eNegotiation Project Meeting

7th October, 2021

Project lead: Hisanao Sugamata
Lead editor: Shinji Nakadi
Agenda

1. Previous forum report
2. Project Status
3. BRS overview
4. Implementation Guideline drafting
5. Wrap up
1. Previous forum report

eNegotiation BRS and Implementation Guide
The draft documents are reviewed and accepted.
Comments:
➢ Consider the Data Pipeline in eNegotiation process in future.
➢ eNegotiation process is to be aligned the business process developed in the target area (Bidding in Maritime, Booking in Air cargo, Scheduling in Manufacturing).

Action plan:
• Prepare the BRS draft for the public review: End of June ➔ August
• Develop the implementation guide: End of July ➔ September (v0.3)
• Submit the CC/BIEs for CCL: End of July ➔ December
• BRS Public review: August – September ➔ September-November

Issue:
Arrange the joint review meeting with T&L domain
2. Project status

Project scope:

• The project aims to define the business processes and related data exchange requirements related to electronic Negotiations for the agreement.
• This will concentrate specifically on protocols and data formats rather than internal decision processes.
• In this way, a human negotiator, an AI negotiator, or a human negotiator assisted by an AI/robot support should use the same base semantic protocols.

Status

• BRS is under the public review
  15 September – 15 November
• The draft of Implementation Guide to be reviewed in this Forum.

https://uncefact.unece.org/display/uncefactpublicreview/Public+Review%3A+E-NEGOTIATION+BRS
3. BRS overview

- Project Scope
- Protocol Stack
- Negotiation Granularity
- Negotiation functions and information models
- Alternating Offers Protocol
- Negotiation Core Model
Five fundamental activities of a business transaction and project scope

(1) Five fundamental activities of a business transaction and project scope
(2) Protocol Stack

Context

Chain

Item

Counterpart

Bilateral Negotiation

Message Handling

sync.
async.

sync.
async.

sync.
async.

Alternating Offers Protocol (AOP)
Continuous Offers Protocol (COP)
Withdrawable Alternating Offers Protocol (WAOP)
Withdrawable Continuous Offers Protocol (WCOP)
(2-1) Bilateral Negotiation Layer

Alternating Offers Protocol

Withdrawable Continuous Offers Protocol
(2-2) Chain Layer

**Negotiation Exchange**

<table>
<thead>
<tr>
<th>chain_id=123</th>
</tr>
</thead>
</table>

- Customer
- Supplier

**Sync. Chain Message Handling**

- Wait other-side replies

**Async. Chain Message Handling**

- NOT wait other-side replies
(2-3) Item Layer

<table>
<thead>
<tr>
<th>Negotiation Exchange</th>
<th>Negotiation Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>item_id=1</strong></td>
<td><strong>item_id=2</strong></td>
</tr>
</tbody>
</table>

Sync. Item Message Handling

Wait other-item replies

Async. Item Message Handling

NOT wait other-item replies
(2-4) Counterpart Layer

**Negotiation Exchange**

- **item_id=1**
- **counterpart_id=1**

**Sync. Counterpart Message Handling**

**Negotiation Exchange**

- **item_id=1**
- **counterpart_id=2**

**Async. Counterpart Message Handling**

**Wait all replies**

**NOT wait all replies**
(3) Negotiation Granularity

Example of what to decide

What
Who
How much
How many (rough) $\times 200$
Where (rough)

How many (exact) $\times 1$
When (rough)

When (exact)
Where (exact)

Example of time scale

L1 basic contract
L2 demand/capacity
L3 individual order
L4 physical interaction

yearly
monthly
daily
(4) Negotiation functions and information models
(5) Alternating Offers Protocol

**Initiator (e.g. Customer)**

- **Initial**
  - **Deadline?**
    - yes
    - no

**AssessOffer**

- Accept?
  - no
  - yes

**Generate Offer**

- no
  - yes

**Counterpart (e.g. Supplier)**

- **AssessOffer**
  - End negotiation?
    - no
    - yes

- Accept?
  - yes
  - no

**Generate Offer**

- no
  - yes

**Disagreed**

**Agreed**
(6) Negotiation Core Model
### (6-1) Negotiation Message Model

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>+Transaction ID</td>
<td>+ID</td>
<td></td>
</tr>
<tr>
<td>+Transaction Date Time</td>
<td>0..1</td>
<td>+Value Text</td>
</tr>
</tbody>
</table>

#### Exchanged Document

<table>
<thead>
<tr>
<th>+Document ID</th>
<th>0..1</th>
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<tbody>
<tr>
<td>+Subtype Code</td>
<td></td>
</tr>
<tr>
<td>+Type Code</td>
<td></td>
</tr>
<tr>
<td>+Issuer ID</td>
<td></td>
</tr>
<tr>
<td>+Recipient</td>
<td></td>
</tr>
</tbody>
</table>

#### Negotiation Message (General model)

<table>
<thead>
<tr>
<th>+Issue Date Time</th>
<th>+Role Code</th>
<th>+Person Name</th>
<th>+Department Name</th>
<th>+Type Code</th>
</tr>
</thead>
</table>

#### Reference Document

| +Issuer_ Identification ID |
| +URL _Identification ID |
| +Type Code |
| +Issue Date Time |

#### Negotiation Exchange

<table>
<thead>
<tr>
<th>+Session ID</th>
<th>+Response Due Date Time</th>
<th>0..n</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Sequence ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Type Code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Synchronous Type Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Negotiation Context

<table>
<thead>
<tr>
<th>+Session ID</th>
<th>+Response Due Date Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Sequence ID</td>
<td></td>
</tr>
<tr>
<td>+Type Code</td>
<td></td>
</tr>
<tr>
<td>+Synchronous Type Code</td>
<td></td>
</tr>
</tbody>
</table>

| +Session ID Specified | 0..n |
| +Sequence ID 0..1 |
| +Type Code |
| +Synchronous Type Code |

*Example: Type Code=Prerequisite

<table>
<thead>
<tr>
<th>Type Code</th>
<th>Specific Issue</th>
<th>Metric Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Issue ID</td>
<td>+Type Code</td>
<td>+Value Measure</td>
</tr>
<tr>
<td>+Type Code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Value Date Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Example: Type Code=Value

<table>
<thead>
<tr>
<th>Type Code</th>
<th>Specific Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Issue ID</td>
<td></td>
</tr>
<tr>
<td>+Type Code</td>
<td></td>
</tr>
<tr>
<td>+Value Date Time</td>
<td></td>
</tr>
</tbody>
</table>

*Example: Type Code=Range

<table>
<thead>
<tr>
<th>Type Code</th>
<th>Specific Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Issue ID</td>
<td></td>
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<tr>
<td>+Type Code</td>
<td></td>
</tr>
<tr>
<td>+Value Date Time</td>
<td></td>
</tr>
</tbody>
</table>

*Example: Type Code=Range
(Annex) Legal Observation

- Background
- eNegotiation from a legal perspective
  - International instruments to be observed
  - From frame contracts to individual deliveries
  - Public procurement
  - Formation of contracts
  - The construction of the contract
  - Non-constitutive contractual communications
  - Communication risks
  - Battle of forms
  - The treatment of automated computer systems in law
4. eNegotiation Implementation Guide (Drafting)

=> For discussion

- Bid Process in Maritime Transportation
- Freight Space Adjustment in Air Cargo
- International Forwarding and Transport Booking
- Scheduling in Manufacturing

https://uncefact.unece.org/download/attachments/65667401/eNegotiation_ImplGuideline_draft_v0.3_20211006.docx?version=1&modificationDate=1633592427520&api=v2
Pending=> Call for business experts for the maritime transportation domain
(2) Freight Space Adjustment in Air Cargo

<table>
<thead>
<tr>
<th>Transport Service Buyer</th>
<th>Transport Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consignor</td>
<td>Forwarder</td>
</tr>
<tr>
<td>Buyer</td>
<td>Buyer</td>
</tr>
<tr>
<td>provider</td>
<td>provider</td>
</tr>
</tbody>
</table>

Freight contract

Freight contract

Carrier

buyer

provider

buyer

provider
(3) IFT Booking

```
≪ AssessOffer ≫
≪ OnAgreement ≫
≪ Generate Offer ≫
≪ AssessOffer ≫
≪ OnDisagreement ≫
≪ Generate Offer ≫
```

- **IFT Booking**
- **AssessOffer**
- **OnAgreement**
- **Generate Offer**
- **AssessOffer**
- **OnDisagreement**
- **Generate Offer**
(4) Scheduling in Manufacturing

Vague obligation in Cross Industry Scheduling

- Buyer
  - Demand Forecast
  - Evaluate Demand Forecast Response
  - If 70: excess stock
  - If 120: over capacity

Supplier
  - Review Demand Forecast
  - modified / rejected
  - accepted

Well-defined obligation for negotiation

- Supplier’s obligation to supply (= buyer’s right to buy)
- Buyer’s obligation to buy (= supplier’s right to supply)

These topics are controversial. So, we need to have more conversation with industry