40th UN/CEFACT Forum

Thursday, 11th May 2023
Transport and Logistics Domain

Sue Probert, UN/CEFACT Chair
Hanane BECHA, Vice Chair Transport & Logistics
David Roff, Domain Co-Ordinator
What does UN/CEFACT has to offer?

- **Business Standards**
  - Process Models (Business Requirement Specification, BRS)
  - Reference Data Models (RDMs)
  - Semantic Libraries
    - UNTDED, Core Component Library (CCL), UN/XML, UN/JSON
- **Trade Facilitation Recommendations** (Harmonized Code Lists, etc)
- **Technical Specifications**
UN/CEFACT Core Component Library

Key:
ABIE - Aggregate Business Information Entities
ACC - Aggregate Core Component
qDT – Qualified Data Type

Business Information Entities (BIEs)
Reuses of Object Class Library in different business Contexts
(D20A ~ 1300 BIEs)

Semantic Foundation - Core Component (CCs)
Object Class Library
(D20A ~ 600 CCs)
"Raw material", also published in friendly HTML, XML, JSON-LD*

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Library</td>
<td>START HERE Press Enter</td>
<td>Keep the rows together</td>
<td>Enable macro's with Ctrl-e</td>
</tr>
<tr>
<td>2</td>
<td>Maintenance Only</td>
<td></td>
<td>Adjust selected rows with Ctrl-a</td>
<td></td>
</tr>
<tr>
<td>086</td>
<td>UN01003819</td>
<td>ABIE</td>
<td>Logistics_ Transport Means. Details</td>
<td>The devices used to convey goods or other objects from place to place during logistics cargo movements.</td>
</tr>
<tr>
<td>087</td>
<td>UN01003820</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Type. Code</td>
<td>The code specifying the type of logistics means of transport (Reference UNECE Recommendation 28).</td>
</tr>
<tr>
<td>088</td>
<td>UN01003821</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Type. Text</td>
<td>The type, expressed as text, of this logistics means of transport.</td>
</tr>
<tr>
<td>089</td>
<td>UN01003822</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Identification. Identifier</td>
<td>An identifier of this logistics means of transport, such as the International Maritime Organization number of a vessel.</td>
</tr>
<tr>
<td>090</td>
<td>UN01003823</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Name. Text</td>
<td>The name, expressed as text, of this logistics means of transport.</td>
</tr>
<tr>
<td>091</td>
<td>UN01003824</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Gross Weight. Measure</td>
<td>The measure of the gross weight (mass) of this logistics means of transport including cargo, such as the measure of the overall size of a vessel determined in accordance with the provisions of the International Convention on Tonnage Measurement of Ships, 1969.</td>
</tr>
<tr>
<td>092</td>
<td>UN01003825</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Net Weight. Measure</td>
<td>The measure of the net weight (mass) of this logistics means of transport, such as the net tonnage of a vessel determined in accordance with the provisions of the International Convention on Tonnage Measurement of Ships, 1969.</td>
</tr>
<tr>
<td>093</td>
<td>UN01003826</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Length. Measure</td>
<td>The measure of the length of this logistics means of transport.</td>
</tr>
<tr>
<td>094</td>
<td>UN01003827</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Draught Level. Measure</td>
<td>The measure of the draught level of this logistics means of transport.</td>
</tr>
<tr>
<td>095</td>
<td>UN01003828</td>
<td>BBIE</td>
<td>Logistics_ Transport Means. Cargo Gross Weight. Measure</td>
<td>The measure of the total gross weight (mass) of all cargo loaded onto this logistics means of transport, including packaging but excluding any associated transport equipment.</td>
</tr>
</tbody>
</table>

* For JSON-LD see https://github.com/unecefact
How CCL growth is managed

Library Maintenance Team responsible for
- Cross-Domain Harmonisation

Project Teams responsible for
- Contextualised RDM development, CCL submissions and customised data exchange structures
UN/CEFACT - International Supply Chain Reference Data Model Family

Buy/Ship/Pay RDM

- Supply Chain RDM (SCRDM)
- Multimodal Transport RDM (MMT)
- Cross-Border Management RDM
Supply Chain (BUY PAY Context) Reference Data Model

BUY PAY Master (Master message structure)

e.g. Invoice

BUY SHIP PAY Reference Data Model

e.g. Order

Buy SHIP PAY MASTER (Master message structure)

e.g. Quotation

Multimodal Transport (SHIP Context) Reference Data Model

e.g. Bill of Lading

SHIP Master (Master message structure)

e.g. Booking

Based on and subset of

Based on

Based on

Based on

Based on

Based on

Based on

Based on
UN/CEFACT - Reference Data Model – Contextualization of models

Buy Ship Pay (BSP RDM)

- C Transport Temperature Setting *
- C Transport Waste Component
- C Transport Waste Material
- C Transport Cargo Insurance *
- C Transport Cargo *
- C Transport Dangerous Goods *
- C Transport Event *
- C Transport Instructions *
- C Transport Person *
- C Transport Route *
- C Transport Service *
- ✗ Travel Product Feature **
- ✗ Travel Product Intermediary Sale **
- ✗ Travel Product Note **
- ✗ Travel Product Period **

Transport (MMT RDM)

- C Transport Temperature Setting *
- C Transport Waste Component *
- C Transport Waste Material *
- C Transport Cargo Insurance *
- C Transport Cargo *
- C Transport Dangerous Goods *
- C Transport Event *
- C Transport Instructions *
- C Transport Person *
- C Transport Route *
- C Transport Service *
- ✗ Travel Product Feature **
- ✗ Travel Product Intermediary Sale *
- ✗ Travel Product Note **
- ✗ Travel Product Period **

Supply Chain (SCRDM)

- C Transport Temperature Setting **
- ✗ Transport Waste Component **
- ✗ Transport Waste Material **
- C Transport Cargo Insurance
- C Transport Cargo *
- C Transport Dangerous Goods *
- ✗ Transport Event **
- ✗ Transport Instructions **
- ✗ Transport Person **
- ✗ Transport Route **
- ✗ Transport Service **
- ✗ Travel Product Feature **
- ✗ Travel Product Intermediary Sale **
- ✗ Travel Product Note **
- ✗ Travel Product Period **
UN/CEFACT - Reference Data Model – Contextualization of messages

**BSP**
- 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

**MMT**
- Multi Modal Transport 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

**SCRDM**
- SCRD CCBD Master Message Structure **
  - 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

Derive message data exchange model
- e.g. e-CMR

Derive message data exchange model
- e.g. Despatch Advice, Order
UN/CEFACT - Reference Data Model – from MMT-RDM towards eCMR

MMT-RDM: Contextualization of BUY-SHIP-PAY RDM

MMT Master Message: Contextualization of BUY-SHIP-PAY Master Message

Message Data Exchange Model

Syntax Instantiation e.g. XML schema, JSON LD schema

From data model to desired syntax

- MMT - Multi Modal Transport Master Message structure
- eCMR message structure

UN/CEFACT
An RDM provides a consolidated list of standardized data and processes for use in a particular business domain, which are globally understandable and exchangeable between parties using common standard data exchange structures.

1. Reflects the simplification and harmonization of trade data and standard data exchange structure requirements, which can contribute significantly to reducing the time and costs of international trade transactions.

2. Reduction of administrative burden by efficient reuse of data shared within the BUY SHIP PAY domain model

3. Standardized data exchange structures, based on common master data exchange structure and independent of exchange syntax

4. An RDM is a key tool in the development of modern Information and Communication Technology (ICT) applications that need to interchange data with other applications.
UN/CEFACT – Open Development Process

Stage 1: Project Inception
Stage 2: Requirements Gathering
Stage 3: Draft Development
Stage 4: Public Review (Optional)
Stage 5: Project Exit
Stage 6: Publication
Stage 7: Maintenance (Optional)

https://unece.org/trade/uncefact/policiesprocedures-and-termsreference
Transport and Logistics Domain
Standards Recap and Signpost

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UN/CEFACT International Supply Chain Reference Data Model Family

- Buy/Ship/Pay (BSP) RDM
  - SC RDM: BSP Cross Industry Supply Chain View
  - MMT RDM: BSP Multi Modal Transport View
  - CBM RDM: BSP Cross-Border Management View
  - SDCE RDM: BSP Sustainable Development & Circular Economy View

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## Mapping to MMT Reference Data Model

<table>
<thead>
<tr>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN</td>
<td>FIATA Bill</td>
<td>CIM-SMGS C</td>
<td>CIM-SMGS URL</td>
<td>Wagon List</td>
<td>River B/L</td>
<td>Maritime B/L</td>
<td>ecMR</td>
<td>eFTTI DR</td>
<td>eFTTI DSCopy</td>
<td>Air Waybill</td>
<td>Air CSO</td>
<td>D1 Decl.</td>
</tr>
<tr>
<td>EN</td>
<td>FIATA Bill</td>
<td>CIM-SMGS C</td>
<td>CIM-SMGS URL</td>
<td>Wagon List</td>
<td>River B/L</td>
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<td>Air Waybill</td>
<td>Air CSO</td>
<td>D1 Decl.</td>
</tr>
</tbody>
</table>

### Data Exchange Structure
- MMT CCEDA IFTM Data Exchange Structure
- Exchanged Document Context
- Exchanged Document
- ID
- Name
- Type Code
- Issue Date Time
- Remark
- Original Issued Quantity
- Copy Issued Quantity
- Purpose Code
- Sender Assigned ID
- Recipient Assigned ID
- Version ID
- Note
- Subject Text
- Content Code
- Content Text
- Subject Code
- Reference Document
- Type Code
- Issue Location
- ID
- Name
- Country Code
- Contractual Clause
- ID
- Content Text
- Air Waybill Consignatory Authentication
- Actual Date Time

Air, Inland Waterway, Road, Rail, Sea
UN/CEFACT CCL/RDM/Codes to be officially published as JSON-LD

RDMs (Reference Data Models)
- **BSP**: Buy Ship Pay
- **MMT**: Multi-Modal Transport
- Any others...

Code Lists
- **UN Recs**: UoM, package type, etc
- **UNCL**: EDIFACT code lists
- Any others...

JSON-LD Vocabulary
- **Classes**
  - consignment
  - party
  - Etc..
- **Properties**
  - fobAmount
  - roleCode
  - Etc..
- **Code Values**
  - rec20: millipascal
  - rec21: carton
  - Etc..

UN API Resources (interfaces & events)
- Transport Domain
  - Movements
  - BillsOfLading
  - Etc..
- Trade Domain
  - TradeProducts
  - Invoices
  - Etc..
- Regulatory Domain
  - Declarations
  - Certificates
  - Etc..
- Other Domains...

Naming & Design Rules
- Design Tools
- Conformance Rules
- Test Tools
UN/CEFACT Web Vocabulary
https://vocabulary.unece.org/

About
The UN/CEFACT Web Vocabulary is a linked data representation of the UN/CEFACT Buy-Ship-Pay Reference Data Model. The BSP RDM generalizes concepts of Multi-Modal Transport Reference Data Model (MMT-RDM) and the Supply Chain Reference Data Model (SCRDM), which can be applied by country and regional administrations and industries.

Version
The vocabulary reflects BSP version 22A.

Contexts
JSON-LD Context files are available here:
https://vocabulary.unece.org/unece-context.jsonld
https://vocabulary.unece.org/unicode-vocab-context.jsonld

Content Negotiation
Machine readable JSON-LD term definitions are accessible using HTTP content negotiation:
curl https://vocabulary.unece.org/ -H 'Accept: application/ld+json'
curl https://vocabulary.unece.org/unicode# -H 'Accept: application/ld+json'

Links
https://unece.org/trade/unecefact/mainstandards
https://github.com/unecefact
Signpost to Standards

- Visit the streamlined standards page for UN/CEFACT, find relevant standards easily.
- Review the UN/CEFACT web vocabulary and share with your developers.
- Register to become an expert and contribute to active projects.
- Attend UN/CEFACT events
  - Forum is twice a year (Spring and Autumn)
  - Participate in virtual events
Thank you

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