Luxembourg, 29 November 2019

Ref.: NM/PAA/JCS/AMB

REPORT ON THE 10TH WORKING GROUP MEETING OF THE EPROCUREMENT ONTOLOGY

Project:	eProcurement Ontology	**Meeting Date/Time:**	**2019-10-10 / 09.30 – 17.00** **2019-10-11 / 09.30 – 15.00**
Meeting type:	10th Working Group Meeting	**Meeting Location:**	**Luxembourg**
Chairperson:	Natalie Muric	**Issue Date:**	2019-10-29

Meeting Agenda
Welcome, introduction and status update – Natalie Muric, Public Procurement expert of the Publications Office of the European Union   **Interactive session: Mapping Ontology - Contract notice – Natalie Muric (OP) & Enric Staromiejski Torregrosa, Everis**   **The Open Contracting Data Standard & the EU: Current Progress & Future Impacts: Lindsey Marchessault and Colin Maudry, Open Contracting Partnership**   **Functional Requirements for Bibliographic Records (FRBR) - Enrico Francesconi, Publications Office of the European Union**   **Closing remarks – Natalie Muric, Public Procurement expert of the Publications Office of the European Union**

List of Participants		
Attendee Name *(present)*	**Initials**	**Organisation**
Paloma ARILLO-ARANDA	PAA	Publications Office of the European Union
Ana-Maria BABALIGEA	AMB	Publications Office of the European Union
Paul BORODAY	PB	Open Contracting Partnership
Vibeke ENGESETH	VE	DIFI – Direktoratet for forvaltning og IKT, Norway
Jan HOLBECH LARSEN	JHL	CDM A/S, Denmark
Cécile GUASCH	CG	ISA^2 – DIGIT
Lindsey MARCHESSAULT	LM	Open Contracting Partnership
Fabio MASSIMI	FM	AGID – Agenzia per l´Italia Digitale, Italy
Natalie MURIC	NM	Publications Office of the European Union
Colin MAUDRY	CM	Open Contracting Partnership
Thor MØLLER	TM	DIFI – Direktoratet for forvaltning og IKT, Norway
Athanasios PANTAZIS	AP	Ministry for Digital Governance, Greece
Timo RANTANEN	TR	HANSEL OY, Finland
Giovanni Paolo SELLITTO	GPS	ANAC - Autorità Nazionale Anticorruzione, Italy
Juan Carlos SEGURA	JCS	Everis, Spain
Enric STAROMIEJSKI	ES	Everis, Spain

Summary of Meeting

<u>Day 1</u>
- <u>Welcome, introduction and status update – Natalie Muric, Publications Office</u>

Ms. Natalie Muric of the Publications Office of the European Union (hereafter referred to as OP) started the workshop by welcoming the participants for joining again the working group meeting. The participants also presented themselves and their background in the field of Procurement.

During the introduction, it was the target is to provide a full picture of the procurement data landscape via the ontology. The work is divided into different procurement phases for example Notification, Access, Tendering etc. The overview diagram is not currently updated, it is to be updated at the end of each phase. Currently work is being carried out to provide a model of the contract notice. The aim is to close the mapping of eForms by the end of the year.

The participants were encouraged to share their knowledge and be actively involved in the workshop so that the data requirements could be drawn up and integrated into the current work on the eNotification and eAccess phases. It was also explained how the Excel spreadsheet works and that generic definitions were implemented to enable reuse throughout all the eProcurement chain.

- <u>Interactive session: Mapping Ontology - Contract notice – Natalie Muric (OP) & Enric Staromiejski Torregrosa, Everis</u>

The following Business Groups and Business Terms were discussed during the 10th WGM:

eForms BT-764 - Submission electronic catalogue
ePO Concept: ECatalogue Permission
ePO Definition: The extent to which electronic catalogues may be used in tenders.
EA model: Submission Terms applies to Lot, Submission Term has eCatalogue
Discussion: For ePO and eForms the tender refers to the bid and not to the tender documents and procurement documents as may be the case elsewhere.

eForms BT-744 - Submission electronic signature
ePO Concept: eSubmission Electronic Signature
ePO Definition: The tender is required to be signed electronically.
EA model: Procedure has Lot, Submission Terms applies to Lot, Submission Terms has eSubmission Signature Code
Discussion: There was a discussion between using a code or a taxonomy (a taxonomy should better describe the particularities of eSignature) it was decided to use a code, instead of an indicator. This code could point at a concept of a rich taxonomy describing the particularities of the eSignature. This would also be useful (the taxonomy should be reviewed) when analyzing eSubmission and the post-award phase (e.g. eInvoice). The name of the attribute eSubmissionElectronicSignature has been changed by eSubmissionSignature. Moreover, the definition of the attribute has been changed.

<u>Action point:</u> As this will be part of the discussion about eInvoicing, we take a note that a code list is considered to describe particularitieses of eSignature for future discussions. What is more the code list is not defined by eInvoicing but can be used by eInvoicing

eForms BT-63 - Variants
ePO Concept: Variant Permission
ePO Definition: Whether tenderers are required, allowed or not allowed to submit tenders which fulfil the buyer's needs differently than as proposed in the procurement documents.
EA model: Procedure has Lot, Lot has Variant Permissions Code
Discussion: A new definition for the property has been created taking as a reference the one provided by eForms. The attribute has been added within the Lot class. The code list 'Permissions' is used and this code list is also used by other concepts.

eForms BT-769 - Multiple Tenders
ePO Concept: Multiple Tenders
ePO Definition: Tenderers may submit more than one competing tenders.
EA model: Procedure has Lot, Submission Terms applies to Lot, Submission Terms has Multiple Tenders

eForms BT-1311 - Deadline Receipt Requests
ePO Concept: Requests For Participation Deadline
ePO Definition: The time limit for receipt of requests to participate in a procedure.
EA model: Procedure has Procedure Terms, Procedure Terms has Requests For Participation Deadline.
Discussion: This is the deadline for which the buyer must receive the tenders and is not the time at which the economic operator sends the tender.
The name of the attribute "Deadline Receipt Requests" is changed to "Requests For Participation Deadline". The attribute has been moved from Submission terms to Procurements Terms, and the definition has been changed to be more understandable.

eForms BT-131 - Deadline Receipt Tenders
ePO Concept: Tender Receipt Deadline.
ePO Definition: The deadline for receiving tenders.
EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Tender Receipt Deadline.
Discussion: The definition was changed to be more understandable.
This is the deadline for which the buyer must receive the tenders and is not the time at which the economic operator sends the tender.

eForms BT-98 -Tender Validity Deadline
ePO Concept: Tender Validity Deadline
ePO Definition: The period, from the tender submission deadline, for which tenders must remain valid.
EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Tender Validity Deadline
Discussion: A new definition for the attribute has been created taking as reference the one provided by eForms
To link participation deadline as a period will create complications in the diagram. Therefore the concept is added as an attribute of Submission Terms and the relation with the class Period is removed.

eForms BT-751 - Guarantee Required
ePO Concept: Tender Guarantee Required
ePO Definition: The tender must include a financial commitment to be used in case of default.
EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Tender Guarantee Required.
Discussion: The financial commitment may be retained by the buyer in the case the tenderer withdraws its tender before the award of the contract

eForms BT–75 - Guarantee Required Description
ePO Concept: Tender Guarantee Description
ePO Definition: Information on the Tender Guarantee Required from the tenderer when submitting a tender.
EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Tender Guarantee Description
Discussion: The attribute Guarantee Description has changed. Now it is named Tender Guarantee Description. It is an attribute of Submission Terms class. The name of the attribute has been adapted to show that the description should describe the guarantee at tender submission time. Such a description could include the amount of the guarantee to be provided.

eForms BT- 651 - Subcontracting Tender Indication
ePO Concept: Tender Subcontracting Information
ePO Definition: The information about subcontracting that must be indicated in the tender.
EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Tender Subcontracting Information

eForms BT-132 - Public Opening Date
ePO Concept: Opening Date Time
ePO Definition: Date and time for the opening of tenders.
EA model: Procedure has Lot, Lot has Opening Terms, Opening Terms has Opening Date Time

eForms BT-133 - Public Opening Place
ePO Concept: hasOpeningPlace
       hasVirtual TenderOpeningAddress
ePO Definition: The place where the tenders will be publicly opened.
EA model: Procedure has Lot, Lot has Opening Terms, Opening Terms has Opening Place Postal Address

A relationship from Opening Terms class to Electronic Means Of Communication has been created. It is named "virtualTenderOpeningAddress" and has a cardinality 0..1. Although eForms does not specifically mention the virtual address, after some discussion it was decided that (even though some thought a virtual opening was nonsense) it should be catered for as some participants confirmed virtual openings happen. There was an argumentation that if there were sufficient security systems for electronic tenders it should be irrelevant the place where you open them, but others also felt that this was difficult to achieve and prove.

eForms BT-134 – Public Opening Description
ePO Concept: Opening Description
ePO Definition: Further information about the opening of tenders. (For example, who may participate in the opening and whether any authorisation is needed.)
EA model: Procedure has Lot, Lot has Opening Terms, Opening Terms has Opening Description

eForms BT-771 - Late Tenderer Information
ePO Concept: Late Tenderer Information
ePO Definition: Whether tenderer-related information can be supplemented even after the submission deadline.

EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Late Tenderer Information

Discussion: The code list "missing-info-submission" is added to the diagram

eForms BT-772 – Late Tenderer Information Description

ePO Concept: Late Tenderer Information Description

ePO Definition: Description of the tenderer-related information that can be supplemented even after the submission deadline.

EA model: Procedure has Lot, Lot applies Submission Terms, Submission Terms has Late Tenderer Information Description

eForms BT-14 - Documents Restricted

ePO Concept: Some Procurement Documents Restricted

ePO Definition: The access to certain procurement documents is restricted.

EA model: Procedure has Access Terms, Access Terms has Some Procurement Documents Restricted

Discussion: The class eAccess Terms has been renamed by "Access Terms" due to the fact that in specific cases documents cannot be accessed electronically. A note has been attached in the diagram to explain that a business rule needs to be foreseen to prevent any incoherencies between this term and the property DefinesAccessTo which refers to individual documents.

eForms BT-615 - Documents Restricted URL

ePO Concept: has URL

ePO Definition: The internet address with information on accessing the restricted procurement documents.

EA model: Procedure has Access Terms, Access Terms has Some Procurement Documents Restricted, Access Terms has download URL Available Via Electronic Means of Communication, Electronic Means of Communication has URL

Disscussion: In order to cover the BT, the WG decide to create a new property that relates Access Terms to Electronic Means Of Communication. The property is named "hasRestrictedAccessAddress" with cardinality 0..*. Procurement documents are made available by these Means of communication. This is related to procedure and not to Lot.

eForms BT-556 - Group Framework Maximum Value Lot Identifier

ePO Concept: has Framework Maximum Value

ePO Definition: The group of lots that is linked to the Framework Maximum Value.

EA model: Procedure uses Framework Agreement Terms, Framework Agreement Terms applies to GroupLot, GroupLot has ID

The bi-directional property from Procedure to Framework Agreement Terms and viceversa has been removed. The definition of the "Framework Maximum Value" property from Group Lot to Procurement Value has been worked.

The day was closed by an interesting presentation from OCDS:

- The Open Contracting Data Standard & the EU: Current Progress & Future Impacts: Lindsey Marchessault and Colin Maudry, Open Contracting Partnership

Lindsey Marchessault and Colin Maudry from Open Contracting Partnership discussed about how open contracting builds on EU Procurement Directives & Data infrastructure and explained why we need global data standard for public contracting (see the presentation at :
https://docs.google.com/presentation/d/1ef-OvHPK3yCoharfl3MpEDKGWD3_ReDk5sLAbgPQo1U/edit#slide=id.g61503db6ec_0_2
LM explained that Open Contracting has a basis for setting policy goals, publishing complete records and getting people involved
OCDS is in JSON format and is used for web development to show data
Some work has been carried out by certain OCDS stakeholder on converting TED data to OCDS.

Day 2
- Interactive session: Mapping Ontology - Contract notice – Natalie Muric (OP) & Enric Staromiejski Torregrosa, Everis

eForms BT-156 - Group Framework Maximum Value
ePO Concept: Maximum Amount
ePO Definition: The maximum value which can be spent, in a framework agreement.
EA model: Procedure uses Framework Agreement Terms, Framework Agreement Terms applies to GroupLot, GroupLot has Framework Maximum Value Procurement Value, Procurement Value has Maximum Amount

eForms BG-713 - Strategic procurement
Although the ePO does not map the business groups the different terms within this business group need to be mapped, it was decided that they would be mapped via the class Strategic Procurement. After an explanation from JH it has become evident that the class could be displaced in different parts of the notice whether to describe strategic procurement within the procedure as a whole, individual criteria or within selection or award criteria.

The ontology does not foresee a code list, however the eForms does. Some participants find the codes used in eForms to broad and/or difficult to understand. You can be very green but the only way to prove it is via for example International, European or national standards. There was a discussion as to whether this information was really necessary in the contract notice and whether it should only be made available in the contract award notice, however for transparency among other reasons it is useful to know the policy requirement related to strategic procurement. Strategic procurement should therefore not be limited to the statistics stemming from the award criteia. The ePO has not modelled a code list as the domain is evolving in this area, therefore it is preferred to adapt properties rather than continually changing code lists that should be more or less stable.

The discussion gravitated around the fact that we need to think as to what the strategic procurement really applies and not blindly follow the eForms, but rather connect the Ontology to real things. The class has been given a generic name "Strategic Procurement" which provides flexibility to reuse the class. It was noted that green procurement will probably require a code list or taxonomy sooner rather than later, especially with regard to green procurement if the input of DG Environment could be secured.

It should be noted that code lists have their own governance, independent of eForms and the ESPD. This is to ensure that the code lists can be applied in use cases that are multi-domain.

There was a discussion as whether to apply green procurement directly to the procurement criterion (the highest level of criterion, which then subdivides into 3 types of criterion).

It has been identified that strategic procurement can be applied to both criteria and statistics amongst others. It is probably impossible to foresee the perfect model. Rather than having code lists it is better to have attributes within the class to avoid going too fast and not having enough contents. For the time being, it was decided to associate strategic procurement to Procedure. Further reflection is needed on how to connect the strategic procurement to selection criteria, award criteria and lots.

- Functional Requirements for Bibliographic Records (FRBR) - Enrico Francesconi, Publications Office of the European Union (see ppt attached)

In the FRBR model metadata is organized with respect to different classes. The classes according to which every bibliographical resource is described according to the FRBR model are 4:
- Work (Hamlet = unique bibliographical resource in terms of a creation)
- Expression (the intellectual or artistic realization of a work, e.g. Hamlet, over time). OP applies this to different languages expressions of a bibliographic resource. However also the evolution of a resource over time is to be described by metadata at expression level.
- Manifestation (the physical embodiment of a work; for example paper version , xml, …)
- Item (any single copy of a manifestation in a PC for example);

The actual meaning of the Work, Expression and Manifestation classes is that they represent collectors of metadata, not bibliographic resources themselves.

A resource is not only a work or an expression, it comprises all 4 levels. Therefore a bibliographic resource is equivalent to the disjoint union of the FRBR classes.

The following questions/answers were made Carol Riccalton gave input alongside Enrico to some of the answers:

Q1: Is it not redundant to make a property "hasWorkAspect"?
A1: There are several: hasWorkAspect, etc. The 2 models on the slide 7 show this. You can exploit inheritance of each resource at different levels
Q2: What is Expression URI?
A2: It is an instance of the expression class. The inheritance mechanism of the model allows you to just control the the top level. When you have a URI of a legal resource this is also the URI of the bibliographical resource, it gives you access to the metadata of this resource just using WorkAspect, ExpressionAspect … without knowing which type of resource it is. You have to create a unique identifier.
The properties between classes also inherit from the top level and this solves a technical problem by having very particular properties.
Subclass relationships have to be defined; the properties at a lower level are also subclasses of the top level. Everything is a bibliographical resource. The queries are independent of the type of resource

Q3: Under documents we have procurement documents, tender documents and under procurement documents we have notices and so on and so forth. This is a taxonomy with its own properties that link to works, expressions, we therefore do not need to invent our own methodology or "language"?
A3: It is important that relationships between notices, etc. are enabled. This work has not been done for procurement but procurement is a prime candidate. OP has modeled the legal work and the publication work. All can be modelled so that the end user can use the whole thing in an integrated way.

Q4: We are also dealing with bibliographical data. The compilation could refer to some description of the product. The bottom level to the references?
A4: FRBR cannot be used for that. The compilation is like the laws that can be published in an OJ, but the relations are not relations in the FRBR sense. The law can have the 4 aspects of FRBR, the same as the OJ can have the 4 aspects.

The data reality is described in the taxonomy. Then you have the collector of metadata, which uses FRBR. It is about modelling the relationships. In the legal domain a reference to another law points to another work. Actually, you have to say it points to another resource that also has the 4 levels of relationship and metadata.

FRBR separates the resource instances and the whole FRBR description of those resources.

It was noted that the ePO taxonomy of documents can be based on the resource taxonomy explained by Enrico, the working group needs to reflect on what a document is. A document type is just a subclass of a bibliographic resource which can be described by metadata collected at the 4 FRBR levels (Work, Expression, Manifestation, Item)

Q5: How does the taxonomy of resource inherit form the metadata.
A5: The taxonomical approach (subclass relationships of classes and properties) allows inheritance. All at the bottom level inherits from the top level. OP is already using FRBR implemented in OWL/RDF(S). If you implement this model using Semantic Web standards you have to use software libraries such as Jena

It was noted that a lot of metadata needed by Procurement is already in FRBR. The goal is that at the top level we all look at the same way of modelling. The OP Cellar (which EUR-Lex uses) manages thousands of metadata organized according to FRBR and the querying works.

One should avoid saying this document is a work, this is true but not completely. The document is rather a resource, this resource has different aspects: aspects of Work, of Expression, of Manifestation.

- Interactive session: Mapping Ontology - Contract notice – Natalie Muric (OP) & Enric Staromiejski Torregrosa, Everis, Cécile Guasch (ISA[2])

eForms BG-9 – Change
The ontology does not map business groups however it should be noted that changes to a notice can be reflected as changes to a document. In the case where a change does not require a relaunching of the procedure and only publication of the notice the change should be seen as a change to an element which in turn in the FRBR world would seem to be a resource.
For the contract notice we can refer to things that are not in the contract notice provided that a resource exists ie a change in a procurement document can be signaled in the contract notice.

eForms BT–13716 - CHANGE PREVIOUS NOTICE IDENTIFIER
ePO Concept: Element URI
ePO Definition: The Element may identify any type of element, including documents, e.g. a Procurement Document that has changed.
EA model: Procedure refers to Document, Document has Change, Change applies to Resource Element, Resource Element has Element URI
Discussion:

The change in a notice is related to the discussion on resource element URIs. For the definition of the resource element it is decided to base the definition on that of FRBR.
Question: If we make changes to a notice and this change is qualified by change reasons, etc. Is this seen as a change to one work that has different versions?

Answer: Depending on the metadata: if the changes are shared it is the same work; It is the same principle of the consolidated acts: you apply layers to the same act. The amendment itself is a different element but it triggers a new expression of the same work.

For example you have a record in database, this record has to be identified with a URI. For two documents to be considered one work the metadata at work level have to be the same. On the other hand they could have different expressions. For the identification of the FRBR aspects of a resource the working group could look into the urn:lex identification standard
https://datatracker.ietf.org/doc/draft-spinosa-urn-lex/

- Closing remarks – Natalie Muric, Publications Office

Ms Natalie Muric thanked all the participants for their proactive participation in the meeting. The participants are encouraged to participate in the conference calls. Next week the WG will continue the work on mapping the Ontolgy with eForms for Contract Notice.

The next face-to-face meeting will hopefully be in Luxembourg in February. The aim of this meeting will be to finish the mapping between the Ontology and the Contract Award Notice. Working group members are encouraged to proactively provide input on GitHub and/or during meetings.

- Planning of actions and tasks

The action points decided for the next meeting are listed below.

AP#	Name Description	Attributed to
1	Discussion about the use of the eSubmission Electronic Signature code when analyzing eSubmission and the post-award phase (e.g. eInvoice).	WG
3	The Strategic Procurement Lot Identifier needs further reflection and analysis on how this can also be used for Selection and Award Criteria (linked also to Lot(s)).	WG
4	The definition of the resource element needs to be changed based on the FRBR definition.	WG

Proposed Next Meetings:	Dates
Face-2-face meeting	February to be confirmed
Conference calls https://ecwacs.webex.com/meet/nmuric	Every Tuesday 14:30-16:30 and Thursday 14:30-16:30