

## **New work item proposal**

Exchange formats for the Audit Data Collection Standard: XBRL

# **Semantic XBRL for Granular Data**

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ISO/TC 295 Audit data services

Head of delegate Japanese Industrial Standards Committee (JISC)

April 19, 2021

19:00-21:00 Beijing time (GMT+8)

# Meeting Agenda

1. Proposal on  
“Exchange formats for the Audit Data Collection Standard: XBRL”  
presented by Mr. Nobuyuki Sambuichi
2. Discussions on data modeling
3. Other business

# Requirements

## **Reduce, Reuse and Recycle is the key concept of SDGs**

Avoid Not-invented-here syndrome (NIH). NIH can be defined by a tendency for people and organizations to avoid things that they didn't create themselves.

This syndrome is similar to the “let's reinvent the wheel” syndrome.

[SOURCE: <https://www.bmc.com/blogs/not-invented-here-syndrome/> ]

## **Extensibility**

Each jurisdiction has its own regulatory and / or internal control rules.

We SHALL supports extensibility to meet these requirements.

## **Comparability**

There are many things in common other than the expansion due to the jurisdiction differences.

We SHALL support comparability based on common points.

## **Localization**

As an international standard, we SHALL supports localized labeling and description in the natural language of the jurisdiction.

## **Support for business rule validation**

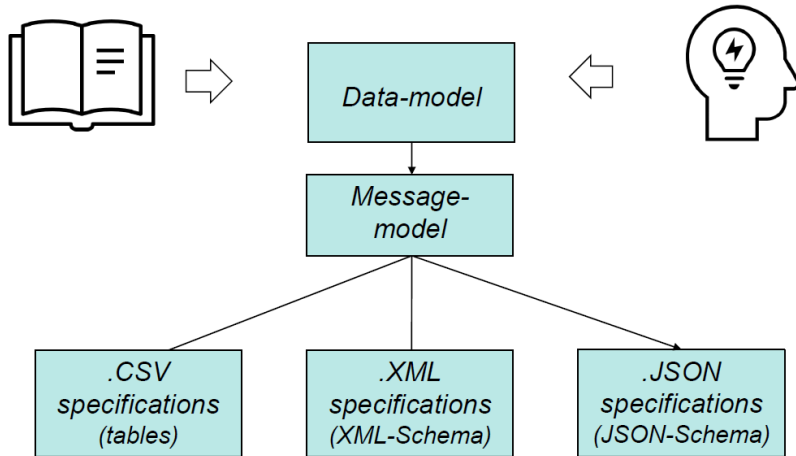
If you need extensible semantic modeling with business rule validation, the solution is “**Semantic XBRL for Granular Data**”.

# Goal

## 2018 ADCS Modeled and Specifications delivered

ADCS Specifications

Modeling knowledge

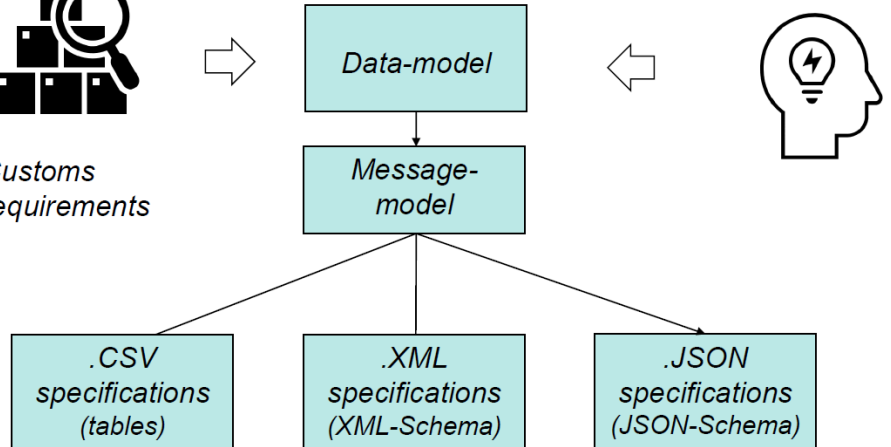


## 2019 Customs Extension modeled and delivered



Customs requirements

Modeling knowledge



SOURCE: "Audit Data Collection Standard Exchange Formats Modeling Approach" Frans van Basten, Jan Vrijenhoek

ISO 21378, which defines CSV tables and fields, has no data modeling specification. **Draft documents do not have documented data modeling.** All predecessor ISO standards for data have a data modeling specification.

We need both a "data dictionary" and a "common data structure" which documented and preferably based on the CCTS. Since CCTS is not supporting all the features of ADCS, We want to expand it with things like primary keys and references to the primary keys, as it is now included in tables in the existing ADCS.

→ **Extend and reuse CCTS**

**I'll show you why and how to do it in this presentation**

Head of delegate JISC, SAMBUICHI, Nobuyuki

# Contents

## Prerequisite

- 4 Prior confirmation
- 3 Core Component Technical Specification
- 2 Business Information Entity
- 1 eXtensible Business Reporting Language (XBRL) 2.1

## **Exchange formats for the Audit Data Collection Standard: XBRL**

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities
4. Business process
5. Business controls and audit trails
6. Business rules
7. Syntax binding for XBRL

# Prerequisite

## **-4 Prior confirmation**

It is advisable to study history of the standard and be well prepared.

-3 Core Component Technical Specification

-2 Business Information Entity

-1 eXtensible Business Reporting Language (XBRL) 2.1

# Things to consider before writing a standard Don't climb mountain (ISO) in high heels

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It is advisable to study history of the standard and be well prepared.

## Colorado hiker climbs Mount Elbert in high heels

"A hiker in the US is proving no mountain is too tough, by throwing away her boots and replacing with a pair of heels instead."

Kenneth Garger, New York Post OCTOBER 23, 2020 9:24AM

## ■ What to Bring and Wear on the Mt. Fuji Climb

After the weather stabilizes in the summer, even beginners can climb Japan's symbolic Mt. Fuji. However, be warned, Mt. Fuji exceeds heights of 3,000 meters. Even if the lower part of the mountain is sunny, if the summit is covered in clouds, there is a chance you may run into bad weather. **We recommend fully preparing yourself against the cold and rain before climbing Mt. Fuji.**

\* The below list is only a suggestion of what you should bring to Mt. Fuji. Please prepare for the trip according to the weather on the day of the climbs, your physical condition, sex, and age.

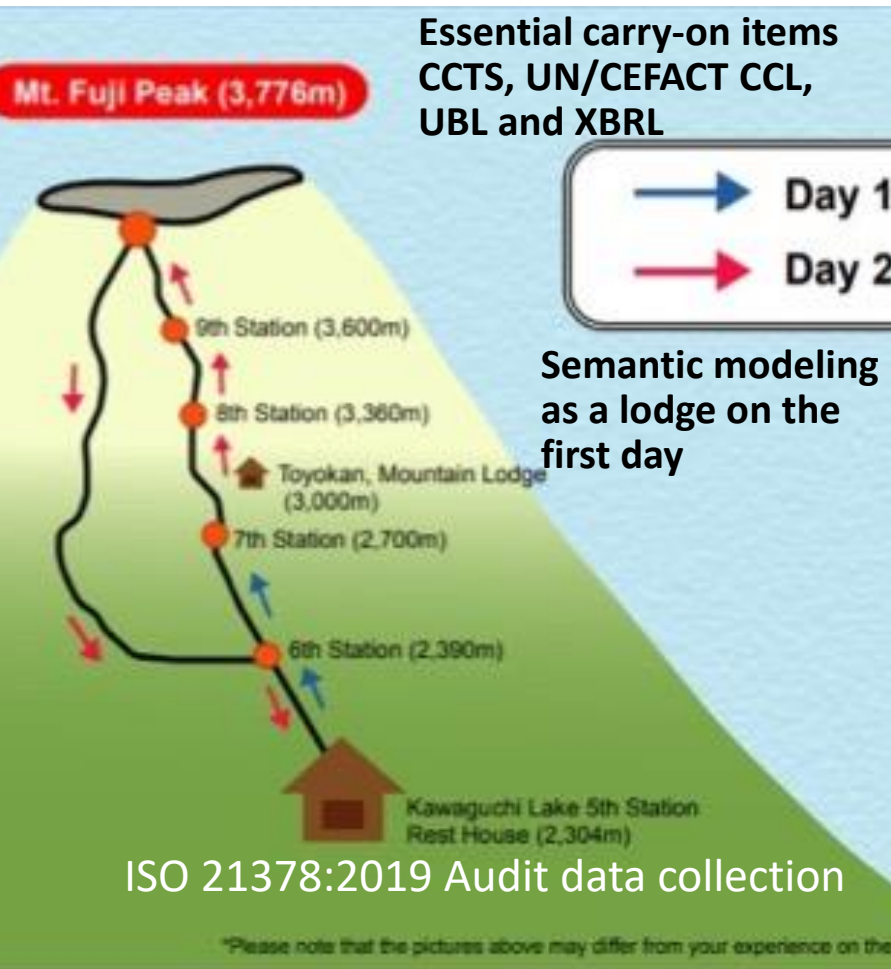


gh heels

Even if it looks strange in the city, this is the clothes that safely reach the summit within the scheduled time.



# Standing on the shoulders of giants



**Day 1** Semantic modeling is defined based on following standards:

- 1) CCS (CCTS) defined in ISO 15000-5 Electronic Business Extensible Markup Language (ebXML) -- Part 5: **Core Components Specification (CCS)**;
- 2) Business rule definition for Core Invoice Usage Specification (CIUS) in EN 16931-1 Electronic Invoicing - Semantic data model of the core elements of an electronic invoice; and
- 3) Business process modeling in UBL
- 4) Extensible Business Reporting Language (XBRL) 2.1. Business rules can be validated using formula linkbase defined in taxonomy.

**Day 2** We are standing on the shoulders of giants and defining new standards for new business domains for **audit**.

**NOTE1:** We have been wandering at the foot of this mountain for five years already. **We can't afford to spend more time looking for a trailhead.** Follow the route they climbed.

**NOTE2:** Wikipedia says that it is a metaphor of dwarfs **standing on the shoulders of giants** and expresses the meaning of **"discovering truth by building on previous discoveries"**. Its most familiar expression in English is by Isaac Newton in 1675: **"If I have seen further, it is by standing on the shoulders of Giants."**



# Industry doesn't need to reinvent the wheel

## ISO/IEC Directives, Part 2

Principles and rules for the structure and drafting of ISO and IEC documents

### 5.7 Avoidance of duplication and unnecessary deviations

Before standardizing any item or subject, **the writer shall determine whether an applicable standard already exists.**

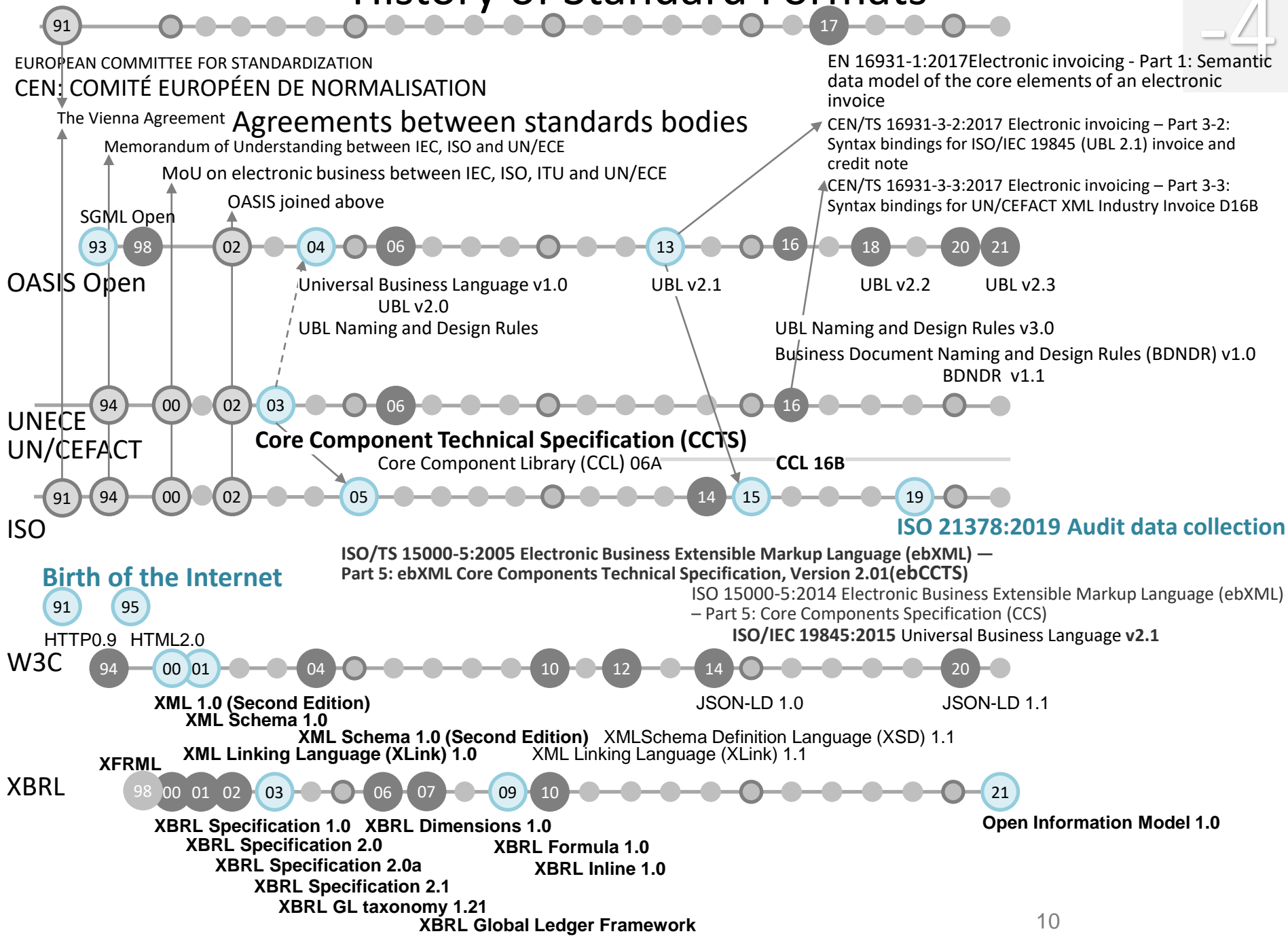
If it is necessary to invoke a requirement that appears elsewhere, this should be done by reference, not by repetition – see Clause 10.

“Trusted standards mean that **industry doesn't need to reinvent the wheel**, that innovations will be compatible and work with existing technology, and that products and services will be trusted too. Governments use standards as **trusted solutions to complement regulation**, and they give peace of mind to consumers who know they are not putting themselves or their families at risk.”

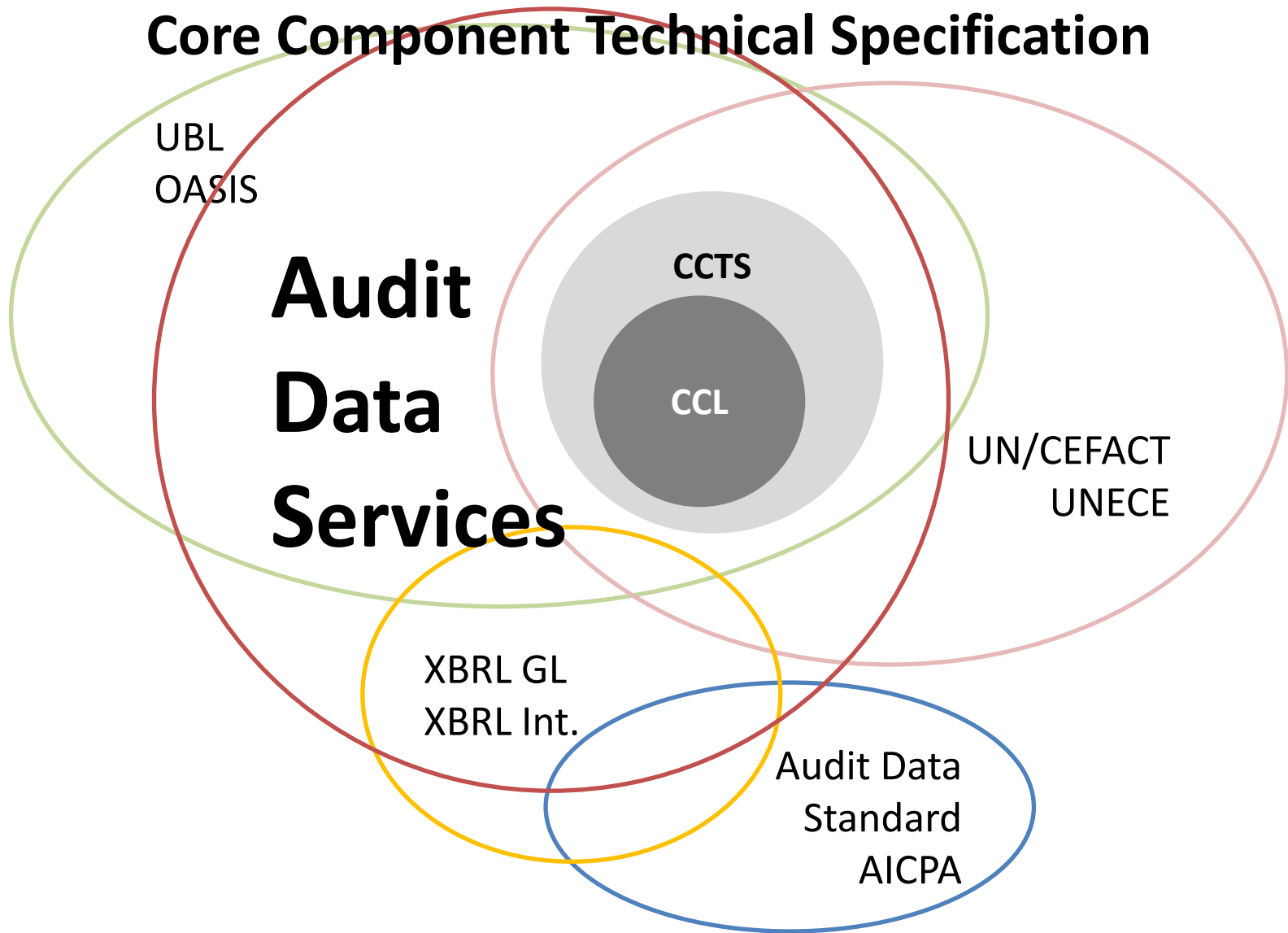
NO TRUST IN WORLD WITHOUT STANDARDS, Maria Lazarte, October 2016  
(<https://www.iso.org/news/2016/10/Ref2128.html>)

# History of Standard Formats

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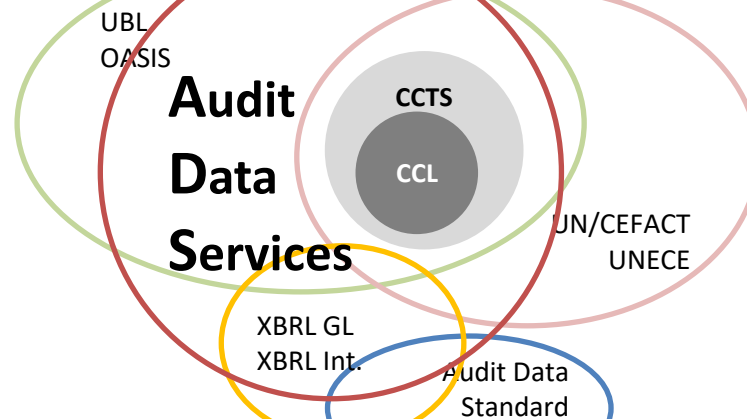
# Core Component Technical Specification



Both Universal Business Language (UBL) by OASIS and UN/CEFACT by UNECE are based on the same *Core Component Technical Specification (CCTS)*.

# Different standards from a CCTS perspective

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ADC  
XBRL GL  
ADS  
UBL  
UN/CEFACT BIE  
CCL  
Reset

| ISO 21378:2019 Audit data collection |                              |   |   | Search: _____ |  |
|--------------------------------------|------------------------------|---|---|---------------|--|
| -                                    | Module                       | Table   | Description   |               |  |
| ABIE                                 | Base                         | Business Segment  | The BAS_Business_Segment and the BAS_Business_Segment_Hierarch... | i             |  |
| ABIE                                 | Base                         | Business Segment Hierarchy  | The fields in the BAS_Business_Segment_Hierarchy are used to c... | i             |  |
| ABIE                                 | Base                         | Employee  | The personnel information of the employee in an                   | i             |  |
| ADC_Employee                         |                              |   |   | Search: _____ |  |
| -                                    | Name                         | Description   |   |               |  |
| BBIE                                 | Employee. ID                 | The unique identifier for an employee.                                      | 1   | i             |  |
| BBIE                                 | Code                         | The code of the employee. Each employee has only one code. If someone do... | 1   | i             |  |
| BBIE                                 | Name                         | The name of the employee.   | 1   | i             |  |
| BBIE                                 | Inactive Flag. Indicator     | Indicate whether one employee is active or inactive. One employee may be... | 2   | i             |  |
| BBIE                                 | Type Code                    | The code of the employee types. EXAMPLE Using 004 to represent an on-the... | 1   | i             |  |
| BBIE                                 | Type Name                    | The name of the employee type. EXAMPLE Employed, retired, probation and ... | 1   | i             |  |
| RBIE                                 | Department. Business Segment | The code of department rosters. EXAMPLE The IT department is designated ... | 1   | i             |  |
| BBIE                                 | Job Title. Name              | The title of the person in an accounting unit. EXAMPLE Accounting manage... | 2   | i             |  |
| BBIE                                 | Academic Degree              | The highest academic degree acquired. EXAMPLE Doctor, Master.               | 2   | i             |  |
| BBIE                                 | Employment Date              | The employment date of the employee.  | 2   | i             |  |
| BBIE                                 | Termination Date             | The termination date of the employee from which the labor contract was n... | 2   | i             |  |
| RBIE                                 | Associated. User             | The system user ID associated with the employee. hall match the User_ID ... | 2   | i             |  |

Showing 1 to 12 of 12 entries

Preliminary findings are at the following site.

<https://www.wuwei.space/iso/tc295/>

| UN/CEFACT Core Components (UN/CCL 20A) |  |   |      | Search: _____ |  |
|--|--|---|------|---------------|--|
| -                                      | Object Class Term                              | Definition  |      |               |  |
| ACC                                    | Access Control List                            | A list of permissions attached to an object defining access rights, such... | i    |               |  |
| ACC                                    | Accompanying Person                            | A person that accompanies another person, such as a mother accompanying ... | i    |               |  |
| ACC                                    | Accounting Book                                | A collection of accounting related data that pertains to specific docume... | i    |               |  |
| Employee                               |  |   |      | Search: _____ |  |
| -                                      | Short Name                                     | Definition  | Occ. |               |  |
| BCC                                    | Employer Assigned ID                           | The unique employer assigned identification number for the employee.        | 0..1 | i             |  |
| BCC                                    | Hired Date Time                                | The date the employee was hired by their current employer.                  | 0..1 | i             |  |
| BCC                                    | Hired Country Sub-Division ID                  | The unique identifier for the country sub-division in which the individu... | 0..1 | i             |  |
| BCC                                    | Full Pay Day Injured Indicator                 | The indication of whether or not the employee will be paid in full for t... | 0..1 | i             |  |
| BCC                                    | Reporting Department Text                      | The name of the department or division of the company to which the emplo... | 0..1 | i             |  |
| BCC                                    | Started Current Job Date Time                  | The date, time, date time or other date time value on which the employee... | 0..1 | i             |  |
| BCC                                    | Entitled Tax Exemption Quantity                | The number of tax exemptions that the employee is entitled to claim.        | 0..1 | i             |  |
| BCC                                    | Exemption Withholding Quantity                 | The number of tax exemptions that the employee claims in their withholdi... | 0..1 | i             |  |
| BCC                                    | Premium Determining Country Sub-Division Code  | The unique identifier for the country sub-division whose rating values w... | 0..1 | i             |  |
| BCC                                    | Insurer Contested Claim Indicator              | The indication of whether or not the employee claim is or ever was conte... | 0..1 | i             |  |
| BCC                                    | Medical Record Release Authorization Indicator | The indication of whether or not there is written authorization to relea... | 0..1 | i             |  |
| BCC                                    | Borrowed Department Name                       | The name, expressed as text, of the department or division of the compan... | 0..1 | i             |  |
| ASCC                                   | Specified As Party                             | The party specified as an employee.   | 0..1 | i             |  |
| ASCC                                   | Specified Employee Injury/Illness              | An injury or illness specified for this employee.                           | 0..* | i             |  |

Showing 1 to 14 of 14 entries

ADC  
XBRL GL  
ADS  
UBL  
UN/CEFACT BIE  
CCL  
Reset

## Does UBL conform to CCTS?

We believe the answer is “YES”.

The UBL TC believes that there is a broad consensus in the standards and user community that UBL is a valid implementation of the CCTS.

UBL was an early adopter of CCTS (probably the first) and was actually used as implementation verification for the CCTS standard itself.

## Summary

The UBL TC believes that the CCTS is a valuable tool for creating eBusiness vocabularies and UBL has contributed to its development.

We believe we are fully conformant to the normative clauses in the CCTS and have been for several years.

We believe UBL has helped raise the profile of CCTS and promoted its adoption in other domains. We have also stimulated the development of open-source tools and technologies to support CCTS users.

On at least two occasions in the past 11 years (2003 and 2007) the UBL TC has had to justify our claims of conformance to the Core Components Technical Specification (CCTS) . This Committee Note makes the informal responses given in the past formal and makes them available to interested parties so as to avoid misunderstandings in the future.

It should also be understood that all references to CCTS in UBL are to ISO/TS 15000-5:2005 published by UN/CEFACT in 2003 as the “Core Components Technical Specification – Part 8 of the ebXML Framework”. UBL makes no claims with respect to the recently published ISO 15000-5:2014 version but have been assured by its authors that ISO 15000-5:2014 retains backward compatibility with ISO/TS 15000-5:2005.

# UBL 2.1 JSON Alternative Representation Version 1.0

## Committee Note Draft 02 12 April 2017

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Source: <http://docs.oasis-open.org/ubl/UBL-2.1-JSON/v1.0/cnd02/UBL-2.1-JSON-v1.0-cnd02.html>

For users of JSON syntax, this note publishes a suite of JSON schemas with which one can validate the structural content of a JSON document against the constraints of the UBL 2.1 vocabulary. Also included is a transliteration of all of the UBL 2.1 example documents in JSON syntax with which one can test a number of the JSON schemas.

The structural patterns exhibited by JSON schemas that conform to the OASIS **Business Document Naming and Design Rules Version 1.1 [BDNDR]** are distinctive as document interchange structures. As such, their intent is only to convey in syntax the information content reflecting the same abstract model of the **UN/CEFACT Core Component Technical Specification 2.01 [CCTS]** with which the document model was designed. Accordingly, and in parallel to an application's use of XML syntax, the JSON syntax used is generic in nature and is neither streamlined nor optimized for any particular application's objectives.

As one would undertake the unmarshalling of XML syntax into internal application data structures suitable for processing, one must also undertake the unmarshalling of JSON interchange syntax into whatever internal application data structures (or other JSON representations) of the content that are suitable for the task at hand. Of note, it has been observed that there are commercial JSON database tools unable to ingest this JSON interchange syntax directly without an application massaging the content first to suit the database schema necessary to enable a particular arbitrary use. Nevertheless, the **JSON syntax used does conform to the published standard [ISO 21778 - ECMA JSON]** and has been successfully demonstrated to be ingested by Python and Node.js applications and so is not a barrier to use for application developers.



## Prerequisite

-4 Prior confirmation

### **-3 Core Component Technical Specification**

The first version ISO/TS 15000-5:2005 Electronic Business Extensible Markup Language (ebXML) — Part 5: ebXML Core Components Technical Specification, Version 2.01 (ebCCTS) HAS BEEN REVISED BY ISO 15000-5:2014 Electronic Business Extensible Markup Language (ebXML) — Part 5: Core Components Specification (CCS)



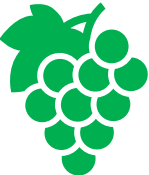
-2 Business Information Entity

-1 eXtensible Business Reporting Language (XBRL) 2.1

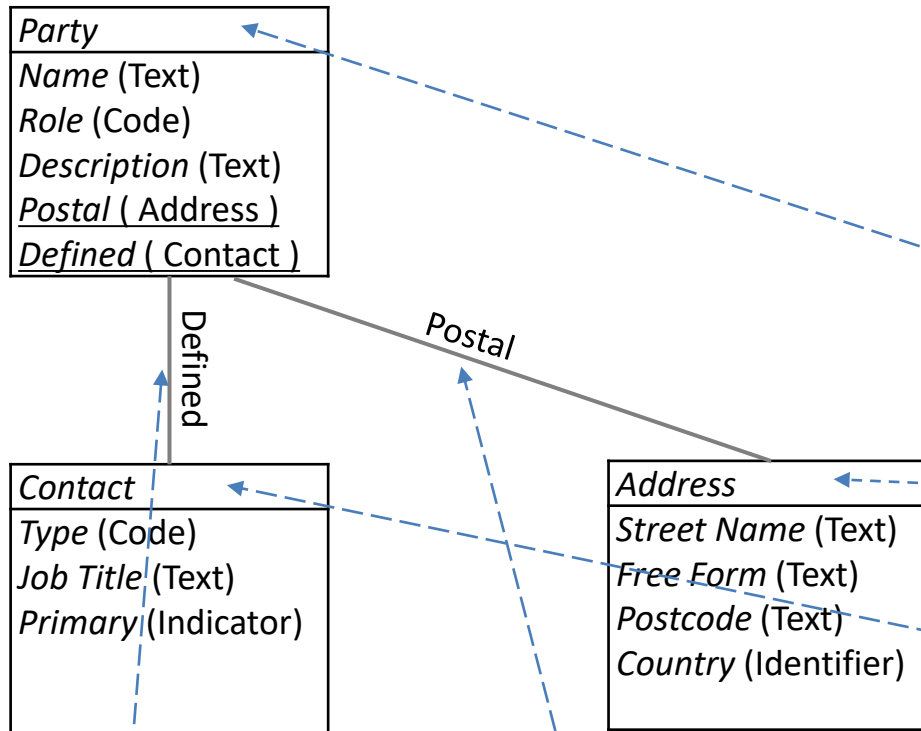
# Dictionary Entry Name

Dictionary Entry Name = **Object Class Term. Property Term. Representation Term**

e.g. name: *Fruits. Name. Text*  
value: Strawberry

|   | Object Class | Property | Representation | Value      |     |
|---|--------------|----------|----------------|------------|-----|
|    | Fruits       | Name     | Text           | Strawberry |     |
|   |              | Color    | Text           | Red        |     |
|   |              | Weight   | Quantity       | 30         | g   |
|   |              | Price    | Amount         | 0.10       | USD |
|    | Fruits       | Name     | Text           | Apple      |     |
|   |              | Color    | Text           | Red        |     |
|   |              | Weight   | Quantity       | 300        | g   |
|   |              | Price    | Amount         | 2.00       | USD |
|  | Fruits       | Name     | Text           | Grape      |     |
|   |              | Color    | Text           | Green      |     |
|   |              | Weight   | Quantity       | 380        | g   |
|   |              | Price    | Amount         | 5.00       | USD |

# Association Core Component



- three *Aggregate Core Components (ACC)*:  
**“Party. Details”**; **“Contact. Details”** and **“Address. Details”**;
  - each *Aggregate Core Component (ACC)* has a number of **Properties** (i.e. business characteristics);
  - the *Aggregate Core Component (ACC)* **“Party. Details”** has five *Properties* (“Name”, “Role”, “Description”, “Defined. Contact” and “Postal. Address”);
  - the *Aggregate Core Component (ACC)* **“Address. Details”** has four *Properties* (“Street Name”, “Free Form”, “Postcode” and “Country”).
  - the *Aggregate Core Component (ACC)* **“Contact. Details”** has three *Properties* (“Type”, “Job Title” and “Primary”);
- NOTE: Each property has a **Representation (data type)** such as text, code, identifier, indicator, etc.

**“Party. Defined. Contact”** and **“Party. Postal. Address”** are **Association Core Components (ASCC)**.

The structures of these associated *Aggregate Core Components (ACC)* are defined by the *Aggregate Core Components (ACCs)* **“Contact. Details”** and **“Address. Details”**, respectively.

# Aggregate Core Component (ACC) Party

| ACC Party                |
|--------------------------|
| BCC Name (Text)          |
| BCC Role (Code)          |
| BCC Description (Text)   |
| ASCC Postal ( Address )  |
| ASCC Defined ( Contact ) |

| ACC Address              |
|--------------------------|
| BCC Street Name (Text)   |
| BCC Free Form (Text)     |
| BCC Postcode (Text)      |
| BCC Country (Identifier) |

| ACC Contact             |
|-------------------------|
| BCC Type (Code)         |
| BCC Job Title (Text)    |
| BCC Primary (Indicator) |

| No | ID   | D | Business Term          | Semantic data type | O    |
|----|------|---|------------------------|--------------------|------|
| 0  | BG-0 | 0 | <b>Party</b>           |                    | 0..n |
| 1  | BT-1 | 1 | <i>Name</i>            | Text               | 1..1 |
| 2  | BT-2 | 1 | <i>Role</i>            | Code               | 0..n |
| 3  | BT-3 | 1 | <i>Description</i>     | Text               | 0..1 |
| 4  | BG-1 | 1 | <i>Postal Address</i>  |                    | 1..1 |
| 5  | BT-4 | 2 | <i>Street Name</i>     | Text               | 1..1 |
| 6  | BT-5 | 2 | <i>Postcode</i>        | Code               | 0..1 |
| 7  | BT-6 | 2 | <i>Country</i>         | Identifier         | 0..1 |
| 8  | BG-2 | 1 | <i>Defined Contact</i> |                    | 0..n |
| 9  | BT-7 | 2 | <i>Email</i>           | Code               | 1..1 |
| 10 | BT-8 | 2 | <i>Job Title</i>       | Text               | 0..n |
| 11 | BT-9 | 2 | <i>Primary</i>         | Indicator          | 1..1 |

Key D: Depth O: Occurrence

## Party

|                 |           |         |
|-----------------|-----------|---------|
| Name            | SS Ltd.   |         |
| Role            | Customer  |         |
| Description     |           |         |
| Postal Address  |           |         |
| Street name     | Postcode  | Country |
| First St.       | 1234      | JA      |
| Defined Contact |           |         |
| Type            | Job Title | Primary |
| sam@ss.com      |           | true    |
|                 |           |         |

## Party

| Name            | XYZ Co.   |         |
|-----------------|-----------|---------|
| Role            | Customer  |         |
| Description     |           |         |
| Postal Address  |           |         |
| Street name     | Postcode  | Country |
| Second St.      | 4567      | US      |
| Defined Contact |           |         |
| Type            | Job Title | Primary |
| peter@xyz.com   | manager   | true    |
| mary@zyz.com    | staff     | false   |

## Party

| Name            | JG Co.    |         |
|-----------------|-----------|---------|
| Role            | Provider  |         |
| Description     | Gold      |         |
| Postal Address  |           |         |
| Street name     | Postcode  | Country |
| Third Ave.      | 8765      | CN      |
| Defined Contact |           |         |
| Type            | Job Title | Primary |
| john@jg.com     | manager   | false   |
| beth@jg.com     | assistant | true    |

# Aggregate Core Component (ACC) Party

| No | ID   | D | Business Term   | Semantic data type | O    |
|----|------|---|-----------------|--------------------|------|
| 0  | BG-0 | 0 | Party           | ( ACC )            | 0..n |
| 1  | BT-1 | 1 | Name            | Text               | 1..1 |
| 2  | BT-2 | 1 | Role            | Code               | 0..n |
| 3  | BT-3 | 1 | Description     | Text               | 0..1 |
| 4  | BG-1 | 1 | Postal Address  | ( ASCC )           | 1..1 |
| 5  | BT-4 | 2 | Street Name     | Text               | 1..1 |
| 6  | BT-5 | 2 | Postcode        | Code               | 0..1 |
| 7  | BT-6 | 2 | Country         | Code               | 0..1 |
| 8  | BG-2 | 1 | Defined Contact | ( ASCC )           | 0..n |
| 9  | BT-7 | 2 | Email           | Code               | 1..1 |
| 10 | BT-8 | 2 | Job Title       | Text               | 0..n |
| 11 | BT-9 | 2 | Primary         | Indicator          | 1..1 |

Key D: Depth O: Occurrence

**ASCC** can be thought of as a *has\_a* or *is\_part\_of* relationship.

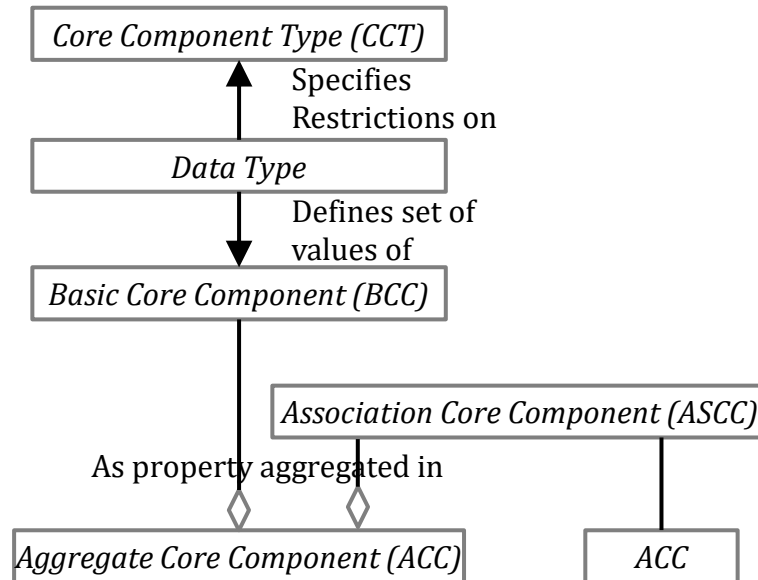
e.g. The Postal Address is part of the Party.  
Below is a flat file that supports a CSV hierarchical data structure.

This flat file representation can also support occurrences (0..n) of ASCC.

The occurrence sequence number and the ID column of the business term group ID specify the occurrence data structure.

| ID |      |   |      | BG-0 Party   |              |              |                     |                  |                 |                      |                   |                 |
|----|------|---|------|--------------|--------------|--------------|---------------------|------------------|-----------------|----------------------|-------------------|-----------------|
|    |      |   |      | BT-1<br>Name | BT-2<br>Role | BT-3<br>Desc | BG-1 Postal Address |                  |                 | BG-2 Defined Contact |                   |                 |
|    |      |   |      |              |              |              | BT-4<br>Street Name | BT-5<br>Postcode | BT-6<br>Country | BT-7<br>Email        | BT-8<br>Job Title | BT-9<br>Primary |
| 0  | BG-0 |   |      | SS Ltd.      | Customer     |              |                     |                  |                 |                      |                   |                 |
| 0  | BG-0 | 0 | BG-1 |              |              |              | First St.           | 1234             | JA              |                      |                   |                 |
| 0  | BG-0 | 0 | BG-2 |              |              |              |                     |                  |                 | sam@ss.com           |                   | true            |
| 1  | BG-0 |   |      | XYZ Co.      | Customer     |              |                     |                  |                 |                      |                   |                 |
| 1  | BG-0 | 0 | BG-1 |              |              |              | Second St.          | 4567             | US              |                      |                   |                 |
| 1  | BG-0 | 0 | BG-2 |              |              |              |                     |                  |                 | peter@xyz.com        | manager           | true            |
| 1  | BG-0 | 1 | BG-2 |              |              |              |                     |                  |                 | mary@zyz.com         | staff             | false           |
| 2  | BG-0 |   |      | JG Co.       | Provider     | Gold         |                     |                  |                 |                      |                   |                 |
| 2  | BG-0 | 0 | BG-1 |              |              |              | Third Ave.          | 8765             | CN              |                      |                   |                 |
| 2  | BG-0 | 0 | BG-2 |              |              |              |                     |                  |                 | john@jg.com          | manager           | false           |
| 2  | BG-0 | 1 | BG-2 |              |              |              |                     |                  |                 | beth@jg.com          | assistant         | true            |

# CCTS Core Components



Core Components are building blocks for the development and publication of a library of standard Core Components and Business Information Entities containing the information pieces needed to describe a specific concept.

There are four categories of Core Components:

- Core Component Type (CCT);
- Basic Core Component (BCC);
- Association Core Component (ASCC); and
- Aggregate Core Component (ACC).

The Core Component is a semantic building block, which is used as a basis to construct all electronic business messages.



# Semantic datatypes

## Primitive types

Semantic data type content may be of the following primitive types. These primitive types were taken from ISO 15000-5:2014, Annex A.

| Primitive type | Definition   |
|----------------|--|
| <b>Binary</b>  | A set of finite-length sequences of binary digits.   |
| <b>Date</b>    | Time point representing a calendar day on a time scale consisting of an origin and a succession of calendar ISO 8601:2004. |
| <b>Decimal</b> | A subset of the real numbers, which can be represented by decimal numerals.  |
| <b>String</b>  | A finite sequence of characters.   |

## Semantic data types

The semantic data types are described in the tables on following slides, where various features such as attributes, format, and decimals as well as the basic type are defined for each semantic data type. They are based on 15000-5:2014.

Amount  
 Numeric  
 Quantity  
 Code  
 Identifier  
 Indicator  
 Date  
 Time  
 Text

# Semantic datatype (contd.)

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| Semantic data type | Component                                   | Primitive Type | Description   |
|--------------------|---|----------------|---|
| <b>Amount</b>      | Amount. Content                             | Decimal        | A number of monetary units specified in a currency where the unit of currency is explicit or implied.   |
|                    | Amount. Currency. Identifier                | String         |   |
| <b>Numeric</b>     | Numeric. Content                            | Decimal        | Numeric information that is assigned or is determined by calculation, counting, or sequencing. It does not require a unit of measure.   |
| <b>Quantity</b>    | Quantity. Content                           | Decimal        | Quantities are used to state a number of units such as for items. The code for the Unit of Measure (Quantity Unit. Code) is explicit or implicit.   |
|                    | Quantity Unit. Code                         | String         |   |
|                    | Quantity Unit. Code List. Identifier        | String         |   |
|                    | Quantity Unit. Code List Agency. Identifier | String         |   |
| <b>Code</b>        | Code. Content                               | String         | Codes are used to specify allowed values in elements as well as for lists of options. Code is different from Identifier in that allowed values have standardized meanings that can be known by the recipient. |
|                    | Code List. Identifier                       | String         |   |
|                    | Code List. Agency. Identifier               | String         |   |
|                    | Quantity Unit. Code List Agency. Identifier | String         |   |
|                    | Code List. Version. Identifier              | String         |   |

# Semantic datatype (contd.)

-3

| Semantic data type | Component                                  | Primitive Type | Description   |
|--------------------|--|----------------|---|
| <b>Identifier</b>  | Identifier. Content                        | String         | Identifiers (IDs) are keys that are issued by the sender or recipient of a document or by a third party.  |
|                    | Identification Scheme. Identifier          | String         |   |
|                    | Identification Scheme Agency. Identifier   | String         |   |
|                    | Identification Scheme. Version. Identifier | String         |   |
| <b>Indicator</b>   | Indicator. Content                         | String         | A list of exactly two mutually exclusive values that express the only possible states of a Property.  |
| <b>Date</b>        | Date. Content                              | Date           | Dates shall be in accordance with the "Complete representation of a calendar date" as specified by ISO 8601-1:2019, format YYYY-MM-DD.  |
| <b>Time</b>        | Time. Content                              | Time           | Time shall be in accordance with the "Complete representation of a time of day" as specified by ISO 8601-1:2019, format hh:mm:ss  |
| <b>Text</b>        | Text. Content                              | String         | Text is the actual wording of anything written or printed. Line breaks in the text may be present, and any line breaks should be preserved and respected by the receiver's system |
|                    | Language. Identifier                       | String         |   |

# Core Component Rules for Dictionary Entry Names specified in ISO 15000-5

-3

[C1] The *Dictionary Entry Name (DEN)* of a **Basic Core Component (BCC)** shall consist of the following parts in the order specified:

- the **Object Class Term** of the *Aggregate Core Component (ACC)* owning the corresponding *Basic Core Component (BCC)* Property;
- the **Property Term** of the corresponding *Basic Core Component (BCC)* Property;
- the **Representation Term** of the Data Type on which the corresponding *Basic Core Component (BCC)* Property is based.

**Object Class Term. Property Term. Representation Term**

[C2] The *Dictionary Entry Name (DEN)* of an **Association Core Component (ASCC)** shall consist of the following parts in the order specified:

- the **Object Class Term** of the *Aggregate Core Component (ACC)* owning the corresponding *Association Core Component (ASCC)* Property;
- the **Property Term** of the corresponding *Association Core Component (ASCC)* Property;
- the **Object Class Term of the Aggregate Core Component** on which the corresponding *Association Core Component (ASCC)* Property is based.

**Object Class Term. Property Term. Object Class Term of the Aggregate Core Component**

# Permissible Representation Terms

| Primary Representation Term | Definition   | Related CCT      | Secondary Representation Terms |
|-----------------------------|--|------------------|--------------------------------|
| <b>Amount</b>               | A number of monetary units specified in a currency where the unit of currency is explicit or implied.  | Amount. Type     |                                |
| <b>Numeric</b>              | Numeric information that is assigned or is determined by calculation, counting or sequencing.  | Numeric. Type    | Value, Rate, Percent           |
| <b>Quantity</b>             | A counted number of non-monetary units. Quantities may be specified with a unit of quantity.   | Quantity. Type   |                                |
| <b>Code</b>                 | A character string (letters, figures or symbols) that for brevity and / or language independence may be used to represent or replace a definitive value or text of a Property. | Code. Type       |                                |
| <b>Identifier</b>           | A character string used to establish the identity of, and distinguish uniquely, one instance within an identification scheme from all others within the same scheme.           | Identifier. Type |                                |
| <b>Indicator</b>            | A list of exactly two mutually exclusive values that express the only possible states of a Property.   | Indicator. Type  |                                |
| <b>Date Time</b>            | A particular point in the progression of time (ISO 8601).  | Date Time. Type  | Date, Time                     |

# Limitation: CCTS “Association” is UML “Aggregation” -3

CCTS uses the word “Association” in a different way than UML.

**Association** can be represented by a line between these classes with an arrow indicating the *navigation* direction.

**Aggregation** implies a relationship where the child can exist independently of the parent.

Example: Class (parent) and Students (child). Delete the Class and the Students still exist.

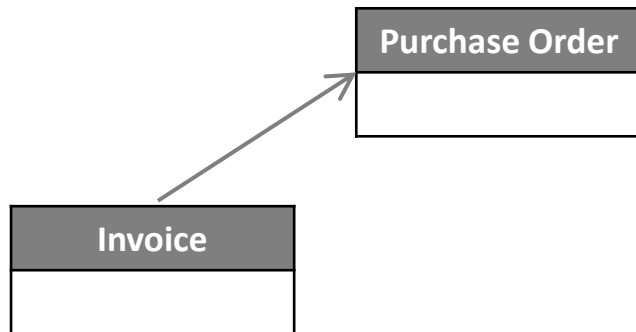
**Composition** implies a relationship where the child cannot exist independent of the parent.

Example: House (parent) and Room (child). Rooms don't exist separate to a House.

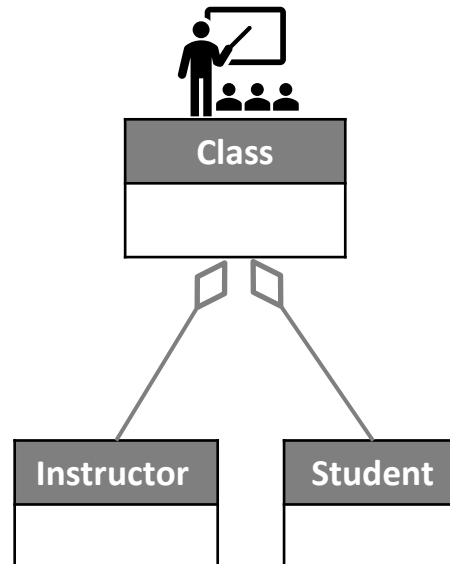
The CCTS “Association” is an “Aggregation” in UML.

There is no **Navigable Association** nor **Composite Aggregation** in CCTS. .

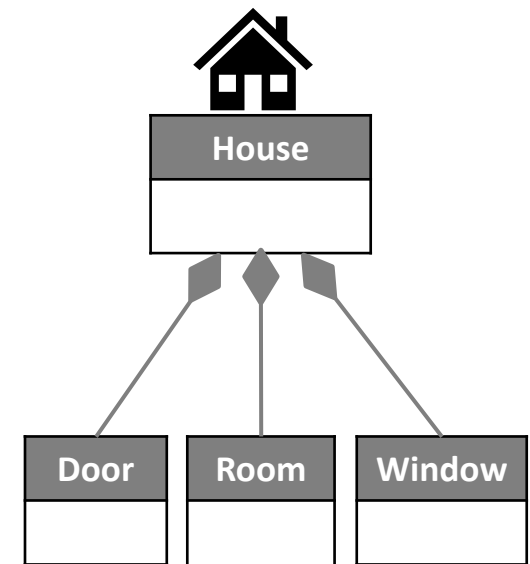
Navigable Association



Aggregation



Composite Aggregation

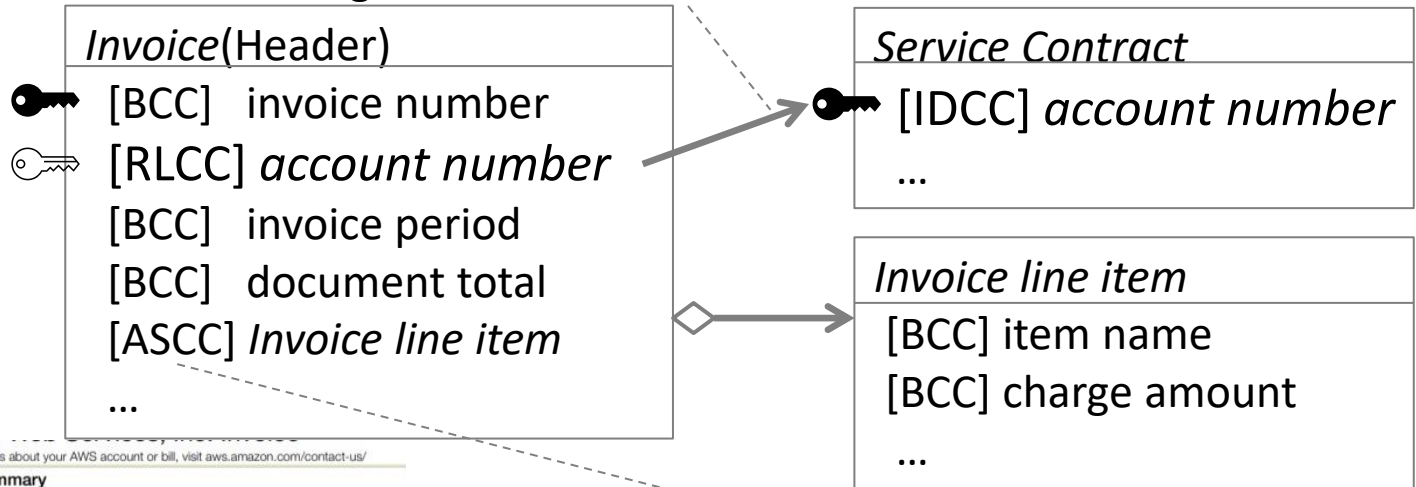




# Audit data requires Navigable Associations

## extend BCC to support Reference Core Component (RFCC)

Navigable Association from “Invoice” to “Service Contract” using reference identifier “account number”



### Invoice

Number: [redacted]  
Address: [redacted]  
[redacted], Kanagawa, 236-0042, JP

Email or talk to us about your AWS account or bill, visit [aws.amazon.com/contact-us/](https://aws.amazon.com/contact-us/)

| Invoice Summary                   |               |
|-----------------------------------|---------------|
| Invoice Number:                   | 719710169     |
| Invoice Date:                     | April 3, 2021 |
| TOTAL AMOUNT DUE ON April 3, 2021 |               |
| \$150.64                          |               |

### Header

Invoice is for the billing period March 1 - March 31, 2021

From Amazon Web Services, we're writing to provide you with an electronic invoice for your use of AWS services. Additional information for bill, individual service charge details, and your account history are available on the Account Activity Page.

| Summary                |          |
|------------------------|----------|
| Service Charges        | \$150.64 |
| Usage                  | \$136.95 |
| Refunds                | \$0.00   |
| Other                  | \$13.69  |
| Total for this invoice | \$150.64 |

| Amazon Simple Storage Service |         |
|-------------------------------|---------|
| Usage                         | \$41.27 |
| Transfer                      | \$0.00  |
| Other                         | \$4.13  |
| Data Transfer                 | \$0.00  |
| Usage                         | \$0.00  |
| Transfer                      | \$0.00  |
| Other                         | \$0.00  |

### Line item

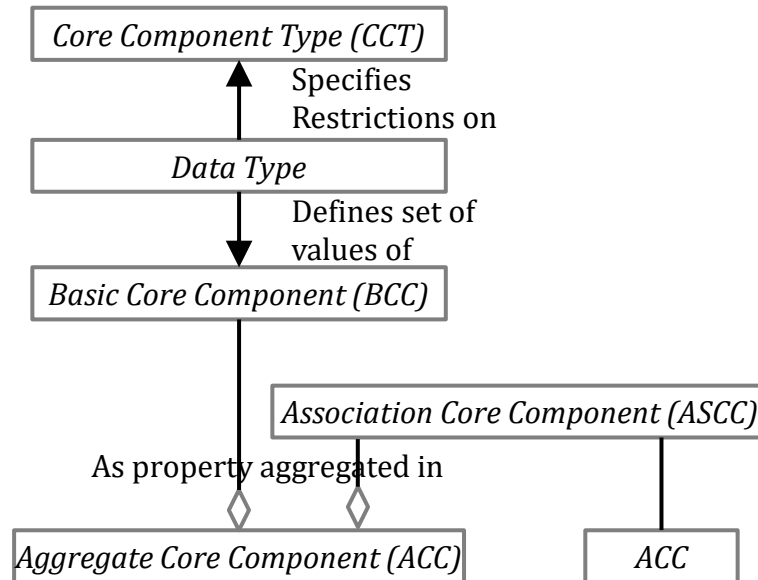
The CCTS “Association” is an **Aggregation** used to contain many line items.

It is important to make a clear distinction between the Basic Core Component being a reference identifier, a unique identifier (primary key), or neither.



**Reference Core Component (RLCC)**  
**Identifier Core Component (IDCC)**  
**Basic Core Component (BCC)**

# CCTS Core Components



Core Components are building blocks for the development and publication of a library of standard Core Components and Business Information Entities containing the information pieces needed to describe a specific concept.

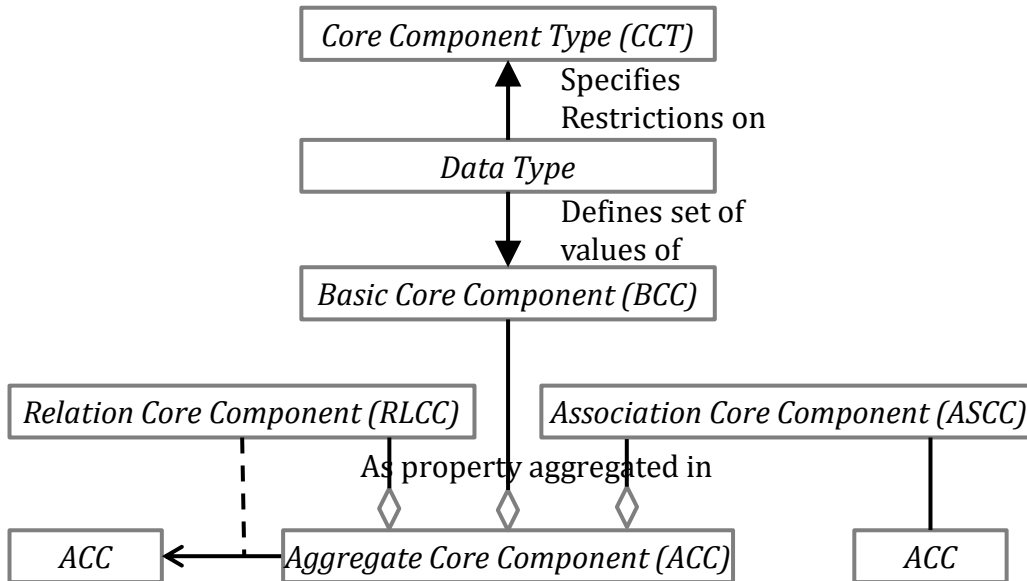
There are four categories of Core Components:

- Core Component Type;
- Basic Core Component;
- Association Core Component; and
- Aggregate Core Component.

The Core Component is a semantic building block, which is used as a basis to construct all electronic business messages.

Next slide shows extended Core Components for ADCS

# Extend CCTS Core Components



Core Components are building blocks for the development and publication of a library of standard Core Components and Business Information Entities containing the information pieces needed to describe a specific concept.

There are six categories of Core Components:

- Core Component Type;
- Basic Core Component;
- **Relation Core Component;**
- **Identifier Core Component;**
- Association Core Component; and
- Aggregate Core Component.

The Core Component is a semantic building block, which is used as a basis to construct all electronic business messages.

The **RLCC** is a BCC, which is a reference identifier with the value of referencing ACC's unique identifier.

The **IDCC** is a BCC, which is a **unique identifier** for ACC.

Basic Core Component is detailed In this standard, Relation Core Component and Identifier Core Component are newly defined in addition to the conventional Basic Core Component.

Unless otherwise specified, the provisions for Basic Core Component also apply to Relation Core Component and Identifier Core Component. Other Core Components shall be as specified in ISO 15000-5.

NOTE Audit data collection requires a concept to clearly define the relationships between ACCs using **identifier (primary key)** and **reference identifier (foreign key)**.

# Extend Semantic data types

## Primitive types

Semantic data type content may be of the following primitive types. These primitive types were taken from ISO 15000-5:2014, Annex A.

| Primitive type | Definition  |
|----------------|---|
| <b>Binary</b>  | A set of finite-length sequences of binary digits.  |
| <b>Date</b>    | Time point representing a calendar day on a time scale consisting of a year, month, and a succession of calendar <u>ISO 8601:2004</u> . |
| <b>Decimal</b> | A subset of the real numbers, which can be represented by decimal numerals.   |
| <b>String</b>  | A finite sequence of characters.  |

The same

## Semantic data types

The different semantic data types are

**Add new Semantic data type**  
**Reference Identifier**

and decimals as well as the basic type are defined for each semantic data type. They are based on ISO 15000-5:2014

Amount

Code

Date

Identifier

Numeric

Quantity

**Reference Identifier**

Text

# Extend Semantic data types Reference Identifier

## Add new semantic data type Reference Identifier

| Semantic data type          | Component                                  | Primitive Type | Description   |
|-----------------------------|--|----------------|---|
| <b>Reference Identifier</b> | Identifier. Content                        | String         | Reference Identifiers (IDs) are identifiers that were assigned to a document or document line to reference another document or document line. |
|                             | Identification Scheme. Identifier          | String         |   |
|                             | Identification Scheme Agency. Identifier   | String         |   |
|                             | Identification Scheme. Version. Identifier | String         |   |

# Extended Core Component Rules for Dictionary Entry Names

[C3] The *Dictionary Entry Name* of an **Identifier Core Component** shall consist of the following parts in the order specified:

- the **Object Class Term** of the *Aggregate Core Component* owning the corresponding *Identifier Core Component Property*;
- the **Property Term** is "*Identification*";
- the **Representation Term** is "*Identifier*".

**Object Class Term. Identification. Identifier**

[C4] The *Dictionary Entry Name* of a **Relation Core Component** shall consist of the following parts in the order specified:

- the **Object Class Term** of the *Aggregate Core Component* owning the corresponding *Relation Core Component Property*;
- the **Property Term** reflects the *nature of the relation* between object classes;
- the **Object Class Term of the Aggregate Core Component** on which the referenced *Relation Core Component Property* is based.

**Object Class Term. Property Term. Object Class Term of the Aggregate Core Component**



# Business Term

This standard use Business Term as specified in ISO 15000-5, 3.15.

## 3.15

### Business Term

synonym under which the Core Component or Business Information Entity is commonly known and used in the business

Note 1 to entry: A Core Component or Business Information Entity may have several Business Terms or synonyms.

#### Core Component

**Dictionary Entry Name:** Trade Transaction. [Specified]. [Class]

Business Term is independent from Rules for Dictionary Entry Names

Business Context

#### Business Information Entity

**Dictionary Entry Name:**

ADS Invoices Received\_ Trade Transaction. Settlement Organization. ADS\_ Business Segment

**Business Term:** Settlement Organization Code

Naming convention in ISO 21378:2019

Naming convention for XML

**CSV Field name**

**Settlement\_Organization\_Code**

**XML Element name**

**SettlementOrganizationCode**



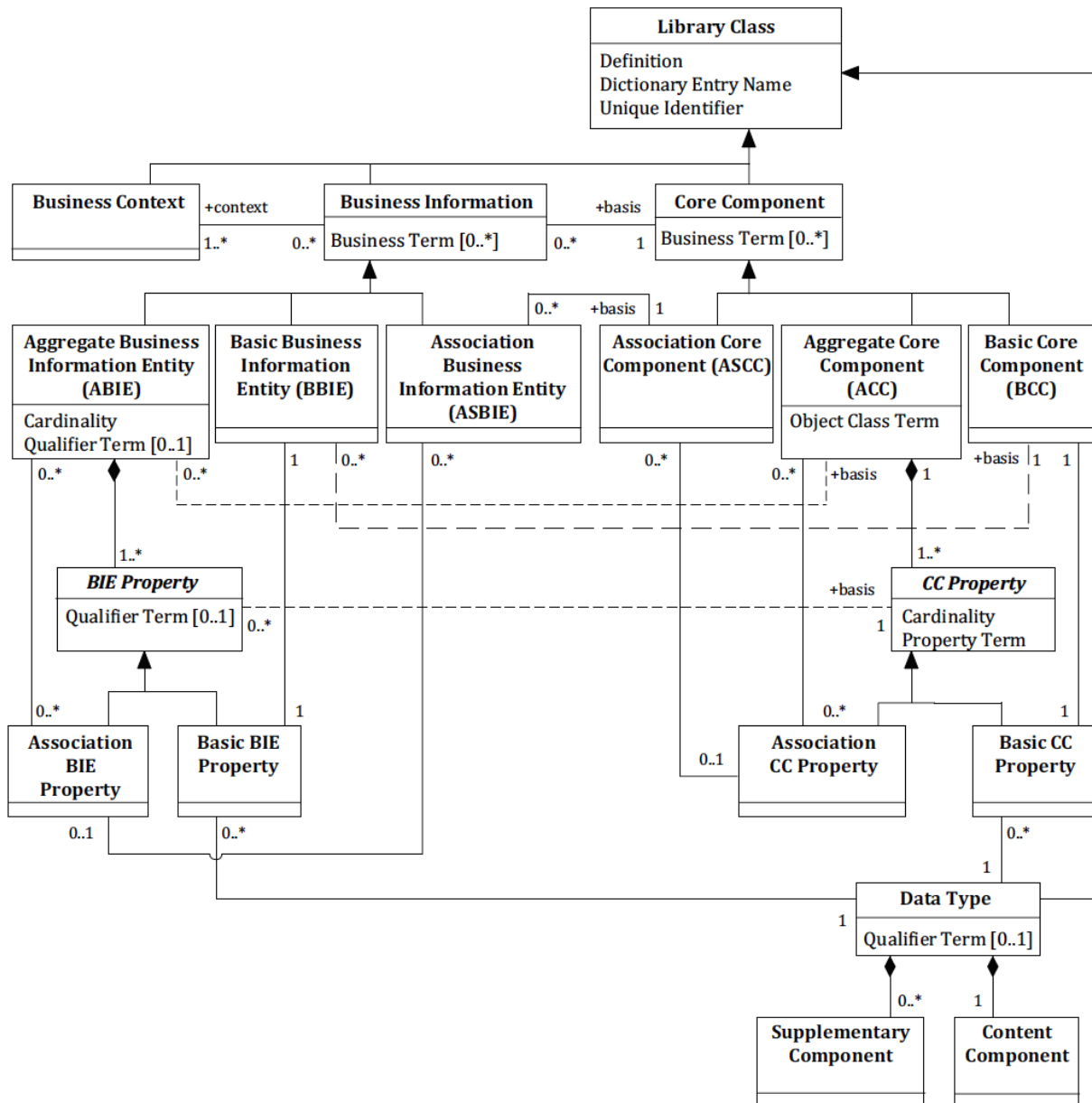
# Prerequisite

- 4 Prior confirmation
- 3 Core Component Technical Specification
- 2 Business Information Entity**
- 1 eXtensible Business Reporting Language (XBRL)

# Business Information Entities Basic Definition Model

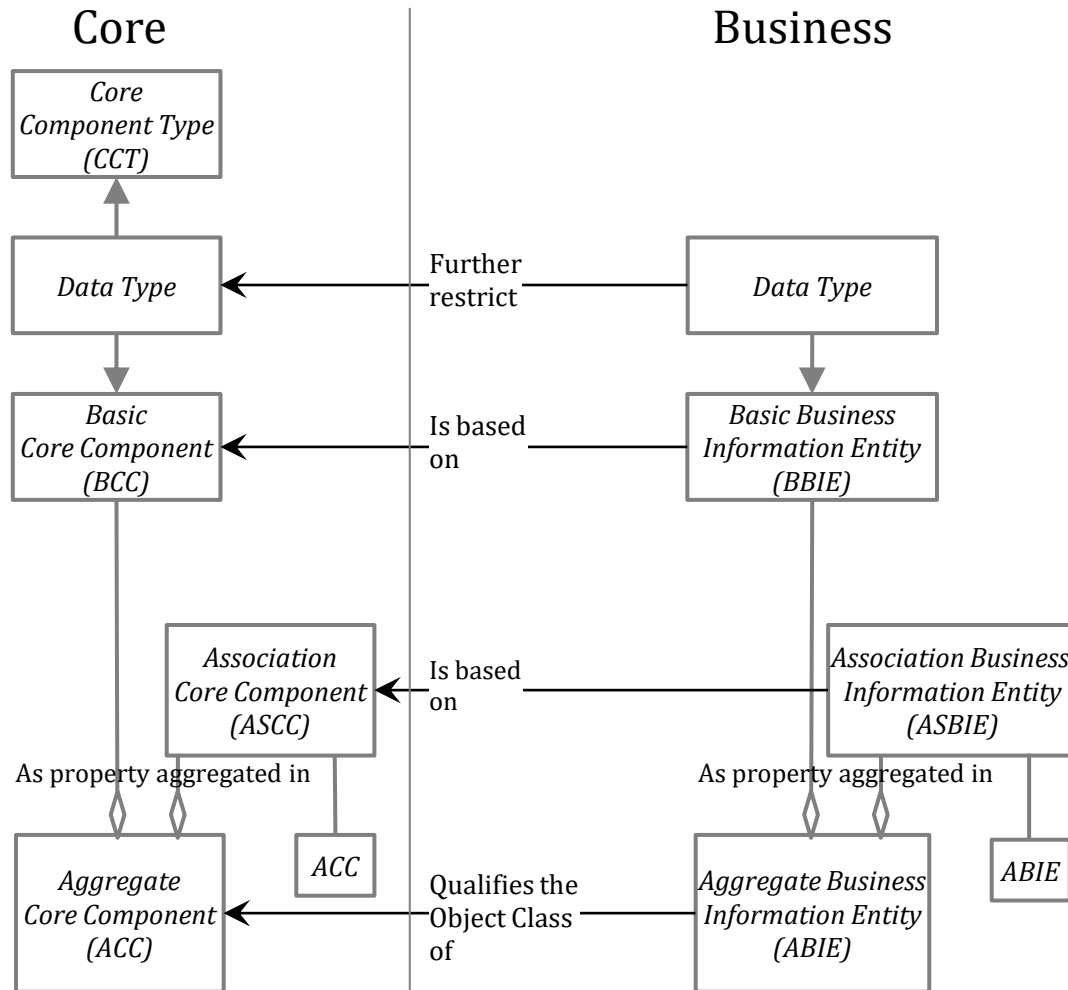
When a Core Component is used in a real business circumstance it serves as the basis of a Business Information Entity. The Business Information Entity is the result of using a Core Component within a specific Business Context.

[SOURCE: ISO 15000-5, 0.5]



# Core Components Specification

## Core Component Library



There are 4 different categories of *Core Components*:

- *Core Component Type*;
- *Basic Core Component*;
- *Association Core Component*;
- *Aggregate Core Component*.

There are 3 different categories of *Business Information Entity* :

- ***Basic Business Information Entity*** is based on *Basic Core Component*.
- ***Association Business Information Entity*** is based on *Association Core Component*.
- ***Aggregate Business Information Entity*** qualifies the Object Class of *Aggregate Core Component*.

Core Components Specification (CCS) is defined in [ISO 15000-5](#) Electronic Business Extensible Markup Language (ebXML) — Part 5: Core Components Specification (CCS).

# Extended Core Components Specification

## Core Component Library

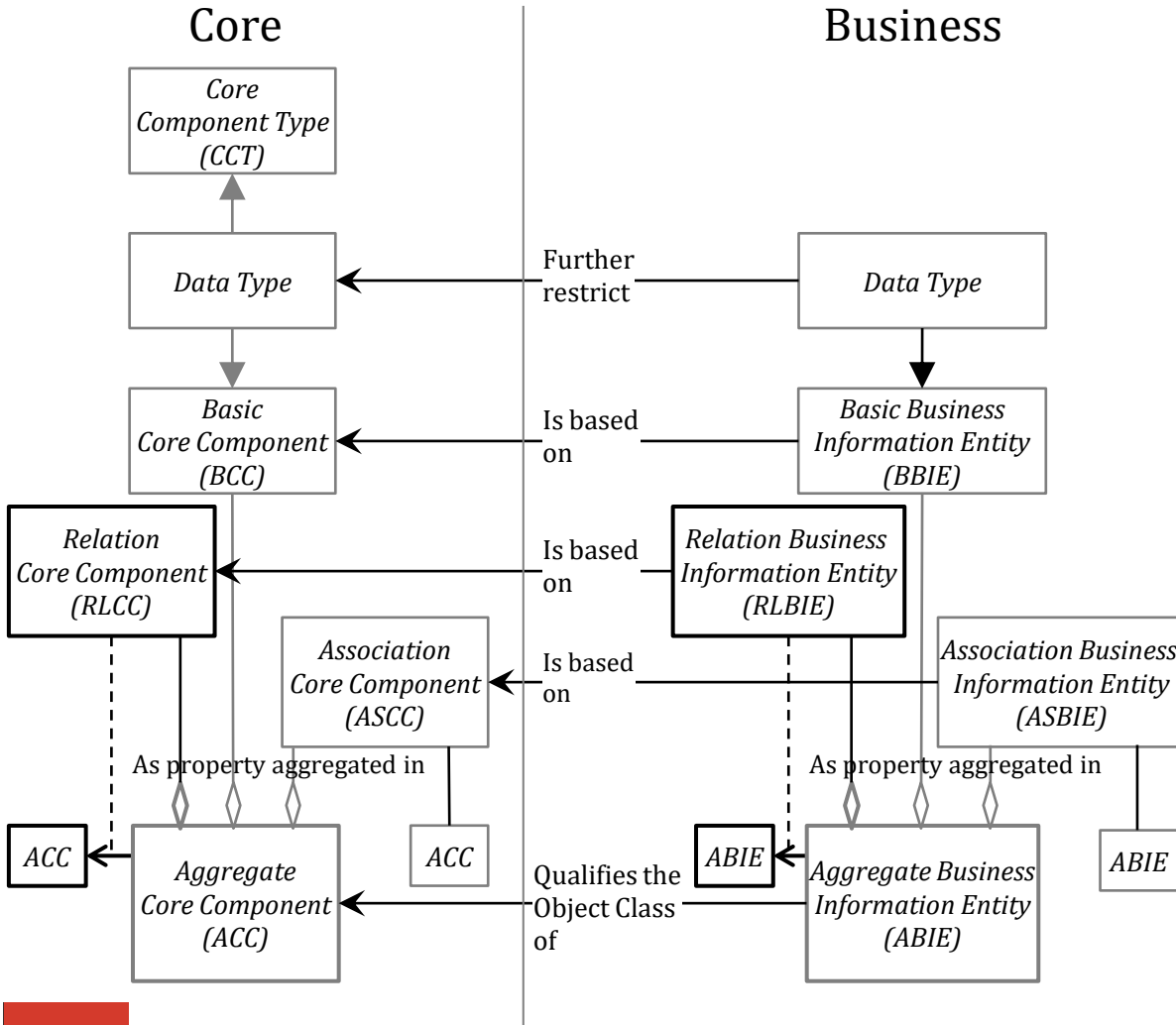
## Business

There are 6 different categories of *Core Components*:

- *Core Component Type*;
- *Basic Core Component*;
- ***Relation Core Component***;
- ***Identifier Core Component***;
- *Association Core Component*;
- *Aggregate Core Component*.

There are 3 different categories of *Business Information Entity* :

- *Basic Business Information Entity* is based on *Basic Core Component*.
- ***Relation Business Information Entity*** is based on ***Relation Core Component***.
- ***Identifier Business Information Entity*** is based on ***Identifier Core Component***.
- *Association Business Information Entity* is based on *Association Core Component*.
- *Aggregate Business Information Entity* qualifies the Object Class of *Aggregate Core Component*.



**NOTE** The RLCC is a BCC, which is a reference identifier with the value of referencing ACC's unique identifier. The IDCC is a BCC, which is a unique identifier for ACC.

# Prerequisite

-4 Prior confirmation

-3 Core Component Technical Specification

-2 Business Information Entity

**-1 eXtensible Business Reporting Language (XBRL) 2.1**

An XBRL taxonomy defines the reporting concepts that may be used in instance documents and can also provide a wide range of structured meta-data about the concepts and how they should be used.

# How to extend the new intermediate aggregation item-1

“At the first international conference, in London in January 2001, one European raised his hand to pointedly ask what the bunch of Americans up front knew about the world’s accounting standards.

Later, a spontaneous meeting took over the day’s agenda as members voiced their biggest concern: “**extensibility**.”

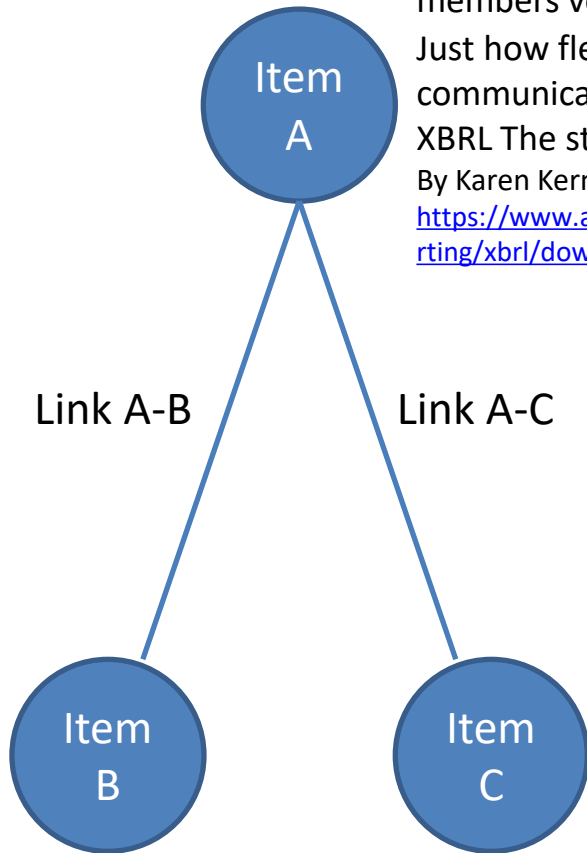
Just how flexible was this new language for gathering and communicating financial information?”

XBRL The story of our new language

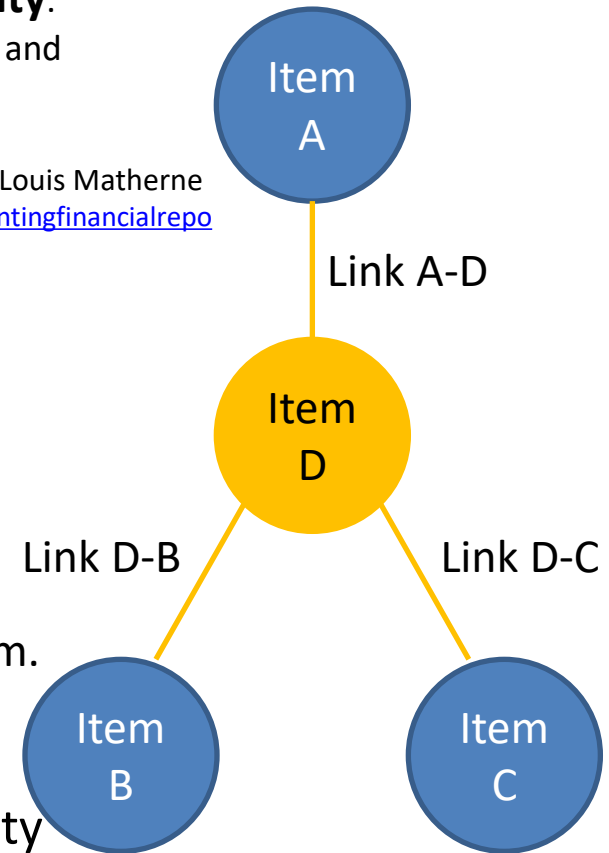
By Karen Kernan based on a chronicle of Charles Hoffman and Louis Matherne

<https://www.aicpa.org/content/dam/aicpa/interestareas/frc/accountingfinancialreporting/xbrl/downloadabledocuments/xbrl-09-web-final.pdf>

Original



Extended



HOW TO EXTEND ?

XML Schema has NO answer.  
Only XLink can solve this problem.

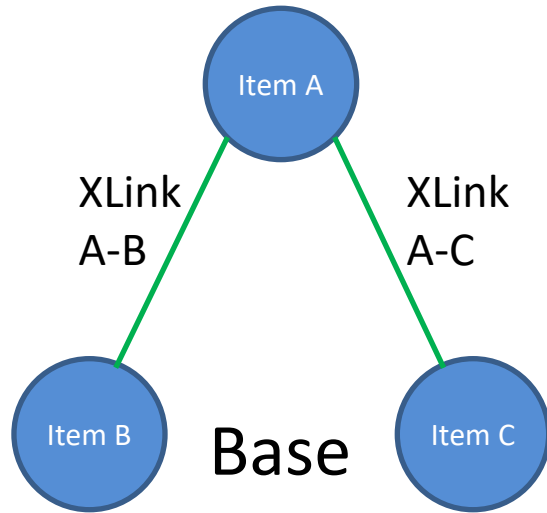
Extensibility and Comparability  
are silver bullets with

eXtensible Business Reporting language (XBRL)

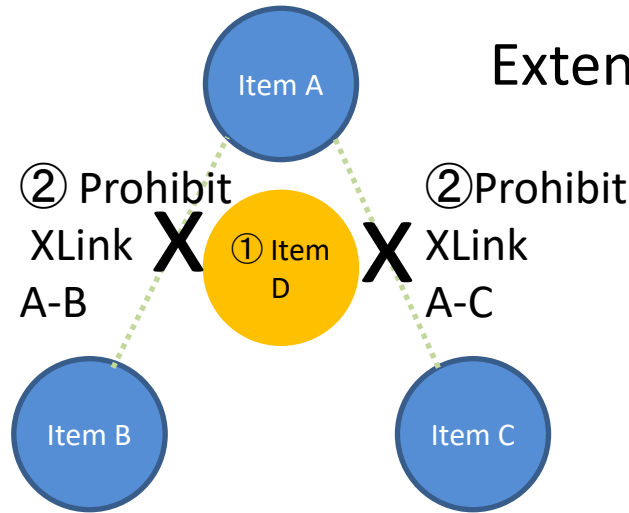
# XBRL style extension method

## Use of XLink in Taxonomy

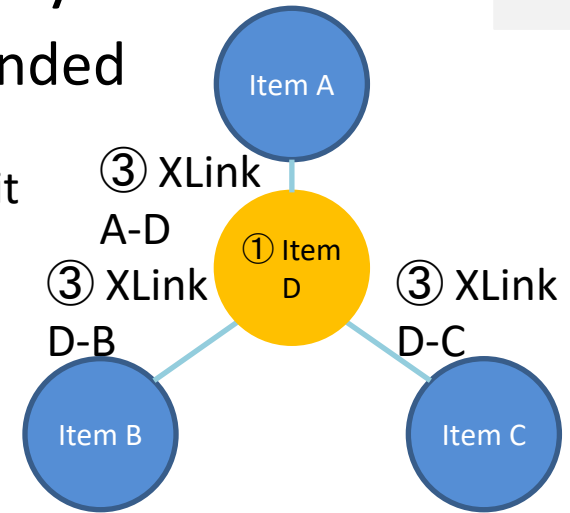
-1



Base



Extended



Extended Taxonomy

Item A

Item B

Item C

Item A –XLink– Item B

Item A –XLink– Item C

Base Taxonomy

XML Schema defines items  
and XLink defines relationships  
between items

① Item D

② Item A –XLink prohibit- Item B

② Item A –XLink prohibit- Item C

③ Item A –XLink– Item D

③ Item D –XLink– Item B

③ Item D –XLink– Item C

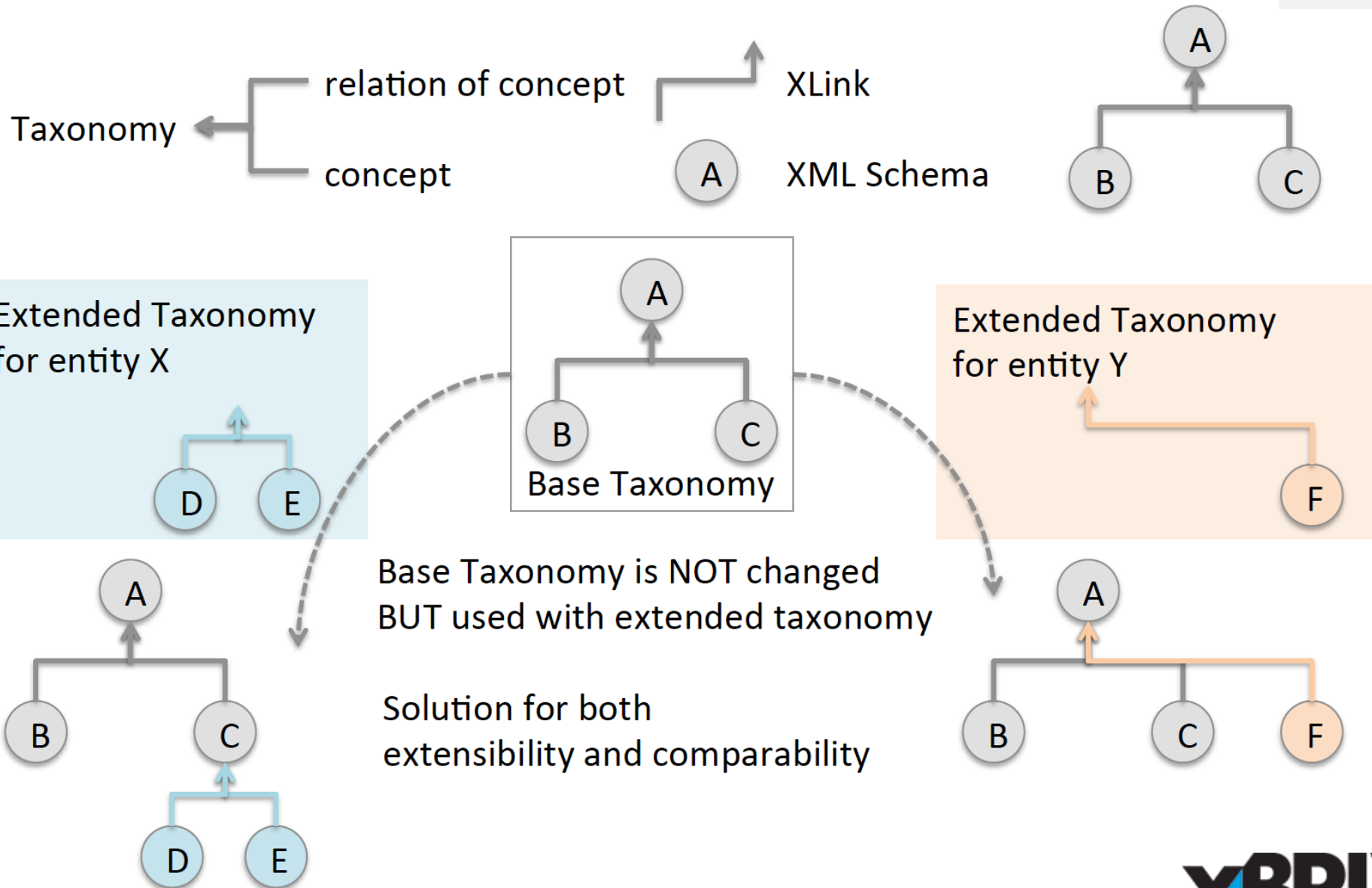
XML Schema

XLink

①Add Item D, ②Remove links, and ③Add links



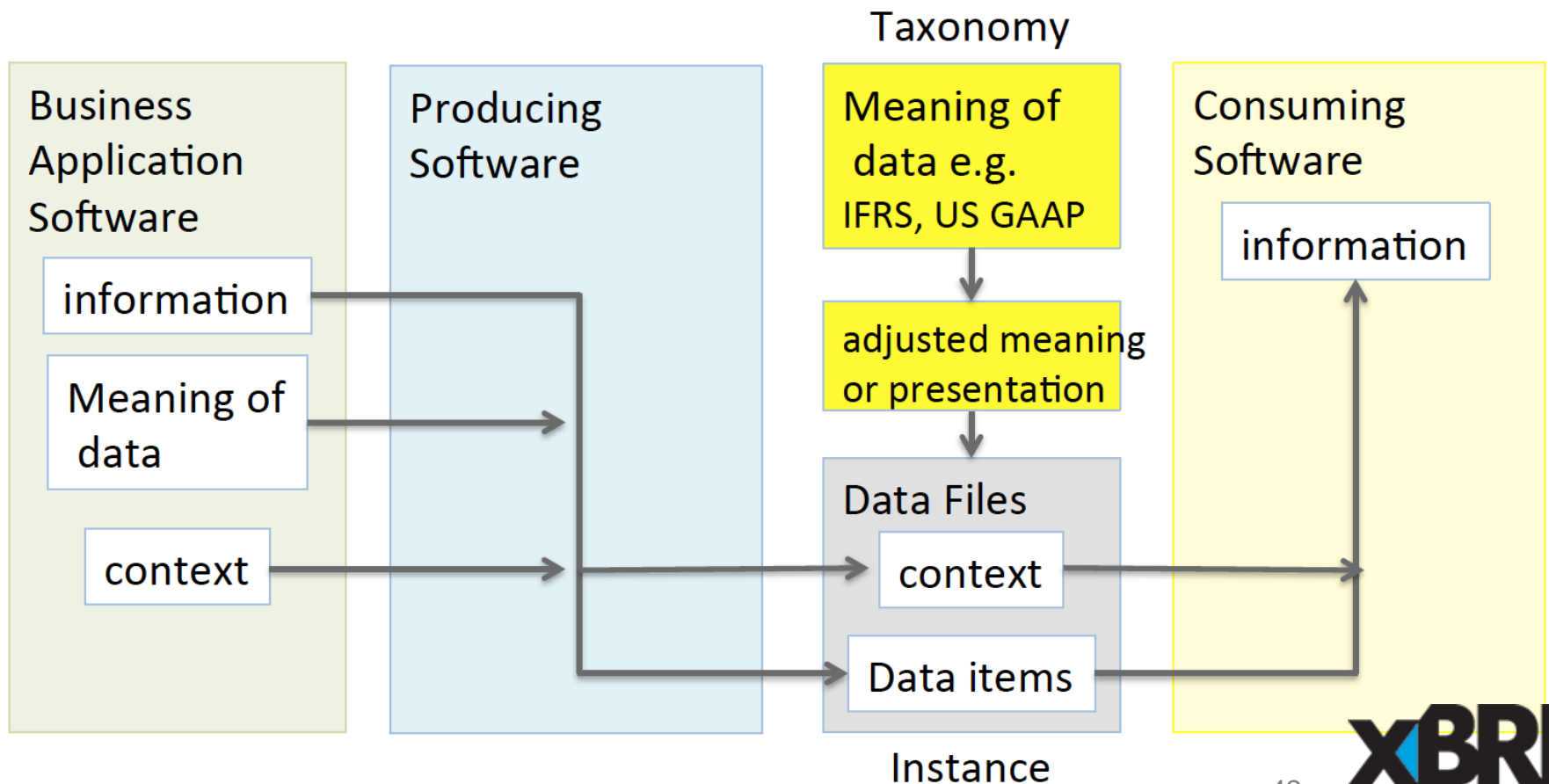
# Extensibility and Comparability



# Taxonomy based Reporting Data Value Chain

-1

We need standards not only for data but also for the meaning of data.  
Standards for data files, meaning of data, and application process.  
-> XBRL(eXtensible Business Reporting Language )



# XBRL Specifications

An XBRL taxonomy defines the reporting concepts that may be used in instance documents and can also provide a wide range of structured meta-data about the concepts and how they should be used.

Meta-data that can be defined using the core specifications include:

**Labels** Taxonomies can provide a variety of different labels. For example, "standard labels" provide a general- purpose label for a concept, whereas "documentation labels" can provide a more verbose description defining the purpose of the concept. All labels can be provided in multiple languages.

**References** References provide structured meta-data, which can be used to provide links to authoritative reference material containing concept definitions.

**Hierarchies** Concepts can be arranged into hierarchies that provide an organized presentation of concepts in the taxonomy (presentation relationships) or that capture certain arithmetic relationships between them (calculation relationships).

**Dimensions** Taxonomies can use the specification to define hierarchies of dimensions that can be associated with concepts in order to report multi-dimensional data. Meta-data is primarily contained in linkbases, which form part of the taxonomy:

**Linkbase** A linkbase is an XML document that defines relationships using the W3C's XLink standard. Relationships are typically between concepts and other concepts, or between concepts and other resources such as labels. A number of additional specifications have been developed in order to further enhance the ability of XBRL to define and manage reporting requirements.

## Internationalization and Translations

XBRL is an international standard and has been designed from the outset to support multiple languages and localized characters. All components in XBRL can be labelled in multiple languages, and the use of the linkbase mechanism makes it easy for third parties to define their own translations of taxonomies

## Business rules validation

Reporting requirements often translate into business rules to which all reports are expected to conform. XBRL makes it possible for many of these rules to be defined and published in a standard format.

# **Exchange formats for the Audit Data Collection Standard: XBRL**

## **Semantic data modeling and syntax binding for XBRL**

# Semantic data modeling and syntax binding for XBRL

## SCOPE

Standardization in the field of audit data services covers the content specification as well as the collection, **pre-processing, management and analysis techniques for the identification, communication, receipt, preparation and use of audit data.**

Note:

1. Audit: an official examination of an entity's financial and financial related records in order to check that they are correct.
2. The audit data includes data of different areas including public sector budget, financial report, nonfinancial enterprises, tax and social insurance, for the purpose of government audit, external independent audit, internal audit and **other regulators.**



TC 295 is intended for stakeholders, including **tax and financial reporting regulators who already require reporting in XBRL format.**



The syntactic binding of granular audit data to XBRL helps these stakeholders collect data in a consistent manner.



## Semantic XBRL for Granular Data

# Semantic XBRL for Granular Data

Even if unusual signs can be detected from machine learning patterns in the data exchanged, it is difficult to explain what the problem is and deal with it.

What do you think if you were arrested for accounting fraud and when asked why you were told that AI had decided so?

Semantic XBRL can be used to define firm business rules as internal control, detect abnormalities against them, deal with problems, and, depending on the type of problem, improve internal control rules.

# Normative References

Business parties involved and their roles and relationships

Employee roles and activities

**ISO/IEC 19505-1:2012** Information technology — Object Management Group Unified Modeling Language (OMG UML) — Part 1: Infrastructure

**ISO/IEC 19505-2:2012** Information technology — Object Management Group Unified Modeling Language (OMG UML) — Part 2: Superstructure

Semantic datatypes

**ISO/IEC 11179-4:2004** Information technology — Metadata registries (MDR) — Part 4: Formulation of data definitions

**ISO/IEC 11179-5:2015** Information technology — Metadata registries (MDR) — Part 5: Naming principles

**ISO 15000-5:2014** Electronic Business Extensible Markup Language (ebXML) — Part 5: Core Components Specification (CCS)

Business processes

**ISO/IEC 19845:2015** Information technology — Universal business language version 2.1 (UBL v2.1)

Business controls and audit trails

**CEN EN 16931-1:2017+A1:2019** Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice

**CEN/TS 16931-3-2:2020** Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note

# Bibliography

- [1] **Core Component Library**, UN/CCL version 20A <https://unece.org/trade/uncefact/unccl>
- [2] **Extensible Business Reporting Language (XBRL) 2.1**, Recommendation 31 December 2003 with errata corrections to 20 February 2013 <http://www.xbrl.org/Specification/XBRL-2.1/REC-2003-12-31/XBRL-2.1-REC-2003-12-31+corrected-errata-2013-02-20.html>
- [3] **XBRL Dimensions 1.0**, Recommendation 18 September 2006 with errata corrections to 25 January 2012 <https://www.xbrl.org/specification/dimensions/rec-2012-01-25/dimensions-rec-2006-09-18+corrected-errata-2012-01-25-clean.html>
- [4] **XBRL Formula Overview 1.0**, Public Working Draft 21 December 2011 <https://www.xbrl.org/wgn/xbrl-formula-overview/pwd-2011-12-21/xbrl-formula-overview-wgn-pwd-2011-12-21.html>
- [5] **Formula 1.0**, Recommendation 22 June 2009 <http://www.xbrl.org/Specification/formula/REC-2009-06-22/formula-REC-2009-06-22.html>
- [6] **Open Information Model 1.0**, Candidate Recommendation 16 February 2021, <http://www.xbrl.org/Specification/oim/CR-2021-02-16/oim-CR-2021-02-16.html>
- [7] **xBRL-XML: XML Mappings for the Open Information Model 1.0**, Candidate Recommendation 16 February 2021 <http://www.xbrl.org/Specification/xbrl-xml/CR-2021-02-16/xbrl-xml-CR-2021-02-16.html>
- [8] **xBRL-CSV: mapping from Open Information Model 1.0**, Candidate Recommendation 3 February 2021 <https://www.xbrl.org/Specification/xbrl-csv/CR-2021-02-03/xbrl-csv-CR-2021-02-03.html>
- [9] **Open Information Model 1.0**, Candidate Recommendation 14 October 2020 <https://www.xbrl.org/Specification/oim/CR-2020-10-14/oim-CR-2020-10-14.html>
- [10] **XBRL Global Ledger Taxonomy Framework 2017**, Public Working Draft 01 December 2016 <https://www.xbrl.org/int/gl/2016-12-01/gl-framework-2017-PWD-2016-12-01.html>



# Exchange formats for the Audit Data Collection Standard: XBRL

0

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities
4. Business processes
5. Business controls and audit trails
6. Business rules
7. Syntax binding for XBRL

# Exchange formats for the Audit Data Collection Standard: XBRL

## 1. Semantic data modeling

- 2. Parties involved and their roles and relationships
- 3. Employee roles and user activities
- 4. Business process
- 5. Business controls and audit trails
- 6. Business rules
- 7. Syntax binding for XBRL

# Document and Line item

There are two types of business documents.

One is ***a list of data*** and the other is a ***header and line item***.

The list of data includes customer masters, supplier masters, subledgers such as accounts payable, trial balance and journal entries.

Most business transactions consist of ***header and line items***.

There are two ways to represent a business document that consists of headers and line items:

One is a format in which the header contains line items and is expressed in single document.

The other is to represent it as two documents, a header document and a line-item document.

# Two approaches to represent Header and Line items

Header

H1 D11 D12

Line item

L1 L1a L1b

L2 L2a L2b

H2 D21 D22

L3 L3a L3b

L4 L4a L4b

L5 L5a L5b

Transaction documents

Semantic model

Header

Line item

| ID | d1  | d2  | Association |     |     |
|----|-----|-----|-------------|-----|-----|
|    |     |     | L_id        | La  | L2  |
| H1 | D11 | D12 |             |     |     |
| H1 |     |     | L1          | L1a | L1b |
| H1 |     |     | L2          | L2a | L2b |
| H2 | D21 | D22 |             |     |     |
| H2 |     |     | L3          | L3a | L3b |
| H2 |     |     | L4          | L4a | L4b |
| H2 |     |     | L5          | L5a | L5b |

**Single** instance

identifier  
Header

| ID | d1  | d2  |
|----|-----|-----|
| H1 | D11 | D12 |
| H2 | D21 | D22 |

reference identifier  
Line item

| RL | L_id | La  | Lb  |
|----|------|-----|-----|
| H1 | L1   | L1a | L1b |
| H1 | L2   | L2a | L2b |
| H2 | L3   | L3a | L3b |
| H2 | L4   | L4a | L4b |
| H2 | L5   | L5a | L5b |

**Two** instances bound by the relationship between the reference identifier and the identifier.

# Base architecture type A ASBIE for line items

1

In the first method, the line items are defined as ASBIE in the header



| No | BIE          | D | Business Term    | Semantic data type | O    | Description                                    | Dictionary Entry Name   |
|----|--------------|---|------------------|--------------------|------|--|---|
| 0  | ABIE         | 0 | Header           | —                  | —    | The document header.                           | ADS Header_ Trade Transaction. Details  |
| 1  | IDBIE        | 1 | Header ID        | Identifier         | 1..1 | The unique identifier for the document header. | ADS Header_ Trade Transaction. Identification. Identifier                     |
| x  | <b>ASBIE</b> | 1 | <b>Line Item</b> | —.                 | 1..n | line items of this document                    | ADS Header_ Trade Transaction. Defined. <b>ADS Line Item_ Trade Line Item</b> |

|   |       |   |                  |            |      |   |  |
|---|-------|---|------------------|------------|------|---|--|
| 0 | ABIE  | 0 | <b>Line Item</b> | —          | —    | The document line item.                           | <b>ADS Line Item_ Trade Line Item. Details</b>             |
| 1 | IDBIE | 1 | Line Item ID     | Identifier | 1..1 | The unique identifier for the document line item. | ADS Line Item_ Trade Line Item. Identification. Identifier |
| 2 | BBIE  | 1 | Line Number      | Code       | 1..1 | Line number for the document line item            | ADS Line Item_ Trade Line Item. Line. Numeric              |

# Base architecture type B RLBIE for the header

1

In the second method, the Line item ABIE contains the RLBIE for the header ABIE. In such cases, there are two lists.

| No | BIE   | D | Business Term | Semantic data type | O    | Description   | Dictionary Entry Name  |
|----|-------|---|---------------|--------------------|------|---|--|
| 0  | ABIE  | 0 | Header        | —                  | —    | The document header.                                  | ADS Header_ Trade Transaction. Details                           |
| 1  | IDBIE | 1 | Header ID     | Identifier         | 1..1 | The <b>unique identifier</b> for the document header. | <b>ADS Header_ Trade Transaction.</b> Identification. Identifier |
|    |       |   | ...           |                    |      |   |  |

| No | BIE   | D | Business Term | Semantic data type   | O    | Description  | Dictionary Entry Name  |
|----|-------|---|---------------|----------------------|------|--|--|
| 0  | ABIE  | 0 | Line Item     | —                    | —    | The document line item.                                  | ADS Line Item_ Trade Line Item. Details                                      |
| 1  | RLBIE | 1 | Header ID     | Reference identifier | 1..1 | The <b>reference identifier</b> for the document header. | ADS Line Item_ Trade Line Item. Header. <b>ADS Header_ Trade Transaction</b> |
| 2  | IDBIE | 1 | Line Item ID  | Identifier           | 1..1 | The unique identifier for the document line item.        | ADS Line Item_ Trade Line Item. Identification. Identifier                   |
| 3  | BBIE  | 1 | Line Number   | Code                 | 1..1 | Line number for the document line item                   | ADS Line Item_ Trade Line Item. Line. Numeric                                |
|    |       |   | ...           |                      |      |  |  |



# Step 1: Select Core Components

## Trade Transaction (UN00002077) & Trade Line Item (UN00001308)

1

|            |      |   |  |
|------------|------|---|--|
| UN00002077 | ACC  | Trade Transaction. Details                      | Agreement, contract, exchange, understanding, or transfer of cash or property that occurs between two or more parties. |
| UN00002078 | BCC  | Trade Transaction. Identification. Identifier   | A unique identifier for this trade transaction.  |
| UN00002079 | BCC  | Trade Transaction. Type. Code                   | A code specifying the type of trade transaction.   |
| UN00002080 | BCC  | Trade Transaction. Information. Text            | Information, expressed as text, for this trade transaction.  |
| UN00003254 | BCC  | Trade Transaction. Line Item. Quantity          | A number of line items for this trade transaction.   |
| UN00008735 | BCC  | Trade Transaction. Issue. Date Time             | A date, time, date time or other date time value for the issuance of this trade transaction.                           |
| UN00008736 | BCC  | Trade Transaction. URL. Identifier              | A Uniform Resource Locator (URL) of the web location of this trade transaction.  |
| UN00002081 | ASCC | Trade Transaction. Included. Trade Line Item    | A trade line item included in this trade transaction.  |
| UN00002082 | ASCC | Trade Transaction. Associated. Document         | A document associated with this trade transaction, such as the purchase order, invoice or packing list.                |
| UN00002083 | ASCC | Trade Transaction. Applicable. Trade Agreement  | Trade agreement details applicable to this trade transaction such as payment or delivery terms.                        |
| UN00002084 | ASCC | Trade Transaction. Applicable. Trade Delivery   | Trade delivery details applicable to this trade transaction.   |
| UN00002085 | ASCC | Trade Transaction. Applicable. Trade Settlement | Trade settlement details applicable to this trade transaction.   |
| UN00003217 | ASCC | Trade Transaction. Specified. Package           | A package specified for this trade transaction.  |
| UN00005067 | ASCC | Trade Transaction. Included. Product Group      | A product group included in this trade transaction.  |
| UN00008090 | ASCC | Trade Transaction. Included. Product            | A product included in this trade transaction.  |

|            |     |   |  |
|------------|-----|---|--|
| UN00001308 | ACC | Trade Line Item. Details                      | A collection of information specific to an item being used or reported on for trade purposes.  |
| UN00001309 | BCC | Trade Line Item. Identification. Identifier   | A unique identifier for this trade line item.  |
| UN00001928 | BCC | Trade Line Item. Sequence. Numeric            | A sequence number for this trade line item.  |
| UN00001929 | BCC | Trade Line Item. Seller Assigned. Identifier  | The unique identifier for this trade line item as assigned by the seller.  |
| UN00001930 | BCC | Trade Line Item. Buyer Assigned. Identifier   | The unique identifier for this trade line item as assigned by the buyer.   |
| UN00001932 | BCC | Trade Line Item. Description. Text            | A textual description of this trade line item.   |
| UN00001933 | BCC | Trade Line Item. Production Batch. Identifier | A unique production batch identifier for this trade line item.   |
| UN00001934 | BCC | Trade Line Item. Product Model. Identifier    | A unique product model identifier for this trade line item.  |
| UN00001935 | BCC | Trade Line Item. Type. Code                   | A code specifying a type of trade line item.   |
| UN00001936 | BCC | Trade Line Item. Type Extension. Code         | A code used as an extension to the type code for further specifying a type of trade line item.   |
| UN00001937 | BCC | Trade Line Item. Gross Weight. Measure        | A measure of the gross weight (mass) of this trade line item which includes packaging but which excludes any associated transport equipment. |
| UN00001938 | BCC | Trade Line Item. Net Weight. Measure          | A measure of the net weight (mass) of this trade line item which excludes all packaging.   |
| UN00001939 | BCC | Trade Line Item. Gross Volume. Measure        | A measure of the gross volume of this trade line item.   |
| UN00001940 | BCC | Trade Line Item. Charge Free. Indicator       | The indication of whether or not this trade line item is free of charge.   |
| UN00001941 | BCC | Trade Line Item. Charge. Amount               | A monetary value of a charge for this trade line item.   |
| UN00001942 | BCC | Trade Line Item. Invoice. Amount              | A monetary value of an invoice for this trade line item.   |

“Trade Transaction” and “Trade Line Items” are Aggregate Core Components selected from the 2020 version of the Core Component Library (CCL). The CCL is defined by UN/CEFACT. CCL contains 596 Aggregate Core Components and over 8,000 Core Components.

See <https://www.wuwei.space/iso/tc295/>

Head of delegate JISC, SAMBUICHI, Nobuyuki

55



# Legend

| No | CC | Business Term | Definition | ID | Dictionary Entry Name |
|----|----|---------------|------------|----|-----------------------|
|----|----|---------------|------------|----|-----------------------|

Each information element that constitutes the semantic data model of the Core Components is described as a row in the table documented in the following sub-clause where the following information is provided.

**No:** A sequence number for the information element.

**CC:** Specifies which category of Core Component the information element belongs to.

ACC: Aggregate Core Component

ASCC: Association Core Component

BCC: Basic Core Component

IDCC: Identifier Core Component

RLCC: Relation Core Component

**Business Term:** A synonym used in business where a Core is commonly known.

**Definition:** A definition of the information element.

**ID:** A unique identifier **uniquely assigned by the United Nations** are numbered UNnnnnnnnnnn.

The Core Components **defined in this standard** are numbered ADCS-nnnnn.

**Dictionary Entry Name:** A unique official name of a Core Component registered by the United Nations. If there is no corresponding registered information element, named according to the naming convention defined in ISO 15000-1.



# Step 2: Extend Core Components to support ADCS

## Trade Transaction (ADCS-00152) & Trade Line Item (ADCS-00160)

1

| No | CC   | Business Term               | Definition   | Dictionary Entry Name                               |
|----|------|-----------------------------|--|---|
| 0  | ACC  | <b>Trade Transaction</b>    |  | Trade Transaction. Details                          |
| 1  | IDCC | <b>Trade Transaction ID</b> | A unique identifier for this trade transaction.  | Trade Transaction. Identification. Identifier       |
| 2  | BCC  | Type Code                   | A code specifying the type of trade transaction.   | Trade Transaction. Type. Code                       |
| 5  | BCC  | Issue Date                  | A date, time, date time or other date time value for the issuance of this trade transaction. | Trade Transaction. Issue. Date Time                 |
| 12 | ASCC | Specified Period            | A period specified in this trade transaction.  | Trade Transaction. Defined. Period                  |
| 13 | ASCC | [Specified] Monetary Value  | A monetary value [specified] in this trade transaction.                                      | Trade Transaction. [Specified]. Monetary Value      |
| 14 | ASCC | <b>Trade Line Item</b>      | A trade line item <b>included</b> in this trade transaction.                                 | Trade Transaction. <b>Included.</b> Trade Line Item |

| No | CC   | Business Term               | Definition  | Dictionary Entry Name                             |
|----|------|-----------------------------|---|---|
| 0  | ACC  | <b>Trade Line Item</b>      |   | Trade Line Item. Details                          |
| 1  | RLCC | <b>Trade Transaction ID</b> | A specified <b>reference identifier</b> for trade transaction including this trade line item. | Trade Line Item. <b>Header.</b> Trade Transaction |
| 2  | IDCC | <b>Trade Line Item ID</b>   | A <b>unique identifier</b> for this trade line item.  | Trade Line Item. Identification. Identifier       |
| 3  | BCC  | Sequence Number             | A sequence number for this trade line item.   | Trade Line Item. Sequence. Numeric                |
| 65 | BCC  | Tax excluded Amount         | A tax excluded amount for this trade line item.   | Trade Transaction. Tax Excluded. Amount           |
| 65 | BCC  | Tax Included Amount         | A tax included amount for this trade line item.   | Trade Transaction. Tax Included. Amount           |
| 67 | BCC  | Transaction Amount          | An amount for this trade line item intarnsaction currency.                                    | Trade Transaction. Transaction Currency. Amount   |
| 40 | ASCC | Accounting Account          | An accounting account for this trade line item.   | Trade Line Item. Account. Accounting Account      |

Add #13 “[Specified] Monetary Value” in “Trade Transaction” (ADCS-00152) to record monetary values.

Add #1 “Trade Transaction ID” in “Trade Line Item” (ADCS-00160) to specify the reference identifier for “Trade Transaction” including this “Trade Line Item”.

# Step3: Define Business Information Entities

1

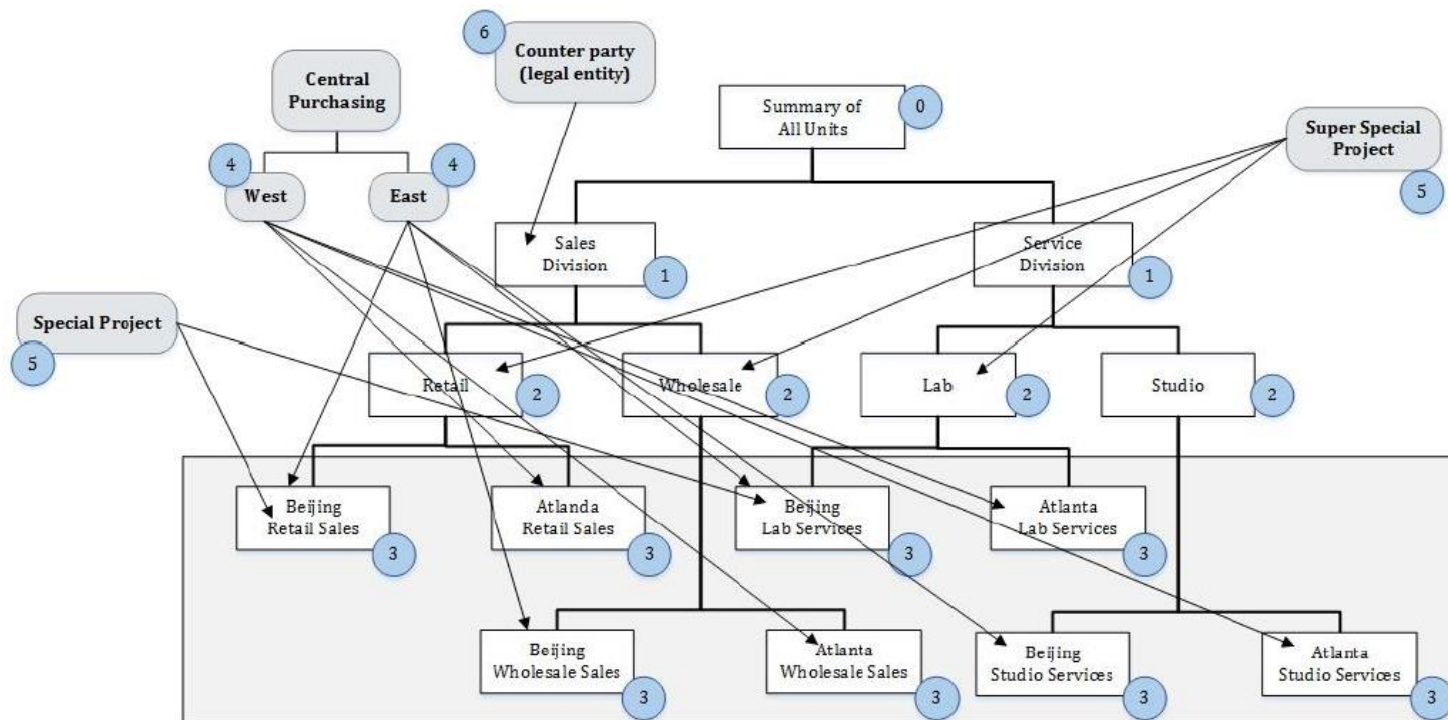
Syntax mappings to audit data are defined from business information

| No | BIE   | D | Business Term                     | Semantic data type   | O    | Dictionary Entry Name   |
|----|-------|---|-----------------------------------|----------------------|------|---|
| 0  | ABIE  | 0 | <b>Invoices Received</b>          | —                    | —    | ADS Invoices Received_ Trade Transaction. Details   |
| 1  | IDBIE | 1 | Invoice ID                        | Identifier           | 1..1 | ADS Invoices Received_ Trade Transaction. Identification. Identifier                              |
| 2  | BBIE  | 1 | Invoice Number                    | Text                 | 1..1 | ADS Invoices Received_ Trade Transaction. Number_ Information. Text                               |
| 3  | ASBIE | 1 | Period                            | —                    | 1..1 | ADS Invoices Received_ Trade Transaction. Defined. ADS_ Fiscal Period                             |
| 4  | BBIE  | 2 | Fiscal Year                       | Numeric              | 1..1 | ADS_ Fiscal Period. Fiscal Year. Code   |
| 5  | BBIE  | 2 | Accounting Period                 | Code                 | 1..1 | ADS_ Fiscal Period. Accounting ADS_ Period. Code  |
| 6  | BBIE  | 1 | Official Invoice Code             | Code                 | 0..1 | ADS Invoices Received_ Trade Transaction. Official. Code  |
| 20 | ASBIE | 1 | Created Activity                  | —                    | 0..1 | ADS Invoices Received_ Trade Transaction. Specified. ADS Created_ Activity                        |
| 21 | BBIE  | 2 | Created Date                      | Date                 | 1..1 | ADS_ Created_ Activity. Occurred. Date  |
| 22 | BBIE  | 2 | Created Time                      | Time                 | 0..1 | ADS_ Created_ Activity. Occurred. Time  |
| 38 | RLBIE | 1 | Business Segment [X] <sup>a</sup> | Reference Identifier | 1..1 | ADS Invoices Received_ Trade Transaction. [X]. ADS Business Segment_ Code                         |
| 39 | ASBIE | 1 | Invoices Received Line Item       | —                    | 0..n | ADS Invoices Received_ Trade Transaction. Defined. ADS Invoices Received_ Trade Line Item. Detail |

| No | BIE   | D | Business Term                      | Semantic data type   | O    | Dictionary Entry Name  |
|----|-------|---|------------------------------------|----------------------|------|--|
| 0  | ABIE  | 0 | <b>Invoices Received Line Item</b> | —                    | —    | ADS Invoices Received_ Trade Line Item. Detail   |
| 1  | RLBIE | 1 | Invoice ID                         | Reference Identifier | 1..1 | ADS Invoices Received_ Trade Line Item. Header. ADS Invoices Received_ Trade Transaction |
| 2  | IDBIE | 1 | Invoice Line ID                    | Identifier           | 1..1 | ADS Invoices Received_ Trade Line Item. Identification. Identifier                       |
| 3  | BBIE  | 1 | Sequence Number                    | Numeric              | 0..1 | ADS Invoices Received_ Trade Line Item. Sequence. Numeric                                |
| 4  | RLBIE | 1 | Purchase Order ID                  | Reference Identifier | 1..1 | ADS Invoices Received_ Trade Line Item. Defined. ADS Purchase Order_ Trade Transaction   |
| 5  | RLBIE | 1 | Purchase Order Line ID             | Reference Identifier | 1..1 | ADS Invoices Received_ Trade Line Item. Defined. ADS Purchase Order_ Trade Line Item     |
| 6  | ASBIE | 1 | Product                            | —                    | 1..1 | ADS Invoices Received_ Trade Line Item. Defined. ADS_ Product                            |
| 7  | IDBIE | 2 | Product ID                         | Identifier           | 1..1 | ADS_ Product. Identification. Identifier   |
| 8  | BBIE  | 2 | Unit of Measurement Code           | Code                 | 1..1 | ADS_ Product. Measurement. Code  |
| 11 | BBIE  | 2 | Basic UOM Quantity                 | Quantity             | 0..1 | ADS_ Product. Basic UOM. Quantity  |
| 12 | RLBIE | 2 | Basic UOM Code                     | Reference Identifier | 0..1 | ADS_ Product. Defined. ADS Measurement Unit_ Code  |

## Invoices Received & Invoices Received Line Item

# How to define ISO 21378:2019 Annex A Business Segment



## Key Components

- Organizational entity
- additional relationships
- segment level
- all business units

## Connections and lines

- connection between organizational entities
- connection between additional relationships and organizational entities

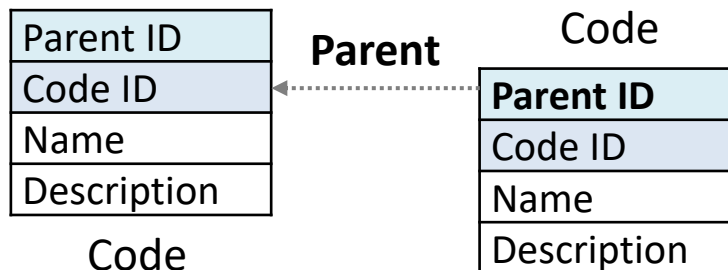
Figure A.3— Example of the level assignments

# New Core Component Code

Although UN/CEFACT Core Component Library contains little ACC which contains BCC specifying reference identifier for another ACC, Audit data requires relationship among documents based on identifiers.

## Core Component Code

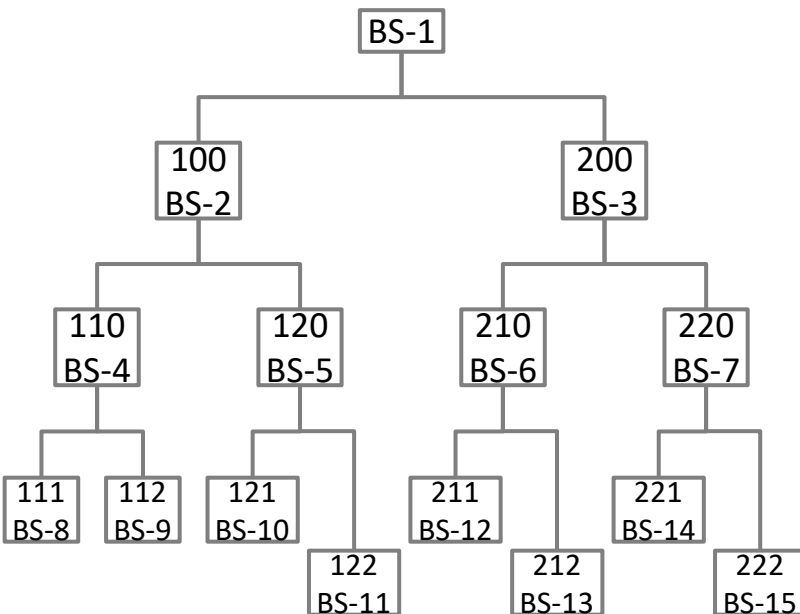
| No | CC          | Business Term    | Definition  | ID         | Dictionary Entry Name            |
|----|-------------|------------------|---|------------|----------------------------------|
| 0  | ACC         | Code             | A code.   | ADCS-00008 | Code. Details                    |
| 1  | <b>RLCC</b> | <b>Parent ID</b> | A reference identifier for the parent code.             | ADCS-00009 | Code. <b>Parent</b> . Code       |
| 2  | IDCC        | Code ID          | A unique identifier for this code. A code of this code. | ADCS-00010 | Code. Identification. Identifier |
| 3  | BCC         | Name             | A name, expressed as text, of this code.                | ADCS-00011 | Code. Name. Text                 |
| 4  | BCC         | Description      | A description, expressed as text, for this code.        | ADCS-00012 | Code. Description. Text          |



# Business Segment Code

1

| No | BIE   | D | Business Term                | O    | Dictionary Entry Name  |
|----|-------|---|------------------------------|------|--|
| 0  | ABIE  | 0 | Business Segment             | —    | ADS Business Segment_ <b>Code</b> . Details                    |
| 1  | IDBIE | 1 | Business Segment ID          | 1..1 | ADS Business Segment_ Code. Identification. Identifier         |
| 2  | BBIE  | 1 | Organization Type            | 1..1 | ADS Business Segment_ Code. Organization Type. Code            |
| 3  | BBIE  | 1 | <b>Business Segment Code</b> | 1..1 | ADS Business Segment_ Code. Business Segment Code              |
| 4  | BBIE  | 1 | Name                         | 1..1 | ADS Business Segment_ Code. Name. Text                         |
| 5  | BBIE  | 1 | Reference Level Code         | 1..1 | ADS Business Segment_ Code. Reference Level Code               |
| 6  | RLBIE | 1 | Parent ID                    | 0..1 | ADS Business Segment_ Code. Parent. ADS Business Segment_ Code |



Requires business segment **Code** value, not **Identifier** value.

The code cannot be used as an identifier. The identifier value is unique, but the code value may be duplicated.

| Business Segment ID | Organization Type     | Business Segment Code | Name                            | L | Parent ID |
|---------------------|-----------------------|-----------------------|---------------------------------|---|-----------|
| BS-1                | Consolidated business |                       | All Units Segment               | 0 |           |
| BS-2                | Division              | 100                   | Sales Division Segment          | 1 | BS-1      |
| BS-3                | Division              | 200                   | Service Division Segment        | 1 | BS-1      |
| BS-4                | Department            | 110                   | Retail Segment                  | 2 | BS-2      |
| BS-5                | Department            | 120                   | Wholesale Segment               | 2 | BS-2      |
| BS-6                | Department            | 210                   | Lab Segment                     | 2 | BS-3      |
| BS-7                | Department            | 220                   | Studio Segment                  | 2 | BS-3      |
| BS-8                | Business Unit         | 111                   | Beijing Retail Sales Segment    | 3 | BS-4      |
| BS-9                | Business Unit         | 112                   | Atlanta Retail Sales Segment    | 3 | BS-4      |
| BS-10               | Business Unit         | 121                   | Beijing Wholesale Sales Segment | 3 | BS-5      |
| BS-11               | Business Unit         | 122                   | Atlanta Wholesale Sales Segment | 3 | BS-5      |
| BS-12               | Business Unit         | 211                   | Beijing Lab Services Segment    | 3 | BS-6      |
| BS-13               | Business Unit         | 212                   | Atlanta Lab Services Segment    | 3 | BS-6      |
| BS-14               | Business Unit         | 221                   | Beijing Studio Services Segment | 3 | BS-7      |
| BS-15               | Business Unit         | 222                   | Atlanta Studio Services Segment | 3 | BS-7      |
| BS-16               | Purchasing Org        | 200                   | Central Purchasing West Segment | 4 |           |
| BS-17               | Purchasing Org        | 400                   | Central Purchasing East Segment | 4 |           |
| BS-18               | Project               | 123                   | Special Project Segment         | 5 |           |
| BS-19               | Project               | 543                   | Super Special Project Segment   | 5 |           |
| BS-20               | Legal Entity          | 43278                 | Counterparty Segment            | 6 |           |



# Extension Methodology

This standard defines extendable Core Component with [ ].

Following is an example definition of Basic Core Component in Code.Detail. We can define the "Function Code" by replacing [Specified] with "Function" and resulting Dictionary Entry Name is "Code. Function. Code".

## EXAMPLE Base definition

| No | CC  | Business Term    | Definition                       | ID | Dictionary Entry Name   |
|----|-----|------------------|----------------------------------|----|-------------------------|
|    | BCC | [Specified] Code | A [Specified] code of this code. |    | Code. [Specified]. Code |

## EXAMPLE Extended definition

| No | CC  | Business Term | Definition                    | ID | Dictionary Entry Name |
|----|-----|---------------|-------------------------------|----|-----------------------|
|    | BCC | Function Code | A Function code of this code. |    | Code. Function. Code  |

## Exchange formats for the Audit Data Collection Standard: XBRL

1. Semantic data modeling

**2. Parties involved and their roles and relationships**

**3. Employee roles and user activities**

4. Business process

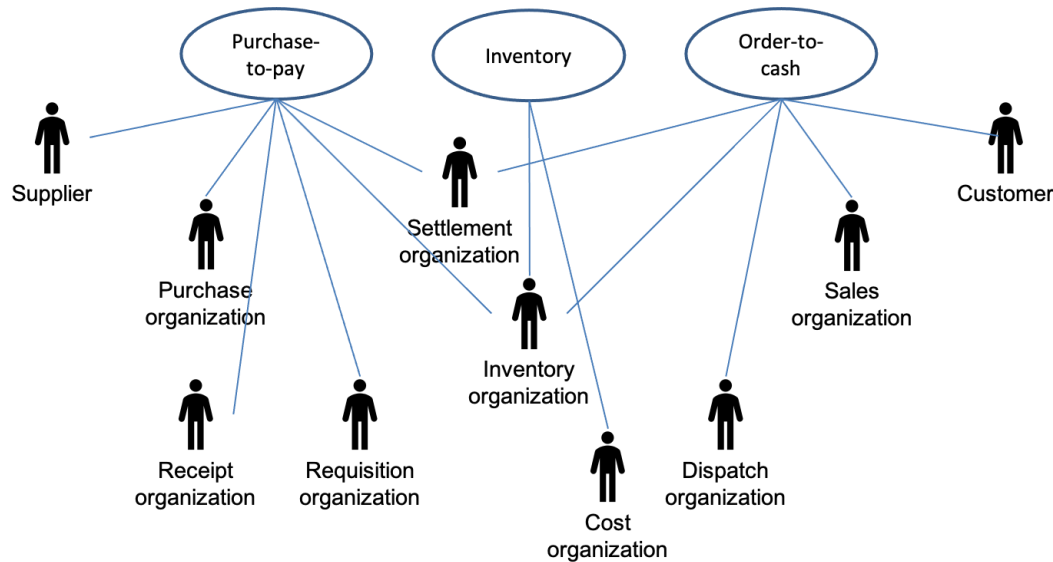
5. Business controls and audit trails

6. Business rules

7. Syntax binding for XBRL

# Parties involved and their roles and relationships

2



For example, EN 16931-1 defines following party and roles.

## Parties

**Customer** The customer is the legal person or organization who is in demand of a product or service.

**Supplier** The supplier is the legal person or organization who provides a product or service.

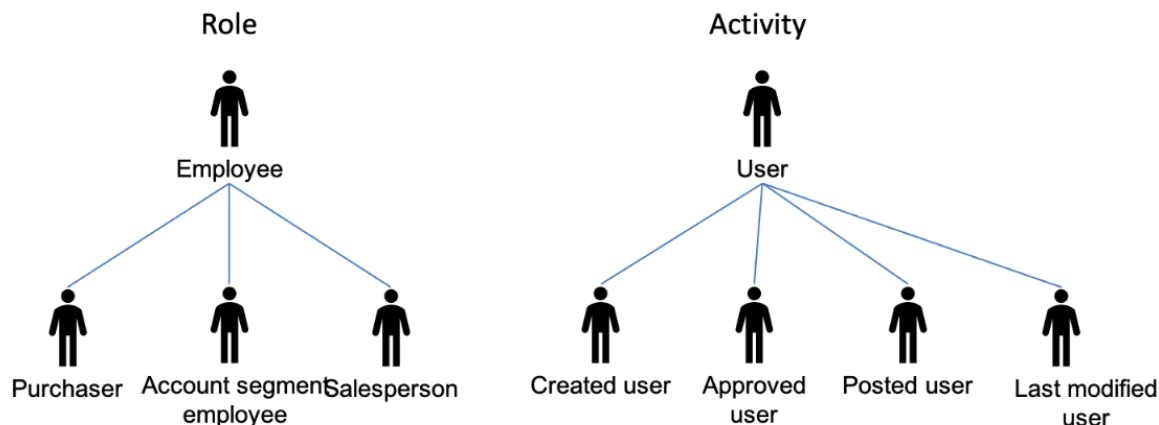
## Roles

**Creditor** One to whom a debt is owe. The party that claims the payment and is responsible for resolving billing issues and arranging settlement. The party that sends the invoice or credit note.

**Debtor** One who owes debt. The party responsible for making settlement relating to a purchase. The party that receives the invoice or credit note.



# Employee roles and user activities



The **users** managing the ERP system shall have unique identification data, enabling job identification and authentication of the users. The identification and authentication data shall be revoked without delay in case of the cessation of user rights. Each employee shall have the necessary education, practice and professional experience for the provision of his scope of activities.

The party shall log every transactional event that can provide information on activity, changes happened in the ERP system, every verification activity performed related to transaction and / or accounting.

In case of every log entry, the following data shall be stored:

- the date and time of the activity;
- the type of the event;
- the success or failure of the implementation;

the identification of the user or the system who/what triggered the event

# Party Roles in UBL

“In the UBL supply chain processes, two main **actors**, **Customer** and **Supplier**, represent the key organizations or people involved in the processes. Each of these actors may play various **roles**. Some processes may also involve supplementary roles that may be provided by different parties.”

*Table 1. Party Roles*

| Actor          | Role                | Description  |
|----------------|---------------------|--|
| Customer Party | Originator          | The party that had the original demand for the goods and/or services and therefore initiated the procurement transaction. The Originator participates in pre-ordering activity either through <a href="#">Request for Quotation</a> and <a href="#">Quotation</a> or by receiving a Quotation as a response to a punch-out transaction on a marketplace or Seller's website. If the Originator subsequently places an <a href="#">Order</a> , the Originator adopts the role of Buyer. The Originator is typically the contact point for queries regarding the original requirement and may be referred to in an <a href="#">Order Change</a> , <a href="#">Order Cancellation</a> , or <a href="#">Order Response</a> . |
| Customer Party | Buyer               | The party that purchases the goods or services on behalf of the Originator. The Buyer may be referred to in <a href="#">Order Response</a> , <a href="#">Despatch Advice</a> , <a href="#">Fulfilment Cancellation</a> , <a href="#">Invoice</a> , <a href="#">Self Billed Invoice</a> , <a href="#">Credit Note</a> , and <a href="#">Statement</a> .   |
| Customer Party | Delivery            | The party to whom goods should be delivered. The Delivery Party may be the same as the Originator. The Delivery Party must be referred to at line item level in <a href="#">Request for Quotation</a> , <a href="#">Quotation</a> , <a href="#">Order</a> , <a href="#">Order Change</a> , <a href="#">Order Cancellation</a> , and <a href="#">Order Response</a> . The Delivery Party may be referred to at line level in <a href="#">Invoice</a> , <a href="#">Self Billed Invoice</a> , <a href="#">Credit Note</a> , and <a href="#">Debit Note</a> . The Delivery Party may be stipulated in a transport contract.   |
| Customer Party | Accounting Customer | The party responsible for making settlement relating to a purchase and resolving billing issues using a <a href="#">Debit Note</a> . The Accounting Customer must be referred to in an <a href="#">Order</a> and may be referred to in an <a href="#">Order Response</a> . In a Self Billing scenario, the Accounting Customer is responsible for calculating and issuing tax invoices.  |
| Supplier Party | Seller              | The party responsible for handling Originator and Buyer services. The Seller party is legally responsible for providing the goods to the Buyer. The Seller party receives and quotes against <a href="#">Request for Quotation</a> documents and may provide information to the Buyer's requisitioning process through <a href="#">Catalogues</a> and <a href="#">Quotations</a> .   |
| Supplier Party | Despatch            | The party where goods are to be collected from. The Despatch Party may be stipulated in a transport contract.  |
|                |                     |  |

Only part of this table is quoted here.

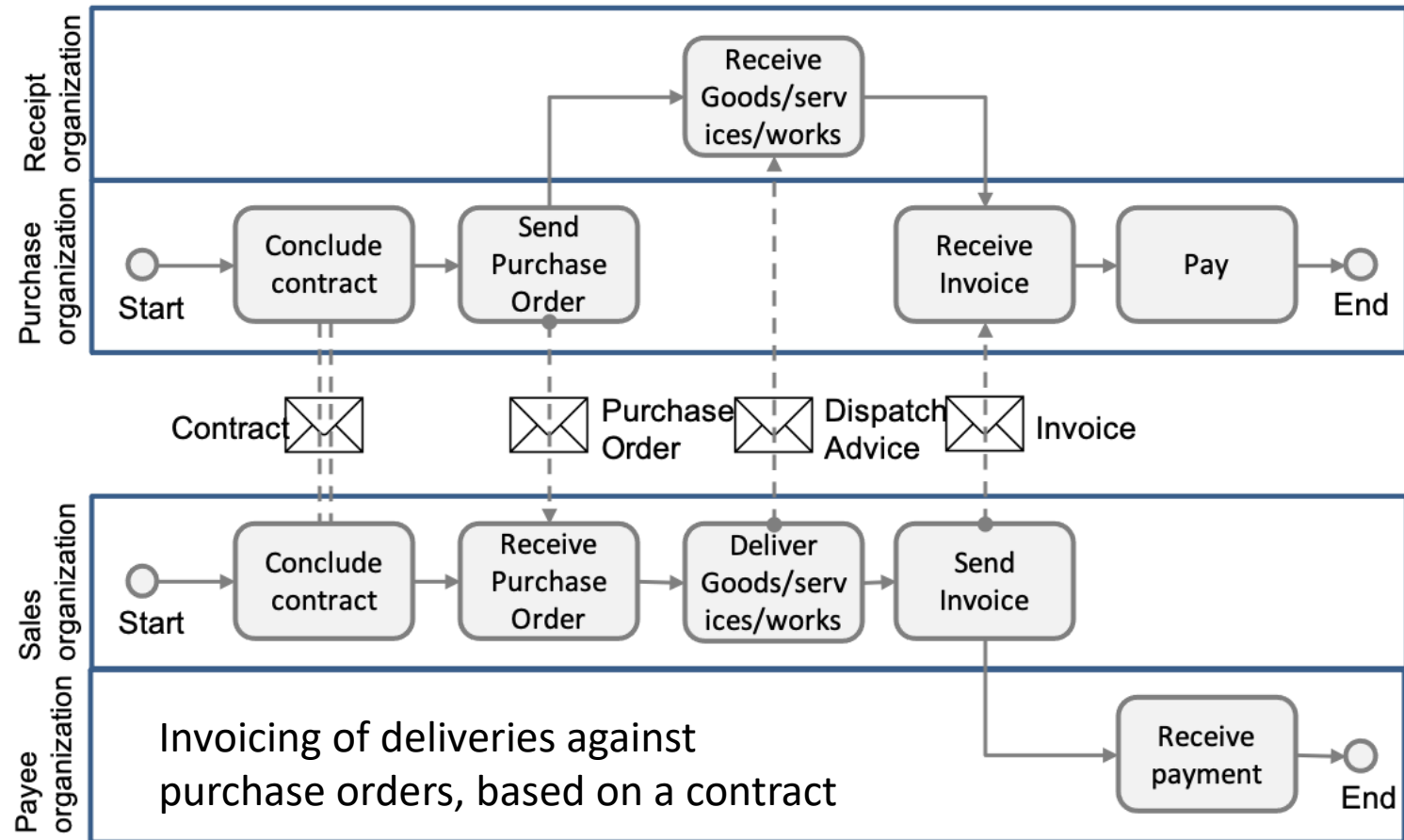
## Exchange formats for the Audit Data Collection Standard: XBRL

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities

### **4. Business process**

5. Business controls and audit trails
6. Business rules
7. Syntax binding for XBRL

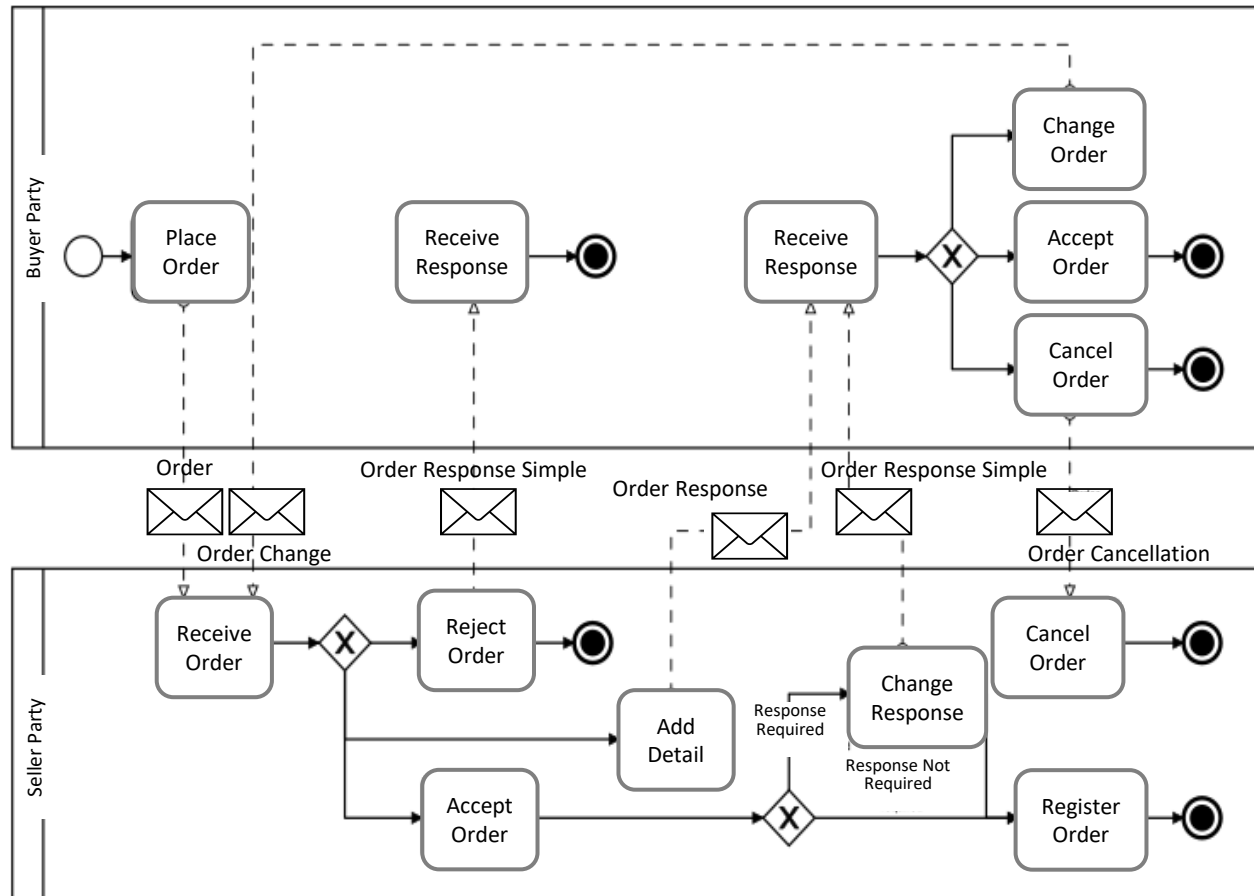
# Business processes



In this process the Buyer and the Seller conclude a formal contract (or there is an assumed contract by legal definition) in which the terms and conditions are stated under which goods and services will be delivered and are paid for. The Buyer orders the goods and services, stating the specifications for goods and services, the quantities and the place and time for delivery. The Seller delivers the ordered goods and services to the Receiver as specified on the purchase order. This delivery is then invoiced by the Seller to the Buyer. Finally, the Buyer pays the Payee.

# Order Process in UBL

Figure 39. Ordering Process



## Ordering Business Rules

- The Order may specify allowance and charge instructions (e.g., freight, documentation, etc.) that identify the type of charge and who pays which charges. The Order may be placed "on account" against a trading credit account held by the Seller, or against a credit/debit card account, or against a direct debit agreement. The Order allows for an overall currency defining a default for all pricing and also a specific currency to be used for Invoicing. Within an Order, additional currencies may be specified both for individual item pricing and for any allowances or charges.
- Trade discount may be specified at the Order level. The Buyer may not know the trade discount, in which case it is not specified. This makes a detailed response from the Seller necessary; see Section 2.3.3.4.4, "Order Response".
- The Order provides for multiple Order Lines.
- The Order may specify delivery terms, while the Order Line may provide instructions for delivery.
- The Buyer may indicate potential acceptable alternatives.

Ordering is the collaboration that creates a contractual obligation between the Seller Supplier Party and the Buyer Customer Party. Document types in these processes are Order, Order Response, Order Response Simple, Order Change, and Order Cancellation.

Only part of business process is quoted here.

## Exchange formats for the Audit Data Collection Standard: XBRL

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities
4. Business process

### **5. Business controls and audit trails**

6. Business rules
7. Syntax binding for XBRL

# Definitions

## Business Control

The COSO Model defines “business control” as:

a process, effected by an entity’s board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations.

## Audit Trail

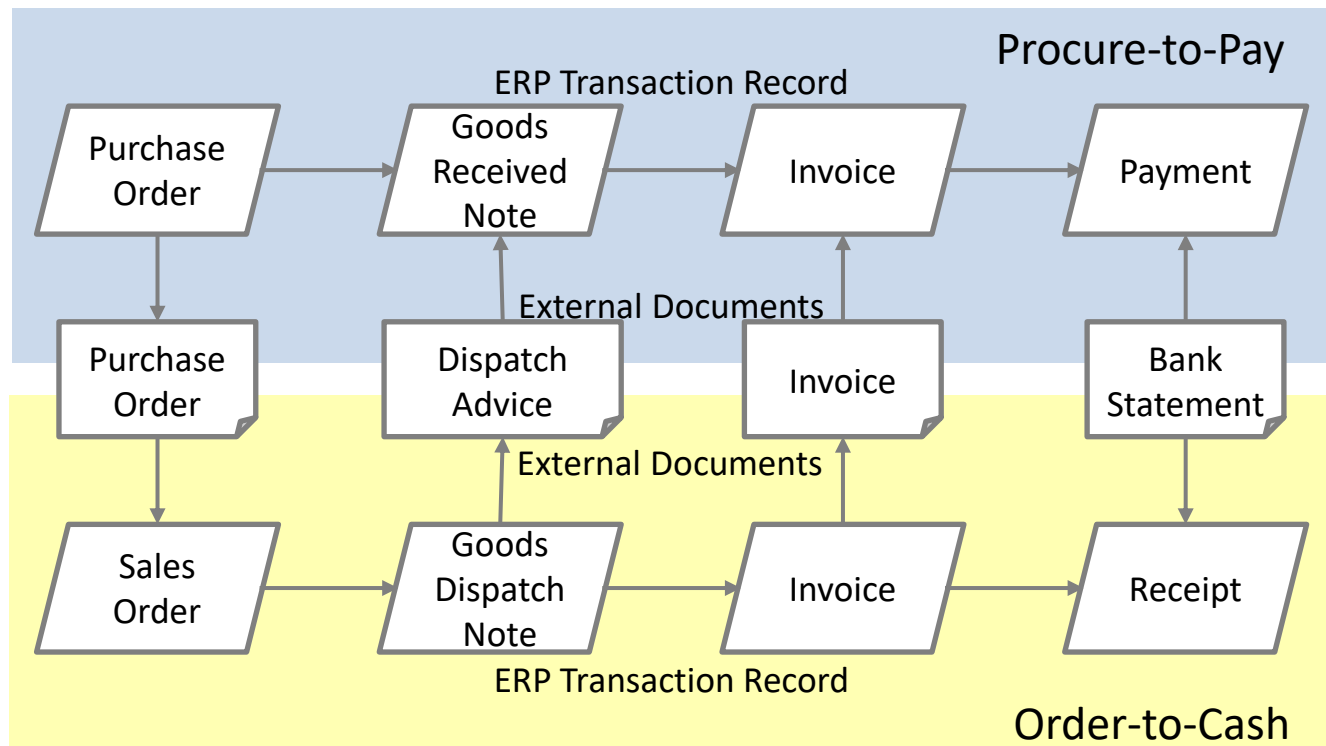
An audit trail is:

a paper and/or electronic record that gives a step by step documented history of a transaction, which can validate or invalidate accounting entries. Components of an audit trail include:

- (i) source records,
- (ii) list of transactions processed and
- (iii) transaction identifiers so that reference can be made to the source of a transaction.

# Business controls and audit trails

An electronic record of each of these events will usually be created in the ERP system. This record may directly contain values relating to the event, e.g. quantities, or reference master data to provide or derive content, e.g. pricing. It is this record of the sequence of events in the process that contributes to an audit trail. An audit trail will consist of documents outside the ERP and a transaction record within the ERP. For example, the audit trail for the 'procure-to-pay' cycle will often take the following form.



This represents the process that supports purchase of goods or services where the 3-way match control is implemented, typically: purchase order → goods received note → purchase invoice → payment. Left is the equivalent audit trail for an 'order-to-cash' cycle.

Source: CEN WORKSHOP AGREEMENT CWA 16460 May 2012 Good Practice: e-Invoicing Compliance Guidelines - The Commentary  
Partially modified by SAMBUICHI, Nobuyuki



# Overview of the semantic model of Core Invoice in EN 16931-1

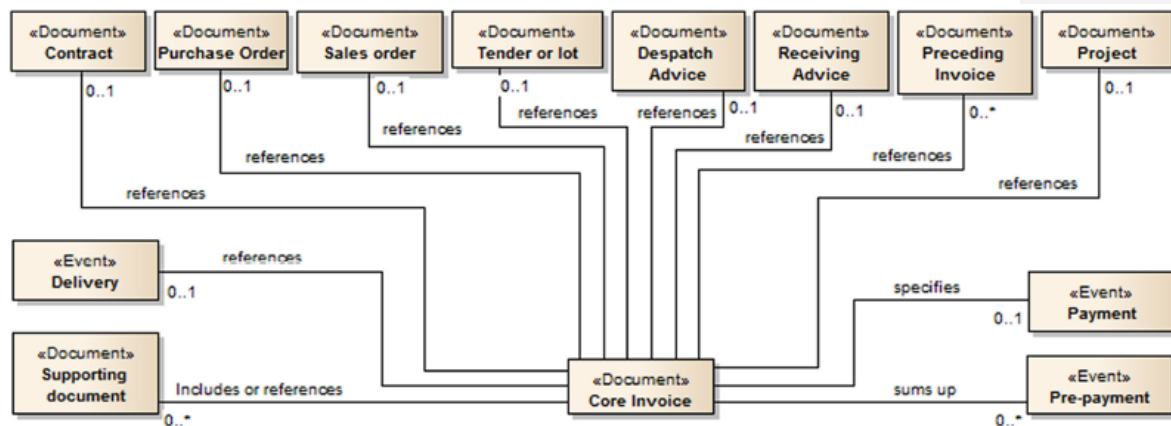
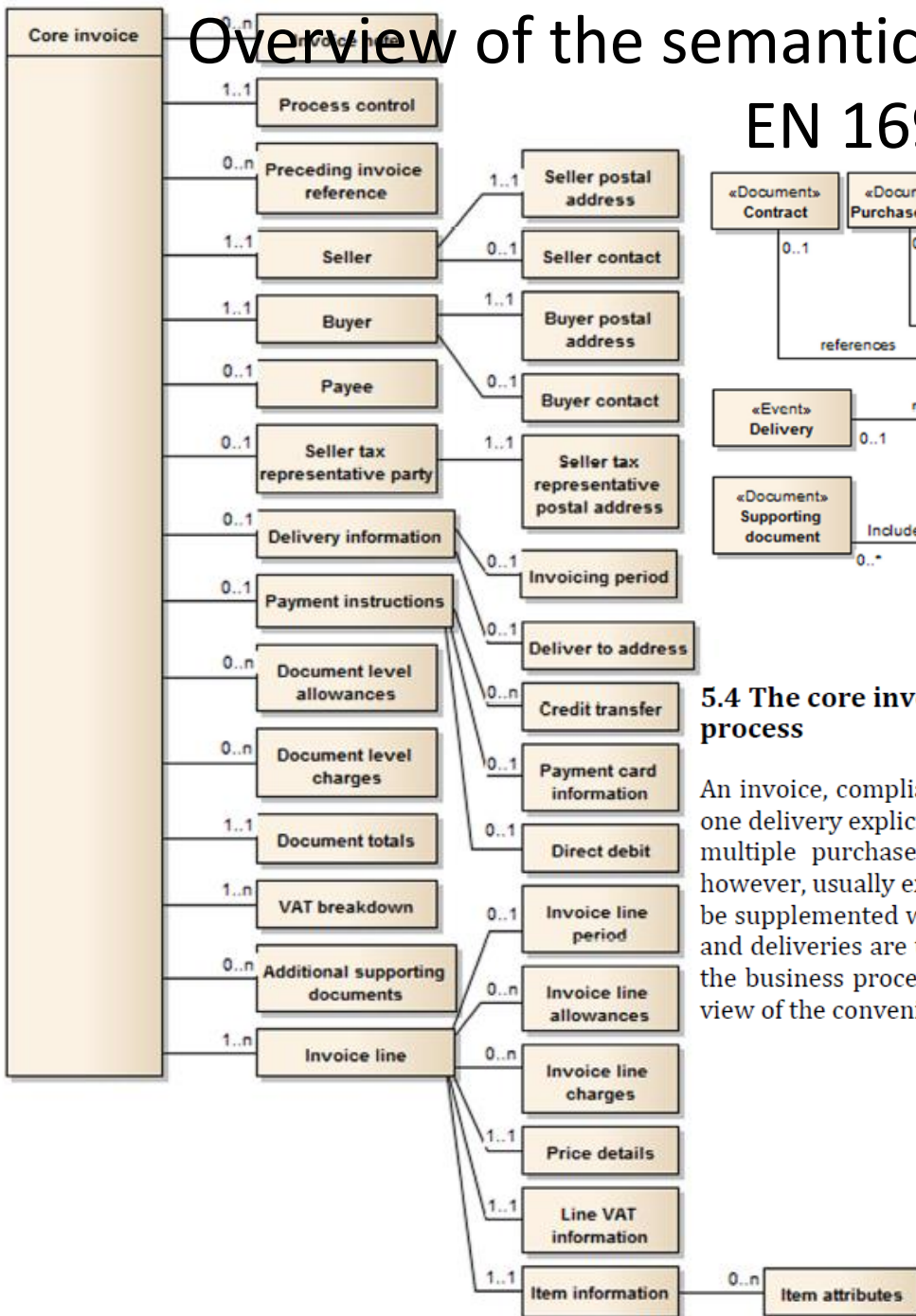


Figure 14 — Invoice relations

## 5.4 The core invoice model in relation to other documents in the procurement process

An invoice, compliant with the core invoice model may reference only one purchase order and one delivery explicitly. Such an invoice may still be used if only general, unqualified references to multiple purchase orders and/or deliveries suffice. For automatic processing of invoices, however, usually explicit, qualified references are needed. The core invoice model would need to be supplemented with use of an extension to support a process where multiple purchase orders and deliveries are to be invoiced with one invoice. Alternatively, steps could be taken to change the business process and send one invoice per purchase order or delivery. This is especially in view of the convenience of electronic initiation for generating higher frequency invoicing.

# Universal Business Language (UBL) 2.3

5

## Business Objects

### General Business Rules

Manifest Values  
Items  
Item Identification  
Item Instances  
Item Pricing  
Hazardous Items  
Parties  
Multilingual Text  
Taxation Rules  
Item vs. Line Item  
Shipment vs.  
    Consignment  
Transport vs.  
    Transportation  
Transport Events  
Financial Information  
Indirect Taxes

## Supply Chain Business Processes

Supply Chain Overview  
Plan  
Procurement  
Make  
Deliver  
Return  
Pay  
Business Directory and  
    Agreements

## Party Roles

## Document Schemas

Application Response  
Attached Document  
Awarded Notification  
Bill Of Lading  
Business Card  
Call For Tenders  
Catalogue  
Catalogue Deletion  
Catalogue Item  
    Specification Update  
Catalogue Pricing Update  
Catalogue Request  
Certificate Of Origin  
Common Transportation  
    Report  
Contract Award Notice  
Contract Notice  
Credit Note  
Debit Note  
Despatch Advice  
Digital Agreement  
Digital Capability  
Document Status  
Document Status  
    Request  
Enquiry  
Enquiry Response  
Exception Criteria  
Exception Notification  
Export Customs  
    Declaration  
Expression Of Interest  
    Request  
Expression Of Interest  
    Response  
Forecast

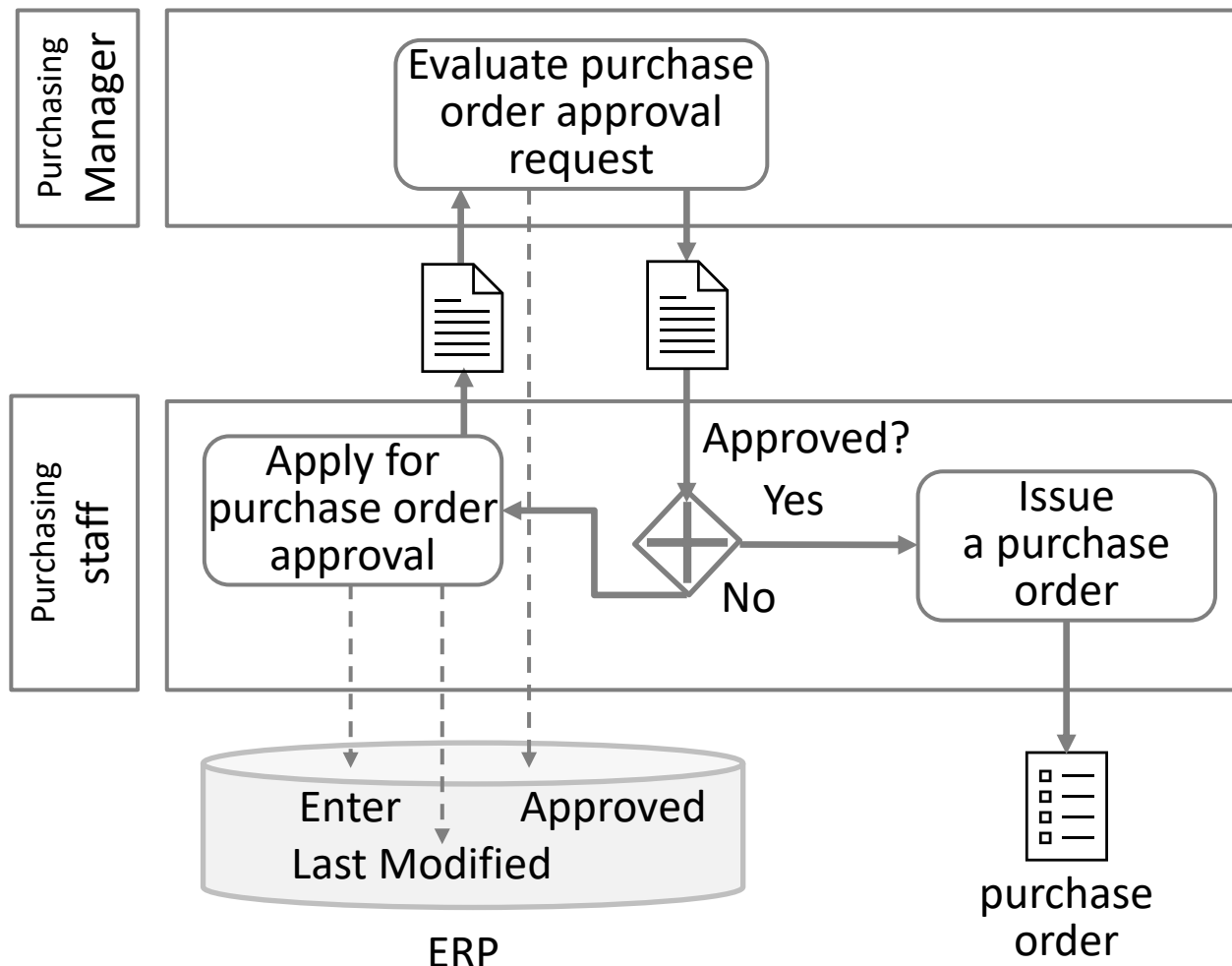
Forecast Revision  
Forwarding Instructions  
Goods Certificate  
Goods Item Itinerary  
    Goods Item Passport  
Guarantee Certificate  
Import Customs  
    Declaration  
Instruction For Returns  
Inventory Report  
Invoice  
Item Information Request  
Manifest  
Order  
Order Cancellation  
Order Change  
Order Response  
Order Response Simple  
Packing List  
Prior Information Notice  
Product Activity  
Proof Of Reexportation  
Proof Of Reexportation  
    Reminder  
Proof Of Reexportation  
    Request  
Qualification Application  
    Request  
Qualification Application  
    Response  
Quotation  
Receipt Advice  
Reminder  
Remittance Advice  
Request For Quotation  
Retail Event  
Self Billed Credit Note

Self Billed Invoice  
Statement  
Stock Availability Report  
Tender  
Tender Contract  
Tender Receipt  
Tender Status  
Tender Status Request  
Tender Withdrawal  
Tenderer Qualification  
Tenderer Qualification  
    Response  
Trade Item Location  
    Profile  
Transit Customs  
    Declaration  
Transport Execution Plan  
Transport Execution Plan  
    Request  
Transport Progress Status  
Transport Progress Status  
    Request  
Transport Service  
    Description  
Transport Service  
    Description Request  
Transportation Status  
Transportation Status  
    Request  
Unawarded Notification  
Unsubscribe From  
    Procedure Request  
Unsubscribe From  
    Procedure Response  
Utility Statement  
Waybill  
Weight Statement

## Exchange formats for the Audit Data Collection Standard: XBRL

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities
4. Business process
5. Business controls and audit trails
- 6. Business rules**
7. Syntax binding for XBRL

# Enter and Approve Activity



Each case in the figure must be clearly defined so that the computer can detect illegal incidents.

You need to answer:

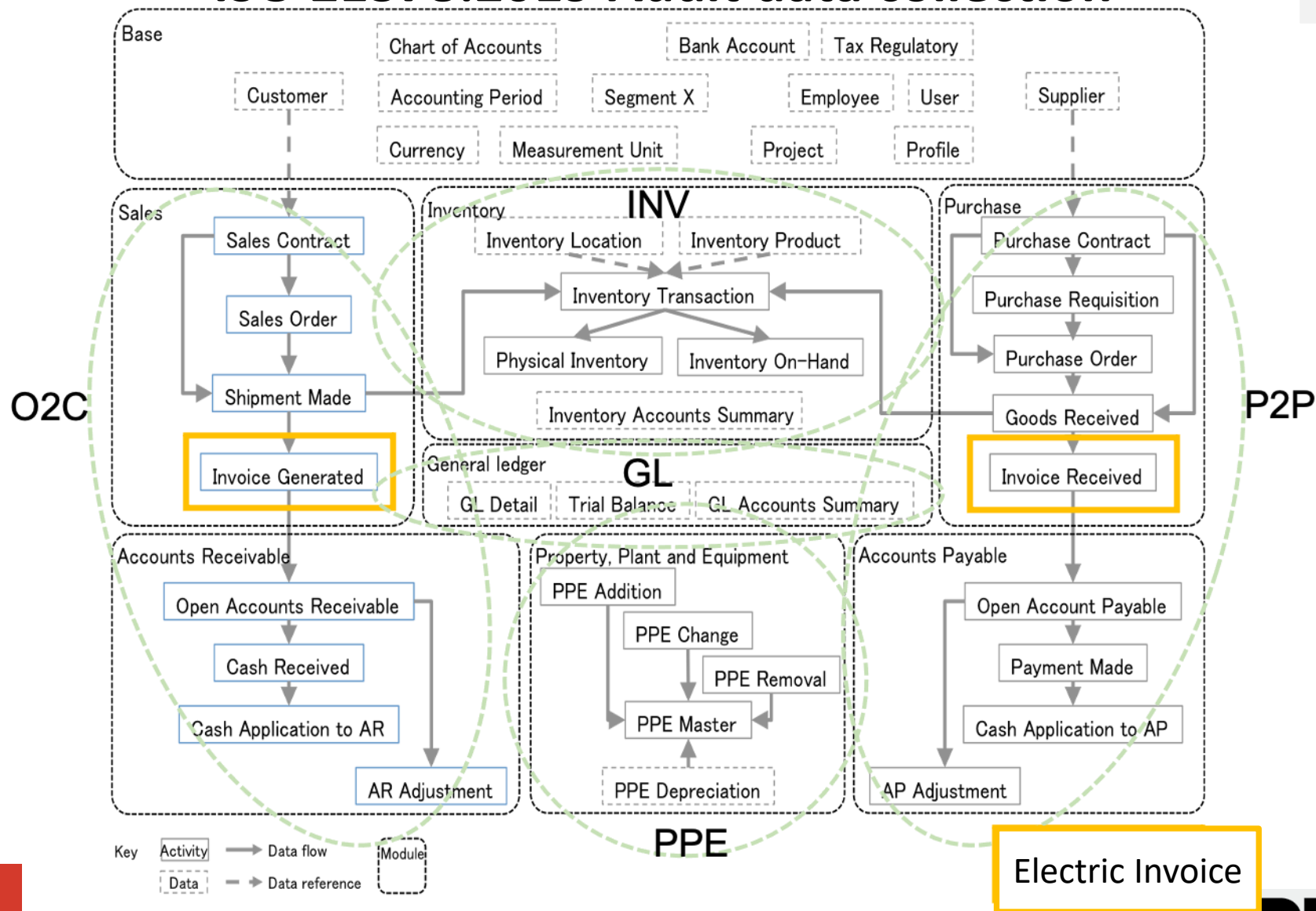
Need a reason for the last change?

What if the last change was after the PO was sent?

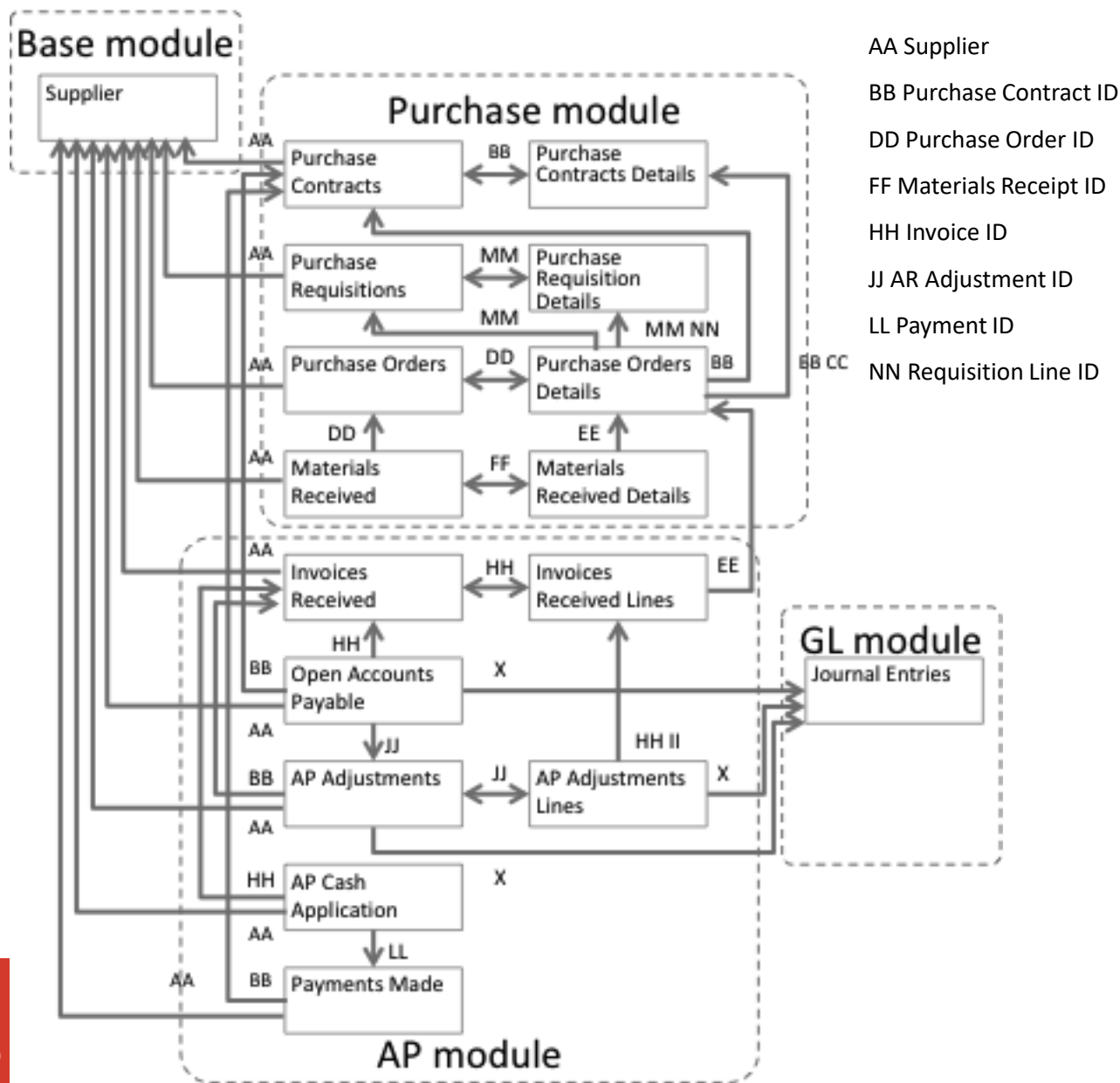
Is the change procedure documented in principle?

Is the timing recorded with that person legal?

# ISO 21378:2019 Audit data collection



# Procure to pay



Head of delegate JISC, SAMBUICHI, Nobuyuki

# Procure to Pay (3-way matching)

| No Audit Trail |                               | Invoice Component |                 |                           |                 |                           |              |                |                |                  |          |                |          |            |
|----------------|-------------------------------|-------------------|-----------------|---------------------------|-----------------|---------------------------|--------------|----------------|----------------|------------------|----------|----------------|----------|------------|
|                |                               | Authenticity      | Integrity       |                           |                 |                           |              |                |                |                  |          |                |          |            |
|                |                               |                   | VAT ID Supplier | Supplier (Name & Address) | VAT ID Customer | Customer (Name & Address) | Invoice Date | Date of Supply | Invoice Number | Nature of Supply | Quantity | Taxable Amount | VAT Rate | VAT Amount |
|                |                               |                   | a               | b                         | c               | d                         | e            | f              | g              | h                | i        | j              | k        | l          |
| 1              | Purchase Contract             | 3001              |                 | 3001                      | 3007            | 3007                      |              |                |                | 3012             |          | 3017           |          | 3021       |
| 2              | Purchase Order                | 3002              |                 | 3005                      | 3008            | 3008                      |              |                |                | 3013             | 3015     | 3018           |          | 3022       |
| 3              | Goods / Service Received Note |                   |                 |                           |                 |                           |              | 3010           |                | 3014             | 3016     |                |          |            |
| 4              | Invoice                       |                   |                 |                           |                 |                           | 3009         |                |                |                  |          |                |          |            |
| 5              | Payment                       | 3005              |                 | 3006                      |                 |                           |              |                | 3011           |                  |          | 3019           |          | 3020 3023  |

Audit Trail Contribution to Authenticity and Integrity in Purchasing Processes.



# Business rules for P2P 3-way match

| Invoice Component                       | No | Audit Trail                   | Rule ID  | Audit trail component contribution to Integrity   |
|---|----|-------------------------------|----------|---|
| <b>Authenticity</b>                     | 1  | Purchase Contract             | P2P-3001 | Will identify the supplier for a particular supply.   |
|   | 2  | Purchase Order                | P2P-3002 | Will identify the supplier for a particular supply.   |
|   | 5  | Payment                       | P2P-3003 | Will identify the supplier for a particular supply.   |
| <b>a) VAT ID Supplier</b>               | 1  | Purchase Contract             | P2P-3001 | Will identify the supplier for a particular supply.   |
| <b>b) Supplier (Name &amp; Address)</b> | 2  | Purchase Order                | P2P-3005 | Business records will contain a supplier account reference providing a link back to ERP supplier master data. |
|   | 5  | Payment                       | P2P-3006 | Payments allocated to invoices will identify the payee.   |
| <b>c) VAT ID Customer</b>               | 1  | Purchase Contract             | P2P-3007 | Purchase contract will identify the purchasing company.   |
| <b>d) Customer (Name &amp; Address)</b> | 2  | Purchase Order                | P2P-3008 | Purchase order will identify the purchasing company.  |
| <b>e) Invoice Date</b>                  | 4  | Invoice                       | P2P-3009 | There will be a correlation between invoice date and posting date of the invoice record in the ERP.           |
| <b>f) Date of Supply</b>                | 3  | Goods / Service Received Note | P2P-3010 | Date of goods / service receipt will correlate with the date of supply.                                       |
| <b>g) Invoice Number</b>                | 5  | Payment                       | P2P-3011 | Payment remittance advice may reference invoice number.   |
| <b>h) Nature of Supply</b>              | 1  | Purchase Contract             | P2P-3012 | Will contain a record of what is to be supplied.  |
|   | 2  | Purchase Order                | P2P-3013 | Will contain a record of what is to be supplied.  |
|   | 3  | Goods / Service Received Note | P2P-3014 | Will contain a record of what has been supplied.  |
| <b>i) Quantity</b>                      | 2  | Purchase Order                | P2P-3015 | Will contain a record of quantity requested.  |
|   | 3  | Goods / Service Received Note | P2P-3016 | Will contain a record of quantity delivered.  |

Authenticity and Integrity in a Procure-to-Pay (goods 3-way matching) Cycle.



# Example: Auditing requirement for Invoice

Source: PEPPOL BIS Billing <https://docs.peppol.eu/poacc/billing/3.0/bis/>

## Auditing requirements

| Id  | Requirement (depending, as applicable, on the respective business case)   |
|-----|---|
| R56 | sufficient information to support the auditing process with regard to: <ul style="list-style-type: none"> <li>• Identification of the invoice;</li> <li>• Identification of the date of issue of the invoice;</li> <li>• Identification of the products and services traded, including their description, value and quantity;</li> <li>• Information for relating the invoice to its settlement;</li> <li>• Information for relating the invoice to relevant documents such as a contract, a purchase order and a despatch advice;</li> </ul> |
| R57 | identification of the parties that fulfil the following roles at the invoice level, including their legal name and address: <ul style="list-style-type: none"> <li>• The Seller (including the Seller's trade name);</li> <li>• The Buyer;</li> <li>• The Deliver to party (if different from the Buyer);</li> <li>• The Payee (if different from the Seller);</li> <li>• The Tax representative of the Supplier;</li> </ul>  |

## Payment requirements

| Id  | Requirement (depending, as applicable, on the respective business case)  |
|-----|--|
| R58 | identification of the means of settlement;   |
| R59 | the requested amount due for payment;  |
| R60 | the date on which payment is due;  |
| R61 | necessary details to support bank transfers in accordance with SEPA and national systems;  |
| R62 | a reference number and any additional reference data to be included in the payment;  |
| R63 | reference number and any additional reference data to be included in the payment, in order to relate the payment to the invoice; |
| R64 | information for relating an invoice to a payment card used for settlement;   |
| R65 | basic information to support national payment systems for use in domestic trade;   |
| R66 | information about the amount that was pre-paid;  |
| R67 | invoices that have a total amount of zero;   |
| R68 | invoices that have an amount to pay of zero;   |
| R69 | necessary details to support direct debits.  |
| R70 | pre-payment invoices   |

# Example: Calculation of totals

Source: PEPPOL BIS Billing <https://docs.peppol.eu/poacc/billing/3.0/bis/>

| id     | Term name                           | Calculation  |
|--------|-------------------------------------|--|
| BT-106 | Sum of invoice line net amounts     | $\sum(\text{BT-131: Invoice line net amount})$   |
| BT-107 | Sum of allowances on document level | $\sum(\text{BT-92: Document level allowance amount})$  |
| BT-108 | Sum of charges on document level    | $\sum(\text{BT-99: Document level charge amount})$   |
| BT-109 | Invoice total amount without VAT    | BT-106: Sum of invoice line net amounts<br>– BT-107: Sum of allowances on document<br>+ BT-108: Sum of charges on document level |
| BT-110 | Invoice total VAT amount            | $\sum(\text{BT-117: VAT category tax amount})$   |
| BT-112 | Invoice total amount with VAT       | BT-109: Invoice total amount without VAT<br>+ BT-110: Invoice total VAT amount   |
| BT-115 | Amount due for payment              | BT-112: Invoice total amount with VAT<br>– BT-113: Paid amount<br>+ BT-114: Rounding amount                                      |

## Exchange formats for the Audit Data Collection Standard: XBRL

1. Semantic data modeling
2. Parties involved and their roles and relationships
3. Employee roles and user activities
4. Business process
5. Business controls and audit trails
6. Business rules

### **7. Syntax binding for XBRL**

Semantic XBRL for Granular Data

## 7. Syntax binding for XBRL

### 7.1 Audit data binding for XBRL taxonomy

- Enable extension based on jurisdictional and/or agency requirements
- Internationalization

### 7.2 Business rules Validation with formula linkbase

- Business rules
- Integrity constraints
- data profiling report
- data questionnaire

### 7.3 Syntax binding for xBRL-XML

### 7.4 Syntax binding for xBRL-CSV

# XBRL can define computer-readable business rules<sup>7</sup>

## Data profiling report

| Test                  | Description  |
|-----------------------|--|
| <b>Date ranges</b>    | Minimum and maximum dates for the following dates                            |
| <b>Control totals</b> | Record count and total sum of amount fields                                  |
| <b>Missing data</b>   | Number of missing or blank values listed by field.                           |
| <b>Invalid data</b>   | Count of records by field that do not comply with field format requirements. |

Data profiling reports SHALL be processed with computer-readable rules for calculation and / or validation.



XBRL can define computer-readable business rules for data profiling report and data questionnaire in ISO 21378, as well as more general rules for business processes.

Head of delegate JISC, SAMBUICHI, Nobuyuki

## AR standard **data questionnaire**

c) Are ARs tracked by customer invoice or in aggregate for the customer?

d) How are partial payments processed? Is the original invoice retained in the subledger with a remaining balance due when a partial payment is processed? Or is a new invoice raised with the remaining balance recorded at the time of partial payment? If new invoices are created, how are those identified in the system?

e) How are transactions with related parties identified? For example, transactions with wholly or partially owned subsidiaries.

f) What is the organizational policy to maintaining invoices in the open item table once the balance is paid off?

g) What is the policy for cash application? Is cash applied only to specific documents, to oldest balances, to customer account?

h) How do you differentiate non-customer receivables from customer receivables?



Data questionnaire answers SHALL be defined in a computer-readable way for automatic processing.

# Formula Overview

| Value Assertion   | Formula   |
|---|---|
| <ul style="list-style-type: none"> <li>▶ Evaluate variables</li> <li>▶ Apply testing expression</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Evaluate variables</li> <li>▶ Produce new fact item of               <ul style="list-style-type: none"> <li>◦ Value expression</li> <li>◦ Aspects rules</li> </ul> </li> </ul> |
| Existence Assertion   | Consistency Assertion   |
| <ul style="list-style-type: none"> <li>▶ Count evaluations               <ul style="list-style-type: none"> <li>◦ variables &amp; preconditions</li> </ul> </li> <li>▶ Apply a test to the count</li> </ul> | <ul style="list-style-type: none"> <li>▶ Evaluate formula</li> <li>▶ Compare to source fact               <ul style="list-style-type: none"> <li>◦ v-equals or value radius</li> </ul> </li> </ul>                      |

The first column has the value and existence assertions, which operate on the input XBRL instance data and provide evaluation feedback (as a boolean successful or not successful result, along with possible message detailing cause and ancillary data).

The right column has formula which provides a resulting output fact when it is processed, and below is consistency assertion, which is used when it is desired to compare the formula's output fact with a matching one expected in the input XBRL instance.

Simple examples of each of these four models



| Value Assertion  | Formula   |
|--|---|
| <ul style="list-style-type: none"> <li>▶ Ratio &gt; minimum               <ul style="list-style-type: none"> <li>◦ Capital adequacy ratio &gt; 8%</li> <li>◦ Interest cover ratio &gt; 2.5%</li> </ul> </li> <li>▶ Cash balance is positive</li> </ul> | <ul style="list-style-type: none"> <li>▶ Assets = liabilities + equity</li> <li>▶ Ending balance = starting balance + flows</li> </ul>  |
| Existence Assertion  | Consistency Assertion   |
| <ul style="list-style-type: none"> <li>▶ Total assets is reported</li> <li>▶ Correct entity is reported</li> <li>▶ No fact after cut off date</li> </ul>   | <ul style="list-style-type: none"> <li>▶ Reported item matches computed item               <ul style="list-style-type: none"> <li>◦ Assets</li> <li>◦ Ending balance</li> </ul> </li> </ul> |

Source: <https://www.xbrl.org/wgn/xbrl-formula-overview/pwd-2011-12-21/xbrl-formula-overview-wgn-pwd-2011-12-21.html>

Head of delegate JISC, SAMBUICHI, Nobuyuki

# Open source xbrl platform Arelle

## XBRL Certified Software™

7

arelle - whyOrWhyNot.xml

File Tools Help

DTS Properties

Fact Table Fact List Presentation Dimension Formulae

whyOrWhyNot.xml - instance

gl-plt-2020-12-31.xsd - schema

- gl-plt-2020-12-31-formula.xml -
- gl-plt-2020-12-31-presentation.xml -
- gl-cor-2020-12-31.xsd - schema
- xbml-instance-2003-12-31.xsd - s
- gl-cen-2020-12-31.xsd - schema
- gl-taf-2020-12-31.xsd - schema
- gl-muc-2020-12-31.xsd - schem
- gl-bus-2020-12-31.xsd - schema
- gl-plt-2020-12-31-definition.xml

| Concept            | 2007-05-31 - cG1 | 2007-05-31 - cG1 | 2007-05-31 - cG1 | 2007-05-31 - cG1 |
|--------------------|------------------|------------------|------------------|------------------|
| 報告カレンダー説明          | Standard Calenda |                  |                  |                  |
| 報告カレンダータイトル        | Fiscal YE 2003   |                  |                  |                  |
| 期間種別コード            | 4-5-4            |                  |                  |                  |
| 期間種別説明             |                  |                  |                  |                  |
| 締状態                | open             |                  |                  |                  |
| 報告目的               | book             |                  |                  |                  |
| 報告目的説明             |                  |                  |                  |                  |
| <b>【報告カレンダー期間】</b> |                  |                  |                  |                  |
| 報告期間識別子            | 1                | 2                | 11               |                  |
| 期間説明               | January          | February         | November         |                  |
| 期間開始日付             | 2003-01-01       | 2003-02-01       | 2003-11-01       |                  |

messages Concepts

[oimce:unsupportedDocumentType] Unrecognized /documentInfo/docType: https://xbrl.org/CR/2021-02-03/xbrl-csv - whyOrWhyNot-metadata.json

[xbrlce:invalidJSONStructure] Unexpected element(s) in metadata: /documentInfo/namespaces, /documentInfo/namespaces/c, /documentInfo/namespaces/gl-bus, /documentInfo/namespaces/gl-cen, /documentInfo/namespaces/gl-cor, /documentInfo/namespaces/gl-plt, /documentInfo/namespaces/gl-taf, /documentInfo/namespaces/gl-muc, /documentInfo/namespaces/gl-bus, /documentInfo/namespaces/gl-plt

not successfully loaded in 0.02 secs

[info:duplicatedSchema] Schema file with same targetNamespace http://xbrl.org/2005/xbrldt loaded from http://www.xbrl.org/2005/xbrldt-2005.xsd and http://xbrl.org/2005/xbrldt loaded in 9.50 secs

no relationships for Calculation

views 0.40 secs

# Validation with XBRL Formula linkbase

arelle - xbrl-gl\_ubl\_example1.xml

File Tools Help

DTS Properties

Fact Table Fact List Presentation Dimension Formulae

| Formula object                       | Label                          | Cvr.  | Cmp. | Seq. | Expression  |
|--------------------------------------|--------------------------------|-------|------|------|---|
| formula                              | BR-CO-10                       |       |      |      | if (abs(sum( \$invoiceLineNetAmount ) - sum( \$sumOfInvoiceLineNetAmount )) lt 1.0) then conc |
| factVariable \$invoiceLineNetAmount  | invoiceLineNetAmount           |       | true |      |   |
| factVariable \$sumOfInvoiceLineNetAr | sumOfInvoiceLineNetAmount      |       | true |      |   |
| formula                              | BR-CO-11                       |       |      |      | if (abs(\$documentLevelAllowanceAmount - \$sumOfAllowancesOnDocumentLevel) lt 1.0) then c     |
| factVariable \$documentLevelAllowan  | documentLevelAllowanceAmount   |       | true |      |   |
| factVariable \$sumOfAllowancesOnDo   | sumOfAllowancesOnDocumentLeve  |       | true |      |   |
| formula                              | BR-CO-17                       |       |      |      | if (abs(sum( \$VAT_CategoryTaxAmount ) - sum( \$VAT_CategoryTaxableAmount * \$VAT_CategoryF   |
| factVariable \$VAT_CategoryTaxAmou   | VAT_CategoryTaxAmount          |       | true |      |   |
| generalVariable \$contextRef_VAT_Cat | contextRef_VAT_CategoryTaxAmou | false |      |      | \$VAT_CategoryTaxAmount/@contextRef   |
| generalVariable \$VAT_CategoryTaxabl | VAT_CategoryTaxableAmount      | false |      |      | //e:cen-116[@contextRef=\$contextRef_VAT_CategoryTaxAmount]                                   |

messages Concepts Formula Output Instance

```

</xbrldi:typedMember>
<xbrldi:typedMember dimension="c:d2">
  <c:_2>eG23.1</c:_2>
</xbrldi:typedMember>
</scenario>
</context>
<c:cor-16 contextRef="c-01">BR-CO-10 Sum of Invoice line net amount (BT-106) = Σ Invoice line net amount (BT-131). 229.60</c:cor-16>
<c:cor-16 contextRef="c-02">BR-CO-17 VAT category tax amount (BT-117) = VAT category taxable amount (BT-116) x (VAT category rate (BT-119) / 100), rounded to two decimals. 10.99</c:cor-16>
<c:cor-16 contextRef="c-03">BR-CO-17 VAT category tax amount (BT-117) = VAT category taxable amount (BT-116) x (VAT category rate (BT-119) / 100), rounded to two decimals. 9.74</c:cor-16>
</xbrl>

```



# **xBRL-CSV**

## **7. Syntax binding for XBRL**

# xBRL-CSV file

7

The following is an example of an XBRL instance document in xBRL-CSV.

d1,d2,d3,cor-76,cor-79,cor-73,cen-81,cen-83,cen-84,cen-24,cen-35,cen-37,cen-38,cen-40,cen-46,cen-44,cen-50,cen-52,cen-53,cen-55,muc-4,muc-33,cor-22,cen-129,cen-131,cen-151,cen-152,cen-146,bus-143,cen-106,cen-109,cen-111,cen-112,cen-115,cen-116,cen-117,cen-118,cen-119

```
cG2,,,12115118,2015-01-09,380,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
cG2,eG16,,,,,30,Deb.10202.Fact.12115118,,,,,,,,,,,,,,,,,,,,,
cG2,eG16,eG17,,,,,NL57RABO0107307510,,,,,,,,,,,,,,,,,,,,,
cG2,eG2,,,,,,urn:cen.eu:en16931:2017,,,,,,,,,,,,,,,,,,,,,
cG3,eG4,eG5,,,,,,Postbus71,Velsen-Noord,1950AB,NL,,,,,,,,,,,,,
cG3,eG7,,,,,,10202,ODIN59,,,,,,,,,,,,,,,,,,,,,
cG3,eG7,eG8,,,,,,POSTBUS367,HEEMSKERK,1960AJ,NL,,,,,,,,,,,,,
cG4,,,,,,iso4217:EUR,iso4217:EUR,,,,,,,,,,,,,,,,,,,,,
cG4,cG5,,,,,,1,2,19.9,,,,,,,,,,,,,,,,,,,,,
cG4,cG5,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5,eG29,,,,,,9.95,,,,,,,,,,,,,,,,,,,,,
cG4,cG5,eG31,,,,,,PATATFRITES10MM10KG,,,,,,,,,,,,,
cG4,cG5.1,,,,,,2,1,9.85,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.1,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.1,eG29,,,,,,9.85,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.1,eG31,,,,,,PKAAS50PL.JONGBEL.1KG,,,,,,,,,,,,,
cG4,cG5.2,,,,,,3,1,8.29,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.2,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.2,eG29,,,,,,8.29,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.2,eG31,,,,,,POTKETCHUP3LT,,,,,,,,,,,,,
cG4,cG5.3,,,,,,4,2,14.46,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.3,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.3,eG29,,,,,,7.23,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.3,eG31,,,,,,FRITESSAUS3LRR,,,,,,,,,,,,,
cG4,cG5.4,,,,,,5,1,35,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.4,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.4,eG29,,,,,,35,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.4,eG31,,,,,,KOFFIEBLIK3.5KGSNELF,,,,,,,,,,,,,
cG4,cG5.5,,,,,,6,1,35,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.5,cG19,,,,,,S,0.06,,,,,,,,,,,,,,,,,,,,,
cG4,cG5.5,eG29,,,,,,35,,,,,,,,,,,,,,,,,,,,,
```

...



# Metadata file

The following is a xBRL-CSV metadata file, which is a JSON file.

```
{
  "documentInfo": {
    "documentType": "https://xbrl.org/CR/2021-02-03/xbrl-csv",
    "namespaces": { "c": "http://www.xbrl.org/int/gl/cor/2020-12-31", "b": "http://www.xbrl.org/int/gl/bus/2020-12-31", "m":
"http://www.xbrl.org/int/gl/muc/2020-12-31", "e": "http://www.xbrl.org/int/gl/cen/2020-12-31", "ns0": "http://www.xbrlglco.com", "iso4217":
"http://www.xbrl.org/2003/iso4217" },
    "taxonomy": [ "../xBRL/gl/plt/case-cen/gl-plt-2020-12-31.xsd" ] },
  "tableTemplates": {
    "gl": {
      "columns": {
        "d1": {},
        "d2": {},
        "d3": {},
        "cor-76": { "dimensions": { "concept": "c:cor-76" } },
        ...
        "cen-129": { "dimensions": { "concept": "e:cen-129" } },
        "cen-131": { "dimensions": { "concept": "e:cen-131", "unit": "iso4217:EUR" } }, "cen-119": { "dimensions": { "concept": "e:cen-119" } }
      },
      "dimensions": {
        "c:d1": "$d1",
        "c:d2": "$d2",
        "c:d3": "$d3",
        "period": "2007-06-01T00:00:00",
        "entity": "ns0:XBRL GL Co."
      }
    }
  },
  "tables": { "gl": { "url": "xbrl-gl_ubl_example1.csv" } }
}
```

# **Business Information Entity Purchase Order**

## **7. Syntax binding for XBRL**

# Legend

7

| No | BIE | D | Business Term | Semantic data type | O | Description | Dictionary Entry Name |
|----|-----|---|---------------|--------------------|---|-------------|-----------------------|
|----|-----|---|---------------|--------------------|---|-------------|-----------------------|

Each information element that constitutes the semantic data model of the Business Information Entity is described as a row in the table documented in the following sub-clause where the following information is provided.

**No:** A sequence number for the information element.

**BIE:** Specifies which category of Business Information Entity the information element belongs to.

ABIE: Aggregate Business Information Entity

ASBIE: Association Business Information Entity

BBIE: Basic Business Information Entity

IDBIE: Identifier Business Information Entity

RLBIE: Relation Business Information Entity

**D:** Depth. Indicates on which depth in the model the information element occurs:

0: The first depth of the model;

1: the second depth of the model. The information element (or the group of information elements) is part of a group of information elements which is defined at the first depth of the model.

2: the third depth of the model. The information element (or the group of information elements) is part of a group of information elements which is defined at the second depth of the model.

3: the fourth depth of the model. The information element (or the group of information elements) is part of a group of information elements which is defined at the third depth of the model.

**Business Term:** A synonym used in business where a Business Information Entity is commonly known.

**Semantic data type:** The data format that applies to the information element.

**O:** Occurrence

**Description:** A description of the information element.

**Dictionary Entry Name:** A unique official name of a Core Component registered by the United Nations. If there is no corresponding registered information element, named according to the naming convention defined in ISO 15000-1.

# Hierarchical view of Purchase order

7

| No | BIE   | D | Business Term            | Semantic data type   | O    | Definition  | Dictionary Entry Name   |
|----|-------|---|--------------------------|----------------------|------|---|---|
| 0  | ABIE  | 0 | Purchase Order           | —                    | —    | Summary information of purchase orders placed during the period under review.   | ADS Purchase Order_ Trade Transaction. Details                                      |
| 1  | IDBIE | 1 | Purchase Order ID        | Identifier           | 1..1 | The unique identifier for the purchase order.   | ADS Purchase Order_ Trade Transaction. Identification. Identifier                   |
| 2  | BBIE  | 1 | Purchase Order Number    | Text                 | 1..1 | The number of the purchase order.   | ADS Purchase Order_ Trade Transaction. Number_ Information. Text                    |
| 3  | ASBIE | 1 | Period                   | —                    | 1..1 | Accounting period in which the Purchase Order Date occurs.  | ADS Purchase Order_ Trade Transaction. Defined. ADS_ Fiscal Period                  |
| 4  | BBIE  | 2 | Fiscal Year              | Numeric              | 1..1 | Fiscal year in which the Payment Date occurs<br>see 4.6.3.3.8   | ADS_ Fiscal Period. Fiscal Year. Code   |
| 5  | BBIE  | 2 | Accounting Period        | Code                 | 1..1 | Accounting period in which the Payment Date occurs.<br>see 4.6.3.3.8  | ADS_ Fiscal Period. Accounting ADS_ Period. Code                                    |
| 6  | BBIE  | 1 | Purchase Order Type      | Code                 | 1..1 | The name of the order type in purchase activities.<br>EXAMPLE Ordinary purchasing, outsourcing parts and process outsourcing.   | ADS Purchase Order_ Trade Transaction. Type. Code                                   |
| 7  | BBIE  | 1 | Purchase Order Date      | Date                 | 1..1 | The date of the purchase order regardless of the date the order is created.   | ADS Purchase Order_ Trade Transaction. Issue. Date Time                             |
| 8  | RLBIE | 1 | Purchase Organization ID | Reference Identifier | 1..1 | The reference identifier for the purchase organization which signed the order.  | ADS Purchase Order_ Trade Transaction. Purchase Organization. ADS_ Business Segment |
| 9  | RLBIE | 1 | Purchaser ID             | Reference Identifier | 0..1 | The reference identifier for the person who was responsible for purchase orders.  | ADS Purchase Order_ Trade Transaction. Purchaser. ADS_ Employee                     |
| 10 | RLBIE | 1 | Supplier ID              | Reference Identifier | 1..1 | The reference identifier for the supplier account in the purchase order.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Supplier_ Party               |
| 11 | RLBIE | 1 | Settlement Method Code   | Reference Identifier | 1..1 | The reference identifier for the method by which the transaction debit or credit amount was settled or apportioned by the customer or the supplier; for example, check, wire transfer and cash. | ADS Purchase Order_ Trade Transaction. Specified. ADS Settlement Method_ Code       |
| 12 | RLBIE | 1 | Payment Term Code        | Reference Identifier | 1..1 | The reference identifier for the payment term; for example, cash on delivery, payment 30 days after delivery date.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Payment Term_ Document        |
| 14 | BBIE  | 1 | Transaction Amount       | Amount               | 1..1 | The material or monetary worth of a thing that is associated with this purchase order.  | ADS Purchase Order_ Trade Transaction. Transaction Currency. Amount                 |
| 15 | ASBIE | 1 | Created Activity         | —                    | 1..1 | The activity the record was created in the system.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Created_ Activity             |
| 16 | RLBIE | 2 | Created By               | Reference Identifier | 1..1 | The reference identifier for the system user who created the record.<br>see 4.6.3.2.3 Table 65  | ADS_ Created_ Activity. Performed By. ADS_ System User                              |

# Hierarchical view of Purchase order (contd.)

7

| No | BIE   | D | Business Term                     | Semantic data type   | O    | Definition   | Dictionary Entry Name   |
|----|-------|---|-----------------------------------|----------------------|------|--|---|
| 17 | BBIE  | 2 | Created Date                      | Date                 | 1..1 | The date the record was created in the system. This should be a system generated date (rather than user-created date), when possible. This is sometimes referred to as the creation date. see 4.6.3.2.3 Table 65 | ADS_ Created_ Activity. Occurred. Date  |
| 18 | BBIE  | 2 | Created Time                      | Time                 | 0..1 | The time this record was created into the system. see 4.6.3.2.3 Table 65   | ADS_ Created_ Activity. Occurred. Time  |
| 19 | ASBIE | 1 | Approved Activity                 | —                    | 0..1 | The activity the record additions or changes was approved.   | ADS Purchase Order_ Trade Transaction. Specified. ADS Approved_ Activity                    |
| 20 | RLBIE | 2 | Approved By                       | Reference Identifier | 0..1 | The reference identifier for the system user who approved the record additions or changes. see 4.6.3.2.3 Table 62  | ADS_ Approved_ Activity. Performed By. ADS_ System User                                     |
| 21 | BBIE  | 2 | Approved Date                     | Date                 | 1..1 | The date the record additions or changes was approved. see 4.6.3.2.3 Table 62  | ADS_ Approved_ Activity. Occurred. Date   |
| 22 | ASBIE | 1 | Last Modified Activity            | —                    | 0..1 | The activity the record was last modified.   | ADS Purchase Order_ Trade Transaction. Specified. ADS Last Modified_ Activity               |
| 23 | RLBIE | 2 | Last Modified By                  | Reference Identifier | 0..1 | The reference identifier for the system user who last modified the record. see 4.6.3.2.3 Table 63  | ADS_ Last Modified_ Activity. Performed By. ADS_ System User                                |
| 24 | BBIE  | 2 | Last Modified Date                | Date                 | 1..1 | The date the record was last modified. see 4.6.3.2.3 Table 63  | ADS_ Last Modified_ Activity. Occurred. Time  |
| 25 | BBIE  | 1 | Status                            | Code                 | 0..1 | The status of the purchase order.<br>EXAMPLE New, save, submit, approved and frozen.   | ADS Purchase Order_ Trade Transaction. Status. Code   |
| 26 | BBIE  | 1 | Remark                            | Text                 | 1..1 | Freeform text description.   | ADS Purchase Order_ Trade Transaction. Remark. Text   |
| 27 | RLBIE | 1 | Business Segment [X] <sup>a</sup> | Reference Identifier | 1..1 | The reference identifier for the Business Segment.   | ADS Purchase Order_ Trade Transaction. [X]. ADS Business Segment_ Code                      |
| 28 | ASBIE | 1 | Purchase Order Line Item          | —                    | 0..n | Line item details for purchase orders.   | ADS Purchase Order_ Trade Transaction. Defined. ADS Purchase Order_ Trade Line Item. Detail |

<sup>a</sup> X indicates the organization type. For example, division, department, business unit, purchasing organization, project or legal entity. A reserved field that shall be used for business segments / structures.

# Purchase Order

7

| No | BIE   | D | Business Term                     | Semantic data type   | O    | Definition  | Dictionary Entry Name   |
|----|-------|---|-----------------------------------|----------------------|------|---|---|
| 0  | ABIE  | 0 | Purchase Order                    | —                    | —    | Summary information of purchase orders placed during the period under review.   | ADS Purchase Order_ Trade Transaction. Details  |
| 1  | IDBIE | 1 | Purchase Order ID                 | Identifier           | 1..1 | The unique identifier for the purchase order.   | ADS Purchase Order_ Trade Transaction. Identification. Identifier                           |
| 2  | BBIE  | 1 | Purchase Order Number             | Text                 | 1..1 | The number of the purchase order.   | ADS Purchase Order_ Trade Transaction. Number_ Information. Text                            |
| 3  | ASBIE | 1 | Period                            | —                    | 1..1 | Accounting period in which the Purchase Order Date occurs.  | ADS Purchase Order_ Trade Transaction. Defined. ADS_ Fiscal Period                          |
| 6  | BBIE  | 1 | Purchase Order Type               | Code                 | 1..1 | The name of the order type in purchase activities.<br>EXAMPLE Ordinary purchasing, outsourcing parts and process outsourcing.   | ADS Purchase Order_ Trade Transaction. Type. Code   |
| 7  | BBIE  | 1 | Purchase Order Date               | Date                 | 1..1 | The date of the purchase order regardless of the date the order is created.   | ADS Purchase Order_ Trade Transaction. Issue. Date Time                                     |
| 8  | RLBIE | 1 | Purchase Organization ID          | Reference Identifier | 1..1 | The reference identifier for the purchase organization which signed the order.  | ADS Purchase Order_ Trade Transaction. Purchase Organization. ADS_ Business Segment         |
| 9  | RLBIE | 1 | Purchaser ID                      | Reference Identifier | 0..1 | The reference identifier for the person who was responsible for purchase orders.  | ADS Purchase Order_ Trade Transaction. Purchaser. ADS_ Employee                             |
| 10 | RLBIE | 1 | Supplier ID                       | Reference Identifier | 1..1 | The reference identifier for the supplier account in the purchase order.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Supplier_ Party                       |
| 11 | RLBIE | 1 | Settlement Method Code            | Reference Identifier | 1..1 | The reference identifier for the method by which the transaction debit or credit amount was settled or apportioned by the customer or the supplier; for example, check, wire transfer and cash. | ADS Purchase Order_ Trade Transaction. Specified. ADS Settlement Method_ Code               |
| 12 | RLBIE | 1 | Payment Term Code                 | Reference Identifier | 1..1 | The reference identifier for the payment term; for example, cash on delivery, payment 30 days after delivery date.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Payment Term_ Document                |
| 15 | ASBIE | 1 | Created Activity                  | —                    | 1..1 | The activity the record was created in the system.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Created_ Activity                     |
| 19 | ASBIE | 1 | Approved Activity                 | —                    | 0..1 | The activity the record additions or changes was approved.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Approved_ Activity                    |
| 22 | ASBIE | 1 | Last Modified Activity            | —                    | 0..1 | The activity the record was last modified.  | ADS Purchase Order_ Trade Transaction. Specified. ADS Last Modified_ Activity               |
| 25 | BBIE  | 1 | Status                            | Code                 | 0..1 | The status of the purchase order.<br>EXAMPLE New, save, submit, approved and frozen.  | ADS Purchase Order_ Trade Transaction. Status. Code   |
| 26 | BBIE  | 1 | Remark                            | Text                 | 1..1 | Freeform text description.  | ADS Purchase Order_ Trade Transaction. Remark. Text   |
| 27 | RLBIE | 1 | Business Segment [X] <sup>a</sup> | Reference Identifier | 1..1 | The reference identifier for the Business Segment.  | ADS Purchase Order_ Trade Transaction. [X]. ADS Business Segment_ Code                      |
| 28 | ASBIE | 1 | Purchase Order Line Item          | —                    | 0..n | Line item details for purchase orders.  | ADS Purchase Order_ Trade Transaction. Defined. ADS Purchase Order_ Trade Line Item. Detail |

<sup>a</sup> X indicates the organization type. For example, division, department, business unit, purchasing organization, project or legal entity. A reserved field that shall be used for business segments / structures.



# Aggregated BIEs

## Period

7

| No | BIE   | D | Business Term     | Semantic data type | O    | Definition   | Dictionary Entry Name                            |
|----|-------|---|-------------------|--------------------|------|--|--|
| 0  | ASBIE | 0 | Period            | —                  | 1..1 | Accounting period in which the Purchase Order Date occurs.           | ADS_ Fiscal Period. Details                      |
| 1  | BBIE  | 1 | Fiscal Year       | Numeric            | 1..1 | Fiscal year in which the Payment Date occurs<br>see 4.6.3.3.8        | ADS_ Fiscal Period. Fiscal Year. Code            |
| 2  | BBIE  | 1 | Accounting Period | Code               | 1..1 | Accounting period in which the Payment Date occurs.<br>see 4.6.3.3.8 | ADS_ Fiscal Period. Accounting ADS_ Period. Code |

## Created Activity

| No | BIE   | D | Business Term    | Semantic data type   | O    | Definition   | Dictionary Entry Name                                  |
|----|-------|---|------------------|----------------------|------|--|--|
| 0  | ASBIE | 0 | Created Activity | —                    | 1..1 | The activity the record was created in the system.   | ADS Created_ Activity. Details                         |
| 1  | RLBIE | 1 | Created By       | Reference Identifier | 1..1 | The reference identifier for the system user who created the record.<br>see 4.6.3.2.3 Table 65   | ADS_ Created_ Activity. Performed By. ADS_ System User |
| 2  | BBIE  | 1 | Created Date     | Date                 | 1..1 | The date the record was created in the system. This should be a system generated date (rather than user-created date), when possible. This is sometimes referred to as the creation date. see 4.6.3.2.3 Table 65 | ADS_ Created_ Activity. Occurred. Date                 |
| 3  | BBIE  | 1 | Created Time     | Time                 | 0..1 | The time this record was created into the system.<br>see 4.6.3.2.3 Table 65  | ADS_ Created_ Activity. Occurred. Time                 |

## Approved Activity

| No | BIE   | D | Business Term     | Semantic data type   | O    | Definition   | Dictionary Entry Name                                   |
|----|-------|---|-------------------|----------------------|------|--|---|
| 0  | ASBIE | 0 | Approved Activity | —                    | 0..1 | The activity the record additions or changes was approved.   | ADS Approved_ Activity                                  |
| 1  | RLBIE | 1 | Approved By       | Reference Identifier | 0..1 | The reference identifier for the system user who approved the record additions or changes.<br>see 4.6.3.2.3 Table 62 | ADS_ Approved_ Activity. Performed By. ADS_ System User |
| 2  | BBIE  | 1 | Approved Date     | Date                 | 1..1 | The date the record additions or changes was approved.<br>see 4.6.3.2.3 Table 62                                     | ADS_ Approved_ Activity. Occurred. Date                 |

## Last Modified Activity

| No | BIE   | D | Business Term          | Semantic data type   | O    | Definition  | Dictionary Entry Name  |
|----|-------|---|------------------------|----------------------|------|---|--|
| 0  | ASBIE | 0 | Last Modified Activity | —                    | 0..1 | The activity the record was last modified.  | ADS Last Modified_ Activity                                  |
| 1  | RLBIE | 1 | Last Modified By       | Reference Identifier | 0..1 | The reference identifier for the system user who last modified the record. see 4.6.3.2.3 Table 63 | ADS_ Last Modified_ Activity. Performed By. ADS_ System User |
| 2  | BBIE  | 1 | Last Modified Date     | Date                 | 1..1 | The date the record was last modified.<br>see 4.6.3.2.3 Table 63                                  | ADS_ Last Modified_ Activity. Occurred. Time                 |

# Hierarchical view of Purchase Order Line Item

7

| No | BIE   | D | Business Term                             | Semantic data type   | O    | Definition  | Dictionary Entry Name   |
|----|-------|---|---|----------------------|------|---|---|
| 0  | ABIE  | 0 | Purchase Order Line Item                  | —                    | —    | Line item details for purchase orders.  | ADS Purchase Order_ Trade Line Item. Detail   |
| 1  | RLBIE | 1 | Purchase Order ID                         | Reference Identifier | 1..1 | The reference identifier for the purchase order.  | ADS Purchase Order_ Trade Line Item. Header. ADS Purchase Order_ Trade Transaction        |
| 2  | IDBIE | 1 | Purchase Order Line ID                    | Identifier           | 1..1 | The unique identifier for a purchase order line.  | ADS Purchase Order_ Trade Line Item. Identification. Identifier                           |
| 3  | BBIE  | 1 | Sequence Number                           | Numeric              | 0..1 | The number of a purchase order line. This number is generated either by manual input or by the system.  | ADS Purchase Order_ Trade Line Item. Sequence. Numeric                                    |
| 4  | RLBIE | 1 | Purchase Contract ID                      | Reference Identifier | 0..1 | The reference identifier for the purchase contract.   | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase_ Contract                      |
| 5  | RLBIE | 1 | Purchase Contract Line ID                 | Reference Identifier | 0..1 | The reference identifier for a purchase contract line.  | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase_ Contract Line Item            |
| 6  | RLBIE | 1 | Requisition ID                            | Reference Identifier | 0..1 | The unique identifier for the material purchase requisition.  | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase Requisition_ Trade Transaction |
| 7  | RLBIE | 1 | Requisition Line ID                       | Reference Identifier | 0..1 | The unique identifier for a material purchase requisition line. A requisition form may apply for purchasing one or more materials. Each material requisitioned should be described in a separate row. | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase Requisition_ Trade Line Item   |
| 8  | RLBIE | 1 | Settlement Organization Code <sup>a</sup> | Reference Identifier | 0..1 | The unique code of the settlement organization.   | ADS Purchase Order_ Trade Line Item. Settlement Organization. ADS_ Business Segment       |
| 9  | RLBIE | 1 | Receipt Organization Code <sup>b</sup>    | Reference Identifier | 1..1 | The unique code of the receiving materials organization.  | ADS Purchase Order_ Trade Line Item. Receipt Organization. ADS_ Business Segment          |
| 10 | RLBIE | 1 | Project ID                                | Reference Identifier | 0..1 | The unique identifier for the project.  | ADS Purchase Order_ Trade Line Item. Defined. ADS Project_ List                           |
| 11 | RLBIE | 2 | Product ID                                | Reference Identifier | 1..1 | The reference identifier for the product.   | ADS Purchase Order_ Trade Line Item. Defined. ADS_ Product                                |
| 12 | BBIE  | 1 | Due Date                                  | Date                 | 1..1 | The last requested delivery of the purchased materials in the purchasing order. Completion of the delivery shall not be later than that date.   | ADS Purchase Order_ Trade Line Item. Due. Date  |
| 13 | BBIE  | 1 | Basic UOM Quantity                        | Quantity             | 1..1 | The quantity of the materials in purchase order by the basic measurement unit.  | ADS Purchase Order_ Trade Line Item. Basic UOM. Quantity                                  |
| 14 | BBIE  | 1 | Order Quantity                            | Quantity             | 1..1 | The quantity of the purchased materials in the purchase order.  | ADS Purchase Order_ Trade Line Item. Defined. Quantity                                    |
| 15 | BBIE  | 1 | Tax Excluded Unit Price                   | Unit Price           | 1..1 | The unit price (excluding tax).   | ADS Purchase Order_ Trade Line Item. Tax Excluded. Unit Price                             |
| 16 | BBIE  | 1 | Tax Excluded Unit Price                   | Unit Price           | 1..1 | The unit price (including tax).   | ADS Purchase Order_ Trade Line Item. Tax Included. Unit Price                             |

# Hierarchical view of Purchase Order Line Item (contd.) 7

| No | BIE   | D | Business Term                     | Semantic data type   | O    | Definition  | Dictionary Entry Name  |
|----|-------|---|-----------------------------------|----------------------|------|---|--|
| 17 | BBIE  | 1 | Tax Exclude Amount                | Amount               | 1..1 | The amount (excluding tax).   | ADS Purchase Order_ Trade Line Item. Tax Excluded. Amount            |
| 18 | BBIE  | 1 | Tax Exclude Amount                | Amount               | 1..1 | The amount (including tax).   | ADS Purchase Order_ Trade Line Item. Tax Included. Amount            |
| 19 | ASBIE | 1 | Charged Tax                       | —                    | 1..n | A tax charged.<br>see 4.6.3.2.4 Table 66  | ADS Purchase Order_ Trade Line Item. Charged. ADS_ Tax               |
| 20 | BBIE  | 2 | Tax Type Code                     | Code                 | 1..1 | A code specifying a type of tax, such as a code for a Value Added Tax (VAT) [Reference United Nations Code List (UNCL) 5153].<br>see 4.6.3.2.4 Table 66   | ADS_ Tax. Type. Code   |
| 21 | BBIE  | 2 | Tax Transaction Amount            | Amount               | 1..1 | A monetary value resulting from the calculation of a tax.<br>see 4.6.3.2.4 Table 66   | ADS_ Tax. Calculated. Amount   |
| 22 | BBIE  | 1 | Status                            | String               | 0..1 | The status of a purchase order line. Describe changes in the execution of the order line item. Different status will affect the execution and control of the business.<br>EXAMPLE Termination, frozen and closed. | ADS Purchase Order_ Trade Line Item. Status. Code                    |
| 23 | RLBIE | 1 | Business Segment [X] <sup>c</sup> | Reference Identifier | 1..1 | The reference identifier for the Business Segment.  | ADS Purchase Order_ Trade Line Item. [X]. ADS Business Segment_ Code |

a Organization of the payment, can be different from the receiving organization. May be the purchase organization or the receipt organization.

b Receiving organization, can be different from the settlement organization. The organization receiving materials may be a warehouse or an administration organization.

c X indicates the organization type. For example, division, department, business unit, purchasing organization, project or legal entity. A reserved field that shall be used for business segments / structures.

# Purchase Order mapping to XBRL

| No | Business Term            | D | O    | Dictionary Entry Name   | XBRL item ID                          |
|----|--------------------------|---|------|---|---------------------------------------|
| 0  | Purchase Order           | 0 | —    | ADS Purchase Order_ Trade Transaction. Details                                      | PurchaseOrder                         |
| 1  | Purchase Order ID        | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Identification. Identifier                   | PurchaseOrder-ID                      |
| 2  | Purchase Order Number    | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Number_ Information. Text                    | PurchaseOrder-Number                  |
| 3  | Period                   | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Defined. ADS_ Fiscal Period                  | PurchaseOrder-Period                  |
| 4  | Fiscal Year              | 2 | 1..1 | ADS_ Fiscal Period. Fiscal Year. Code   | PurchaseOrder-Period-fiscalYear       |
| 5  | Accounting Period        | 2 | 1..1 | ADS_ Fiscal Period. Accounting ADS_ Period. Code                                    | PurchaseOrder-Period-accountingPeriod |
| 6  | Purchase Order Type      | 1 | 1    | ADS Purchase Order_ Trade Transaction. Type. Code                                   | PurchaseOrder-purchaseOrderType       |
| 7  | Purchase Order Date      | 1 | 1    | ADS Purchase Order_ Trade Transaction. Issue. Date Time                             | PurchaseOrder-purchaseOrderDate       |
| 8  | Purchase Organization ID | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Purchase Organization. ADS_ Business Segment | PurchaseOrder-purchaseOrganizationID  |
| 9  | Purchaser ID             | 1 | 0..1 | ADS Purchase Order_ Trade Transaction. Purchaser. ADS_ Employee                     | PurchaseOrder-purchaserID             |
| 10 | Supplier ID              | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Supplier_ Party               | PurchaseOrder-supplierID              |
| 11 | Settlement Method Code   | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Settlement Method_ Code       | PurchaseOrder-settlementMethodCode    |
| 12 | Payment Term Code        | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Payment Term_ Document        | PurchaseOrder-paymentTermCode         |
| 14 | Transaction Amount       | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS_ Monetary Value               | PurchaseOrder -transactionAmount      |
| 15 | Created Activity         | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Created_ Activity             | PurchaseOrder-Created                 |
| 16 | Created By               | 2 | 1..1 | ADS_ Created_ Activity. Performed By. ADS_ System User                              | PurchaseOrder-Created-user            |
| 17 | Created Date             | 2 | 1..1 | ADS_ Created_ Activity. Occurred. Date  | PurchaseOrder-Created-date            |
| 18 | Created Time             | 2 | 0..1 | ADS_ Created_ Activity. Occurred. Time  |                                       |
| 19 | Approved Activity        | 1 | 0..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Approved_ Activity            | PurchaseOrder-Approved                |
| 20 | Approved By              | 2 | 0..1 | ADS_ Approved_ Activity. Performed By. ADS_ System User                             | PurchaseOrder-Approved-user           |
| 21 | Approved Date            | 2 | 1..1 | ADS_ Approved_ Activity. Occurred. Date   | PurchaseOrder-Approved-date           |
| 22 | Last Modified Activity   | 1 | 0..1 | ADS Purchase Order_ Trade Transaction. Specified. ADS Last Modified_ Activity       | PurchaseOrder-LastModified            |
| 23 | Last Modified By         | 2 | 0..1 | ADS_ Last Modified_ Activity. Performed By. ADS_ System User                        | PurchaseOrder-LastModified-user       |
| 24 | Last Modified Date       | 2 | 1..1 | ADS_ Last Modified_ Activity. Occurred. Date  | PurchaseOrder-LastModified-date       |
| 25 | Status                   | 1 | 0..1 | ADS Purchase Order_ Trade Transaction. Status. Code                                 | PurchaseOrder-status                  |
| 26 | Remark                   | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. Remark. Text                                 | PurchaseOrder-remark                  |
| 27 | Business Segment [X]     | 1 | 1..1 | ADS Purchase Order_ Trade Transaction. [X]. ADS Business Segment_ Code              | PurchaseOrder-businessSegment[X]      |

# Purchase Order Line Item mapping to XBRL

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| No | Business Term                | D | O    | Dictionary Entry Name   | XBRL item ID   |
|----|------------------------------|---|------|---|--|
| 0  | Purchase Order Line Item     | 0 | —    | ADS Purchase Order_ Trade Line Item. Detail   | PurchaseOrderLineItem  |
| 1  | Purchase Order ID            | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Header. ADS Purchase Order_ Trade Transaction        | PurchaseOrderLineItem- purchaseOrderID                                     |
| 2  | Purchase Order Line ID       | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Identification. Identifier                           | PurchaseOrderLineItem-ID   |
| 3  | Sequence Number              | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Sequence. Numeric                                    | PurchaseOrderLineItem-sequenceNumber                                       |
| 4  | Purchase Contract ID         | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase_ Contract                      | PurchaseOrderLineItem-<br>purchaseContractID                               |
| 5  | Purchase Contract Line ID    | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase_ Contract Line Item            | PurchaseOrderLineItem-<br>purchaseContractLineID                           |
| 6  | Requisition ID               | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase Requisition_ Trade Transaction | PurchaseOrderLineItem-requisitionID  |
| 7  | Requisition Line ID          | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS Purchase Requisition_ Trade Line Item   | PurchaseOrderLineItem-requisitionLineID                                    |
| 8  | Settlement Organization Code | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Settlement Organization. ADS_ Business Segment       | PurchaseOrderLineItem-<br>settlementOrganizationCode                       |
| 9  | Receipt Organization Code    | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Receipt Organization. ADS_ Business Segment          | PurchaseOrderLineItem-<br>receiptOrganizationCode                          |
| 10 | Project ID                   | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS Project_ List                           | PurchaseOrderLineItem-projectID  |
| 11 | Product ID                   | 2 | 1..1 | ADS Purchase Order_ Trade Line Item. Defined. ADS_ Product                                | PurchaseOrderLineItem-productID  |
| 12 | Due Date                     | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Due. Date  | PurchaseOrderLineItem-dueDate  |
| 13 | Basic UOM Quantity           | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Basic UOM. Quantity                                  | PurchaseOrderLineItem-basicUOMQuantity                                     |
| 14 | Order Quantity               | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Defined. Quantity                                    | PurchaseOrderLineItem-orderQuantity  |
| 15 | Tax Excluded Unit Price      | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Tax Excluded. Unit Price                             | PurchaseOrderLineItem-<br>taxExcludeUnitPrice                              |
| 16 | Tax Excluded Unit Price      | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Tax Included. Unit Price                             | PurchaseOrderLineItem-<br>taxIncludeUnitPrice                              |
| 17 | Tax Exclude Amount           | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Tax Excluded. Amount                                 | PurchaseOrderLineItem-taxExcludeAmount                                     |
| 18 | Tax Exclude Amount           | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. Tax Included. Amount                                 | PurchaseOrderLineItem- taxIncludeAmount                                    |
| 19 | Charged Tax                  | 1 | 1..n | ADS_ Price. Charged. ADS_ Tax   | PurchaseOrderLineItem-Product-TotalPrice-<br>ChargedTax                    |
| 20 | Tax Type Code                | 2 | 1..1 | ADS_ Tax. Type. Code  | PurchaseOrderLineItem-Product-TotalPrice-<br>ChargedTax-typeCode           |
| 21 | Tax Transaction Amount       | 2 | 1..1 | ADS_ Tax. Calculated. Amount  | PurchaseOrderLineItem-Product-TotalPrice-<br>ChargedTax -transactionAmount |
| 22 | Status                       | 1 | 0..1 | ADS Purchase Order_ Trade Line Item. Status. Code   | PurchaseOrderLineItem-status   |
| 23 | Business Segment [X]         | 1 | 1..1 | ADS Purchase Order_ Trade Line Item. [X]. ADS Business Segment_ Code                      | PurchaseOrderLineItem-<br>businessSegement[X]                              |



<https://www.Sambuichi.jp>

## Q&A

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ISO/TC 295 Audit data services

Head of delegate Japanese Industrial Standards Committee (JISC)