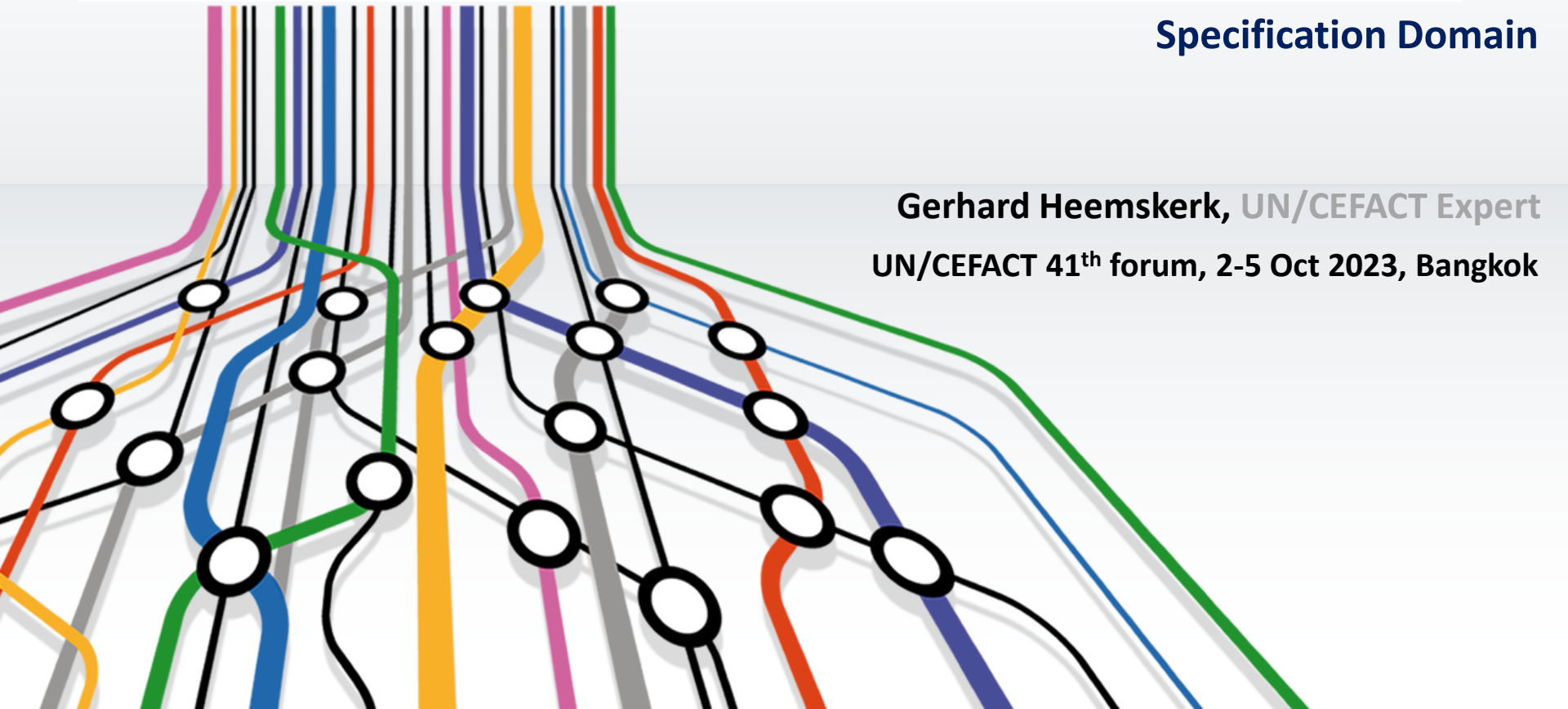# Reference Data Models

Specification Domain

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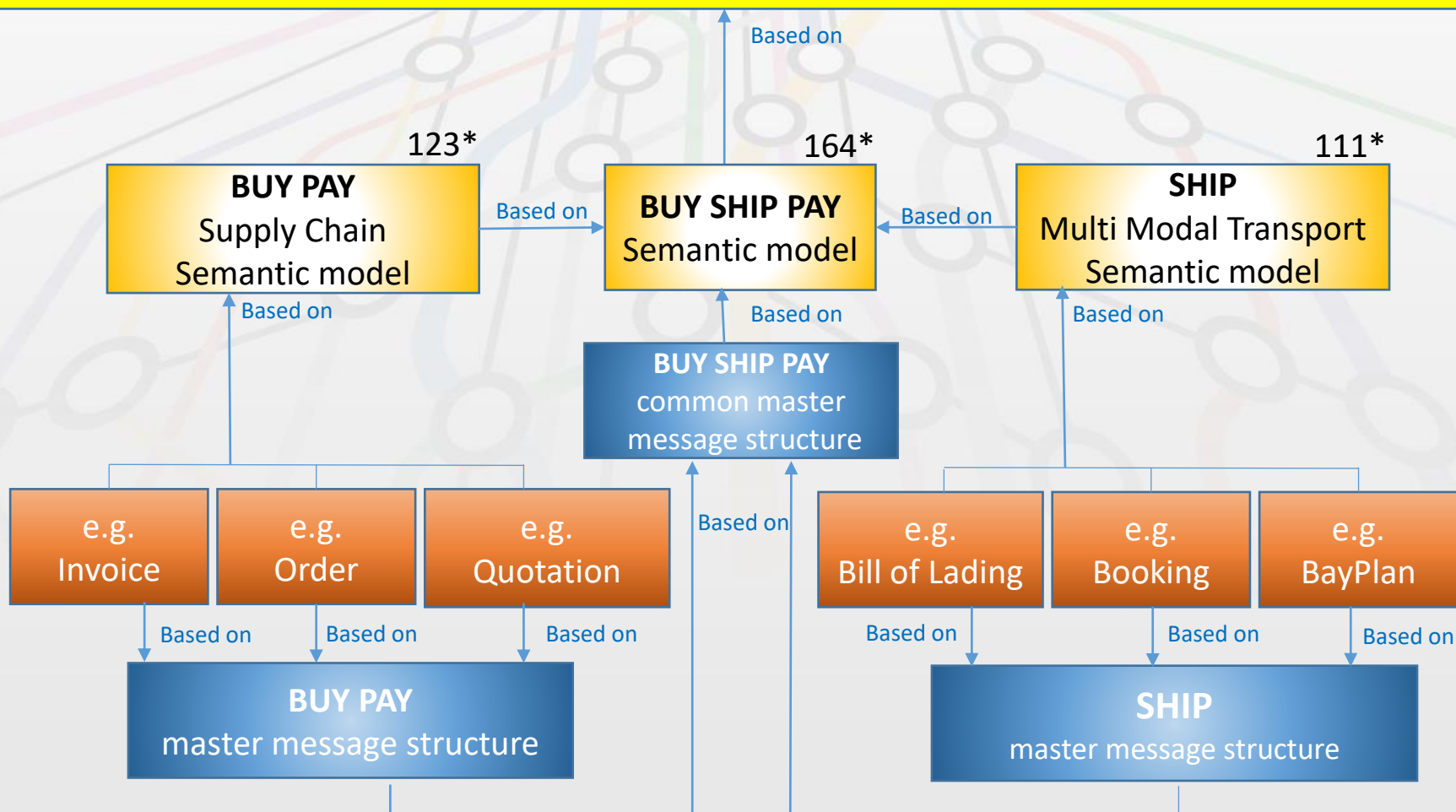
Reference Data Models (RDMs)

1. What is a RDM?
2. Which RDMs are currently developed?
3. What about RDM development & maintenance process?
4. What are the artifacts of a RDM?
5. Any consideration around a RDM?

What is a Reference Data Model (RDM)?

- An exchange <u>syntax neutral</u> semantic model.

- A subset of the UN/CEFACT Core Component Library (CCL).

- A rich collection of business artefacts contextualized for a domain.

- Business artefacts which can be further contextualized on the level of the data exchange structure (message).

- Every RDM is based on the "core" referenced data model, the BUY-SHIP-PAY reference data model, which on it-self is based on Reference BIEs found in the UN/CCL.

- The BUY-SHIP-PAY RDM is the RDM supporting the UN/CEFACT Internation Supply Chain Reference Model (ISCRM).

What is a Reference Data Model (RDM)?

UN/CEFACT Core Component Library (CCL)

Based on

123*

BUY PAY
Supply Chain
Semantic model

Based on →

164*

BUY SHIP PAY
Semantic model

← Based on

111*

SHIP
Multi Modal Transport
Semantic model

Based on

Based on

Based on

BUY SHIP PAY
common master
message structure

e.g.
Invoice

e.g.
Order

e.g.
Quotation

Based on

e.g.
Bill of Lading

e.g.
Booking

e.g.
BayPlan

Based on

Based on

Based on

Based on

Based on

Based on

BUY PAY
master message structure

SHIP
master message structure

What RDMs are currently developed?

- BUY-SHIP-PAY RDM
  - SCRDM   (Covering Supply Chain - BUY)
  - MMT   (Covering Transport & Logistics)
  - CBM   (Covering Cross Border Management)

  In development or considered
  - SDCE   (Covering sustainbility & circular economy)
  - AAA   (Accounting and Audit)

What is a Reference Data Model (RDM)?

- RDM: A rich collection of business artefacts contextualized for a domain.

- Within a domain there could be specific industries for which the business artifacts need to be contextualized (e.g. Textiles). These contextualization are named data models (technically context CCLs) avoiding to many RDMs. Technically they are treated equally. New business for the RDM can be inherited by the underlying data models.

RDM Developing and Maintaining process

- Who is developing the RDM's?
  - Each domain assigns a team to produce a Bussiness Requirement Specification for a RDM including the data requirements (process & data requirements).
  - The lead editor submits the data requirements to Library Maintenance to include them in the **UN/CCL**, lead editor **Mary Kay Blantz**..
  - The lead editor of the RDM will contextualize, commonly, the business artefacts to the needs of the domain as many business artifacts already exists in the library.

| Initiate project / Change Request | Analyse process | Capture & Define Data | Reconcile Data | Structure Data | Submit Change Request | Update CCL | Update BRS/RSM |

- Who is maintaining the RDM's?
  - BUY-SHIP-PAY
  - MMT   **Lead editor: Sue Probert**
  - CBM

  - SCRDM
  - SDCE   **Lead editor: Gerhard Heemskerk**

RDM Developing and Maintaining process

The present validation process for RDMs.

- A the business artifacts are inherited from the UN/CCL, which undergoes a validation procedure, there is no validation for the RDMs.

- The validation of the RDMs should be done on the new required business artifacts and needed contextializations (e.g. restrictions etc.). At the moment this is done by the lead editor of the RDM but should fall under Library Maintanance soon.

What are the artifacts of RDM?

- There are contextualized business artifacts or business information entities which are based on the ones residing in the UN/CCL. The ones in the UN/CCL are based on "pure" core component within a business context, also know as CCs (Core Components).

- Are there business artifacts in the UN/CCL which should not use in the context of RDMs?
  - Yes. In the UN/CCL you can find business artifacts that are specially developped for a specific business document, such as an order. RDMs business artifacts do not depend on a particular business document.

What are the artifacts of RDM?

Document centric business artifacts

	CICH_ Exchanged_ Document. Details	
CICL_ Document Line_ Document. Details	CIDDH_ Exchanged_ Document. Details	
CIDDL_ Document Line_ Document. Details	CIIH_ Exchanged_ Document. Details	
CIIL_ Document Line_ Document. Details	CIOCH_ Exchanged_ Document. Details	
CIOL_ Document Line_ Document. Details	CIOH_ Exchanged_ Document. Details	
CIQ_ Document Line_ Document. Details	CIORH_ Exchanged_ Document. Details	
CIR_ Document Line_ Document. Details	CIQ_ Exchanged_ Document. Details	
CIS_ Document Line_ Document. Details	CIR_ Exchanged_ Document. Details	
	CIS_ Exchanged_ Document. Details	
CIRT_ Specified_ Balance Out. Details		
CICH_ Supply Chain_ Trade Agreement.	CIDDH_ Supply Chain_ Trade Delivery. Details	CIDDH_ Supply Chain_ Trade Settlement. Details
CIDDH_ Supply Chain_ Trade Agreement.	CIIH_ Supply Chain_ Trade Delivery. Details	CIIH_ Supply Chain_ Trade Settlement. Details
CIIH_ Supply Chain_ Trade Agreement.	CIOH_ Supply Chain_ Trade Delivery. Details	CIOH_ Supply Chain_ Trade Settlement. Details
CIOH_ Supply Chain_ Trade Agreement.	CIQH_ Supply Chain_ Trade Delivery. Details	CIQH_ Supply Chain_ Trade Settlement. Details
CIQH_ Supply Chain_ Trade Agreement.	CISH_ Supply Chain_ Trade Delivery. Details	CIRH_ Supply Chain_ Trade Settlement. Details
CIRT_ Supply Chain_ Trade Agreement.	CISSNL_ Supply Chain_ Trade Delivery. Details	CIRT_ Supply Chain_ Trade Settlement. Details
CIS_ Supply Chain_ Trade Agreement. Details		
CICL_ Supply Chain_ Trade Agreement.	CIDDL_ Supply Chain_ Trade Delivery. Details	CICL_ Supply Chain_ Trade Settlement. Details
CIDDL_ Supply Chain_ Trade Agreement.	CIIL_ Supply Chain_ Trade Delivery. Details	CIDDL_ Supply Chain_ Trade Settlement. Details
CIIL_ Supply Chain_ Trade Agreement.	CIOL_ Supply Chain_ Trade Delivery. Details	CIIL_ Supply Chain_ Trade Settlement. Details
CIOL_ Supply Chain_ Trade Agreement.	CIQL_ Supply Chain_ Trade Delivery. Details	CIOL_ Supply Chain_ Trade Settlement. Details
CIQL_ Supply Chain_ Trade Agreement.	CIRL_ Supply Chain_ Trade Delivery. Details	CIQL_ Supply Chain_ Trade Settlement. Details
CIRL_ Supply Chain_ Trade Agreement.	CISDFL_ Supply Chain_ Trade Delivery. Details	CIRL_ Supply Chain_ Trade Settlement. Details
CIDDL_ Logistics_ Package. Details	CISIFL_ Supply Chain_ Trade Delivery. Details	
	CISSIL_ Supply Chain_ Trade Delivery. Details	
	CISSNL_ Supply Chain_ Trade Delivery. Details	

Process driven

DocumentContextParameter
DocumentLineDocument
DocumentVersion
ExchangedDocument
ExchangedDocumentContext
FinancialAdjustment
FinancialInstitutionAddress
GeographicalCoordinate
GroupedWorkItem
HandlingInstructions
HeaderBalanceOut
HeaderTradeAgreement
HeaderTradeDelivery
HeaderTradeSettlement
IdentifiedBinaryFile
InstructedTemperature
Keyword
LegalOrganization
LegalRegistration
LineTradeAgreement
LineTradeDelivery
LineTradeSettlement
LineTradeTransaction
LogisticsLabel
LogisticsLocation
LogisticsPackage
LogisticsServiceCharge
LogisticsShippingMarks
LogisticsTransportEquipment
LogisticsTransportMeans

Any consideration around RDM

1. Commonly you will use "shared" business information enties (BIE) as much as possible. Changes to such an information entity, on its core level – the CCL - will effect all users of a RDM because of inheritance.

2. When you request for a new business artifact, including a qualified data type, this data type will be inherited the way it has been put in on the highest level (UN/CCL). The result today is that some implementations make use of the uncouple procedure published by UN/CEFACT in order to customize the qualified data type.

3. As the principle of a reference data model is to share a business artifact and use what you need, commonly those reference BIEs have no restrictions on cardinalities, optional/mandatory status, even for those entities associated with them. All of this must be contextualized on RDM or derived data structure.

4. Because of the generic approach of requesting business information entities, one should be careful on the level of the RDM and the derived data structures. Before one could request for a message business information entity to be included in the library, having no worries about its appearance in the messages using this artifacts (e.g. especially for those CI_ and/or CIOR_ ones).

5. Instead of populating the UN/CCL with lots of business artifacts specially designed for a domain or business document, the use of reference BIEs and RDMs makes the use of a tool necessary to avoid mistakes. There is only one tool for this on the market. It can do a lot for you but the learning curve is long and you need probably quite some support to use it.

6. The RDMs are also used used for the creation of JSON exports used for the development of APIs. There is not yet defined a proper procedure to align with the request from that area, like it is now for RDMs. It applies both for validation and submitting requests.