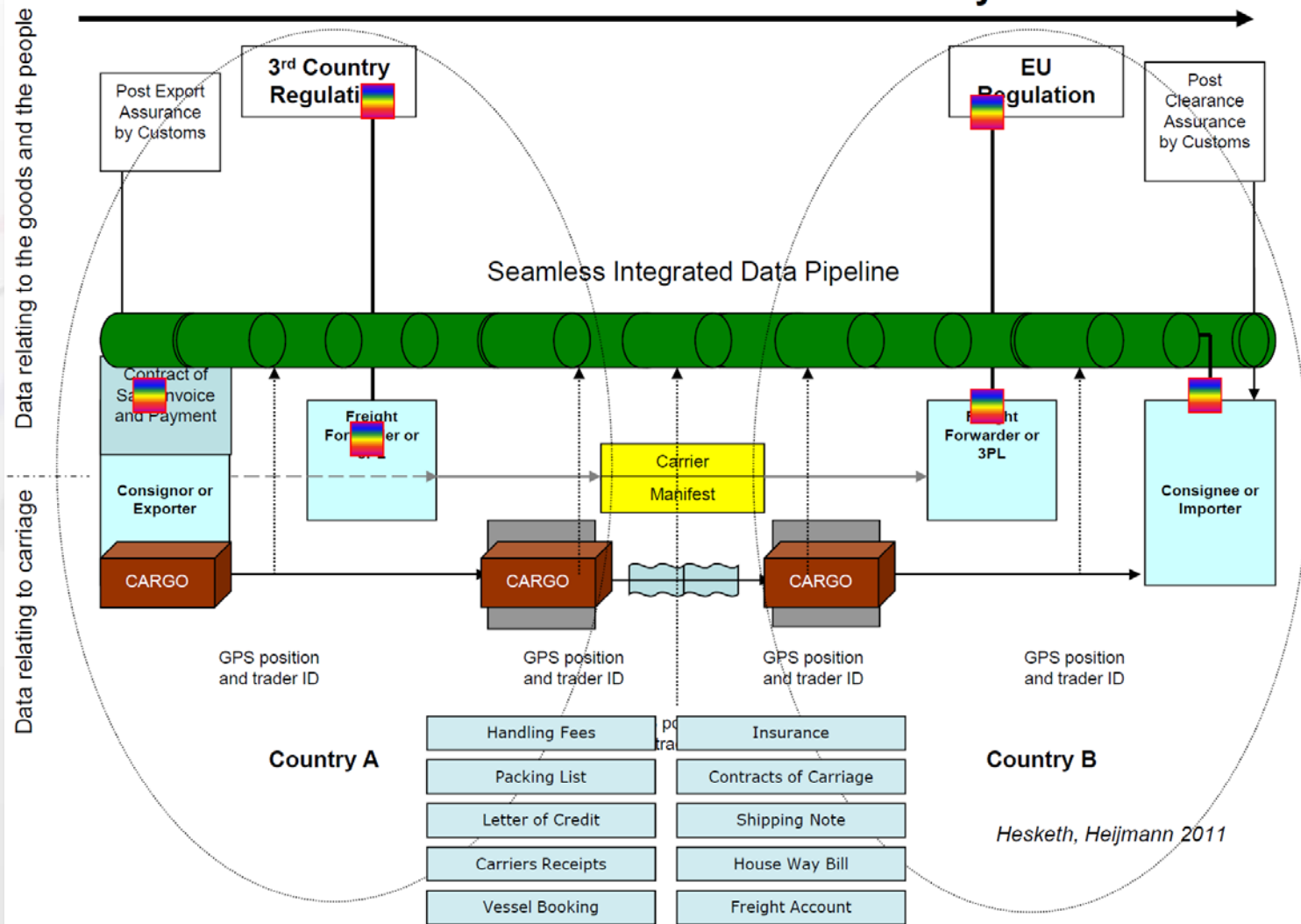
Integrated Data Pipelines ... *As-Is*

Current Customs and International Trade Systems



Integrated Data Pipelines ... *To-Be*

Future Customs and International Trade Systems

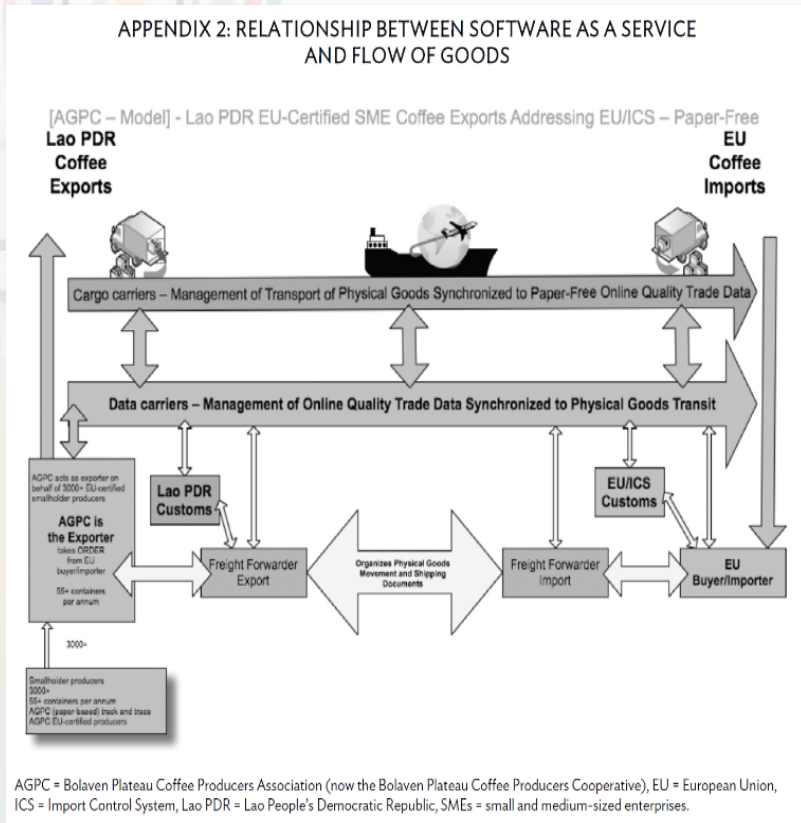


Example: Lao Coffee Project (2011)

Shipping Lao Coffee to the EU

- Trial 'paper-less' transactions, partly funded by the Asia Development Bank
- Savings per shipment (1 or more containers)
 - \$200–\$240*

* incl. \$80 removal document courier costs



Paper-Free Trade for Smallholder Farmers

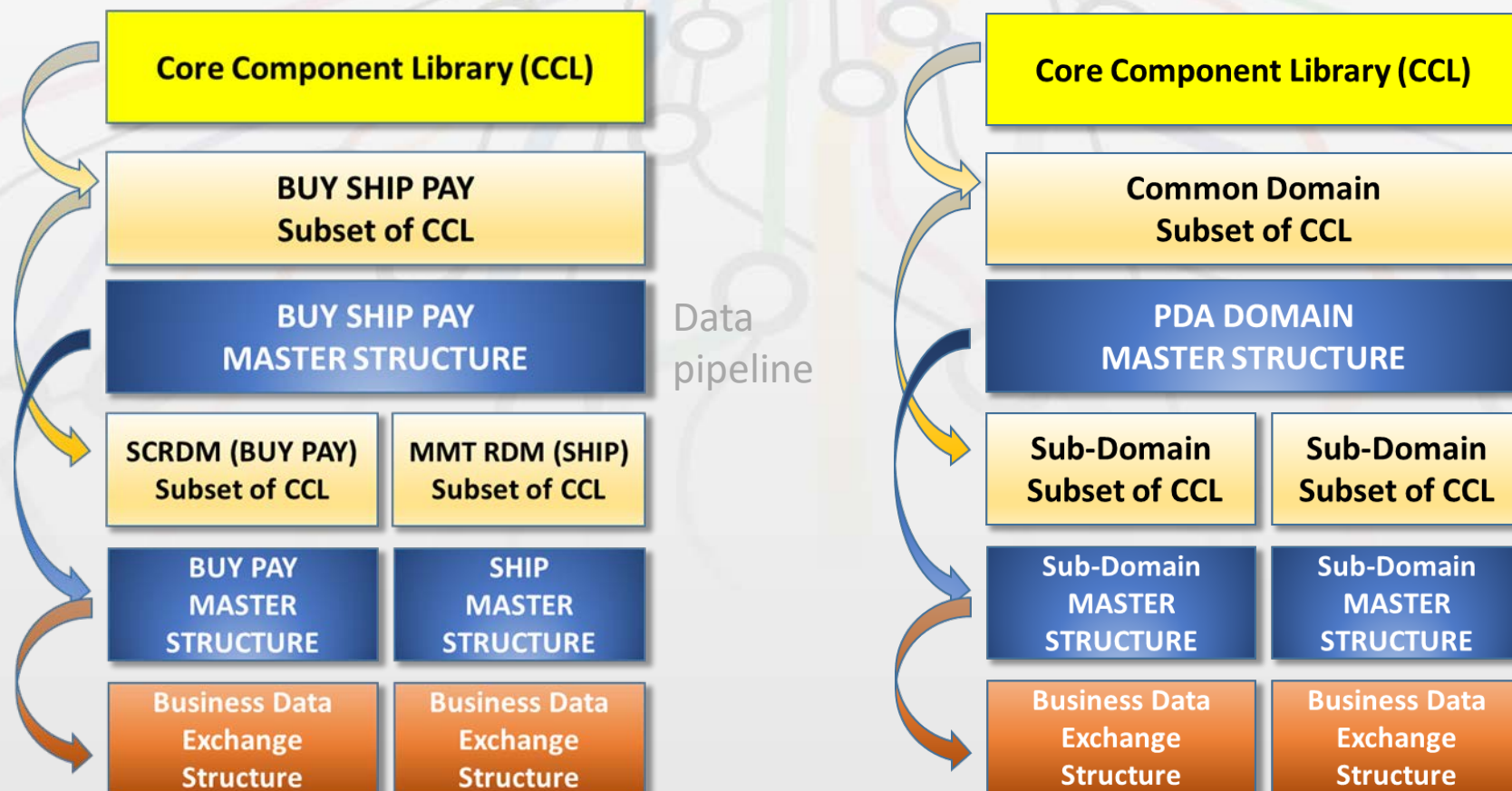
'A pilot study of a Coffee Association in the LAO People's Democratic Republic'

(ADB South East Asia Working Paper Series No.10 February 2015)

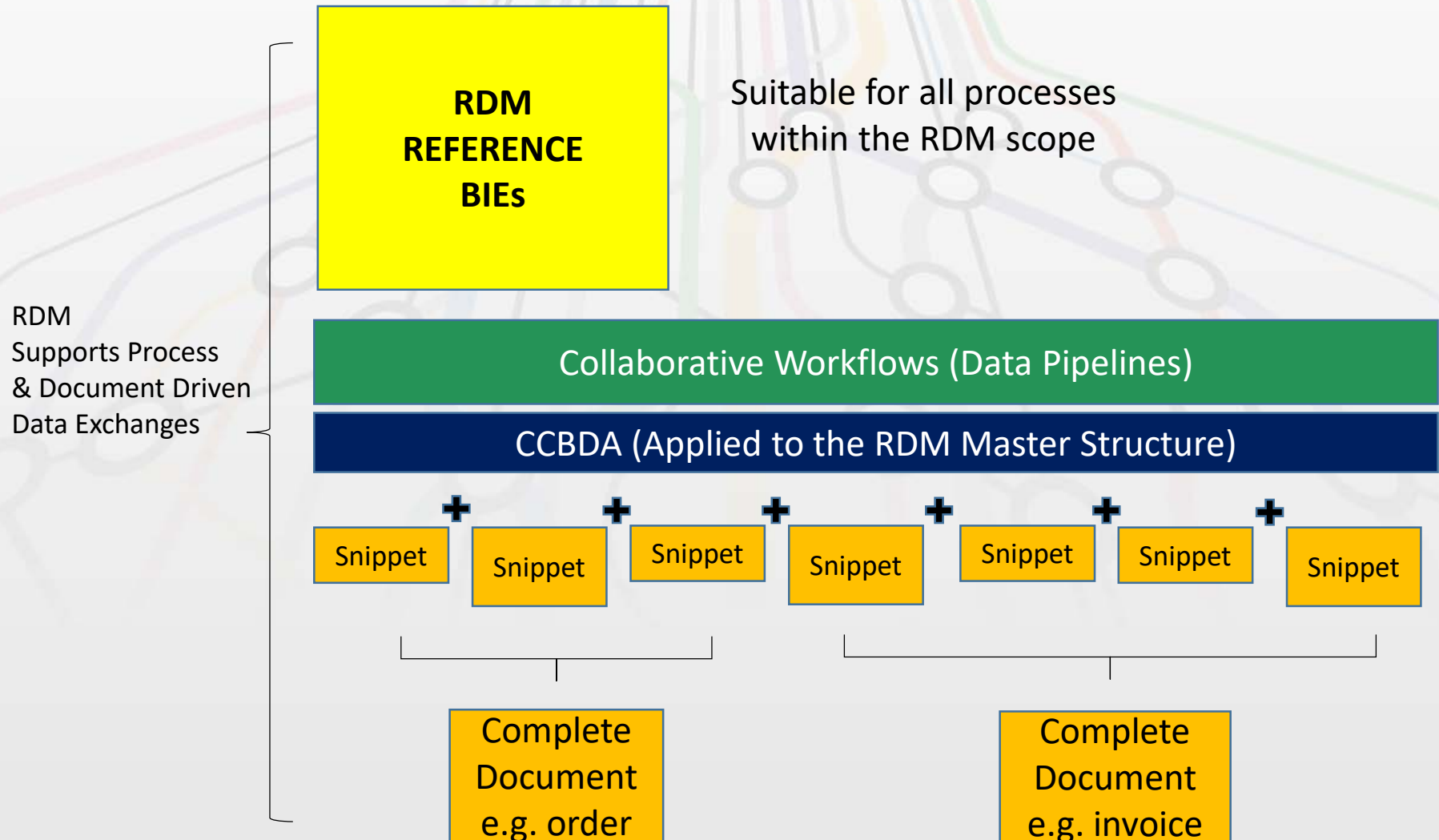
Reference Data Model - *HOW*

The Supply Chain and The
Transport & Logistics Domains

Other Domain(s)



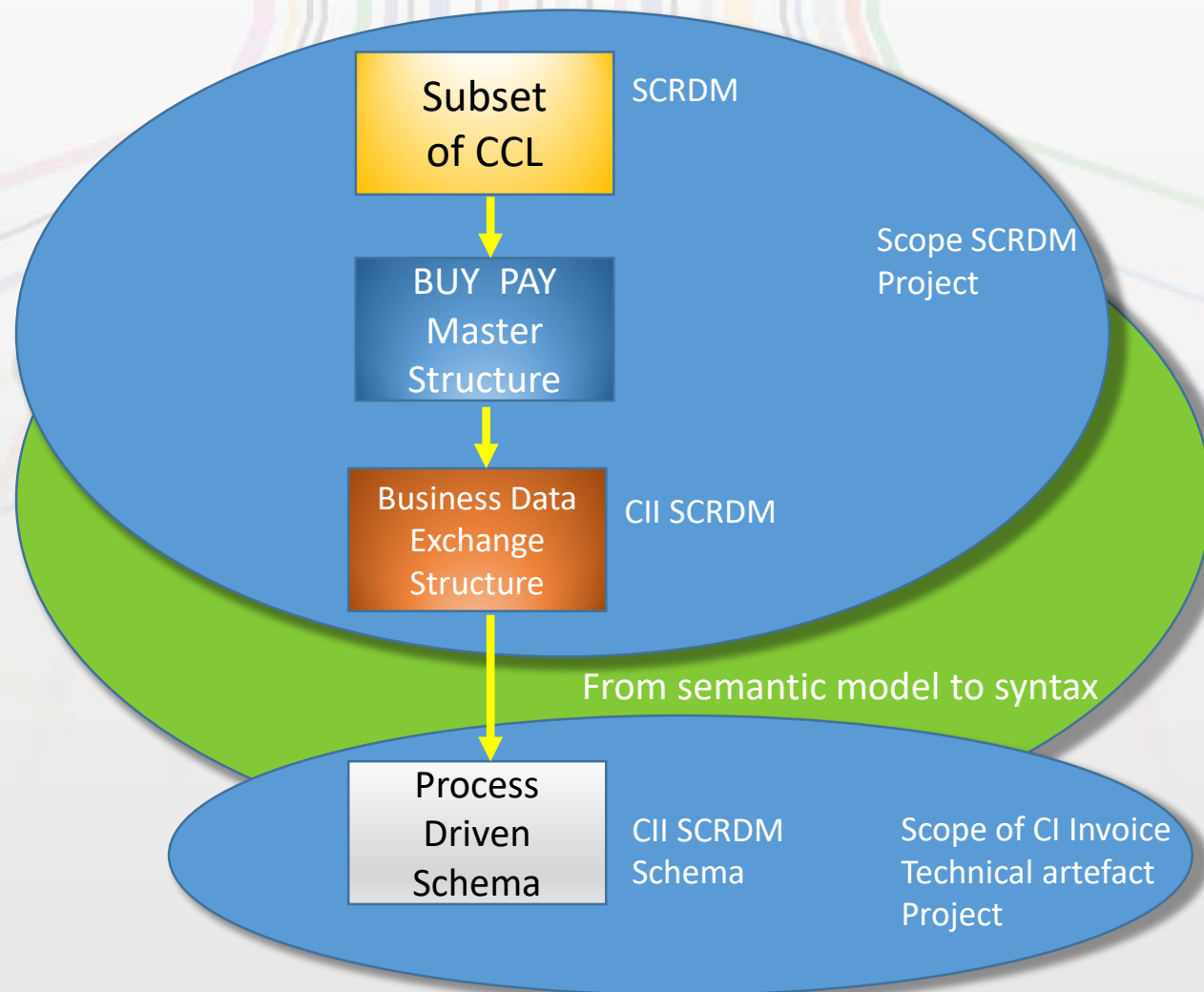
RDMs Support Process & Document Driven Data Exchanges



UN/CEFACT Reference Data Models

- Reference Data Model (e.g. SCRDM, MMT RDM)
 - a subset of the UN/CEFACT Core Component Library (CCL)
 - a rich collection of business artefacts contextualized for a domain (e.g. Supply Chain)
 - from which standard business data exchange structures can be created
- The evolution:
 - creation of standard business data exchange structure (e.g. documents, snippets of documents) from a 'Master Structure'
 - contextual message restrictions are applied to the subset artefacts, the 'Master Structures' and/or the standard 'Business Data Exchange Structure'

Our first delivery: *Cross Industry Invoice*



Benefits: for Decision Makers

- The support of information sharing, e.g. enabled by data pipelines, with the timely capture of quality data from data sources ensuring supply chain visibility
- The provision of global semantics covering all data requirements internationally accepted
- Reduction of administrative burden by efficient reuse of data shared within the BUY SHIP PAY model
- Trusted semantic model, based on internationally accepted standardized & harmonized library
- Enhanced interoperability of data with BUY SHIP PAY domain
- Standardized data exchange structures, based on common 'Master' data exchange structure
- Integrated international code lists, using commonly used UNECE Recommended code lists, UN/EDIFACT code lists, ISO code lists..
- Future proof semantic model, a data exchange syntax neutral semantic model

Benefits: for implementers of UN/CEFACT Reference Data Models

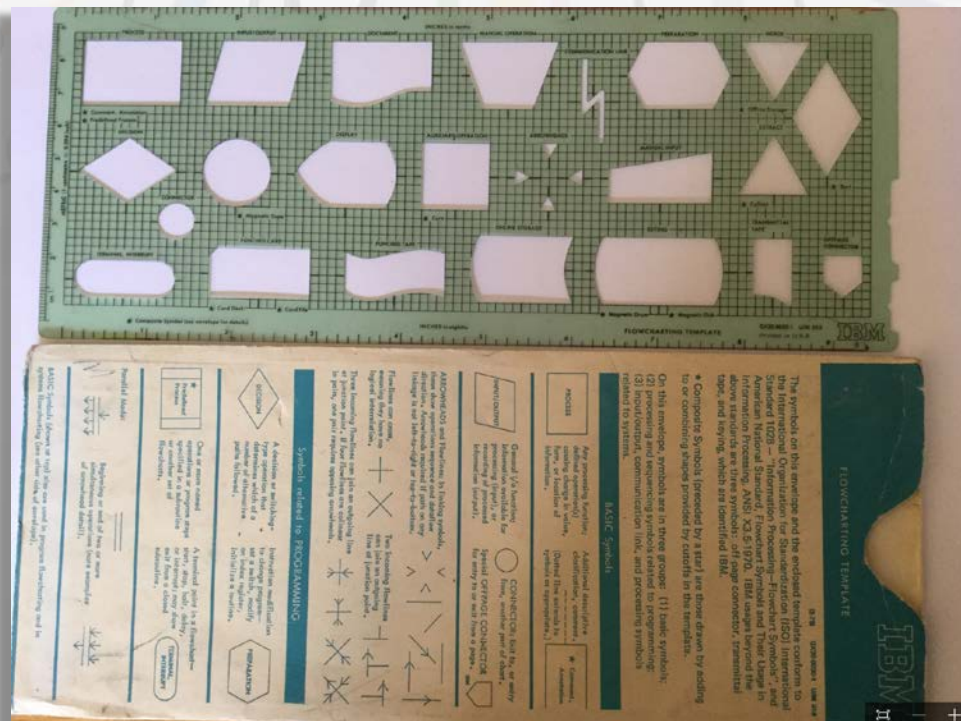
- The use of a syntax neutral semantic model for defining business data exchanges
- Enhanced interoperability of data across Supply Chain and Transport & Logistic business processes
- Easy message specific restriction of artefacts, no need to create new artefacts (document specific ones).
- Restrictions can be applied at process, master or message level
- Simple creation of new data exchange structures from the “Master”
- Available artefacts easy to find, by searching in the subset of the CCL
- Newcomers easily guided to the available, appropriate artefacts (“the right spot”)

Benefits: Government and Private sector

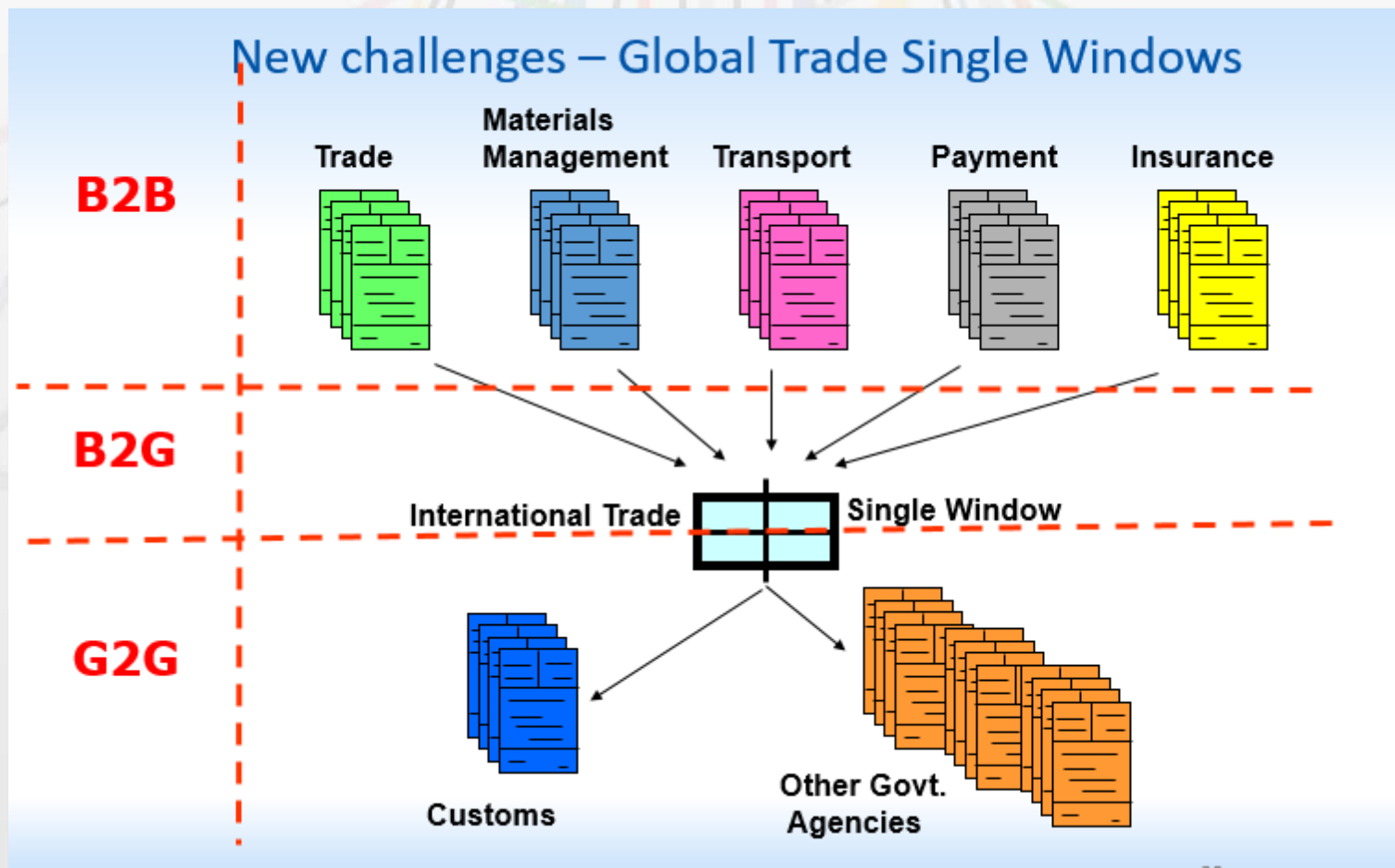
- Facilitation of government & private sector interfaces by supporting Data Pipeline & Single Window concepts
- Reduction of administrative burden, efficient reuse of data
- Trusted semantic model, based on internationally accepted standardized & harmonized library
- Providing global cross-syntax Reference Data Models through the principles enshrined in:
 - the United Nations Layout Key (UNLK),
 - the United Nations Trade Data Element Directory (UNTDDED)
 - United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT);
- Integrated international code lists, using commonly used UNECE Recommended code lists, UN/EDIFACT code lists, ISO code lists.

Leveraging UN/CEFACT Assets

UMM: ISCRM: Processes
&
CCTS: CCL: Data



Facilitating regulatory functions by standardized data exchange structures



23

United Nations Layout Key Document Families

UNLK Document Families

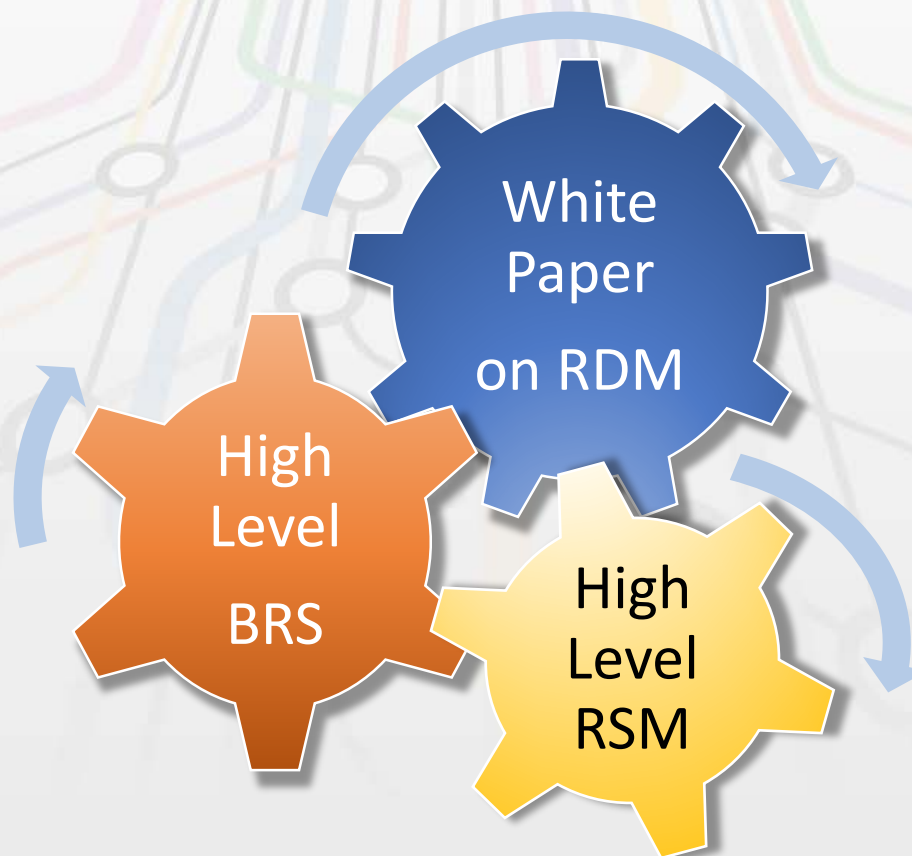


End section 2:

Questions on
“The Concept of RDMs”?



Section 3: High level focus



Available high level documents

High-Level White Paper on Reference Data Models

- Executive summary for the Reference Data Model

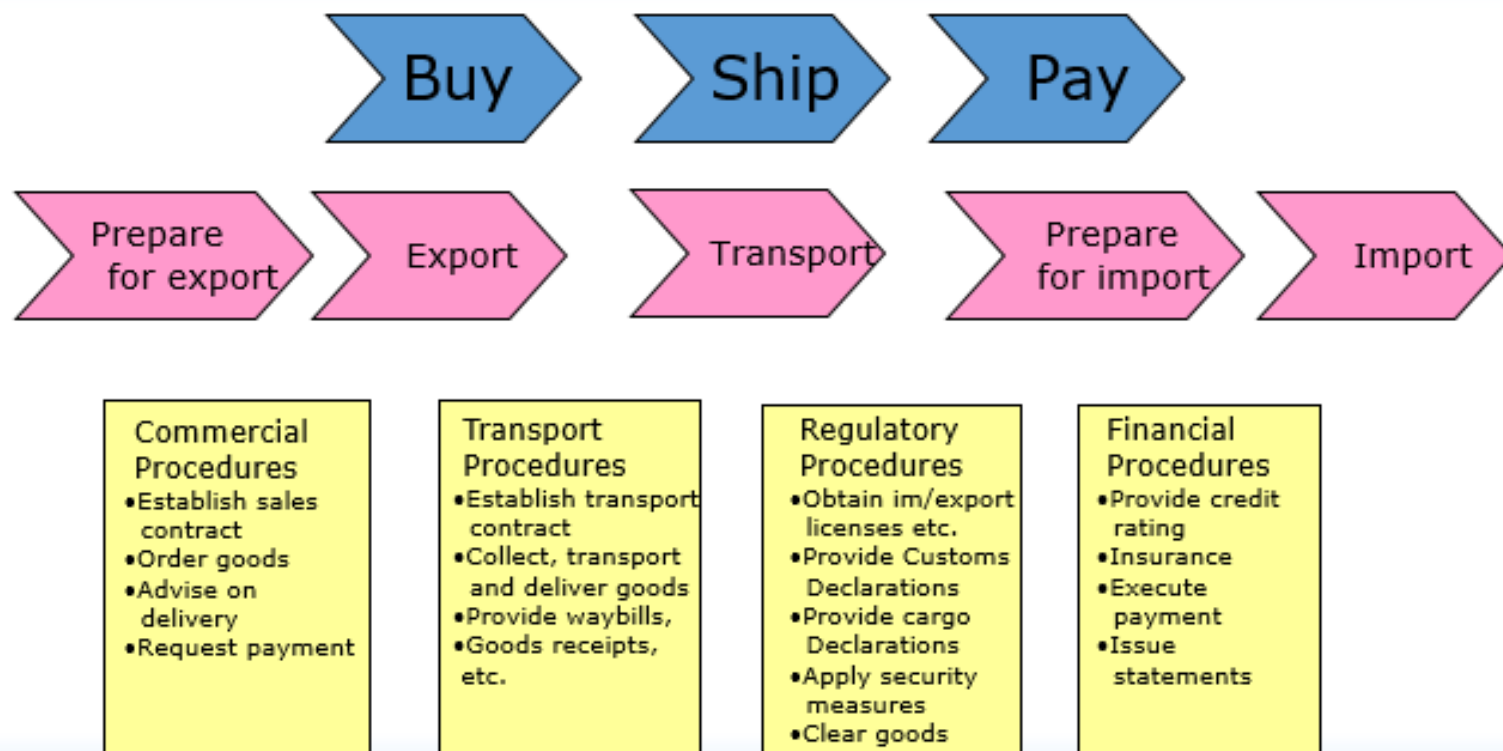
High level BRS (*Business Requirements Specification*)

- Processes in the Supply Chain domain
- Processes in the Transport, Finance, Government domain
- The actors and scenarios

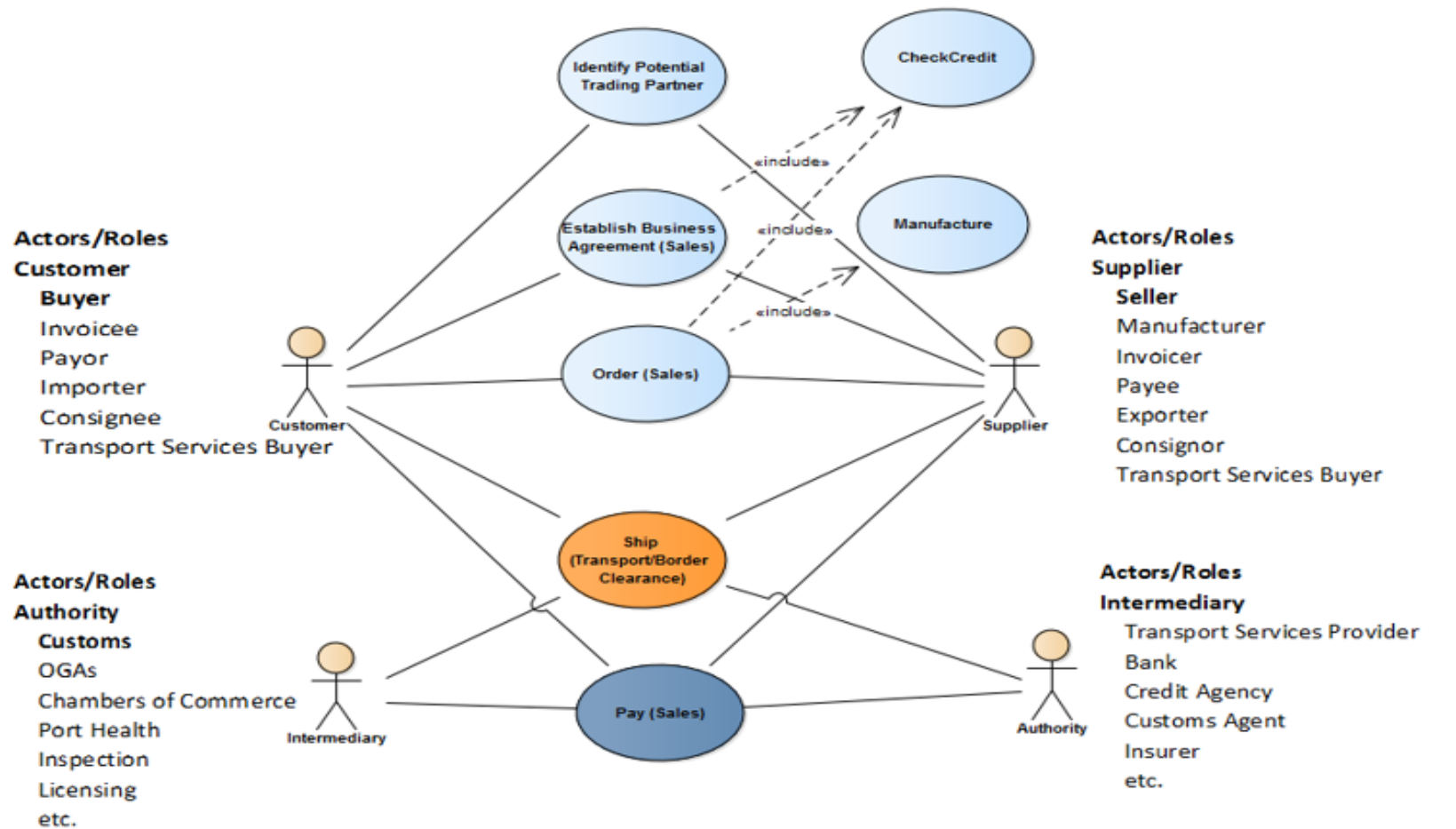
High level RSM (*Requirements Specification Mapping*)

- Mapping of common party roles
- Mapping of common locations
- Mapping of common business entities

High level BRS (processes)

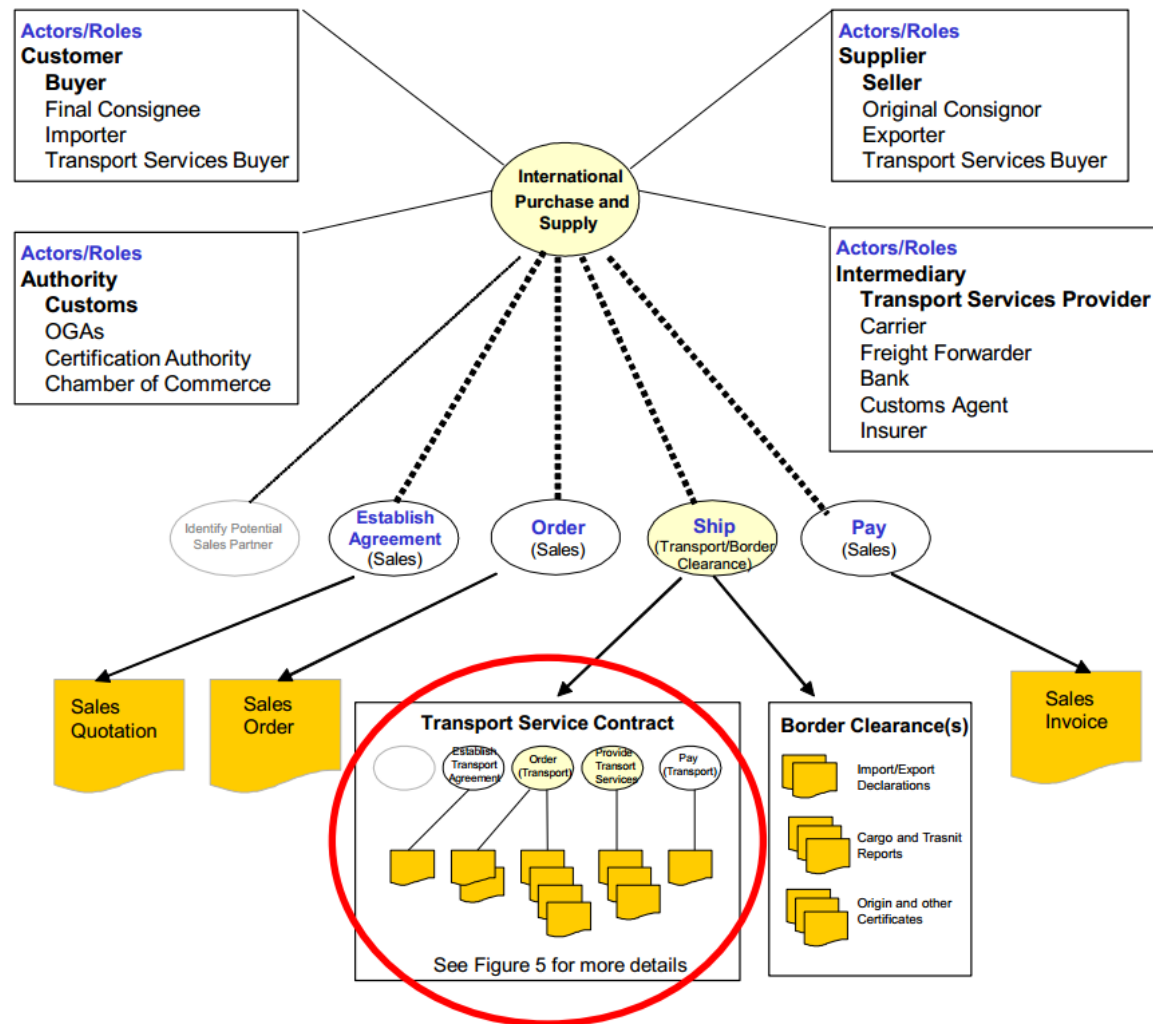


The actors

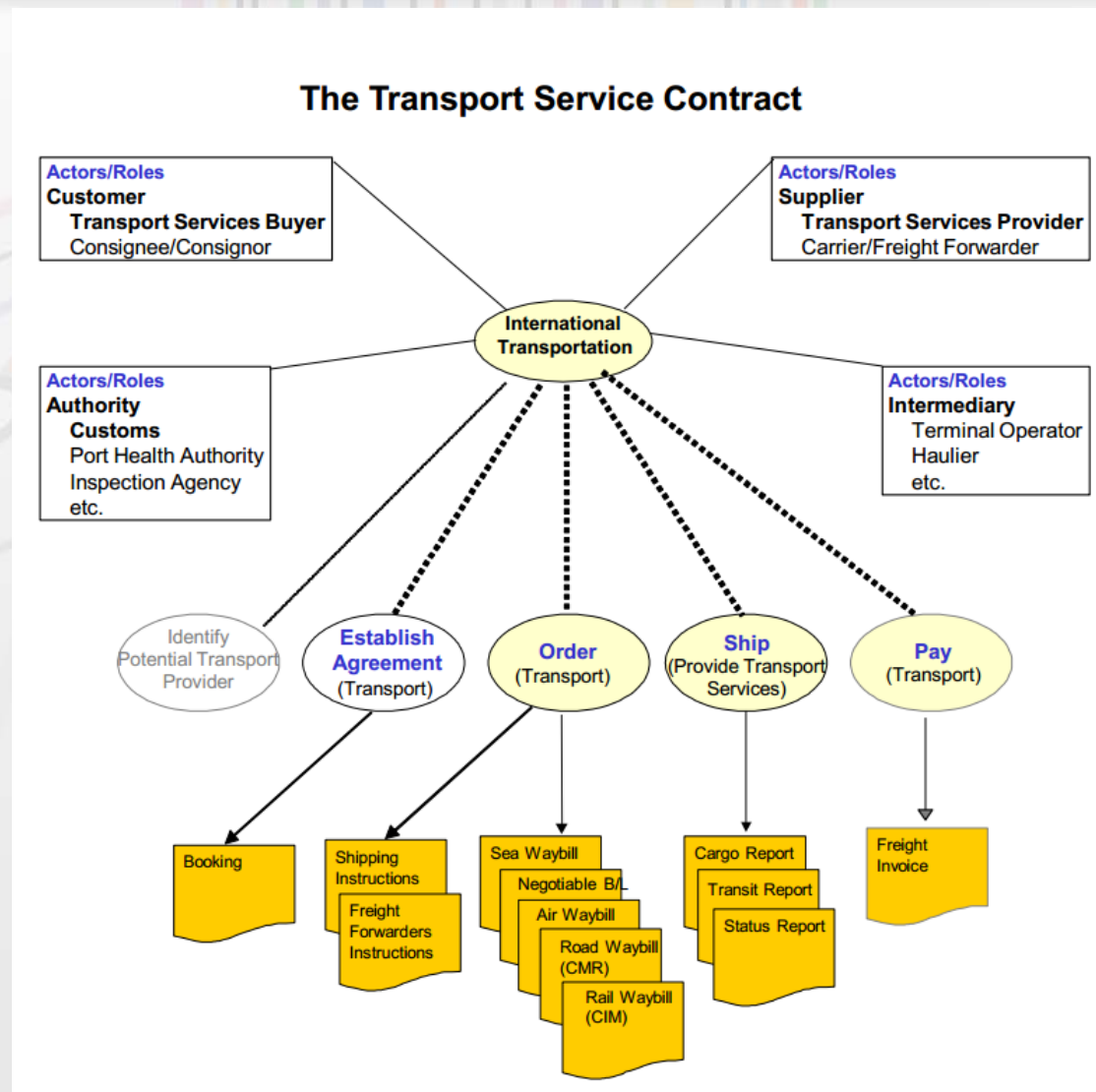


The Sales Contract

The Sales Order Contract

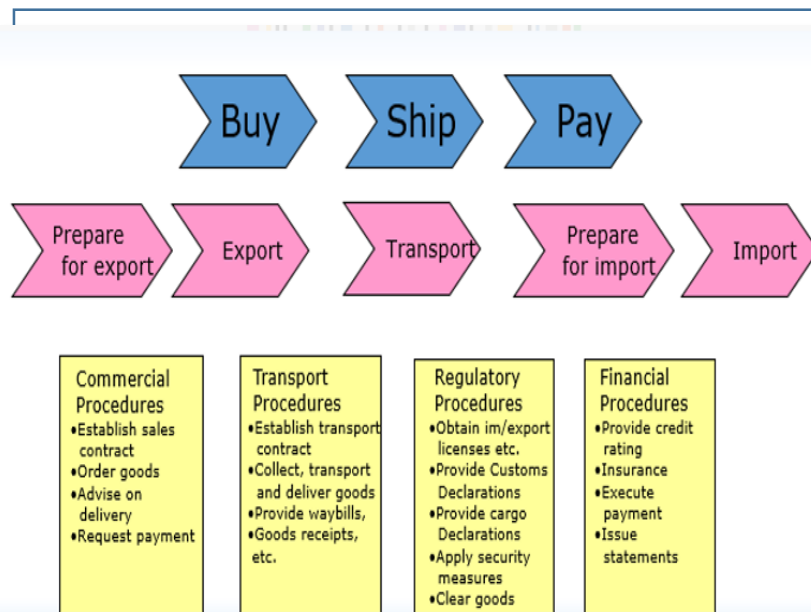


The Transport Contract

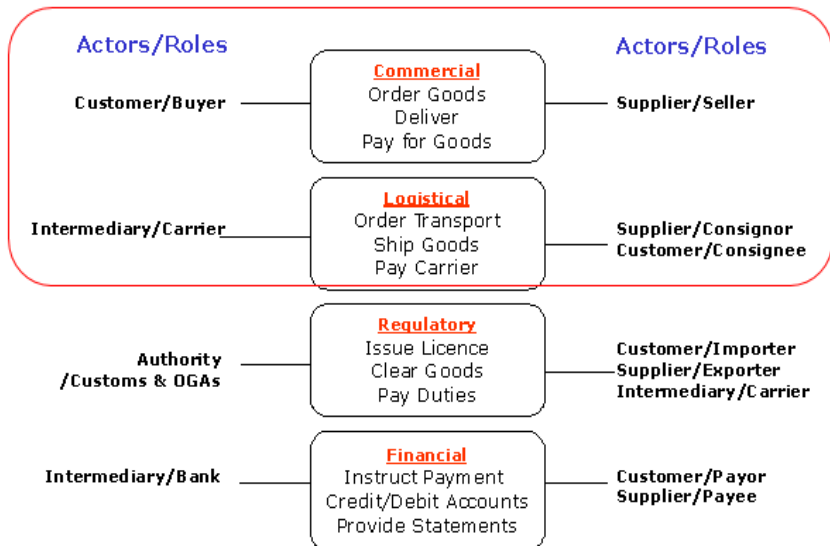


Commercial & Logistic processes

Relationship



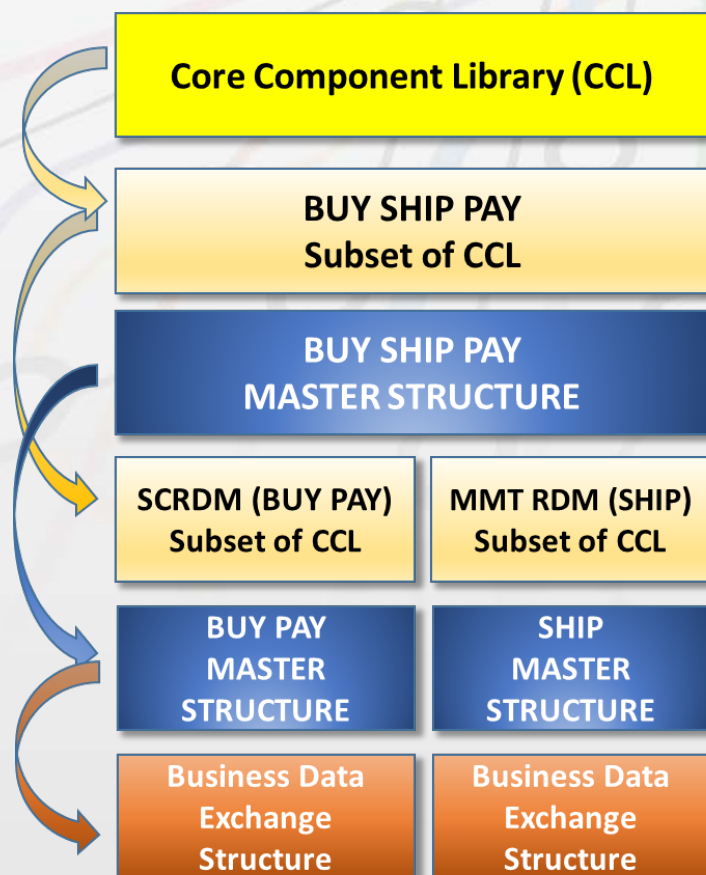
International Supply Chain Processes and Procedures



High level RSM (data)

The Supply Chain and the
Transport & Logistics Domains

Subsetting / Restrictions

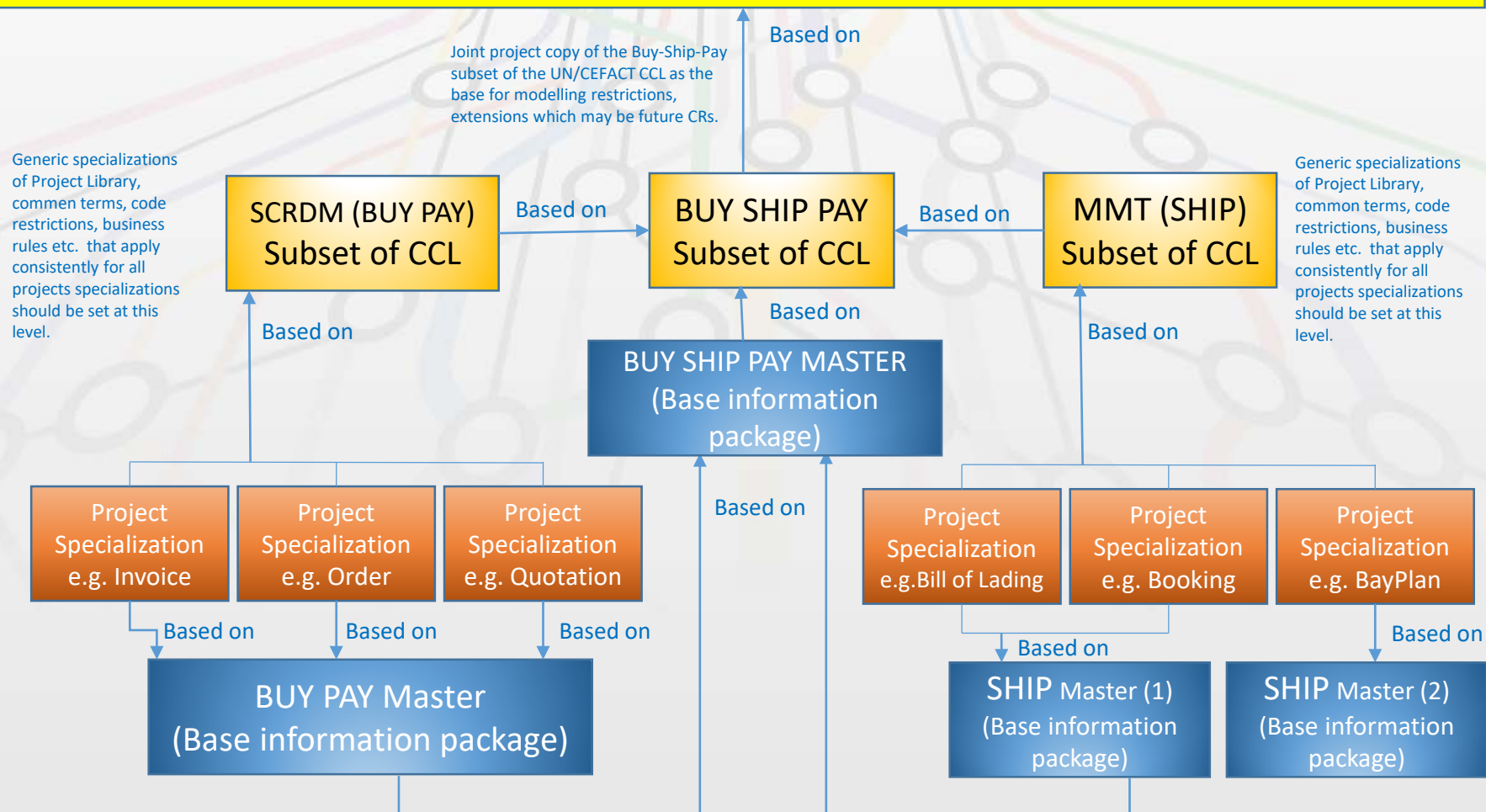


Data
pipeline

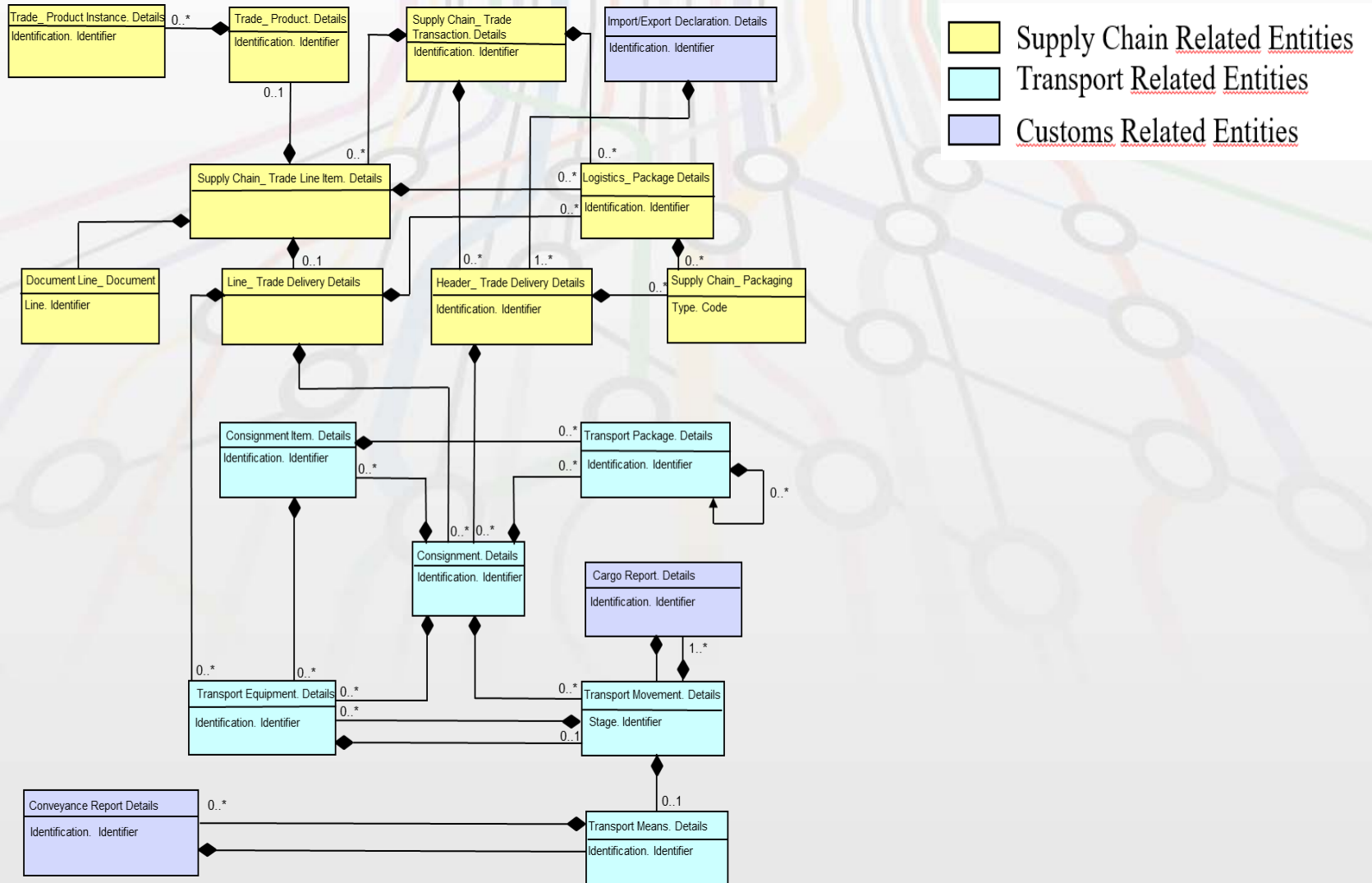


SCRDM and MMT subsets of CCL

UN/CEFACT Core Component Library (CCL)



Sharing Business artefacts e.g. consignment

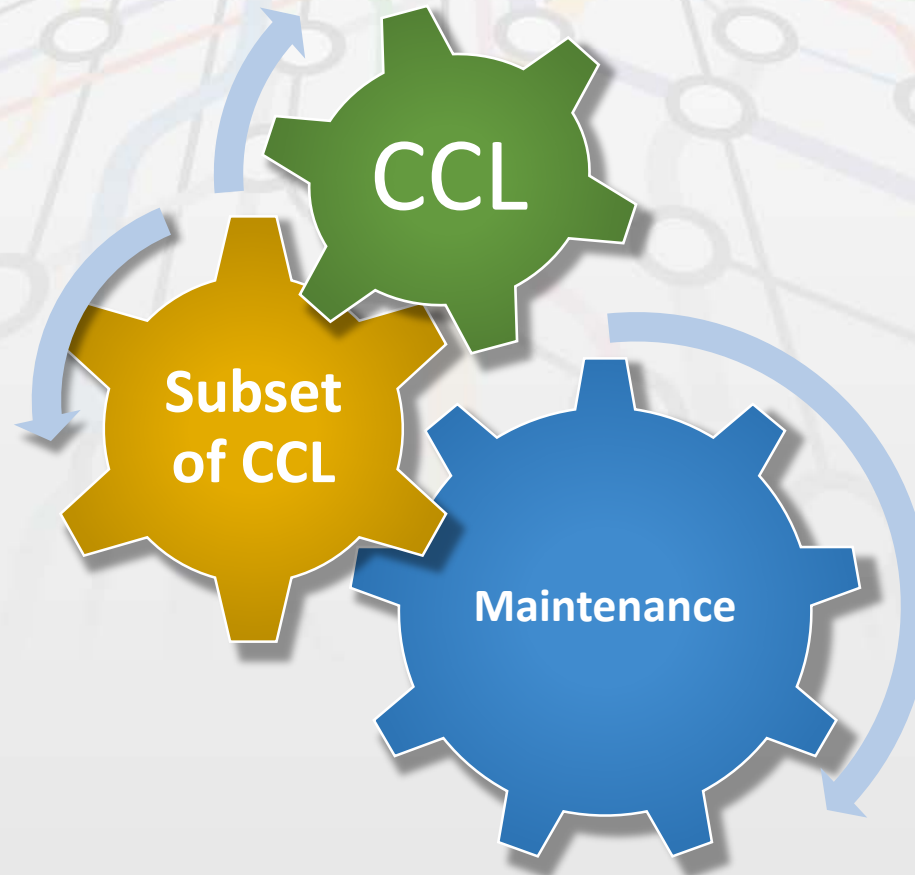


End of section 3:

Questions on
High level focus?



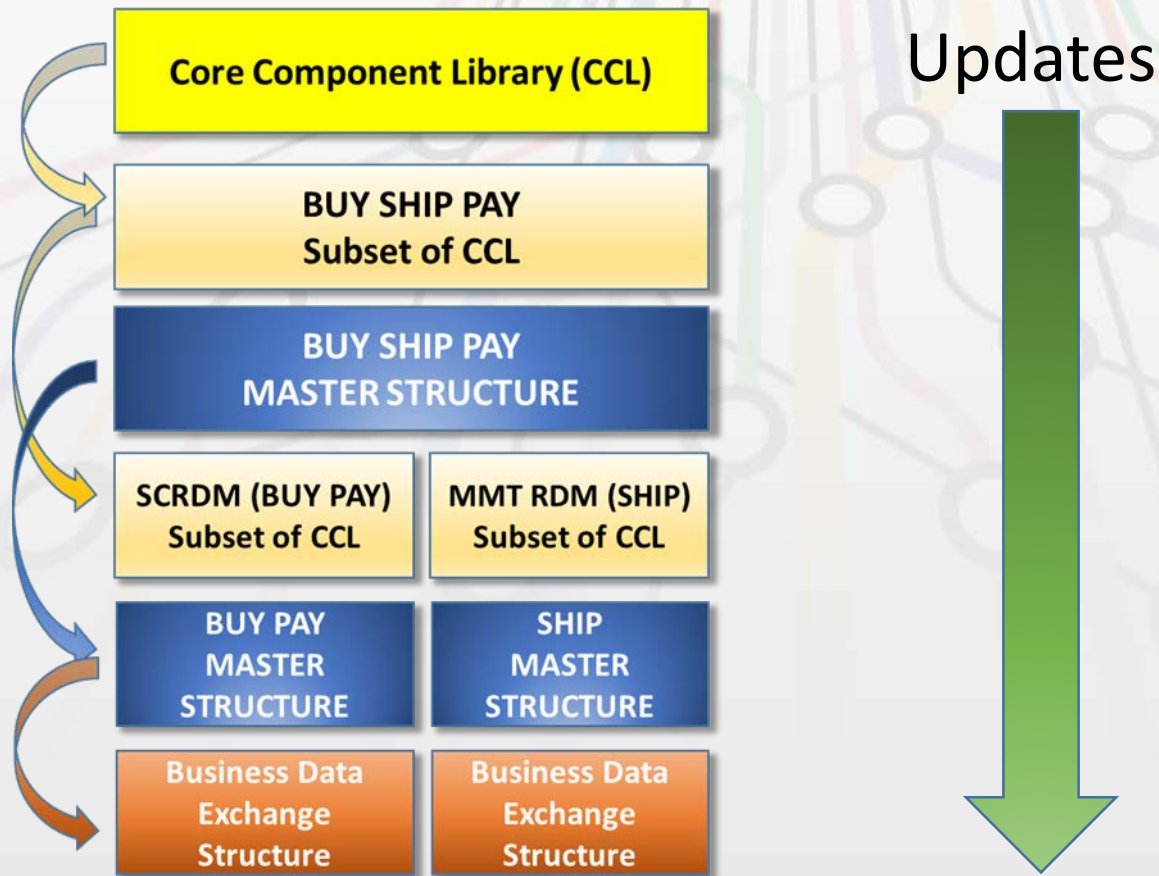
Section 4: Maintenance of Reference Data Models



RDM Parts subject to maintenance

1. BUY SHIP PAY Master Structure
2. BUY PAY and SHIP Structure
3. BUY PAY (SCRDM) and SHIP (MMT) Subset of the CCL
4. Message Assemblies

Relation between CCL, Structures, Subsets



Maintaining Structures

- Updates in 'BUY SHIP PAY' Master Structure

Examples:

- A new ASMA (association in message assembly)
- Additions in ABIEs used by ASMAs
- Updates in ABIEs used by ASMAs

- Updates in 'SCRDM' or 'MMT' Master Structures

Examples:

- Updates in ASMA usage in the underlying 'BUY SHIP PAY' master
- Updates in BIEs usage in the underlying subset of the CCL

<< structural updates will be rare >>

Maintaining Subsets of the CCL

Updates in 'SCRDM subset of the CCL'

Example:

- Updates in BIEs usage in the underlying subset of the CCL

Updates in 'MMT subset of the CCL'

Example:

- Updates in BIEs usage in the underlying subset of the CCL

Maintaining Message Assemblies (MAs)

Updates in messages:

Examples:

- Updates in BIEs usage in the underlying subset of the CCL
- Updates in BIEs usage

Business Requirements may invoke...

- Update(s) in Master Structure(s)
- Update(s) in Subset(s)
- Updates(s) in Message(s)
- Submission for the underlying CCL

How to organize maintenance on RDMs

Maintaining Reference Data Models means:

- Collaboration between 'BUY PAY' and 'SHIP' domains
- Validating
 - Need for updates in subset of the CCL?
 - Need for new artefacts?
- Coordination
- Procedures

RDM Maintenance Procedures

Library Maintenance Focal Point:

- Currently responsible for CCL maintenance

For discussion/recommendation

RDM maintenance should be the responsibility of Library Maintenance Focal Point

- RDMs are subsets of the CCL
- Library Maintenance editors are CCL experts
- CCL updates may impact one or more RDMs
- RDM maintenance requires:
 - Individual experts be assigned from the RDM project team?
 - OR**
 - Individual experts be assigned from appropriate domain?

Assigned expert responsibility

- Update of RDM that has no CCL impact
- Participation in Library Maintenance calls/meetings

End of section 4:

Questions on
Maintenance of RDMs?

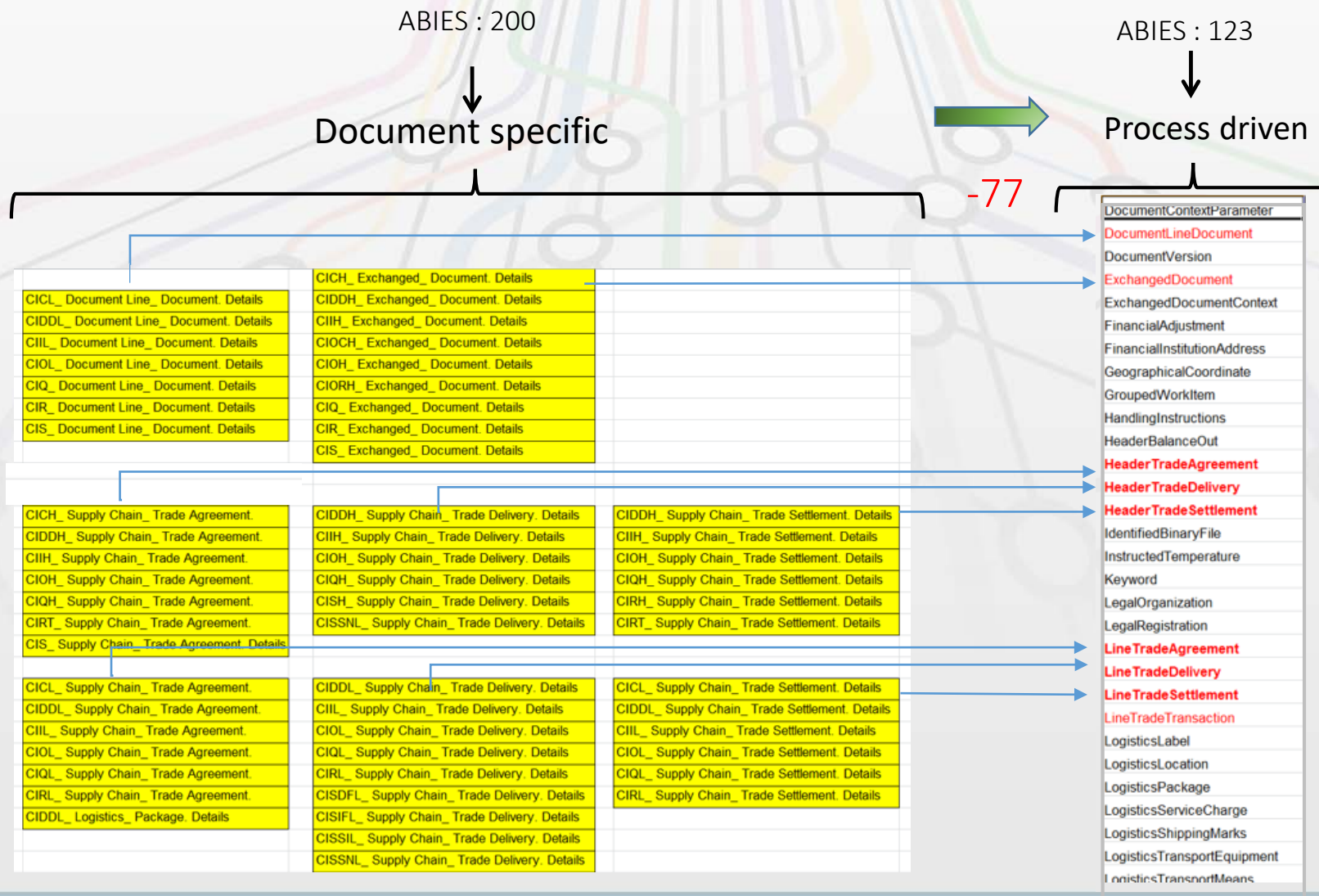


Section 5

Reference Data Models (technical details)



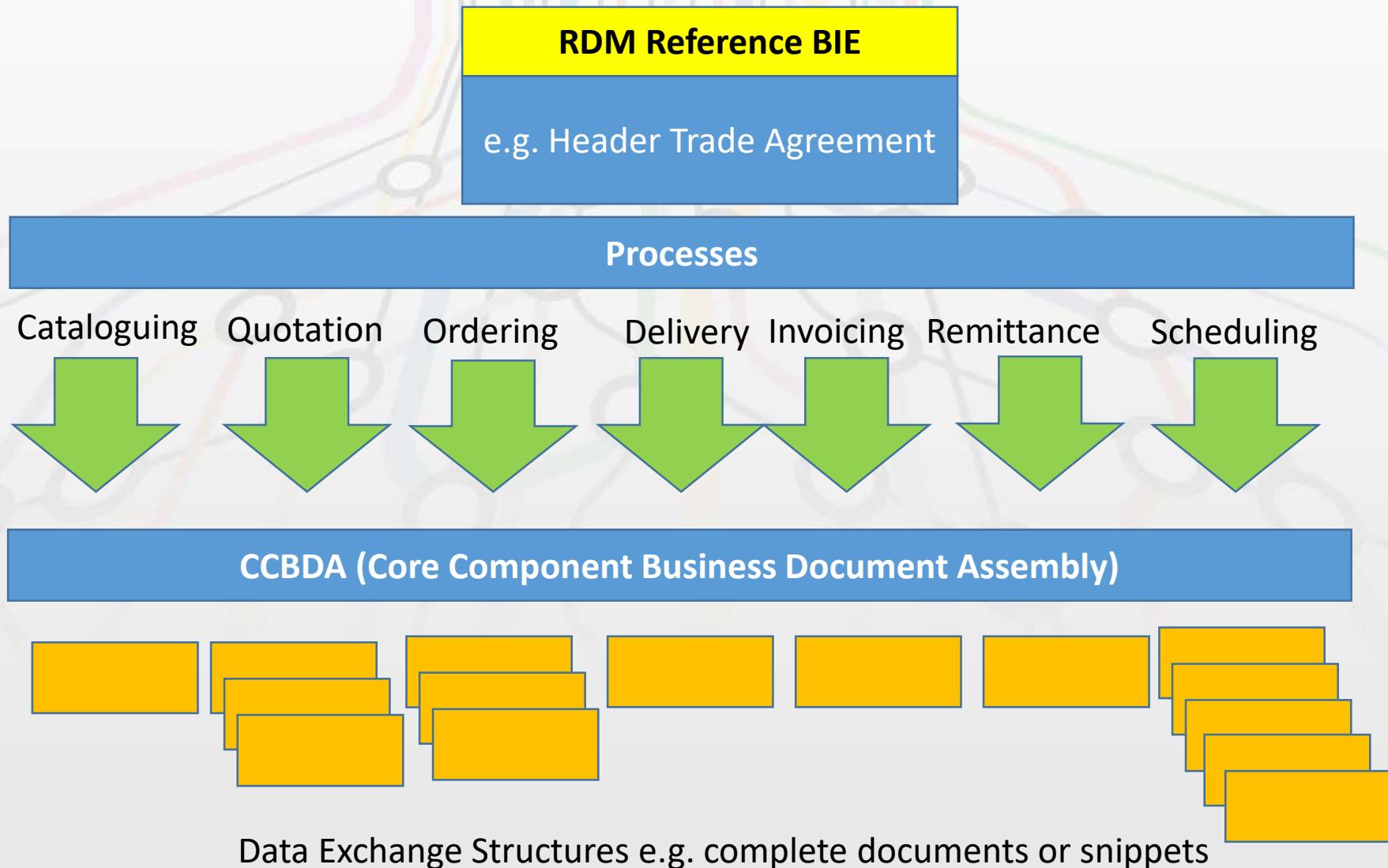
SCRDM Rationalization example



Rationalization results...

- 40% fewer business information artefacts needed to build the same number of messages.
 - 17 new artefacts (ABIEs), 1% of CCL
 - SCRDM CCL subset: 1,400 artefacts out of 11,500
 - Easily maintainable
 - Easier to implement

SCRDM contextualized Reference BIE example



Structure, Context, Publication and Usage

Structures

- 'BUY SHIP PAY' Master Structure of a Reference Data Model
- 'SCRDM' Master Structure of a Reference Data Model
- 'MMT RDM' Master Structure of a Reference Data Model

Contextualizations

- Subsets for SCRDM and MMT RDM
- Message level restrictions

Publication of RDMs

- Formats

Usage

- Creating, Using, Updating of a Reference Data Model (guideline)

Main Structure: BUY SHIP PAY Master

- ▼ **B** BSP D17A Master
 - > **M** Core Component Types
 - > **M** CCL17A CCL
 - > **M** CCL17A uDT2-3
 - ▼ **Main**
 - ▼ **Masters**
 - ▼ **C** Buy Ship Pay Master
 - > **C** Exchanged Document Context
 - > **C** Exchanged Document
 - > **C** Exchanged Declaration
 - > **C** Logistics Transport Movement
 - > **C** Supply Chain Consignment
 - > **C** Logistics Transport Equipment
 - > **C** Transport Service
 - > **C** Trade Settlement Payment
 - > **C** Supply Chain Trade Transaction
 - > **C** Valuation Breakdown Statement

BSP (BUY SHIP PAY)
Master Structure

CCL

Contextualized structures for domains

SCRDM BUY PAY Master Structure

SCRDM
Subset of CCL

- M SCRDM D17A Context** BUY PAY Mas
- > **B** BSP D17A Master
 - > **M** Core Component Types
 - > **M** SCRDM D17A Context CCL
 - > **M** CCL17A uDT2-3
 - ▼ **Main**
 - ▼ **Masters**
 - ▼ **C** BUY PAY Master
 - > **C** Exchanged Document Context
 - > **C** Exchanged Document
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 - > **C** Supply Chain Consignment
 - > **C** Logistics Transport Equipment
 - > **C** Transport Service
 - > **C** Payment
 - > **C** Supply Chain Trade Transaction
 - > **C** Valuation Breakdown Statement

MMT RDM SHIP Master Structure

MMT
Subset of CCL

- M MMT D17A Context SHIP Mas**
- > **B** BSP D17A Master
 - > **M** Core Component Types
 - > **M** MMT D17A Context CCL
 - > **M** CCL17A uDT2-3
 - ▼ **Main**
 - ▼ **Masters**
 - ▼ **C** SHIP Master
 - > **C** Exchanged Document Context
 - > **C** Exchanged Document
 - > **C** Exchanged Declaration
 - > **C** Logistics Transport Movement
 - > **C** Supply Chain Consignment
 - > **C** Logistics Transport Equipment
 - > **C** Transport Service
 - > **C** Payment
 - > **C** Supply Chain Trade Transaction
 - > **C** Valuation Breakdown Statement

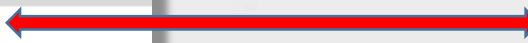
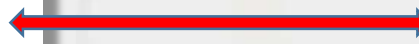
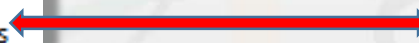
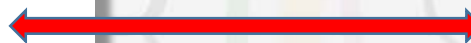
Contextualized Restrictions (Subset level)

SCRDM Subset of CCL

- ☒ Trade Country
- ☒ Trade Currency Exchange
- ☒ Trade Delivery Terms
- ☒ Trade Geopolitical Region
- ☒ Trade Location
- ☒ Trade Note
- ☒ Trade Package
- ☒ Trade Party
- ☒ Trade Payment Discount Terms
- ☒ Trade Payment Instructions
- ☒ Trade Payment Means
- ☒ Trade Payment Penalty Terms
- ☒ Trade Payment Terms
- ☒ Trade Price
- ☒ Trade Product Group
- ☒ Trade Product Instance
- ☒ Trade Product Warranty
- ☒ Trade Product
- ☒ Trade Tax

MMT RDM Subset of CCL

- ☒ Trade Country
- ☒ Trade Currency Exchange
- ☒ Trade Delivery Terms
- ☒ Trade Geopolitical Region
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- ☒ Trade Tax



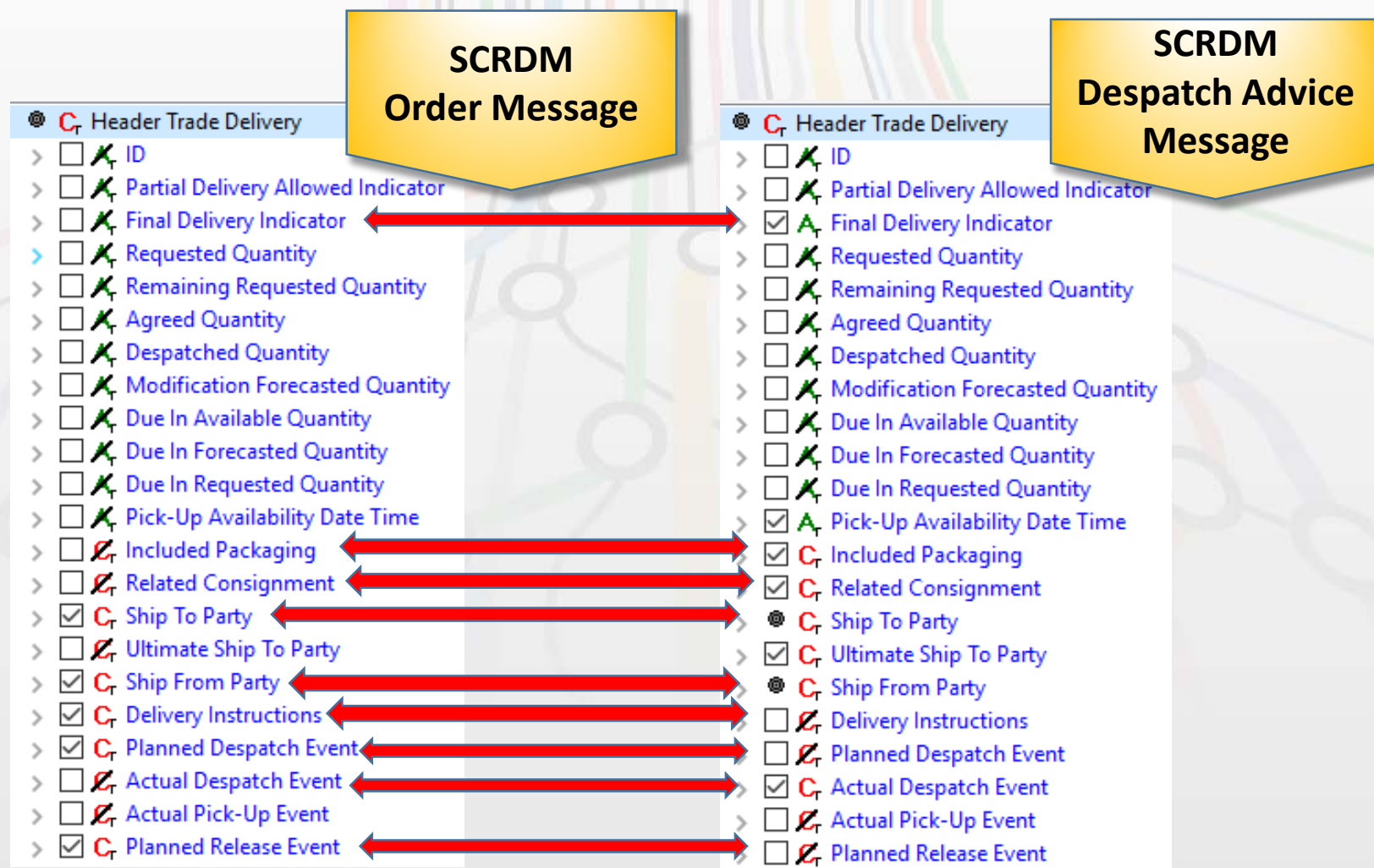
Contextualized Restrictions (ABIE Level)

SCRDM Subset of ABIE Trade Price

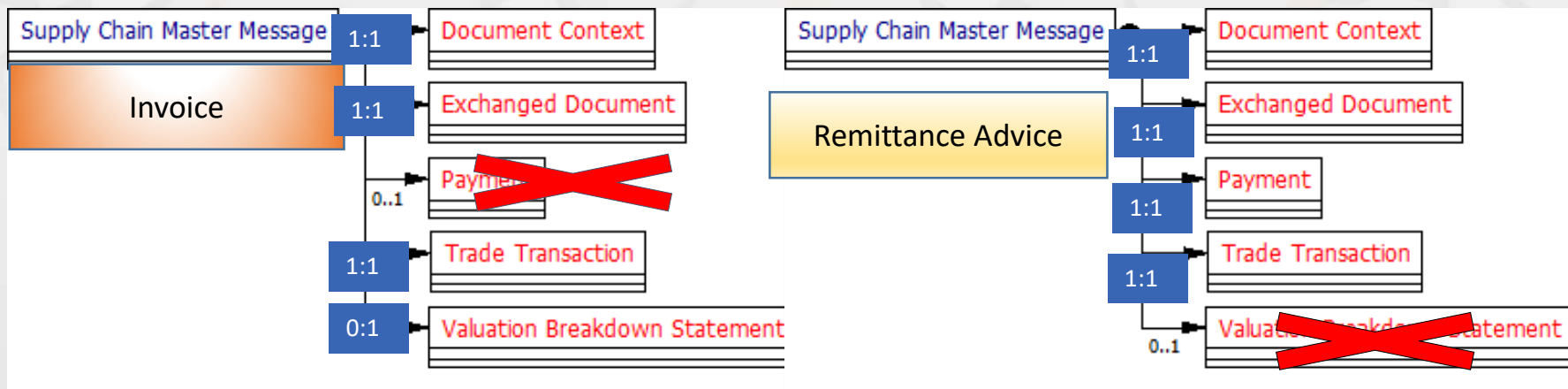
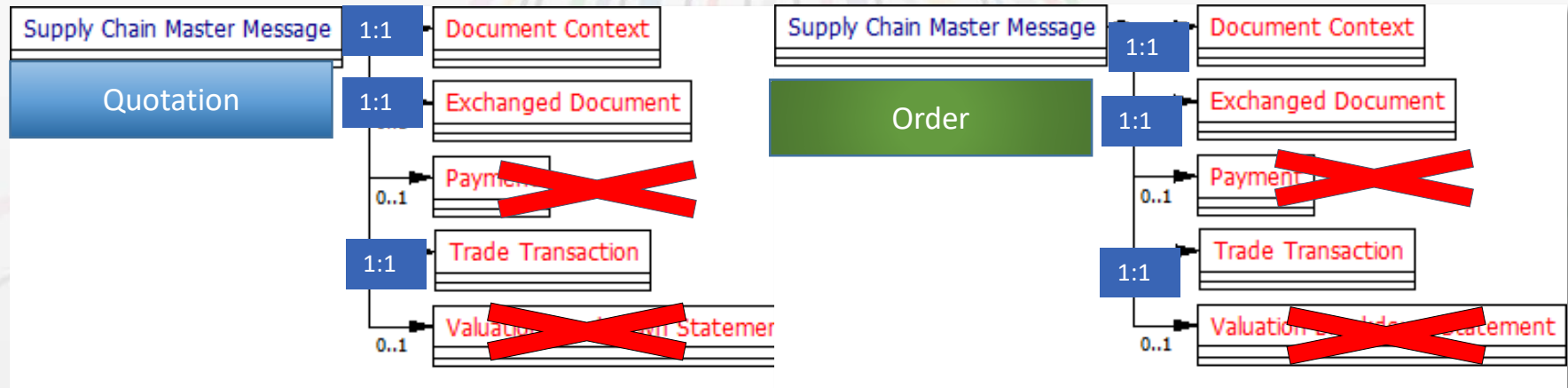
MMT RDM Subset of ABIE Trade Price

C Trade Price		C Trade Price
> X Net Price Indicator		> X Net Price Indicator
> A Type Code		> A Type Code
> A Charge Amount	←→	> A Charge Amount
> A Basis Quantity		> A Basis Quantity
> X Minimum Charge Amount		> X Minimum Charge Amount
> X Maximum Charge Amount		> X Maximum Charge Amount
> A Minimum Quantity	←→	> A Minimum Quantity
> A Maximum Quantity	←→	> A Maximum Quantity
> X Unit Amount	←→	> A Unit Amount
> A Change Reason Text	←→	> A Change Reason Text
> A Order Unit Conversion Factor	←→	> A Order Unit Conversion Factor
> X Repackaging Charge Amount		> X Repackaging Charge Amount
> X Repair Charge Amount		> X Repair Charge Amount
> X Depreciated Validity Period		> X Depreciated Validity Period
> C Applied Allowance/Charge	←→	> X Applied Allowance/Charge
> C Validity Period		> C Validity Period
> C Included Tax	←→	> X Included Tax
> X Referenced Document		> X Referenced Document
> C Delivery Location	←→	> X Delivery Location
> X Comparison Price		> X Comparison Price
> C Trade Comparison Price		> C Trade Comparison Price
> C Associated Document		> C Associated Document

Contextualized Restrictions (Message level)



Principle is applicable for all messages



Schema production improvement (1)

- RDM approach

Coupled/uncoupled codes lists

Since version D16B: two SCRDM Invoice schema variants:

- Uncoupled (new)
- Coupled

Why?

- Maximum flexibility without changing the standard UN/CEFACT schemas.
- Still compliant to the standard UN/CEFACT published schema.
- You can extend or restrict the codes in the code list so that the corresponding type refers to the modified code list schema

Schema with coupled code lists

- All trading partners have to validate against the same codes, this enhances interoperability.
- UN/CEFACT code lists are standardized and widely used, also used by other standards.
- A validation of codes in a schema instance in 1 step.

Schema instance coupled/uncoupled

1. Coupled Code List schema Modules

```

<ram:SpecifiedTradePaymentTerms>
  <ram:ID schemeID="token" schemeAgencyID="6" schemeVersionID="token">4</ram:ID>
  <ram:FromEventCode listID="2475_Payment Terms Event" listAgencyID="6" listVersionID="D16A">45</ram:FromEventCode>
  <ram:SettlementPeriodMeasure unitCode="token" unitCodeListVersionID="token">2</ram:SettlementPeriodMeasure>
  <ram:Description languageID="token" languageLocaleID="token">String</ram:Description>
  <ram:DueDateDateTime>
    <udt:DateTimeString format="String">String</udt:DateTimeString>
  </ram:DueDateDateTime>
  <ram:TypeCode listID="4279" listAgencyID="6" listVersionID="D16A" name="String">7</ram:TypeCode>
  <ram:InstructionTypeCode listID="token" listAgencyID="token" listAgencyName="String" listName="String" listVersionID="token">

```

2. Uncoupled Code List schema Modules

```





<ram:SpecifiedTradePaymentTerms>
  <ram:ID schemeID="token" schemeAgencyID="token" schemeVersionID="token">OurTerms</ram:ID>
  <ram:FromEventCode listID="2475_Payment Terms Event" listAgencyID="6" listVersionID="token">token</ram:FromEventCode>
  <ram:SettlementPeriodMeasure unitCode="token" unitCodeListVersionID="token">0</ram:SettlementPeriodMeasure>
  <ram:Description languageID="token" languageLocaleID="token">String</ram:Description>
  <ram:DueDateDateTime>
    <udt:DateTimeString format="String">String</udt:DateTimeString>
  </ram:DueDateDateTime>

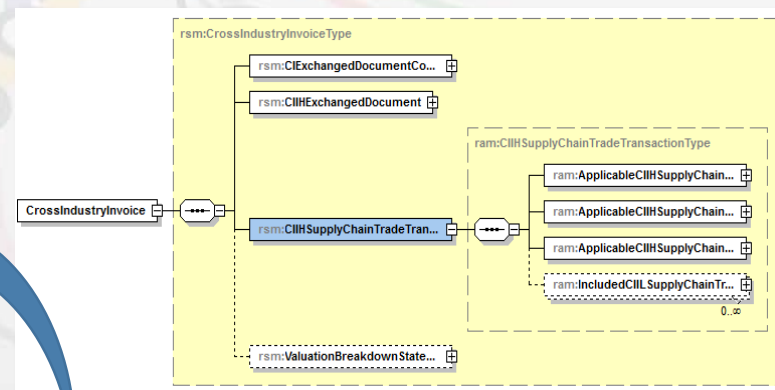
```

Schema Production improvement (2)





- RDM approach

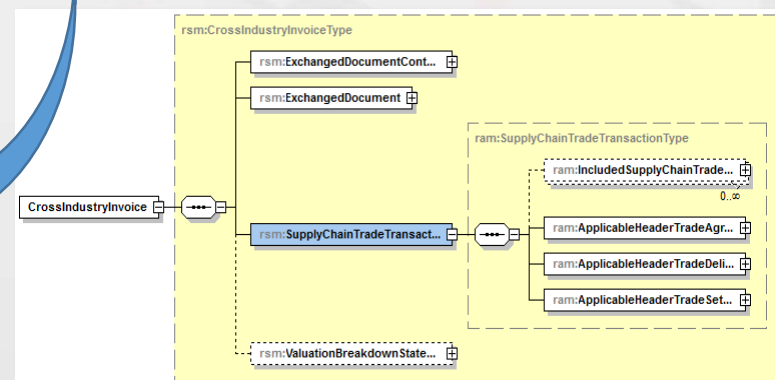
Invoice: As Is

 CrossIndustryInvoice_13p1.xsd	16 KB
 QualifiedDataType_20p0.xsd	543 KB
 ReusableAggregateBusinessInformationEntity_20p0.xsd	15.100 KB
 UnqualifiedDataType_20p0.xsd	63 KB



Invoice: To Be

 CrossIndustryInvoice_100pD16B.xsd	4 KB
 QualifiedDataType_100pD16B.xsd	79 KB
 ReusableAggregateBusinessInformationEntity_100pD16B.xsd	262 KB
 UnqualifiedDataType_100pD16B.xsd	9 KB



Schema Production improvement (3)

- RDM approach

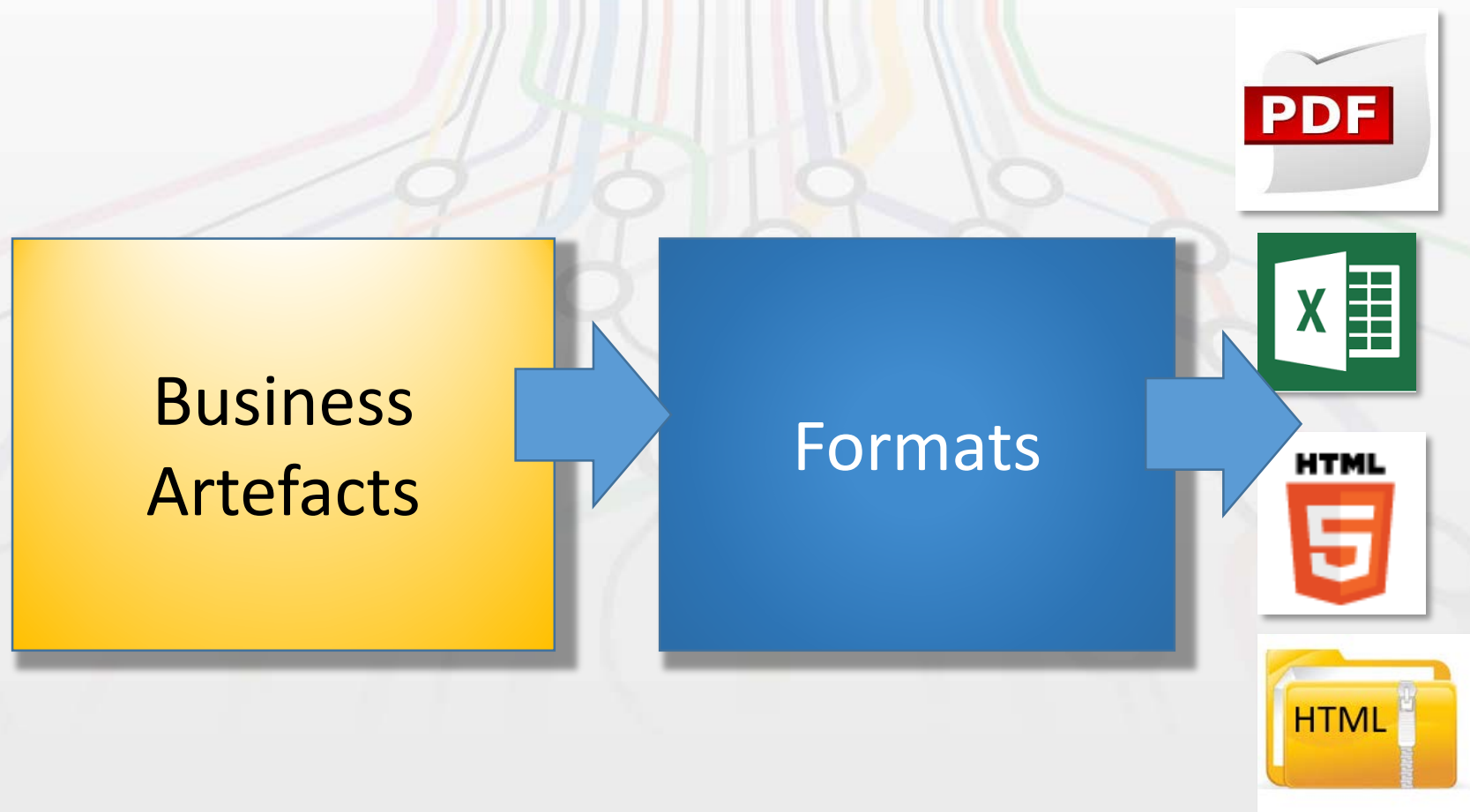
Invoice: As Is
imported schema modules
Code Lists
128

Invoice: To Be
Imported schema modules
Code Lists
50

Code Lists : To be

- EDIFICAS-EU_AccountingAccountType_D11A.xsd
- EDIFICAS-EU_AccountingAmountType_D11A.xsd
- ISO_ISO3AlphaCurrencyCode_2012-08-31.xsd
- UNECE_ActionCode_D15B.xsd
- UNECE_AllowanceChargeIdentificationCode_D15B.xsd
- UNECE_AllowanceChargeReasonCode_D15B.xsd
- UNECE_AutomaticDataCaptureMethodCode_D15B.xsd
- UNECE_CargoOperationalCategoryCode_D15B.xsd
- UNECE_CargoTypeCode_1996Rev2Final.xsd
- UNECE_CommodityIdentificationCode_D15B.xsd
- UNECE_CommunicationMeansTypeCode_D15B.xsd
- UNECE_ContactFunctionCode_D15B.xsd
- UNECE_DeliveryTermsCode_2010.xsd
- UNECE_DimensionTypeCode_D15B.xsd
- UNECE_DocumentNameCode_Accounting_D15B.xsd
- UNECE_DocumentNameCode_D15B.xsd
- UNECE_DocumentStatusCode_D15B.xsd
- UNECE_DutyorTaxorFeeCategoryCode_D15B.xsd
- UNECE_DutyTaxFeeTypeCode_D15B.xsd
- UNECE_EquipmentSizeTypeDescriptionCode_D15B.xsd
- UNECE_EventTimeReferenceCode_D15B.xsd
- UNECE_EventTimeReferenceCodePaymentTermsEvent_D15B.xsd
- UNECE_FreightChargeQuantityUnitBasisCode_D15B.xsd
- UNECE_FreightChargeTariffCode_D15B.xsd
- UNECE_MeasurementUnitCommonCodeLinear_4.xsd
- UNECE_MessageFunctionCode_D15B.xsd
- UNECE_PackagingMarkingCode_D15B.xsd
- UNECE_PartyRoleCode_ChargePaying_D15B.xsd
- UNECE_PartyRoleCode_D15B.xsd
- UNECE_PaymentGuaranteeMeansCode_D15B.xsd

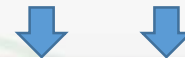
Publication of Reference Data Models



PDF Publication Format



Semantic Links



Occurrence	Element/Attribute	Common Term	TDED	QDT
	ABIE	Transport_ Cargo.		
		Details		
0 .. 1	BBIE Definition:	Transport_ Cargo. Type. Code The code, such as UNECE Recommendation 21 single digit codes, specifying the type of transported cargo.	Type Code	UN02000096
0 .. 1	BBIE Definition:	Transport_ Cargo. Identification. Text The identification, expressed as text, of this transport cargo that is sufficient to identify it for customs, statistical or transport purposes.	Shipping Description	7002
0 .. 1	BBIE Definition:	Transport_ Cargo. Operational Category. Code The code specifying the operational category for this transport cargo, such as obnoxious or military.	Operational Category Code	7085 UN02000077
0 .. 1	BBIE Definition:	Transport_ Cargo. Statistical Classification. Code The code specifying a statistical classification for this transport cargo.	Statistics Classification Code	7357 UN02000053

Excel Publication Format



Semantic Links

	A	B	C	D	E	F	P	S	T
	Based on Unique UN Assigned ID	ABIE/ BBIE/ ASBIE	Dictionary Entry Name	Definition	Common Term	TDED	Qualified Data Type UID	Occurrence Min	Occurrence Max
1									
2		ABIE		Aggregate Business Information Entity					
3		BBIE		Basic Business Information Entity contained within the ABIE					
4		ASBIE		Associated (Aggregate) Business Information Entity, associated with the ABIE					
1354	UN01004757	ABIE	Transport_ Cargo. Details	Information about goods being transported identifying their nature for customs, statistical or transport purposes.	Cargo Identification				
1355	UN01004758	BBIE	Transport_ Cargo. Type. Code	The code, such as UNECE Recommendation 21 single digit codes, specifying the type of transported cargo.	Type Code		UN02000096	0	1
1356	UN01004759	BBIE	Transport_ Cargo. Identification. Text	The identification, expressed as text, of this transport cargo that is sufficient to identify it for customs, statistical or transport purposes.	Shipping Description	7002		0	1
1357	UN01004760	BBIE	Transport_ Cargo. Operational Category. Code	The code specifying the operational category for this transport cargo, such as obnoxious or military.	Operational Category Code	7085	UN02000077	0	1
1358	UN01004761	BBIE	Transport_ Cargo. Statistical Classification. Code	The code specifying a statistical classification for this transport cargo.	Statistics Classification Code	7357	UN02000053	0	1

HTML Publication Format


[Demo](#)

SCRDM Master

file:///C:/Data/gegeg/scrdrm/Excel/HTML/Pages16/041.htm?file:///C:/Data/gegeg/scrdrm/Excel/HTML/Pages16/045.htm

SCRDM Master

- SCRDM Master. Details
- Supporting objects
 - CCL16A uDT2-3::Amount. Type
 - CCL16A uDT2-3::Binary Object. Type
 - CCL16A uDT2-3::Code. Type
 - CCL16A uDT2-3::Date Time. Type
 - CCL16A uDT2-3::Date. Type
 - CCL16A uDT2-3::Identifier. Type
 - CCL16A uDT2-3::Indicator. Type
 - CCL16A uDT2-3::Measure. Type
 - CCL16A uDT2-3::Numeric. Type
 - CCL16A uDT2-3::Percent. Type
 - CCL16A uDT2-3::Quantity. Type
 - CCL16A uDT2-3::Rate. Type
 - CCL16A uDT2-3::Text. Type
 - CCL16A uDT2-3::Value. Type
 - CCL16A.1 CCL::ABIE::Acknowledgement_
 - CCL16A.1 CCL::ABIE::Acquisition_ Contrac
 - CCL16A.1 CCL::ABIE::Advance_ Payment.
 - CCL16A.1 CCL::ABIE::Applied_ Allowance
 - CCL16A.1 CCL::ABIE::Applied_ Tax. Detail
 - CCL16A.1 CCL::ABIE::Available_ Period. D
 - CCL16A.1 CCL::ABIE::Basic_ Work Item. D
 - CCL16A.1 CCL::ABIE::Branch_ Financial In
 - CCL16A.1 CCL::ABIE::Calculated_ Price. D
 - CCL16A.1 CCL::ABIE::Contact_ Person. De
 - CCL16A.1 CCL::ABIE::Creditor_ Financial A
 - CCL16A.1 CCL::ABIE::Creditor_ Financial I
 - CCL16A.1 CCL::ABIE::Debtor_ Financial A
 - CCL16A.1 CCL::ABIE::Debtor_ Financial In
 - CCL16A.1 CCL::ABIE::Delivery_ Adjustmer
 - CCL16A.1 CCL::ABIE::Delivery_ Instruction
 - CCL16A.1 CCL::ABIE::Disposal_ Instructio
 - CCL16A.1 CCL::ABIE::Document Context.
 - CCL16A.1 CCL::ABIE::Document Line_ Do
 - CCL16A.1 CCL::ABIE::Document_ Authent
 - CCL16A.1 CCL::ABIE::Document_ Version.
 - CCL16A.1 CCL::ABIE::F...

SCRDM: Subset of CCL D16A.1 (Context CCL)

Start | Structure | Components

Cargo Identification

Qualified ABIE Transport_Cargo. Details

Cargo Identification	
Type Code	
Shipping Description	
Operational Category Code	
Statistics Classification Code	

Documentation

Common Term	Cargo Identification
CCTS	
Type	ABIE
Dict EntryName	Transport_Cargo. Details
Definition	Information about goods being transported identifying their nature for customs, statistical or transport purposes.
Obj. ClassQual.	Transport
Obj. ClassTerm	Cargo
Prop. TermQual.	
Prop. Term	
Repr. TermQual.	
Repr. Term	
Assoc. Obj. ClassQual.	
Assoc. Obj. Class	
Occurrence	

Publication

UN Identifier	UN01004757

Attributes

Attribute name	Status	Description/Data Type
Transport_Cargo. Type. Code	O	Cargo Category Code Type The code, such as UNECE Recommendation 21 single digit codes, specifying the type of transported cargo.
Transport_Cargo. Identification. Text	O	Text Type The identification, expressed as text, of this transport cargo that is sufficient to identify it for customs, statistical or transport purposes.
Transport_Cargo. Operational Category. Code	O	Cargo Operational Category Code Type The code specifying the operational category for this transport cargo, such as obnoxious or military.
Transport_Cargo. Statistical Classification. Code	O	Cargo Commodity Category Code Type The code specifying a statistical classification for this transport cargo.

Compressed HTML Publication Format


[Demo](#)

SCRDM Master x +

file:///C:/Data/gegeg/scrdm/Excel/HTML/Pages16/041.htm?file:///C:/Data/gegeg/scrdm/Excel/HTML/Pages16/045.htm

M SCRDM Master

- SCRDM Master. Details
- Supporting objects
 - C CCL16A uDT2-3::Amount. Type
 - C CCL16A uDT2-3::Binary Object. Type
 - C CCL16A uDT2-3::Code. Type
 - C CCL16A uDT2-3::Date Time. Type
 - C CCL16A uDT2-3::Date. Type
 - C CCL16A uDT2-3::Identifier. Type
 - C CCL16A uDT2-3::Indicator. Type
 - C CCL16A uDT2-3::Measure. Type
 - C CCL16A uDT2-3::Numeric. Type
 - C CCL16A uDT2-3::Percent. Type
 - C CCL16A uDT2-3::Quantity. Type
 - C CCL16A uDT2-3::Rate. Type
 - C CCL16A uDT2-3::Text. Type
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 - C CCL16A.1 CCL::ABIE::Acknowledgement_
 - C CCL16A.1 CCL::ABIE::Acquisition_ Contrac
 - C CCL16A.1 CCL::ABIE::Advance_ Payment.
 - C CCL16A.1 CCL::ABIE::Applied_ Allowance
 - C CCL16A.1 CCL::ABIE::Applied_ Tax. Detail
 - C CCL16A.1 CCL::ABIE::Available_ Period. D
 - C CCL16A.1 CCL::ABIE::Basic_ Work Item. D
 - C CCL16A.1 CCL::ABIE::Branch_ Financial In
 - C CCL16A.1 CCL::ABIE::Calculated_ Price. D
 - C CCL16A.1 CCL::ABIE::Contact_ Person. De
 - C CCL16A.1 CCL::ABIE::Creditor_ Financial A
 - C CCL16A.1 CCL::ABIE::Creditor_ Financial I
 - C CCL16A.1 CCL::ABIE::Debtor_ Financial A
 - C CCL16A.1 CCL::ABIE::Debtor_ Financial In
 - C CCL16A.1 CCL::ABIE::Delivery_ Adjustmer
 - C CCL16A.1 CCL::ABIE::Delivery_ Instruction
 - C CCL16A.1 CCL::ABIE::Disposal_ Instruction
 - C CCL16A.1 CCL::ABIE::Document Context_
 - C CCL16A.1 CCL::ABIE::Document Line_ Do
 - C CCL16A.1 CCL::ABIE::Document_ Authenti
 - C CCL16A.1 CCL::ABIE::Document_ Version.
 - C CCL16A.1 CCL::ABIE::F...

SCRDM: Subset of CCL D16A.1 (Context CCL)

Start Structure Components

Cargo Identification
Qualified ABIE Transport_ Cargo. Details

Cargo Identification

Type Code
Shipping Description
Operational Category Code
Statistics Classification Code

Documentation

Common Term	Cargo Identification
CCTS	
Type	ABIE
Dict EntryName	Transport_ Cargo. Details
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Obj. ClassTerm	Cargo
Prop. TermQual.	
Prop. Term	
Repr. TermQual.	
Repr. Term	
Assoc. Obj. ClassQual.	
Assoc. Obj. Class	
Occurrence	

Publication

UN Identifier
UN01004757

Attributes

Attribute name	Status	Description/Data Type
Transport_ Cargo. Type. Code	O	Cargo Category Code Type The code, such as UNECE Recommendation 21 single digit codes, specifying the type of transported cargo.
Transport_ Cargo. Identification. Text	O	Text Type The identification, expressed as text, of this transport cargo that is sufficient to identify it for customs, statistical or transport purposes.
Transport_ Cargo. Operational Category. Code	O	Cargo Operational Category Code Type The code specifying the operational category for this transport cargo, such as obnoxious or military.
Transport_ Cargo. Statistical Classification. Code	O	Cargo Commodity Category Code Type The code specifying a statistical classification for this transport cargo.

Guideline on Reference Data Models

- Steps for using



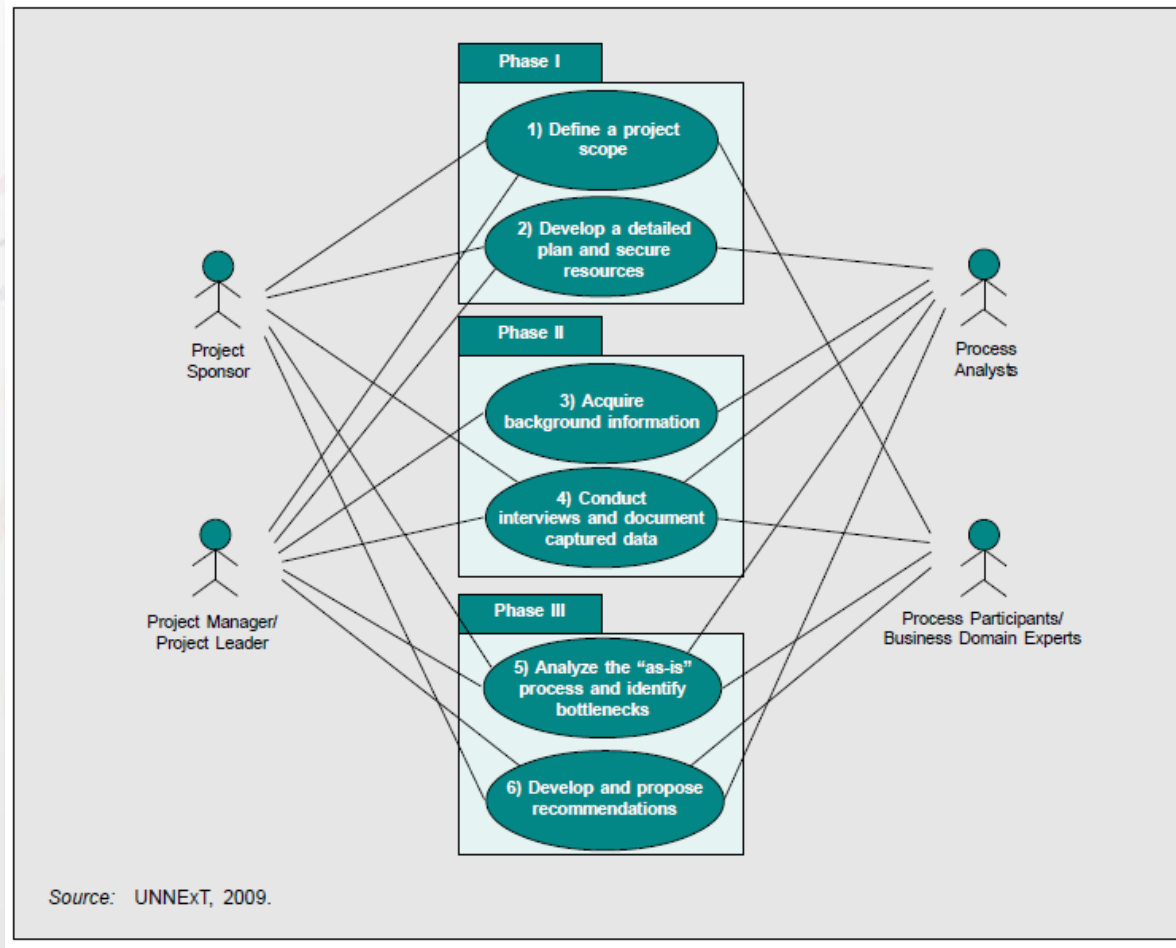
- Steps for updating



- Steps for creating



Business Process Analysis



Use Business Process diagrams

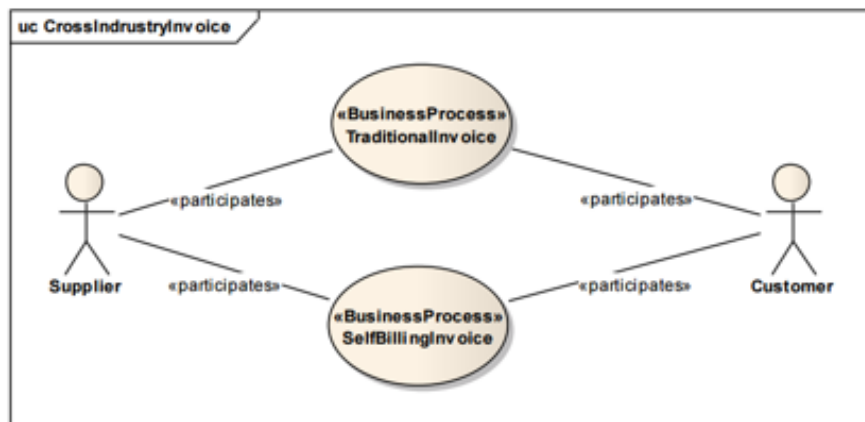


Figure 4 Use Case Diagram: process and actors

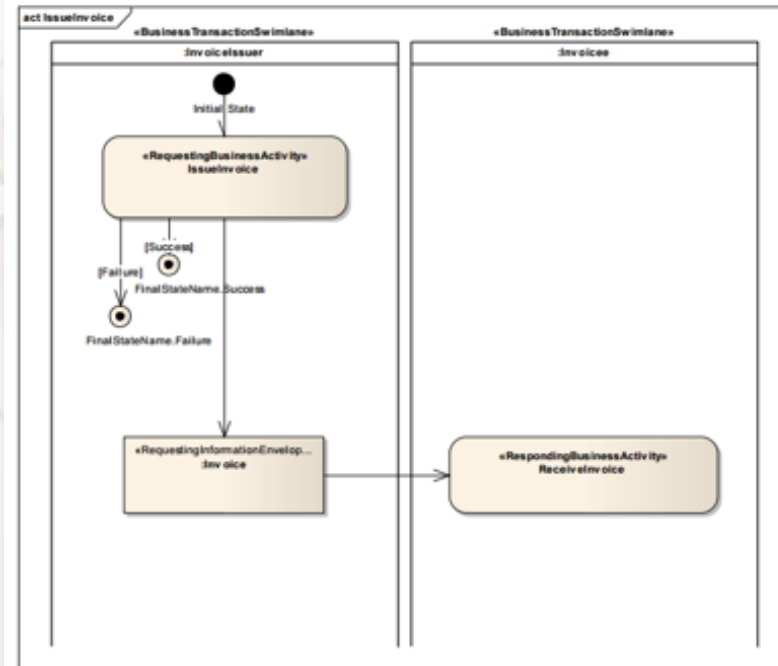


Figure 5 Use Case Activity Diagram

Identifying needed data exchange structures (e.g. documents)

- Catalogue
- Catalogue Request
- Subscription Request
- Application Response
- Response to Receive Line
- Quotation Request
- Quotation Request Response
- Quotation Proposal
- Quotation Proposal Response
- Order
- Order Response
- Order Change
- Despatch Advice
- Invoice
- Remittance Advice.....

Categorize processes

Process	UNLK Document Family	Documents
Buy	Commercial Transaction	<ul style="list-style-type: none"> • All documents exchanged between partners in international trade for the invitation to tender, through the exchange between prospective seller and prospective buyer to the inclusion of contract, i.e., Enquiry/Request for Quotation/Offer Invitation; Offer/Quotation; Order; Acknowledgement of Order/Pro-forma Invoice; Dispatch Advice
Pay	Payment	<ul style="list-style-type: none"> • Instructions (or applications) from customers to banks, i.e., Instruction for bank transfer; Application for banker's draft; Application for banker's guarantee; Collection order; Documentary credit application • Advice or information from banks to customers or to beneficiaries of payment, i.e., Collection payment advice; Documentary credit payment; Acceptance or negotiation advice; Documentary credit; Banker's guarantee • Information exchanged between banks

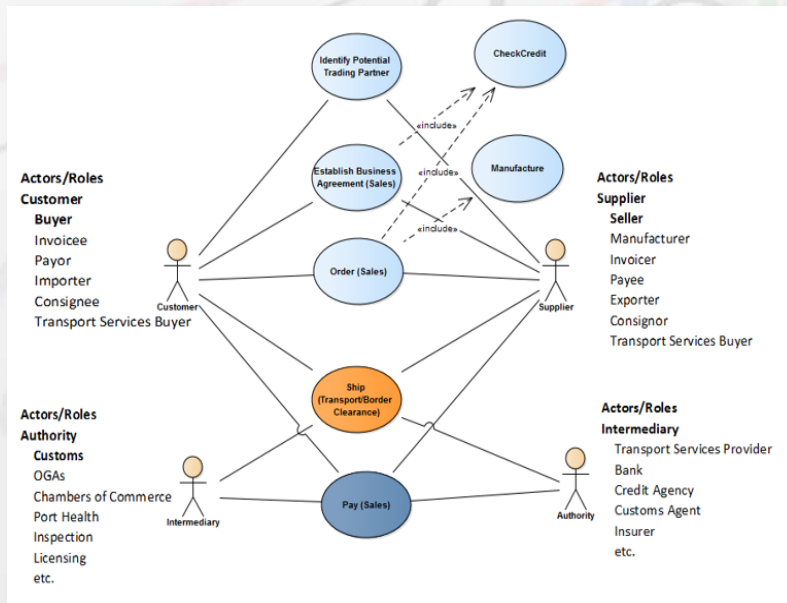
Figure 7 Example of document categorization

Map Business Requirements

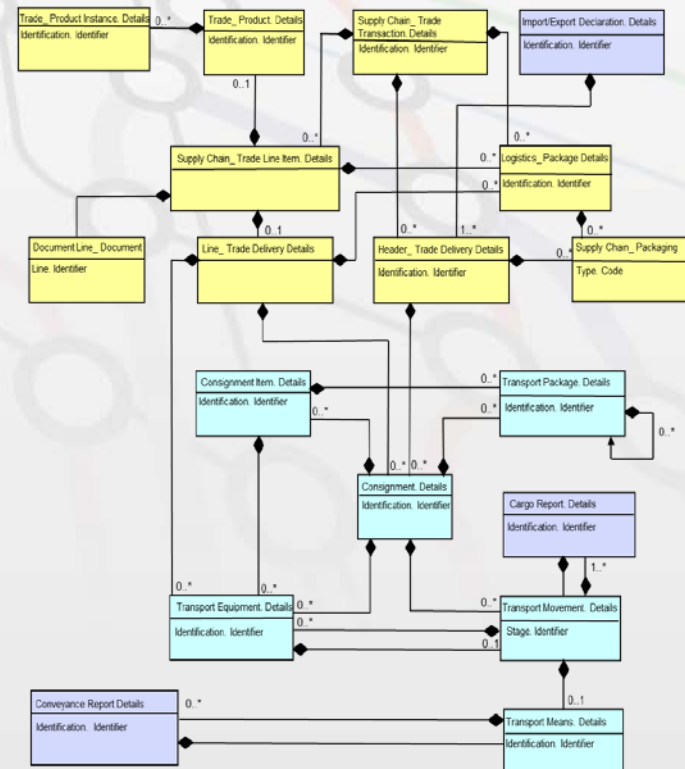
UID	Crd	Short Name	Business Requirement	Rationale / Example / Mapping Notes	Candidate found
	Trade Agreement				
ORD- 0008	0..1	Seller	The entity contains the details of the seller.		Header_ Trade Agreement. Seller. Trade_Party
ORD- 0011	0..1	Buyer	The entity contains the details of the buyer.		Header_ Trade Agreement. Buyer. Trade_Party
ORD- 0012	0..1	Customer accountant	The entity contains the details of the customer accountant.		Header_ Trade Agreement. Buyer_ Assigned Accountant. Trade_Party
ORD- 0013	0..1	Request for quote reference	The unique identification assigned by the issuer to a request for quote.		Header_ Trade Agreement. Quotation Request. Referenced_Document
ORD- 0014	0..1	Quote reference (Offer)	The unique identification assigned by the issuer to a quote (offer).		Header_ Trade Agreement. Quotation. Referenced_Document
ORD- 0015	0..1	Sales report reference	The unique identification assigned by the issuer to a sales report.		Header_ Trade Agreement. Sales Report. Referenced_Document
ORD- 0016	0..n	Contract reference	The unique identification assigned by the issuer to a contract.		Header_ Trade Agreement. Contract. Referenced_Document
ORD- 0017	0..1	Price list reference	The unique identification assigned by the issuer to a price list.		Header_ Trade Agreement. Price List. Referenced_Document
ORD- 0018	0..1	Blanket order reference	The unique identification assigned by the issuer to a blanket order.		Header_ Trade Agreement. Blanket Order. Referenced_Document
ORD- 0019	0..1	Consignee order reference	The unique identification assigned by the consignee to an order.		Header_ Trade Agreement. Buyer_ Order. Referenced_Document

Create high level BRS/RSM

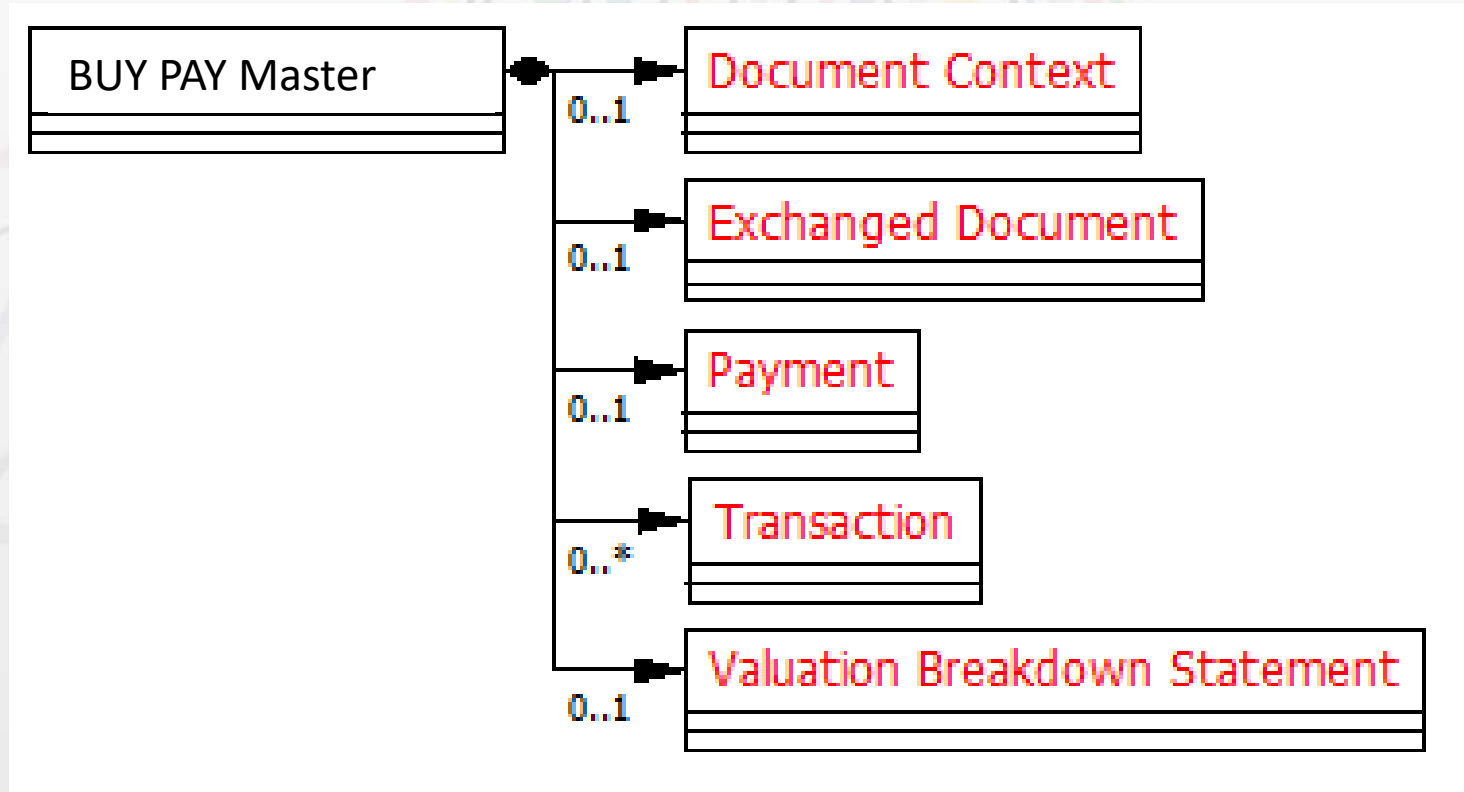
Processes



Data

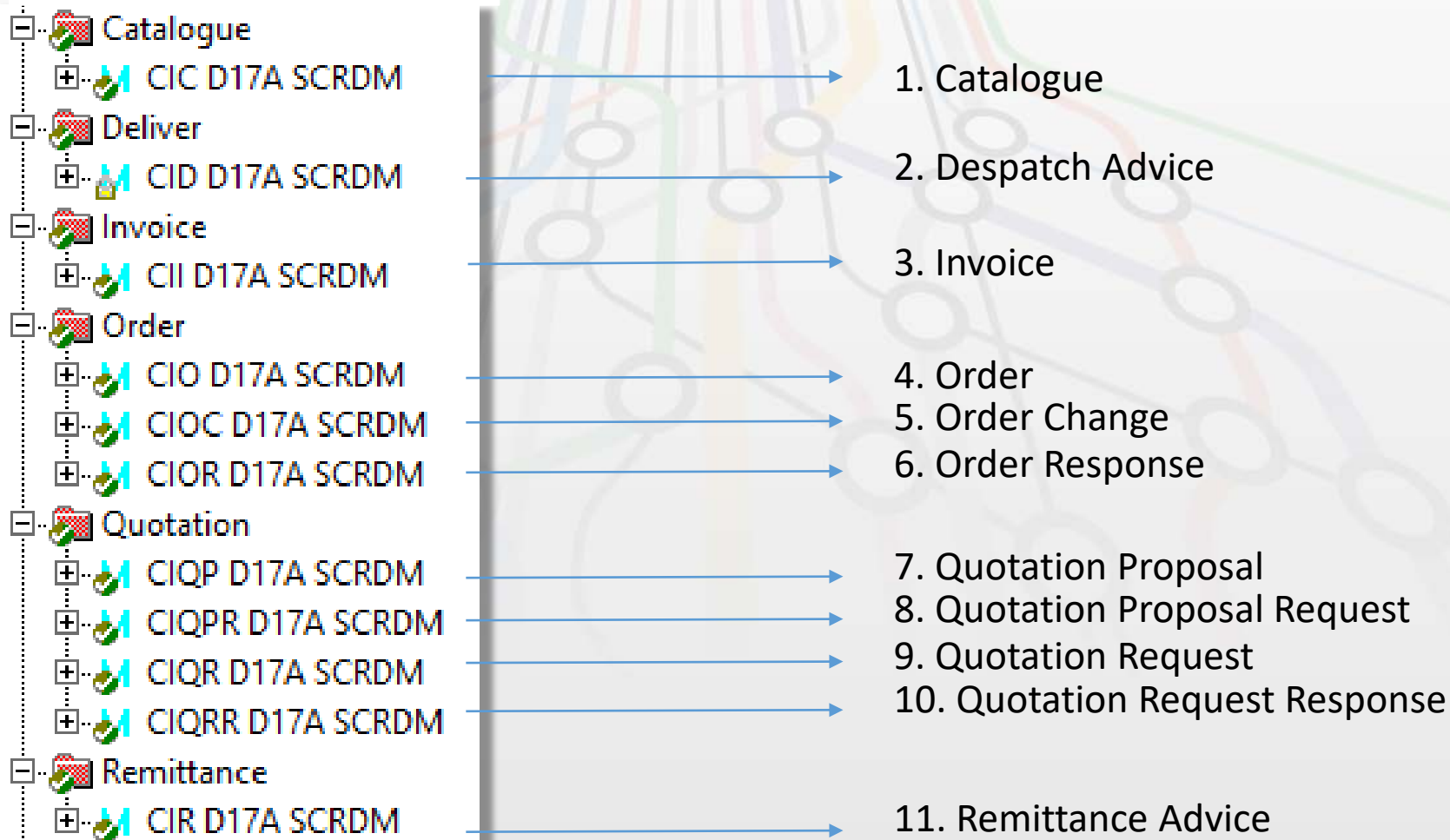


Create, update or use existing Master Message Structure

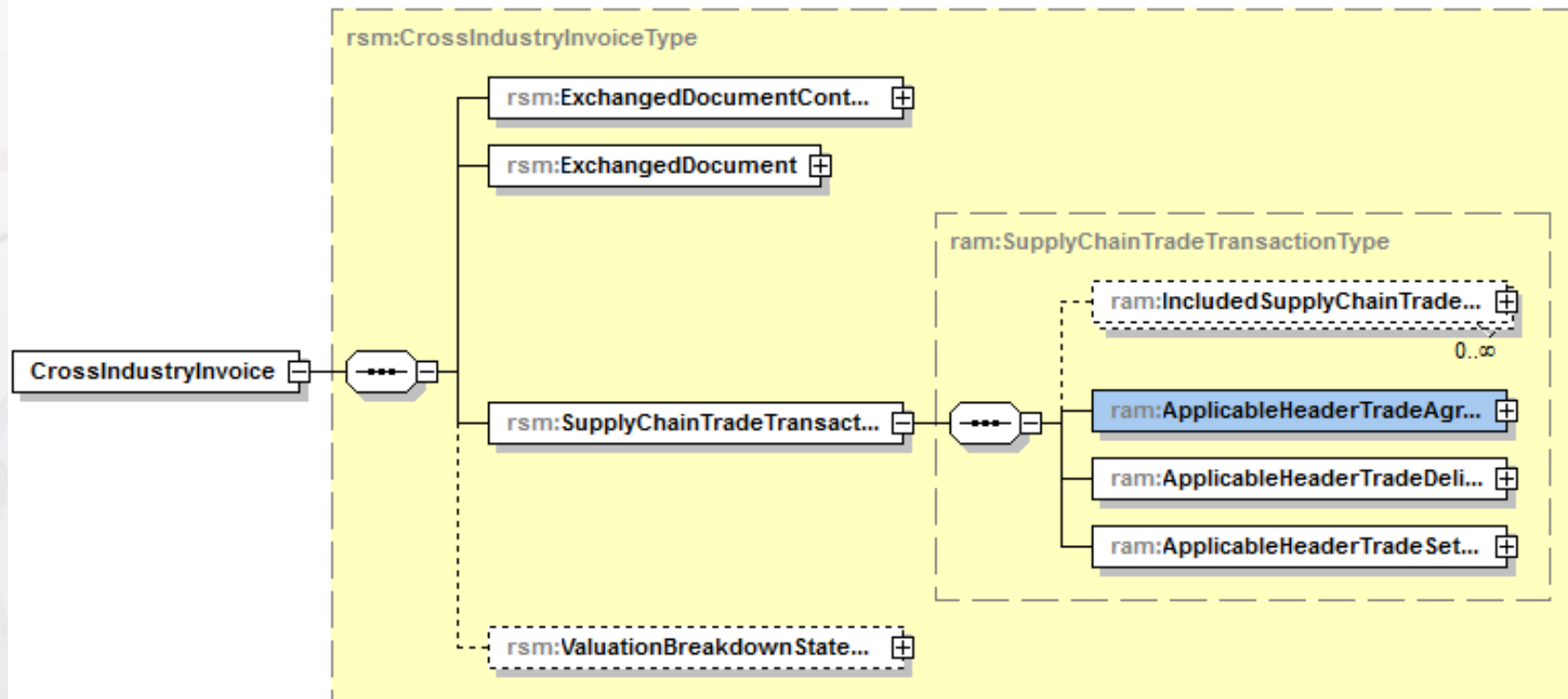


Build the messages

Profiles



Generate the schemas



End of section 5:

Questions on
Reference Data Models technical details?



Thank you for your attention!

For further information on:

Supply Chain Management Reference Data Model (SCRDM)

- Project Lead : Rolf Wessel
: email: r.wessel@seeburger.de
- Lead Editor : Gerhard Heemskerk
email: gerhard.heemskerk@kpnmail.nl

Multimodal Transport Data Reference Model (MMT RDM)

- Lead Editor : Sue Probert
email : sue.probert@dial.pipex.com

Available Downloads

- White Paper on Reference Data Models
https://www.google.com/url?q=https://www.unece.org/fileadmin/DAM/cefact/cf_forums/2017_Geneva/MiniConf_Agendas/MiniConf-Agenda_RDM.pdf&sa=U&ved=0ahUKEwi_5sXuwrSAhXoCpoKHSMSBPgQFggEMAA&client=internal-uds-cse&usg=AFQjCNG4hBYn0K3HnffL9cDHNDpA6FOWHQ
- High Level BRS SCRDM:
http://www.unece.org/fileadmin/DAM/uncefact/BRS/BRS_SCRDM_v1.0.0.2.pdf
- High Level RSM SCRDM:
http://www.unece.org/fileadmin/DAM/uncefact/RSM/RSM_SCRDM_v1.0.0.2.pdf
- SCRDM Cross Industry Invoice BRS:
http://www.unece.org/fileadmin/DAM/uncefact/BRS/BRS_CII_v2.0.6.pdf
- SCRDM Cross Industry Invoice RSM:
http://www.unece.org/fileadmin/DAM/uncefact/RSM/RSM_CII_CCBDA_CrossIndustryInvoice_v1.0.pdf
- SCRDM CII Schema:
http://www.unece.org/fileadmin/DAM/cefact/xml_schemas/D16B_SCRDM_Subset_CII.zip

* RDM Guideline and SCRDM Subset of CCL will be published shortly.

The background of the slide features a complex, abstract pattern of thin, curved lines in various colors (pink, blue, green, yellow, orange, and grey) that flow from the top towards the bottom. Interspersed among these lines are several small, white, circular nodes or rings, some of which are connected by thin grey lines, creating a network-like structure. The overall effect is a modern, digital, and interconnected aesthetic.

The end