entsog
european network
of transmission system operators
for gas

Vienna, 19 October 2016

Energy Community Workshop

Interoperability Network Code – Update on Common Network Operation Tools (CNOTs)

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System Operations

Image Courtesy of Thyssengas

1. Introduction to Network Code INT&DE Common Data Exchange Solutions:

Legal Background

Introduction - Regulation

REGULATION (EC) No 715/2009 - Conditions for access to the natural gas transmission networks -

Article 8

Tasks of the ENTSO for Gas

1. The ENTSO for Gas shall elaborate network codes in the areas referred to in paragraph 6 of this Article upon a request addressed to it by the Commission in accordance with Article 6(6).

2. The ENTSO for Gas may elaborate network codes in the areas set out in paragraph 6 with a view to achieving the objectives set out in Article 4 where those network codes do not relate to areas covered by a request addressed to it by the Commission. Those network codes shall be submitted to the Agency for an opinion. That opinion shall be duly taken into account by the ENTSO for Gas.

3. The ENTSO for Gas shall adopt:

(a) common network operation tools to ensure coordination of network operation in normal and emergency conditions, including a common incidents classification scale, and research plans;

Introduction - Regulation

COMMISSION REGULATION (EU) 2015/703 - Network code on interoperability and data exchange rules - *Recitals*

(3) The lack of harmonisation in technical, operational and communication areas could create barriers to the free flow of gas in the Union, thus hampering market integration. Union interoperability and data exchange rules should allow the necessary harmonisation in those areas, therefore leading to effective market integration. For that purpose and for facilitating commercial and operational cooperation between adjacent transmission system operators, this Regulation should address interconnection agreements, units, gas quality, odourisation and data exchange. It should provide rules and procedures to reach an appropriate level of harmonisation towards efficient gas trading and transport across gas transmission systems in the Union.

(8) Chapter V of this Regulation should ensure the appropriate degree of harmonisation of data exchange for supporting the completion and functioning of the European internal gas market, security of supply and appropriate and secure access to information, facilitating cross-border transmission activities.

- Article 24

Development process for common network operation tools

1. For each data exchange requirement under Article 20(2), Entsog shall develop a common network operation tool in accordance with Article 8(3)(a) of Regulation (EC) No 715/2009 and shall publish it on its website. A common network operation tool shall specify the common data exchange solution relevant for the respective data exchange requirement. A common network operation tool may also include business requirement specifications, release management and implementation guidelines.

2. Entsog shall establish a transparent process for the development of all common network operation tools. Entsog shall conduct a consultation for each common network operation tool.

Introduction - Regulation

COMMISSION REGULATION (EU) 2015/703 - Network code on interoperability and data exchange rules - *Article 20-21 – Who , What and How*

Article 20

General provisions

1. For the purposes of this Chapter, 'counterparties' means network users active at:

(a) interconnection points; or

(b) both interconnection points and virtual trading points.

2. The data exchange requirements foreseen by point 2.2 of Annex I to Regulation (EC) No 715/2009, Commission Regulation (EU) No 984/2013, Commission Regulation (EU) No 312/2014, Commission Regulation (EU) No 1227/2011 and this Regulation between transmission system operators and from transmission system operators to their counterparties shall be fulfilled by common data exchange solutions set out in Article 21.

Article 21

Common data exchange solutions

1. Depending on the data exchange requirements under Article 20(2), one or more of the following types of data exchange may be implemented and used:

(a) document-based data exchange: the data is wrapped into a file and automatically exchanged between the respective IT systems;

(b) integrated data exchange: the data is exchanged between two applications directly on the respective IT systems;

(c) interactive data exchange: the data is exchanged interactively through a web application via a browser.

Introduction - Regulation

COMMISSION REGULATION (EU) 2015/703 - Network code on interoperability and data exchange rules - *Article 23 – Implementation and existing solutions*

Article 23

Implementation of the common data exchange solutions

1. Depending on the data exchange requirements under Article 20(2), transmission system operators shall make available and use the common data exchange solutions defined in Article 21.

2. Where data exchange solutions between a transmission system operator and concerned counterparties are in place on the date of entry into force of this Regulation and provided that the existing data exchange solutions are compatible with Article 22 and with data exchange requirements under Article 20(2), the existing data exchange solutions may continue to apply after consultation with network users and subject to the approval of the national regulatory authority of the transmission system operator.

Introduction - Regulation

GOAL

- Remove barrier for free flow of gas in EU through harmonisation
  - Harmonised operational procedures at IPs and VTPs
  - Harmonised ICT communication standard between TSO's and TSO – NU (network user)

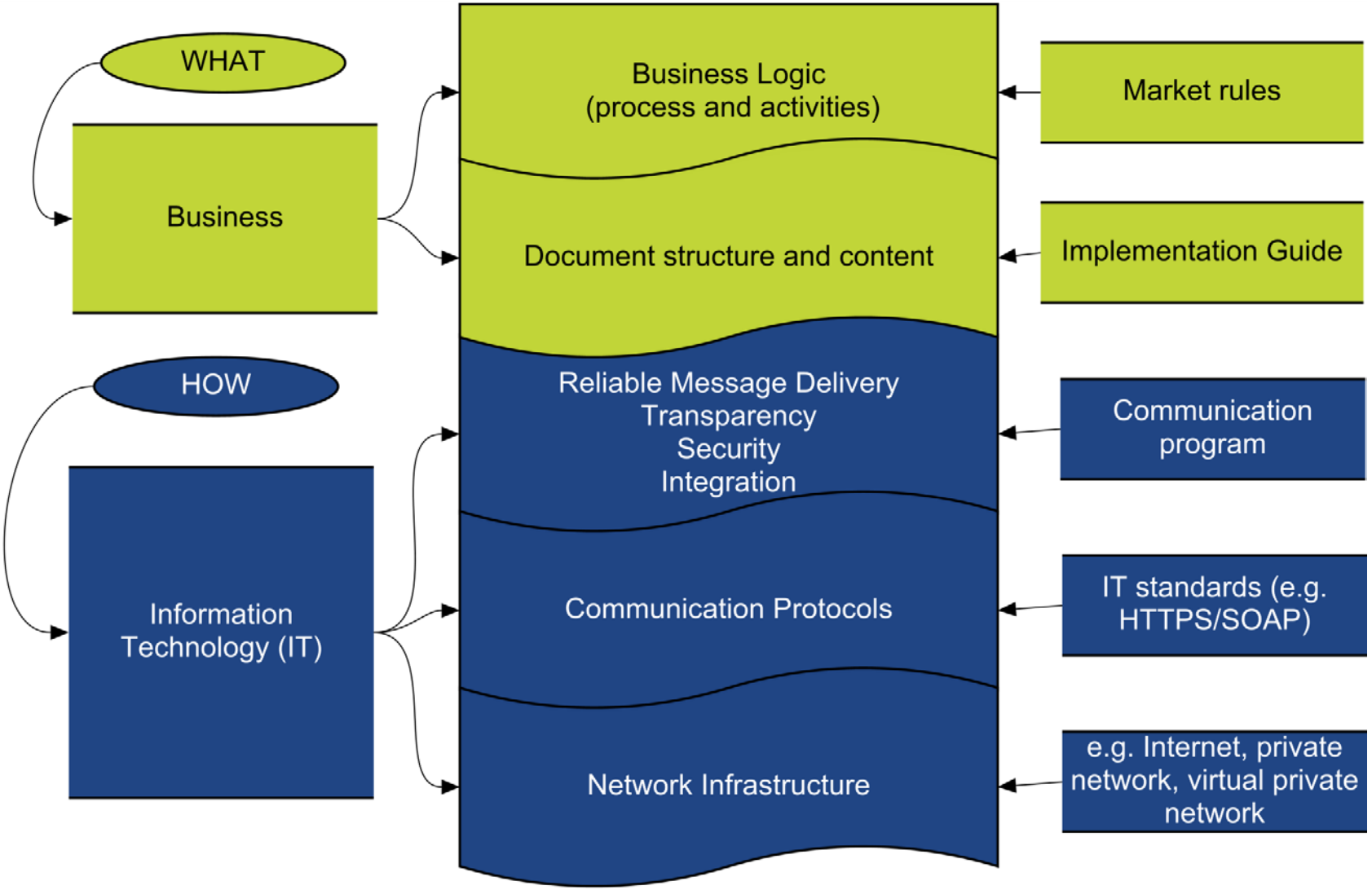
OUTCOME

- Faster implementation (configuration – avoid coding)
- Cost efficiency (use of –limited number- standard solutions; avoid tailor made implementations)
- Multiple vendor solutions (free available standards – ENTSOG profiles & Edig@s)
- Existing (local) solutions can still be used (with NRA approval)

2. Introduction to Network Code INT&DE Common Data Exchange Solutions:

Types of data exchanges - Common data exchange solution

Data Exchange - WHAT and HOW



Data Exchange types

- **Components for Data Exchange**
  - Data Content (**WHAT**) → Business related
  - Data Network → Internet
  - Data Protocol (**HOW**) → IT technology

- **Types of Data Exchanges –** INT NC Art 21 (1)
  - **Document based (AS4 – Edig@s XML)**

    The data is wrapped into a file and automatically exchanged
  - **Integrated (HTTPS – SOAP - Edig@s XML)**

    The data is exchanged directly between two applications
  - **Interactive (Web Browser)**

    The data is exchanged interactively via a browser

3. Introduction to Network Code INT&DE Common Data Exchange Solutions:

Business Requirement Specifications (BRS)

Data Exchange – Common solution

Process for the selection of the Common Solution

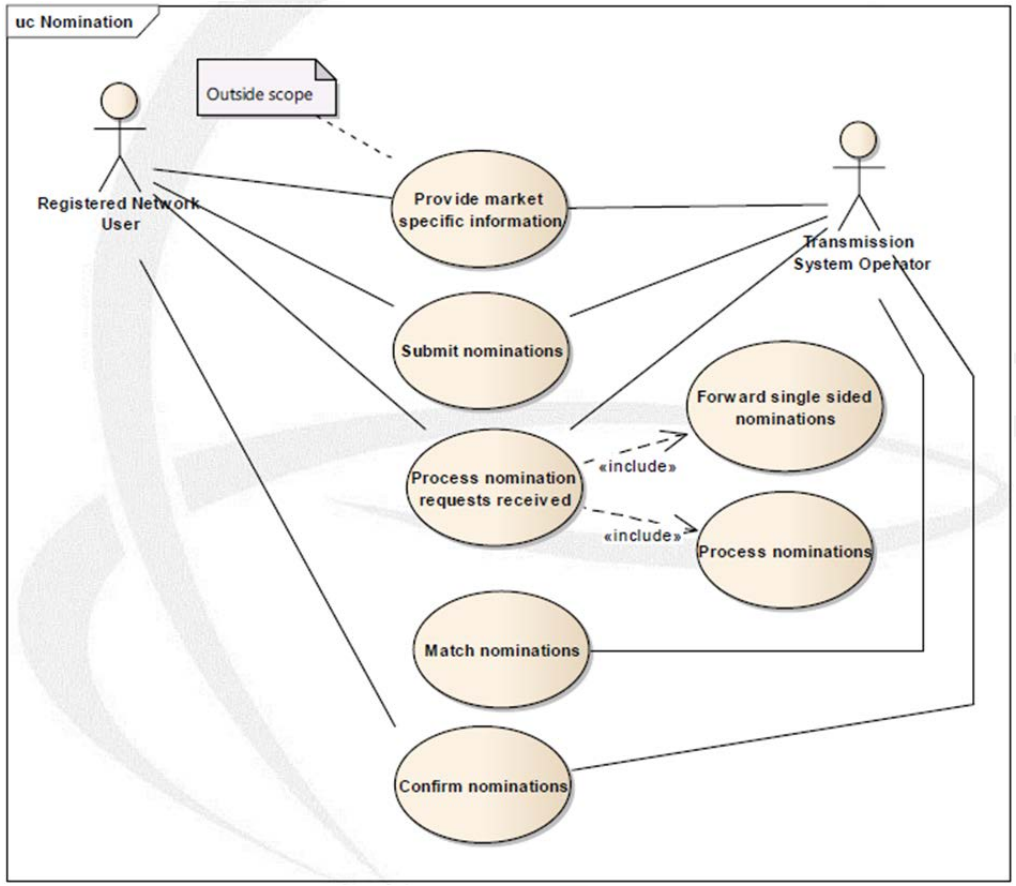
- Develop Business Requirement Specifications (BRS)
  - Identify data exchanges between parties due to NC obligations
  - Use case and sequence diagrams in BRS
  - Study criticality, confidentiality, frequency, security, operational cost, business risks, availability, reliability ...
  - Optional/additional functionalities (not directly related to NC) will be identified as “Recommendations“ without an implementation lead time (dead line)
- For each identified interchange; select one of the three types for data exchanges as the common data exchange solution

- Under discussion: Do we also propose „optional“ solution in addition to the common solutions (to be negociated with each individual TSO) → decision November 2016

Introduction – CNOT BRS

- UML (unified modelling language) → translate NC into a process description

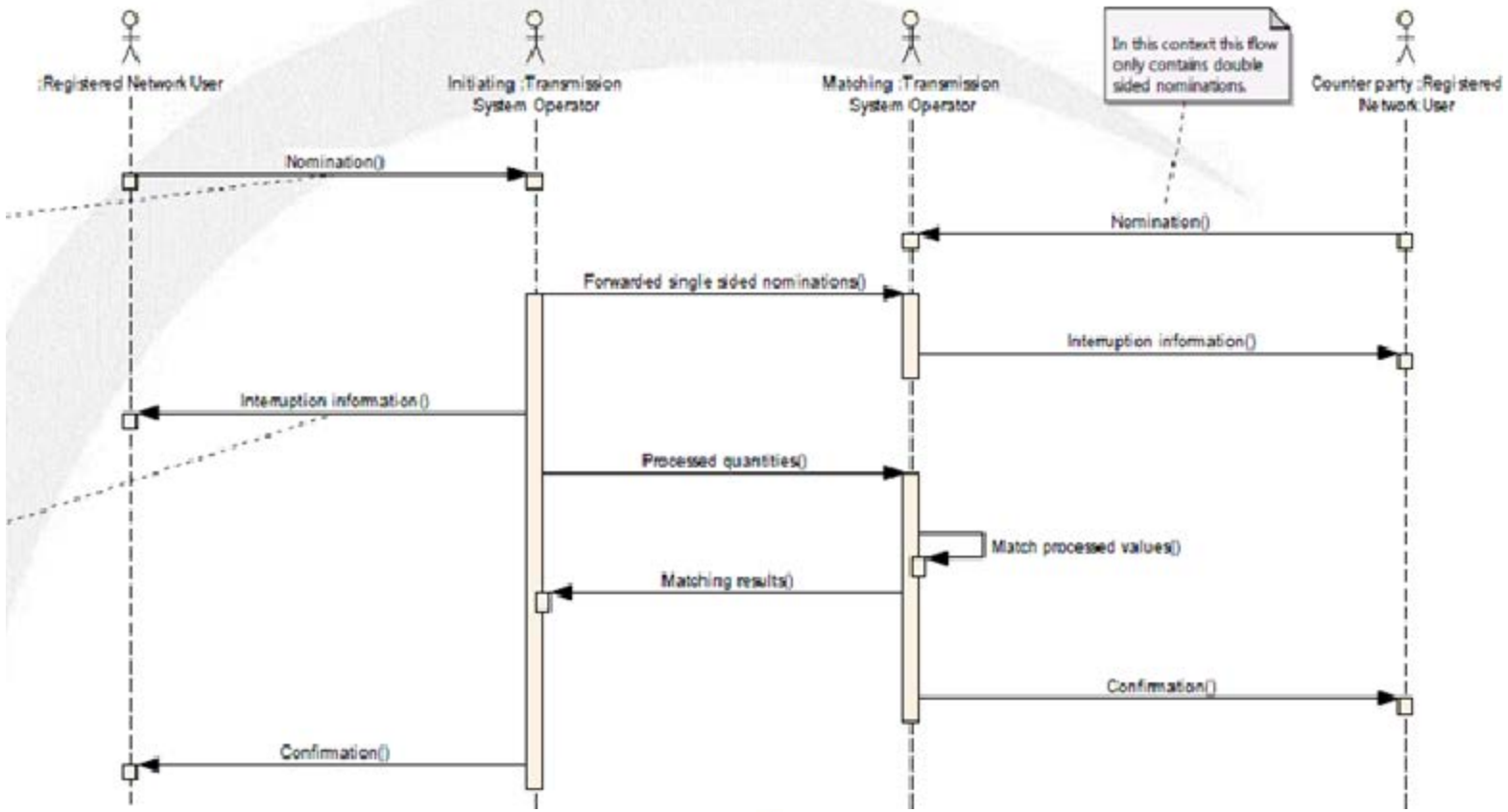
1. Define Use cases with use case diagrams - Example



Introduction – CNOT BRS

- UML (unified modelling language) → translate NC into a process description

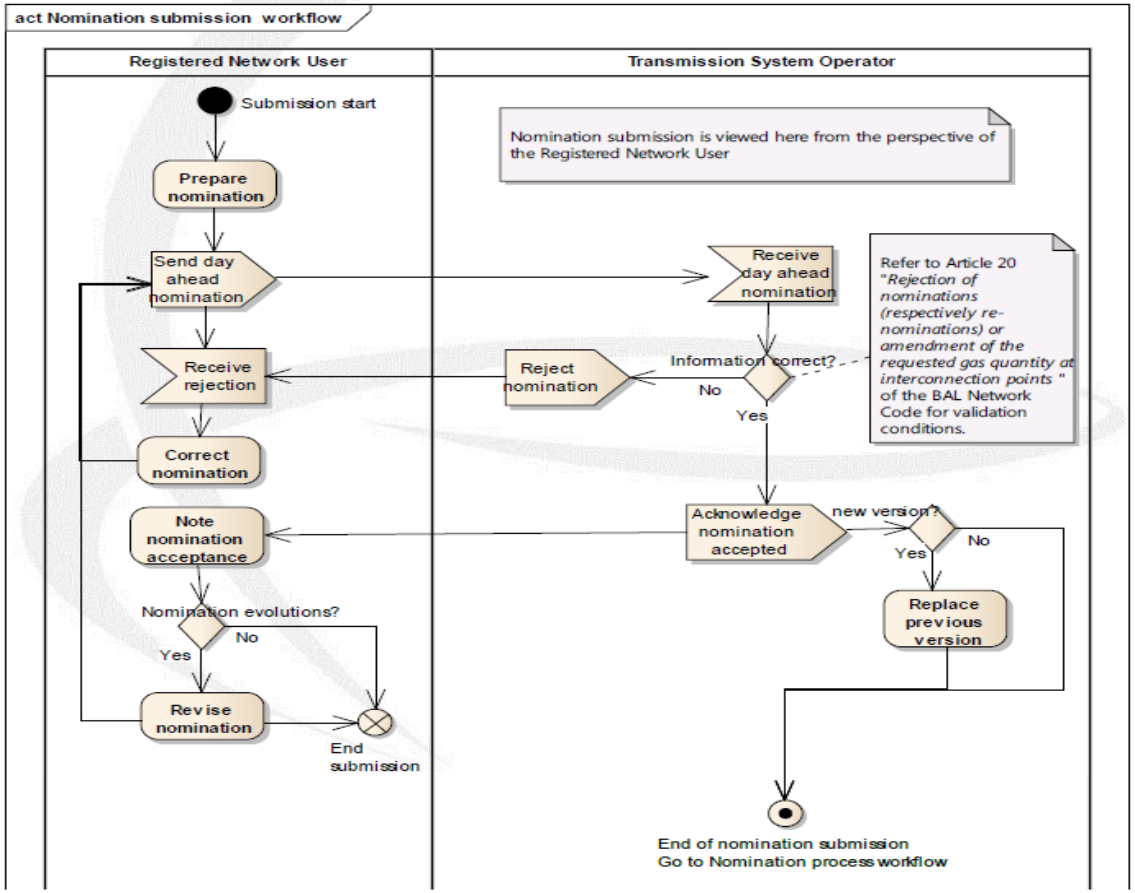
2. Identify operational sequences with sequence diagrams



Introduction – CNOT BRS

- UML (unified modelling language) → translate NC into a process description

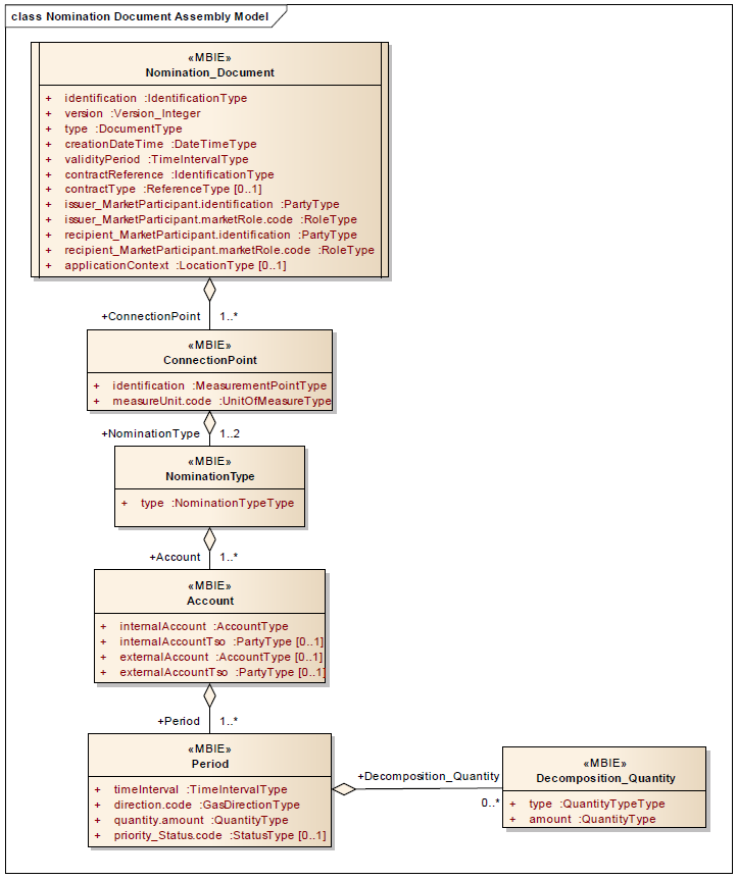
3. Establish workflow with activity diagrams - Example



Introduction – CNOT (M)IG (EASEE-gas)

Translate Information model → Edig@s-XML message document

- **Detailed description of the structure and elements of each message**



3.3.2 INFORMATION MODEL DESCRIPTION

A Nomination Document is used during the transport phase by a Shipper to send the initial nominations and any rectifications after reception of the Nomination Confirmation Document following the initial transmission.

3.3.3 RULES GOVERNING THE NOMINATION DOCUMENT CLASS

A document is uniquely identified by:

- The identification of the document
- The issuer identification
- The identification of the version.

3.3.3.1 IDENTIFICATION

ACTION	DESCRIPTION
Definition of element	Identification of the document describing the Nomination Document.
Description	A Nomination Document must have a unique identification assigned by the issuer of the document to be sent to a recipient for a given validity period. The issuer must guarantee that this identification is unique over time.
Size	The identification of a Nomination Document may not exceed 35 alphanumeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

3.3.3.2 VERSION

ACTION	DESCRIPTION
Definition of element	Version of the document being sent.
Description	The document version is used to identify a given version of a Nomination Document. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.
Size	A version number may not exceed 3 numeric characters.
Applicability	This information is mandatory.
Dependence requirements	None.

Introduction – CNOT (M)IG (EASEE-gas)

Translate Information model → Edig@s-XML message document

- **XSD files - XML schema that defines the structure of an XML document**

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:sawsdl="http://www.w3.org/ns/sawsdl" xmlns="urn:easeegas.eu:edigas:nominationandmatching:nominationdocument:5:1" xmlns:cimp="
http://www.iec.ch/cimprofile" xmlns:xs="http://www.w3.org/2001/XMLSchema" targetNamespace="
urn:easeegas.eu:edigas:nominationandmatching:nominationdocument:5:1" elementFormDefault="qualified" attributeFormDefault="unqualified">
  <!-- INCLUDE code lists as well as restricted codelists -->
  <xs:include schemaLocation="urn-easee-gas-eu-edigas-nominationandmatching-nominationdocument-5-1-restricted-codes.xsd"/>
  <!-- END INCLUDE -->
  <xs:element name="Nomination_Document" type="Nomination_Document"/>
  <xs:simpleType name="AccountType-base" sawsdl:modelReference="http://easee-gas/edigas#String">
    <xs:restriction base="xs:string">
      <xs:maxLength value="35"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="AccountType" sawsdl:modelReference="http://easee-gas/edigas#String">
    <xs:simpleContent>
      <xs:extension base="AccountType-base">
        <xs:attribute name="codingScheme" type="TsoCodingSchemeTypeList" use="required"/>
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
  <xs:simpleType name="PartyType-base" sawsdl:modelReference="http://easee-gas/edigas#String">
    <xs:restriction base="xs:string">
      <xs:maxLength value="16"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="PartyType" sawsdl:modelReference="http://easee-gas/edigas#String">
    <xs:simpleContent>
      <xs:extension base="PartyType-base">
        <xs:attribute name="codingScheme" type="EicCodingSchemeTypeList" use="required"/>
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
  <xs:complexType name="Account" sawsdl:modelReference="http://easee-gas/edigas#Account">
    <xs:sequence>
      <xs:element name="internalAccount" type="AccountType" sawsdl:modelReference="http://easee-gas/edigas#Account.internalAccount"/>
      <xs:element name="internalAccountTso" type="PartyType" minOccurs="0" sawsdl:modelReference="http://easee-gas/edigas#Account.internalAccountTso"/>
      <xs:element name="externalAccount" type="AccountType" minOccurs="0" sawsdl:modelReference="http://easee-gas/edigas#Account.externalAccount"/>
      <xs:element name="externalAccountTso" type="PartyType" minOccurs="0" sawsdl:modelReference="http://easee-gas/edigas#Account.externalAccountTso"/>
      <xs:element name="Period" type="Period" maxOccurs="unbounded" sawsdl:modelReference="http://easee-gas/edigas#Account.Period"/>
    </xs:sequence>
```

Data Exchange – Common solution

- **BRS documents**

➢ Common solution inserted in the process description

➢ Balancing and INT NC: BAL0453_160412_BRS on nominations

(http://www.entsog.eu/public/uploads/files/publications/CMP/BAL0453_150527_BRS%20on%20nominations_Clean_Rev_14%201_BOA.pdf)

➢ CAM/CMP NC: CAP0554_160412_BRS_CAM+CMP

http://www.entsog.eu/public/uploads/files/publications/CMP/CAP0554_150401_Business%20Requirements%20Specification%20for%20CAM%20+%20CMP_v13.pdf

- **Overview table (draft)**

Overview table with all identified communications

➢ INT0878_20160906_Common_Data_Exchange_Solution

➢ Table contains a reference to the BRS (document name, chapter, line number) where each interchange is described

4. Common Data Exchange Solutions for Nomination & Matching Procedures

Basis for NOM BRS

Business Requirement Specification for the Nomination and Matching Procedures, based on three Network Codes

NC BAL

- Provides rules for the exchange of nominations and re-nominations at IPs (Article 12 – 17)
- Adopted by the European Commission on 26 March 2014

NC CAM

- Includes obligation to allow single nomination for bundled capacity at IPs (Article 19.7)
- Adopted by the European Commission on 14 October 2013

NC INT

- Provides rules on matching process and data exchange between TSOs and NUs at IPs (Article 8 and 21)
- Adopted by the European Commission on 30 April 2015

Nomination process (at IPs) in BAL NC

Chapter IV of the BAL NC (Articles 12 – 17) provides general rules for the submission of nominations at IPs from network users to TSOs:

- **Standardised units** to be used in nominations/re-nominations
- **A set of minimum information** to be included in nominations/re-nominations
- **Procedures** for nominating at IPs (including deadlines, confirmations, etc.)
- Procedures for re-nominating at IPs (including deadlines, confirmations, etc.)
- **Reasons for rejecting** nominations/re-nominations

BAL NC:
Defines general rules and minimum requirements to be applied in nomination & matching process

Specified in:

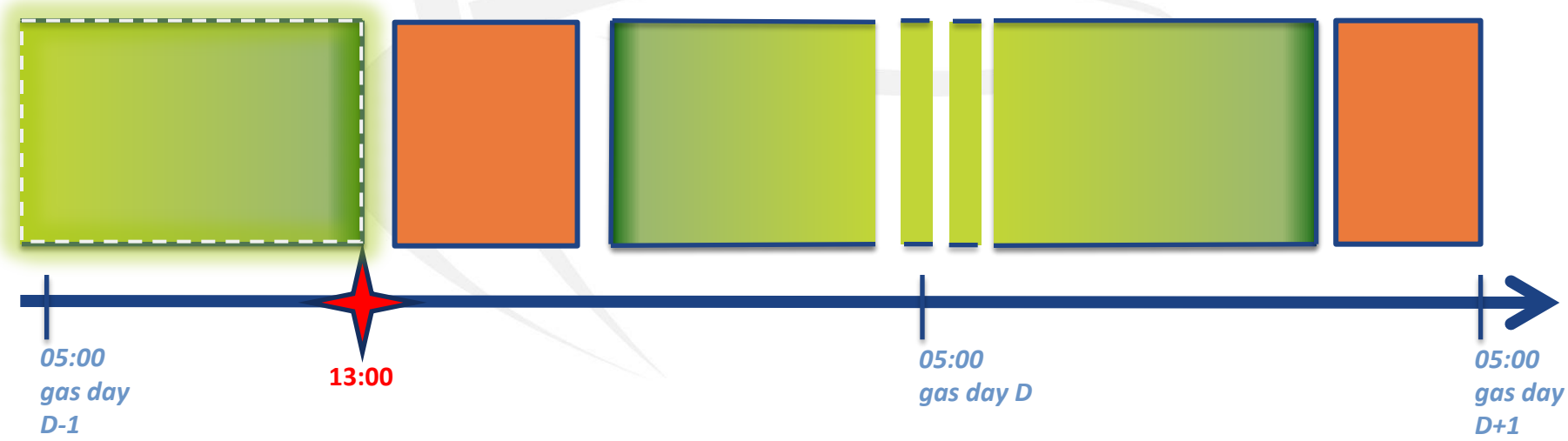
Business Requirement Specification:
Defines detailed process for harmonised transmission of information between parties involved in nomination & matching process

The processes defined in the BRS document are only referring to Nominations at interconnection points.

Nominations process (at IPs) in BAL NC

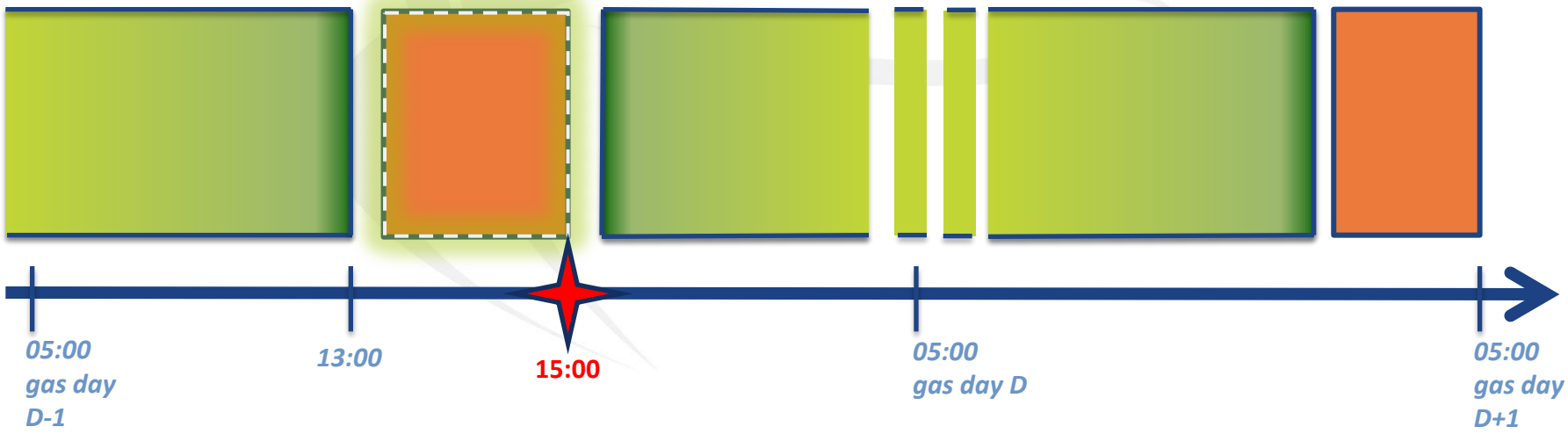
The Balancing Network Code standardises
the nomination procedure at IPs

Shippers submit **nominations** to TSO no later than the **nomination deadline**:
13:00 UTC (12:00 UTC when daylight saving time is applied)

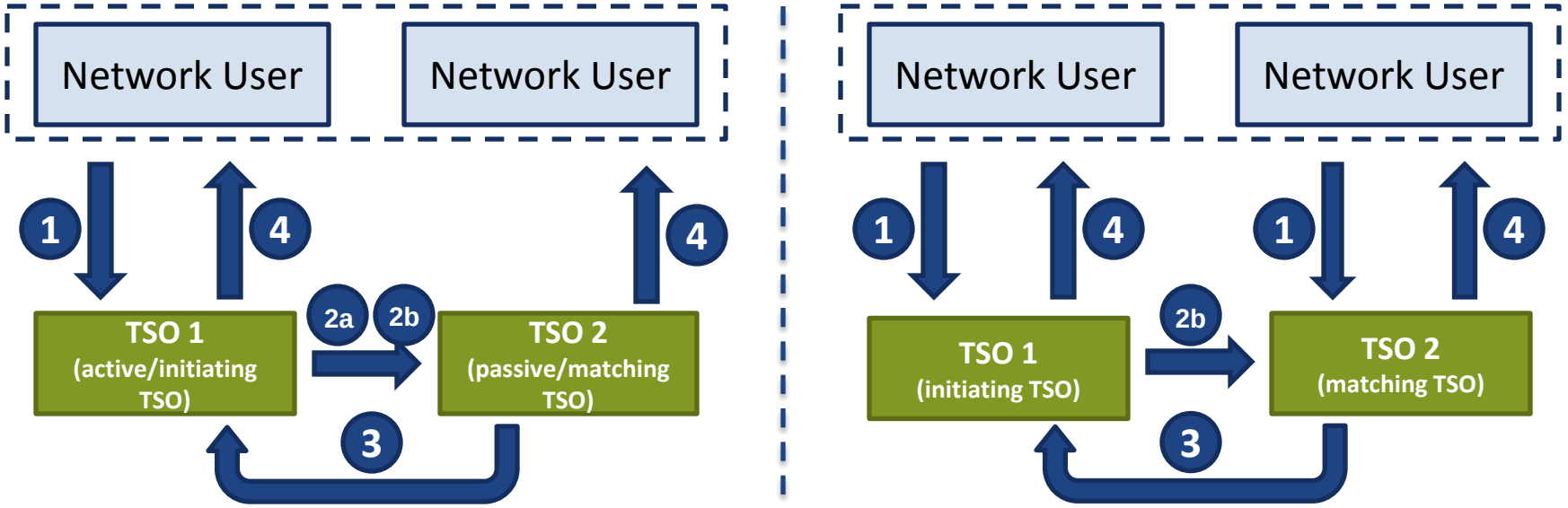


Nominations process (at IPs) in BAL NC

TSO sends the **confirmation notice** to shippers no later than the **confirmation deadline**: 15:00 UTC (14:00 UTC when daylight saving time is applied)



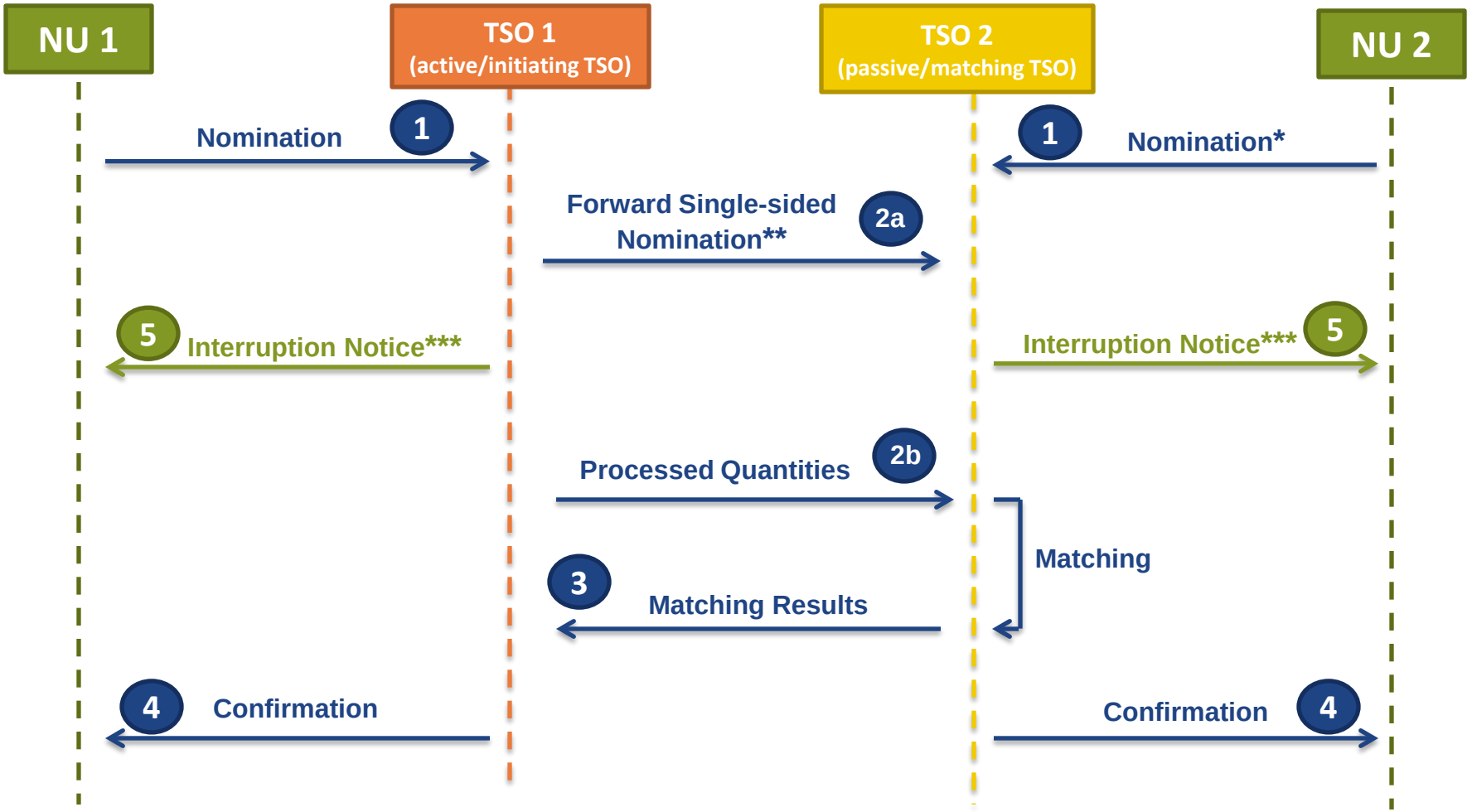
Single-sided and Double-sided process



	Single-Sided Nomination	Double-Sided Nomination
1	Nomination of transport at IP from NU to active/initiating TSO.	Nomination of transport at IP from NUs to both respective TSOs at the IP.
2	**(a)** Forwarding of single-sided nomination and **(b)** Information on processed quantities to passive/matching TSO.	**(a)** ------- **(b)** Information on processed quantities to matching TSO.
3	Information about matching results from passive/matching TSO to active/initiating TSO.	Information about matching results from matching TSO to initiating TSO.
4	Confirmation of transport from both TSOs to respective NU.	Confirmation of transport from both TSOs to respective NU.

Nomination & matching processes

Information Flows for SSN and DSN



* Valid only in case of double-sided nominations.
** Valid only in case of single-sided nominations.
*** the process only occurs in case a TSO has introduced an interruption to the NU nomination.

Nomination & Matching process
Common Data Exchange Solution

	Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
	Nomination authorisation *	Registered NU	TSO	Private	**Recommendation*** Document Based
1	**Nomination (SSN)**	Registered NU	(Initiating) TSO	Private	**Document Based**
1	**Nomination (DSN)**	Registered NU	(Matching) TSO	Private	**Document Based**
2a	**Forward Single Sided Nomination**	(Active) TSO	(Passive) TSO	Private	**Document Based**
2b	**Processed Quantities (DSN)**	(Initiating)TSO	(Matching) TSO	Private	**Document Based**
3	**Matching Results**	(Matching) TSO	(Initiating) TSO	Private	**Document Based**
4	**Confirmation Notice**	(Initiating) TSO	Registered NU	Private	**Document Based**
4	**Confirmation Notice**	(Matching) TSO	Registered NU	Private	**Document Based**
5	**Interruption Information**	(Initiating) TSO	Registered NU	Private	**Document Based**
5	**Interruption Information**	(Matching) TSO	Registered NU	Private	**Document Based**

For all the Nomination and Matching processes,
Document-Based is the mandatory Common Data Exchange Solution

* Data exchange solution is not mandatory but recommended and has to be negotiated between the TSO and NU.

5. Introduction to Network Code INT&DE Common Data Exchange Solutions:

Business Requirement Specification (BRS) for Capacity Allocation and Congestion Management Procedures

Basis for CAM & CMP BRS

Business Requirement Specification for the Capacity Allocation and Congestion Management Procedures, based on three Network Codes/Guidelines

CMP Guideline

- Provides rules for surrender of capacity and making available additional capacity (Article 2.2.2, 2.2.4 and 2.2.5)
- Adopted by the European Commission on 24 August 2012

NC CAM

- Includes requirements for Booking Platforms. capacity auctioning and bundling (Articles 5, 11 – 15, 19 and 27)
- Adopted by the European Commission on 14 October 2013

NC INT

- Provides rules on allocation process and data exchange between TSOs, Auction Office and NUs at IPs (Articles 9 and 21)
- Adopted by the European Commission on 30 April 2015

NC CAM and CMP guidelines

Network Code on Capacity Allocation Mechanism (NC CAM) defines:

- **standardised capacity allocation** mechanism as auction procedure for relevant Interconnection Points within Europe, including the underlying capacity products to be offered and the description of how cross-border capacity is to be allocated

- the manner in **which adjacent TSOs cooperate** in order to **facilitate capacity sales**, taking into consideration general commercial as well as technical rules related to capacity allocation mechanisms

Guidelines for Congestion Management Procedure (CMP Guidelines) defines:

- how congestion management procedures are put into place in the event of contractual congestion and how additional capacity is made available to the market

BRS CAM & CMP – covered processes

- Network User registration
- Credit limit management
- Bookable Point registration
- Capacity right surrender
- Offered capacity determination
- Capacity auction
- Auction result publication
- Buyback auction
- Secondary market sales

Common data exchange solutions for interactions between involved parties

Two processes will be taken as an example in the following slides.

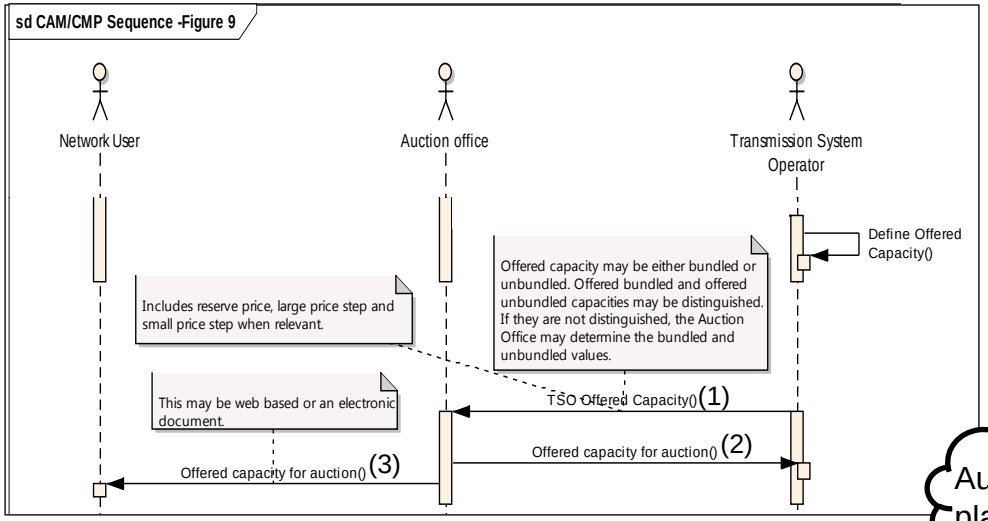
CAM & CMP processes & data exchange

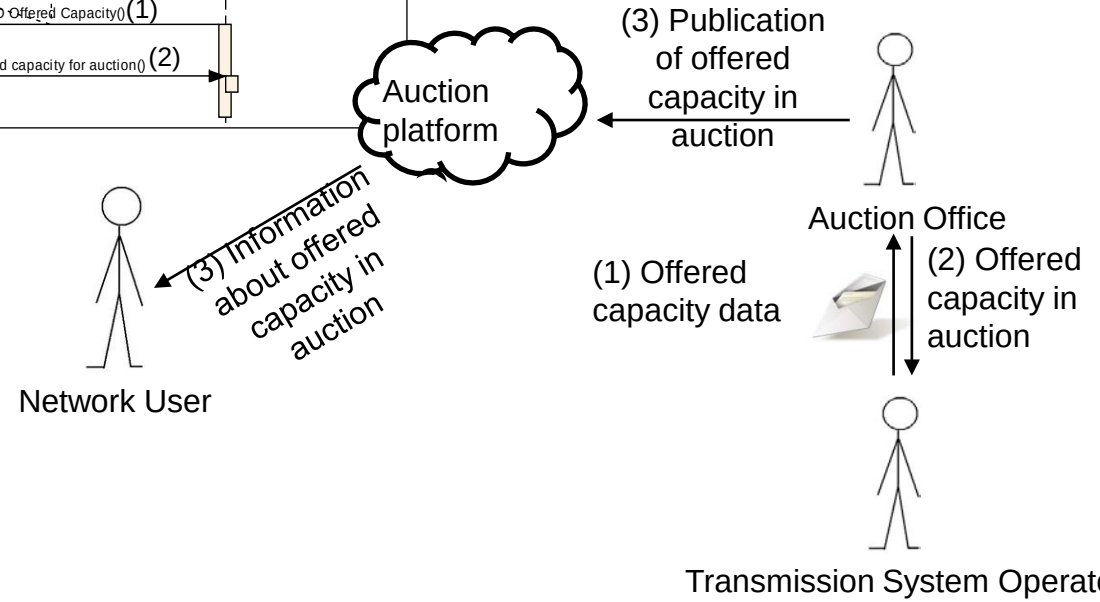
List of actors

- Auction Office
- Network User
- Transmission System Operator

CAM & CMP processes & data exchange

Offered capacity determination





CAM & CMP processes & data exchange

Offered capacity determination

3.3.1.6 Offered capacity

The capacity on offer shall be sent by each Transmission System Operator to the Auction Office in compliance with the business case defined in section 3.2.3.1.2.

The Auction Office assigns an auction identification to the offered capacity provided by the Transmission System Operators.

The Auction Office informs the Transmission System Operators of the products that will be auctioned and publishes the information for use by the market along with any price step information if the auction concerns an ascending clock auction.

The data exchange solutions between the Auction Office and the Transmission System Operator are not part of the Network Code for Interoperability and Data Exchange Rules the data exchange solution is to be negotiated between the parties:

Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
Offered Capacity	Transmission System Operator	Auction Office	Private	Recommendation - Document Based
Offered Capacity	Auction Office	Transmission System Operator	Private	Recommendation - Document Based

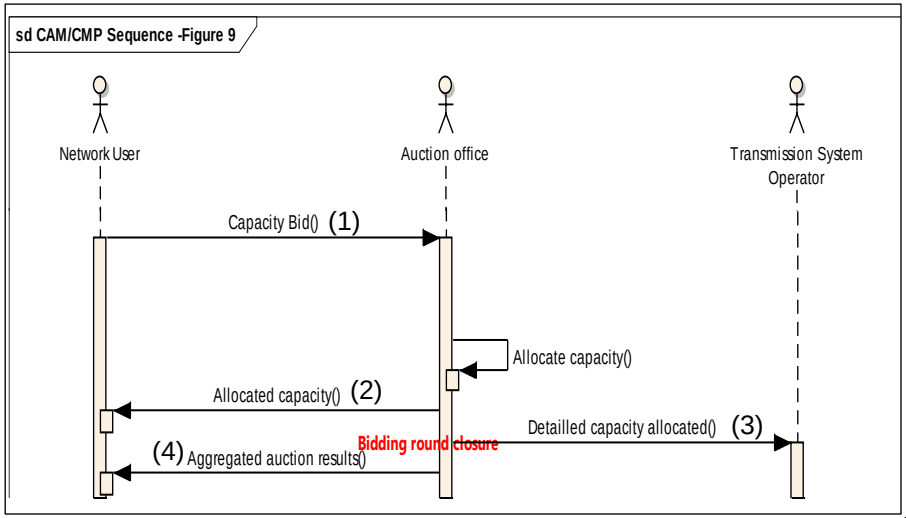
The common data exchange solution with the registered network user for this data exchange is shown below:

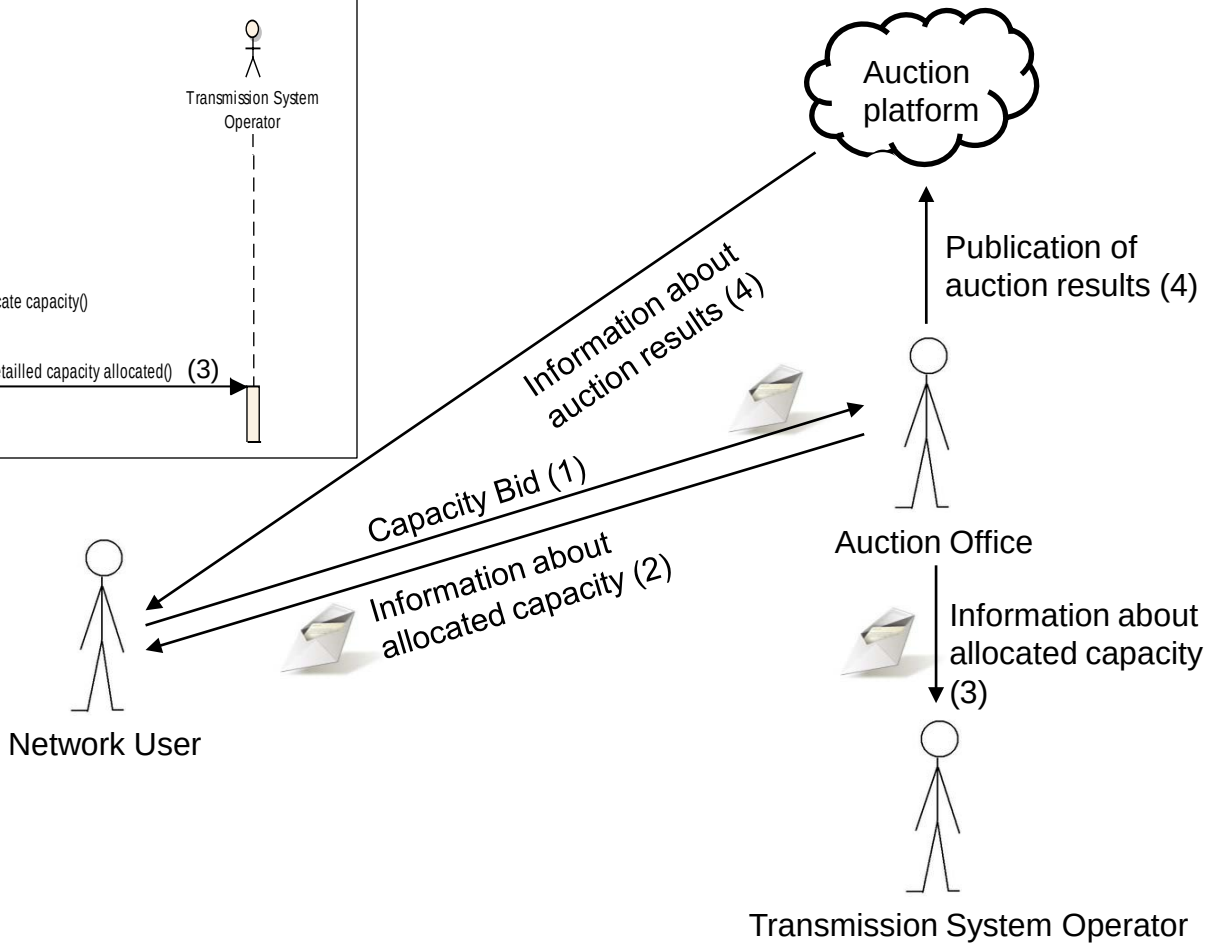
Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution

Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
Offered Capacity	Auction Office	Registered Network User	Public	Interactive

CAM & CMP processes & data exchange

Auction Process





CAM & CMP processes & data exchange

Auction Process

3.3.1.9 Allocated capacity

The Auction Office allocates offered capacity to a Network User's bid and informs the Network User of the quantity and price allocated according to the given auction process. (refer to section 3.2.3.3)

The common data exchange solution for this data exchange is shown below:

Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
Allocated Capacity	Auction Office	Registered Network User	Private	Interactive

3.3.1.10 Detailed capacity allocated

Once the capacity allocation has terminated the Auction Office transmits all the Network User allocations to the Transmission System Operator. (refer to section 3.2.3.4)

The data exchange solutions between the Auction Office and the Transmission System Operator are not part of the Network Code for Interoperability and Data Exchange Rules the data exchange solution is to be negotiated between the parties:

Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
Detailed Capacity Allocated	Auction Office	Transmission System Operator	Private	Recommendation - Document Based

3.3.1.11 Aggregated auction results

This represents the total aggregated values for the auction (at least the clearing price and total capacity sold) and is intended for use by any market participant. (refer to section 3.2.3.4)

The common data exchange solution for this data exchange is shown below:

Information Flow	From Role	To Role	Confidentiality Level	Common Data Exchange Solution
Aggregated Auction Results	Auction Office	All	Public	Interactive

CAM & CMP processes & data exchange

4 *Common Data Exchange Solution Table*

Information Flow	From Party Role Value	To Party Role Value	Confidentiality Level	Common Data Exchange Solution
Bookable Point Registration	Transmission System Operator	Auction Office	Private	Recommendation - Interactive
Network User Registration	Registered Network User	Transmission System Operator	Private	Recommendation - Interactive
Network User Registration to Auction Office	Network User	Auction Office	Private	Recommendation - Interactive
Approved Network Users	Auction Office	Transmission System Operator	Private	Recommendation – Document Based
Approved Network Users	Transmission System Operator	Auction Office	Private	Recommendation - Interactive
Approved Network Users	Auction Office	Registered Network User	Private	Recommendation - Interactive
Surrender Capacity Rights	Registered Network User	Auction Office	Private	Interactive
Surrender Capacity Rights	Auction Office	Transmission System Operator	Private	Recommendation – Document Based
Offered Capacity	Transmission System Operator	Auction Office	Private	Recommendation – Document Based
Offered Capacity	Auction Office	Transmission System Operator	Private	Recommendation – Document Based
Offered Capacity	Auction Office	Registered Network User	Public	Interactive
Credit Limit	Transmission System Operator	Auction Office	Private	Recommendation - Document Based
Credit Limit	Auction Office	Transmission System Operator	Private	Recommendation - Document Based
Capacity Bid	Registered Network User	Auction Office	Private	Interactive
Allocated Capacity	Auction Office	Registered Network User	Private	Interactive
Detailed Capacity Allocated	Auction Office	Transmission System Operator	Private	Recommendation - Document Based
Aggregated Auction Results	Auction Office	All	Public	Interactive
Surrendered Capacity Sold	Transmission System Operator	Registered Network User	Private	Document Based
Reverse Auction Requirements	Transmission System Operator	Auction Office	Private	Recommendation - Document Based
Reverse Auction Bid	Registered Network User	Auction Office	Private	Interactive
Allocate Reverse Auction Results	Auction Office	Transmission System Operator	Private	Recommendation - Document Based
Allocate Reverse Auction Results	Auction Office	Registered Network User	Private	Interactive
Secondary Market Sales	Registered Network User	Transmission System Operator	Private	Interactive
Secondary Market Sales	Transmission System Operator	Registered Network User	Private	Interactive

The recommended common solutions are not subject to the regulation covered by the Network Code for Interoperability and Data Exchange Rules and are provided for guidance.

Common Data Exchange Solution Table

"**Recommendation**" (see column J) is used in cases where communications are identified in the BRS document (business requirement specification) which are not explicitly part of the network code. As such the proposed solution is not enforceable but is to be considered as a "recommendation" to encourage harmonisation, and are to be negotiated bilaterally on a case by case basis.

"Optional – Negotiable" (see column J) is used in cases where counterparties would prefer to use a different data exchange solution other than the common solution and where TSOs (or their representatives) and counterparties can negotiate the conditions of a potential use of an optional alternative common solution

"Date of Publication" After a **lead time of 12 months** starting from the date of publication, the TSOs or parties "acting on behalf of TSOs" shall make the Common Data Exchange Solution available for use with their counter parties. (see also question on line 7 in the table below)

Derogations:
In the case of Member States which are not connected to the interconnected EU network and hold a derogation (re Art 49 of directive 2009/73/EC), the Common Data Exchange Solution should be made available not later than the time of the establishment of the connection with the interconnected EU network (see also Art1(2) Network code Interoperability)

Process Area Value	BRS	Document Chapter	Document Line Number	Information Flow	From Party Role Value	To Party Role Value	Confidentiality Level	Common Data Exchange Solution	Date of Publication
Capacity Trading Processes	CAP0554_160412_BRS_CAM+CMP_V18.doc	3.3.1.2	509	Network User Registration	Network User	Transmission System Operator	Private		
		3.3.1.3	515	Network User Registration to Auction Offi	Network User	Auction Office	Private		
		3.3.1.4	522	Approved Network Users	Auction Office	Registered Network User	Private		
		3.3.1.5	531	Surrender Capacity Rights	Registered Network User	Auction Office	Private	Interactive	1/11/2016
		3.3.1.6	551	Offered Capacity	Auction Office	Registered Network User	Public	Interactive	1/11/2016
		3.3.1.8	572	Capacity Bid	Registered Network User	Auction Office	Private	Interactive	1/11/2016
		3.3.1.9	578	Allocated Capacity	Auction Office	Registered Network User	Private	Interactive	1/11/2016
		3.3.1.11	590	Aggregated Auction Results	Auction Office	All	Public	Interactive	1/11/2016
		3.3.1.12	601	Surrendered Capacity Sold	Transmission System Operator	Registered Network User	Private	Document Based	1/11/2016
		3.3.1.14	614	Reverse Auction Bid	Registered Network User	Auction Office	Private	Interactive	1/11/2016
		3.3.1.15	626	Allocate Reverse Auction Results	Auction Office	Registered Network User	Private	Interactive	1/11/2016
		3.3.2	643	Secondary Market Sales	Registered Network User	Transmission System Operator	Private	Interactive	1/11/2016
		3.3.2	651	Secondary Market Sales	Transmission System Operator	Registered Network User	Private	Interactive	1/11/2016
Nomination and Matching Processe	AL0453_160412_BRS on nominations_V17.doc	3.3.3.3	282	Nomination Authorisation	Registered Network User	Transmission System Operator	Private		
		3.4.1	338	Nomination	Registered Network User	(Initiating) Transmission System Operat	Private	Document Based	1/11/2016
		3.4.1	338	Nomination	Registered Network User	(Matching)Transmission System Operat	Private	Document Based	1/11/2016
		3.4.1	347	Forward single sided nomination	(Active) Transmission System Operator	(Passive) Transmission System Operatc	Private	Document Based	1/11/2016
		3.4.1	354	Processed Quantities	(Initiating) Transmission System Operat	(Matching)Transmission System Operat	Private	Document Based	1/11/2016
		3.4.1	362	Matching Results	(Matching)Transmission System Operat	(Initiating) Transmission System Operat	Private	Document Based	1/11/2016
		3.4.1	367	Confirmation Notice	(Initiating) Transmission System Operat	Registered Network User	Private	Document Based	1/11/2016
		3.4.1	367	Confirmation Notice	(Matching)Transmission System Operat	Registered Network User	Private	Document Based	1/11/2016
		3.4.1	375	Interruption Notice	(Initiating) Transmission System Operat	Registered Network User	Private	Document Based	1/11/2016
		3.4.1	375	Interruption Notice	(Matching)Transmission System Operat	Registered Network User	Private	Document Based	1/11/2016

Thank You for Your Attention

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