

Fourth Amendment to the Intraday Operations Agreement (IDOA) – Annex 5: Adapted Exhibit 4: High Level Architecture (including High Level Business Processes)

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Annex 5 to the Fourth Amendment to the Intraday Operations Agreement (IDOA):

Adapted Exhibit 4 to the IDOA – High Level Architecture (including High Level Business Processes)

Intraday Operations Agreement – Exhibit 4: High Level Architecture (including High Level Business Processes)

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1 Introduction

This chapter sets out the purpose of this document as well as its contents.

1.1. Contents and purpose of this document

This document is based on the result of the work of the M TF on the pre- and post-coupling processes for the Cross-border Intraday market Coupling and on the work of IDA SG for the draft of the processes for the IntraDay Auction (IDA). For the continuous trading, the work started out with generic versions of the High Level Architecture, the Logical model, the business process description and the Business Process Sequence Diagram. The term generic relates to the solution for Shipping and Nomination which was at the time of the design of these documents not yet decided. As an interim solution based on a border per border (option A/A+) solution for shipping and nomination using the principles of the day ahead is now decided, this document consolidates the HLA, the logical model, the business process description and the business process sequence diagram for this solution. Regarding IDA, the work was based on the description of the agreed IDA HLA. It will be updated to reflect the evolution of the thinking of the project of the required high-level architecture and business process. It is a reference document for the project and will continue to be updated as the remaining issues are resolved or other adaptations or changes are agreed.

The objective of the HLA is to ensure that all required system interfaces with the XBID System and with IDA Components and all information flows into and out of the XBID System and of the IDA Components are identified which must be supported by the XBID Solution and/or by the IDA Solution in order to connect all local and regional implementation projects. It is important to note that all interfaces and information flows identified are optional for local/regional implementation projects to the extent that it has been identified that at least one local/regional implementation project needs the indicated interface and information flow. It is then up to each local/regional implementation project to decide which interfaces and information flows are actually needed at the local/regional implementation to deliver a consistent business process. This way, the HLA provides a functionally consistent and complete interface description for the XBID system and the IDA Components which should cover the functional interface requirements of each local/regional implementation project.

1.2. An information perspective on the XBID Solution and/or IDA Solution

Among the many perspectives possible, the present document adopts one particular perspective on the XBID Solution and IDA Solution: that of information flows. This perspective can be labelled the information perspective. At a high level of abstraction, the document tries to answer the five questions below:

1. *Which automated systems* (the 'Systems') play a role in the XBID Solution and/or IDA Solution?
2. *Which human agents* (the 'Agents') play a role in the XBID Solution and/or IDA Solution?
3. *What information is produced* by any of the Systems and Agents in the XBID Solution and/or IDA Solution (only information relevant to the solution is taken into consideration)?
4. *What information is exchanged* between any of the Systems and Agents in the XBID Solution and/or IDA Solution (applying the same restriction as item 3)?
5. In *what sequence* is the information produced by and exchanged between the Systems and the Agents?

Other perspectives on the solution would include the following.

- The legal and governance perspective (concerned with roles and responsibilities, ownership, decision making and legal entities).
- The algorithmic perspective (concerned with the rules applied in the calculation of the market coupling result and other pieces of information).
- The IT perspective (concerned with the design and development of the Systems and the interfaces between them).
- The operational perspective (concerned with the procedures followed to operate the Systems).

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These perspectives are not unrelated to the information perspective, but they are different. This document isn't concerned with them directly.

2 High-level functional architecture and business process – SIDC/IDCT

This chapter contains the high-level functional architecture and business process for SIDC/IDCT.

2.1. SIDC/IDCT Architecture overview

The architecture overview shown below was jointly drafted. It is explained in the following Articles of this chapter, which are devoted to:

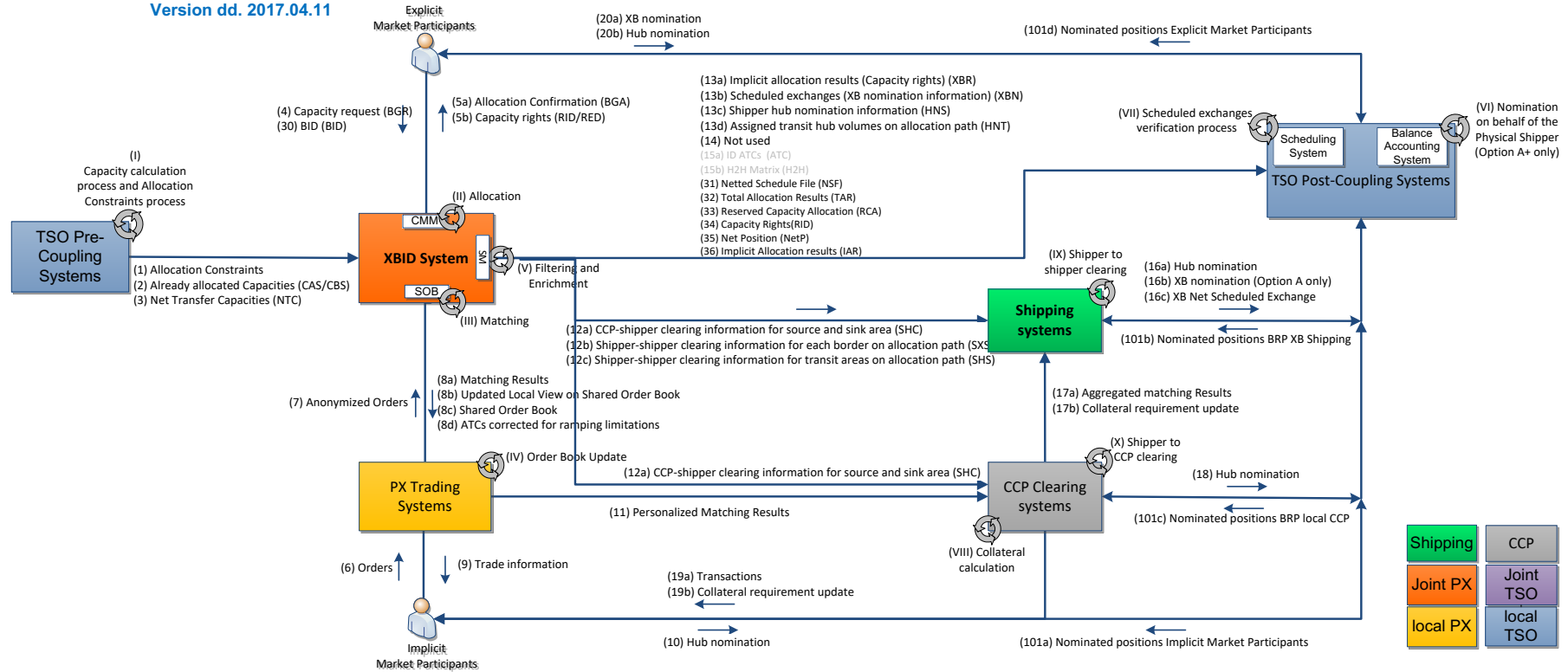
- The Systems shown,
- The processes shown,
- The Agents shown,
- The information produced and exchanged,
- The sequence in which the information is produced and exchanged,
- Several open questions regarding the information flows,

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XBID - High Level Architecture Shipping & Nomination Intermediate solution (option A/A+)

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DISCLAIMER: All references that could read as entities should be read as functional responsibilities.
Note: Flows labeled with three character abbreviations indicate flows going to/coming from CMM and SM

2.2. SIDC/IDCT Systems

In the architecture diagram, the automated systems ('Systems') that are expected to play a role in the XBID Solution are indicated with rectangles. These systems may either be existing systems adapted to the XBID Solution or systems to be newly built.

The Systems distinguished are logical or virtual systems. This means, they do not necessarily correspond to single software applications or to dedicated computer hardware. The latter entities belong to the IT perspective. In the information perspective, a System can be thought of as a set of information manipulation functions it is convenient to consider as a separate entity.

The following Systems are distinguished.

TSO Pre-Coupling Systems

The back-end systems of the TSOs involved are grouped together as the 'TSO Pre-coupling System'. This grouping is made on the assumption that these systems each manipulate essentially the same information. The TSO Pre-Coupling Systems support the TSO processes for ID capacity calculation and for determining the intraday capacity allocation constraints.

XBID System

The XBID System largely consists of three separate modules: the Capacity Management Module (CMM), the Shared Order Book (SOB) and the Shipping Module (SM).

Capacity Management Module (CMM)

The CMM keeps track of the available capacity and allocated capacity on each Scheduling Area Border in the coupled area. To this end it maintains a H2H matrix, which is the overview of the available capacity between each pair of hubs. In addition, it allocates capacity in response to implicit and explicit capacity requests.

Shared Order Book (SOB)

The SOB keeps track of the orders in each area and local order book views taking into account available capacities. It also performs the matching of orders across all order books and updates the order books accordingly.

Shipping Module (SM)

The SM contains rules deciding to which shippers any cross-border flow is assigned and filters and enriches the output of the XBID System accordingly before it is sent to the Physical and Financial Clearing systems and the TSO Post-Coupling Systems.

NEMO Trading Systems

The Trading Systems of the NEMOs involved in XBID are grouped together as the 'IDCT NEMO Trading Systems'. It includes the complementary solution to the XBID solution, used by each NEMO to support the market activities (optional trading solution or local trading solution). This grouping is made on the assumption that these systems each manipulate essentially the same information.

Among others the NEMO trading systems for XBID provide the following features:

- It shows to its market participants the local view, i.e., the order book that the market participants can view in each area according to the available capacity on the borders.
- It sends the orders (anonymized) to the SOB (XBID solution) received from their market participants. A 'trading solution client' is provided by the NEMOs to their market participants for their activities on the market (submit orders, receive trade information, etc...).
- It receives the required information from the XBID (matching results, local view, etc...).
- It provides the required information to the market participants and to its clearing system (CCP).

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SIDC/IDCT TSO Post-Coupling systems

Scheduling Systems

The Scheduling systems are the TSO systems to schedule the flows on Scheduling Area Borders and net exchanges for load frequency control, to check consistency with adjacent TSOs on scheduled flows or cross-border nominations as well as to monitor the capacity allocation process.

Balance Accounting Systems

The Balance Accounting Systems are the systems that grant and register grid exchange rights of market parties and transfer of these rights between market parties for energy ownership transfer. The registered rights are compared with actual grid exchanges of the market parties and the difference is subject to imbalance settlement.

In case the transfer of rights is across a Scheduling Area border this requires a cross-border nomination in accordance to allocated capacity rights (or allocated capacities).

Usually the Balance Accounting systems are TSO systems, but in the UK these systems are operated by an independent party. In Austria Hub Nominations are handled by a third party (APCS).

SIDC/IDCT Shipping Systems

The Shipping Systems take care of the physical and financial side of energy ownership transfer between CCPs including cross-border energy ownership transfer. They usually are CCP systems, but this is not necessarily the case, as they may also belong to a third party or a TSO. These systems receive information on power and money flows resulting from the matching in the XBID System. They each take care of the shipping on one or more borders and only need information on the flows across these borders. They are responsible for the information on nomination of these cross-border flows as well as their financial settlement with the CCPs on either side of the border.

SIDC/IDCT CCP Clearing Systems

The CCP Clearing Systems represent the clearing party of the exchange trading and as such settle each transaction on the Local Trading Systems both physically and financially..

2.3. SIDC/IDCT Agents

The Agents are represented in the diagram as abstract human figures.

Just like the Systems are abstract systems, the Agents distinguished are logical or virtual agents. An Agent is a non-automated* entity interacting with one or more Systems or other Agents in the information perspective on the XBID Solution. An Agent is distinguished according to the role he plays. For instance, one human being could appear in the architecture as two different Agents (for instance, 'Operator' and 'Operations Manager' – a distinction not relevant in our solution, but possibly relevant in other solutions). Conversely, hundreds of human beings appear as a single agent ('Implicit Market Participant').

* Note that even if an agent actually is automated, e.g. a trading robot replacing a human trader, it still is an entity different to a System, because it displays behaviour that is not fully predictable (in this example: a trading strategy) in the context of this functional architecture.

The following Agents are distinguished.

Explicit Market Participants

An Explicit Market Participant is a market party that acquires ID capacity rights directly from the XBID System.

Implicit Market Participants

An Implicit Market Participant is an ID trading party on a Local Trading System (i.e. the NEMO Trading System), which can conclude a trade with an Implicit Market Participant in another area resulting in a cross-border flow of power and money. In such a case the cross-border capacity needed is allocated implicitly by the XBID system to support the transaction between these two Implicit Market Participants.

2.4. Information produced and exchanged in SIDC/IDCT

The information produced and exchanged is represented in the diagram by arrows with a label. The small arrows with Arabic numerals point in the direction of the information flow. The circular arrows with Roman numerals indicate information produced in processes internal to a System. The label indicates the contents of the piece of information transferred or produced. The sequence of production and transfer of information is shown in [article 2.5](#). The arrows are numbered accordingly.

It should be stressed that only flows of information are shown in the diagram and some of them may be optional in a particular area.

When designing the information flows, two principles have been guiding, which may be in conflict with each other:

- Information is preferably transferred from its original source to its final destination, avoiding additional transfers in between;
- Information is preferably transferred along existing interfaces, avoiding the addition of new interfaces.

Whenever these principles conflicted, the members of the M TF relied on their judgement to pick a solution. The detail regarding the information provided belong may differ throughout the different regions according to their local implementation.

2.4.1. Processes in SIDC/IDCT

(I) Capacity calculation process and Allocation Constraints process

These are the processes that are carried out in the TSOs back-end systems for the purpose of calculating ID capacity and determining Allocation Constraints.

(II) Allocation

This is the process that allocates ID capacity

- a) To explicit market participants
- b) Implicitly to implicit market participants involved in a XB trade for which the matching between the involved orders requires the use of ID capacity on one or more Scheduling Area Borders with ID capacity allocation.

(III) Matching

This is the process that matches ID orders in the shared order book to a successful trade, using available cross-border capacities.

(IV) Order Book Update

This is the process that refreshes the local NEMOs order book by any change in the shared order book, e.g. change of ATC, matched orders, new or changed orders, etc.

(V) Filtering and enrichment

This is the process that filters the matched orders and allocated capacities on each step in each path of a successful XB trade to the TSO post-coupling systems, NEMO trading systems and Shipping systems concerned and enriches this information through application of local business rules with information on the shipper for each step in each path.

How much each CCP clearing system on each side of each Scheduling Area Border should receive from/provide to the shipper concerned should be specified in the business rules which are specific for each Scheduling Area Border.

(VI) XB Nomination on behalf of the Physical Shipper

This is the process where the TSOs balance accounting system takes care of the creation of the cross border nomination (on behalf of the Physical Shipper). The cross border nomination is created based on the information received from the XBID system (flow 13b (Scheduled Exchanges)). The XB Nomination on behalf of the Physical Shippers must be done at the latest at nomination gate closure time of the concerned delivery period.

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The following local deviations are identified:

- This might include the internal hub nomination towards the CCP (based on the information in flow 13c). (e.g. Germany)
- Cross border nominations of the Explicit Market Participants can be created on behalf, based on the information received in flow 13 (Explicit allocation Results (capacity rights)), replacing flow 20a (XB nomination). (e.g. Netherlands)

(VII) Scheduled Exchanges Verification Process

For a B2B physical clearing, Explicit and Implicit Allocation Results between the 2 involved Scheduling Areas have to be known by the TSO post-coupling systems. With this information TSOs check bilaterally information consistency between the allocated capacities on each side of the border.

(VIII) Collateral Calculation

This is the process that calculates the collaterals required by the CCP Clearing system to cover its counterparty risk (exposure) with:

- a) The implicit participants
- b) The shipping system.

(IX) Shipper to shipper clearing

This is the process that calculates and executes the financial settlement between two different shipping agents related to the cross-border energy ownership transfer. The financial settlement is created based on the following information received from the XBID system:

- a) flow 12b "Shipper-shipper clearing information for each border on allocation path (SXS)
- b) flow 12c "Shipper-shipper clearing information for transit areas on allocation path (SHS)

(X) Shipper to CCP clearing

This is the process that calculates and executes the financial settlement between a CCP and a shipping agent related to the energy ownership transfer within a hub (in source or sink areas). The financial settlement is created based on the information received from the XBID system: flow 12a "CCP-shipper clearing information for source and sink area" (SHC).

2.4.2. Information flows in SIDC/IDCT



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[Redacted content]

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ID	Step	Action	Produced by	Sent by	Received by	Predecessor
I	Capacity calculation process and Allocation Constraints process	Production	TSO Pre-coupling systems			-
1	Allocation constraints	Transfer		TSO Pre-coupling systems	XBID System (CMM)	I
2	Already Allocated Capacities (CAS/CBS)	Transfer		TSO Pre-coupling systems	XBID System (CMM)	I
3	Net Transfer capacities (NTC)	Transfer		TSO Pre-coupling systems	XBID System (CMM)	I
4	Capacity Request (BGR)	Transfer		Explicit Market Participants	XBID System (CMM)	1, 2 and 3
II	Allocation	Production	XBID System (CMM)			4 or III
5a	Allocation Confirmation (BGA)	Transfer		XBID System (CMM)	Explicit Market Participants	4 and II
5b	Capacity Rights (RID/RED)	Transfer		XBID System (CMM)	Explicit Market Participants	4 and II
6	Orders	Transfer		Implicit Market Participants	NEMO Trading Systems	-
7	Anonymized Orders	Transfer		NEMO Trading Systems	XBID System (SOB)	6
III	Matching	Production	XBID System (SOB)			7
II	Allocation	Production	XBID System (CMM)			III
V	Filtering and Enrichment	Production	XBID System			II or III
8a	Matching results	Transfer		XBID System (SOB)	NEMO Trading Systems	II and III and V
8b	Updated view on Shared Order Book	Transfer		XBID System (SOB)	NEMO Trading Systems	II and III
8c	Shared Order Book	Transfer		XBID System (SOB)	NEMO Trading Systems	II and III
8d	ATCs corrected for ramping limitations	Transfer		XBID System (SOB)	NEMO Trading Systems	II and III

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IV	Order book update	Production	NEMO Trading Systems			8a
9	Trade information	Transfer		NEMO Trading Systems	Implicit Market Participants	8a
10	Hub Nomination	Transfer		Implicit Market Participants	TSO Post-Coupling Systems	9
11	Personalized Matching Results	Transfer		NEMO Trading Systems	CCP Clearing systems	8a
12a	CCP-shipper clearing information for source and sink area (SHC)	Transfer		XBID System	Shipping Systems	V
12b	Shipper-shipper clearing information for each border on allocation path (SXS)	Transfer		XBID System	Shipping Systems	V
12c	Shipper-shipper clearing information for transit areas on allocation path (SHS)	Transfer		XBID System	Shipping Systems	V
13a	Implicit Allocation Results (Capacity rights) (XBR)	Transfer		XBID Systems	TSO Post-Coupling Systems	V
13b	Scheduled Exchanges (XB-nomination information) (XBN)	Transfer		XBID Systems	TSO Post-Coupling Systems	V
13c	Shipper hub nomination information (SHN)	Transfer		XBID Systems	TSO Post-Coupling Systems	V
13d	Assigned transit hub shipping volumes on allocation path(s) (SHT)	Transfer		XBID Systems	TSO Post-Coupling Systems	V
15a	ID ATCs	Transfer		XBID System (CMM)	TSO Post-Coupling Systems	II
15b	H2H Matrix	Transfer		XBID System (CMM)	TSO Post-Coupling Systems	II
16a	Hub Nomination	Transfer		Shipping Systems	TSO Post-Coupling Systems	12a and 12b
16b	XB nomination (option A only)	Transfer		Shipping Systems	TSO Post-Coupling Systems	12a and 12b
16c	XB Net Scheduled Exchange	Transfer		Shipping Systems	TSO Post-Coupling Systems	12a and 12b
17a	Aggregated matching results	Transfer		CCP Clearing system	Shipping Systems	11

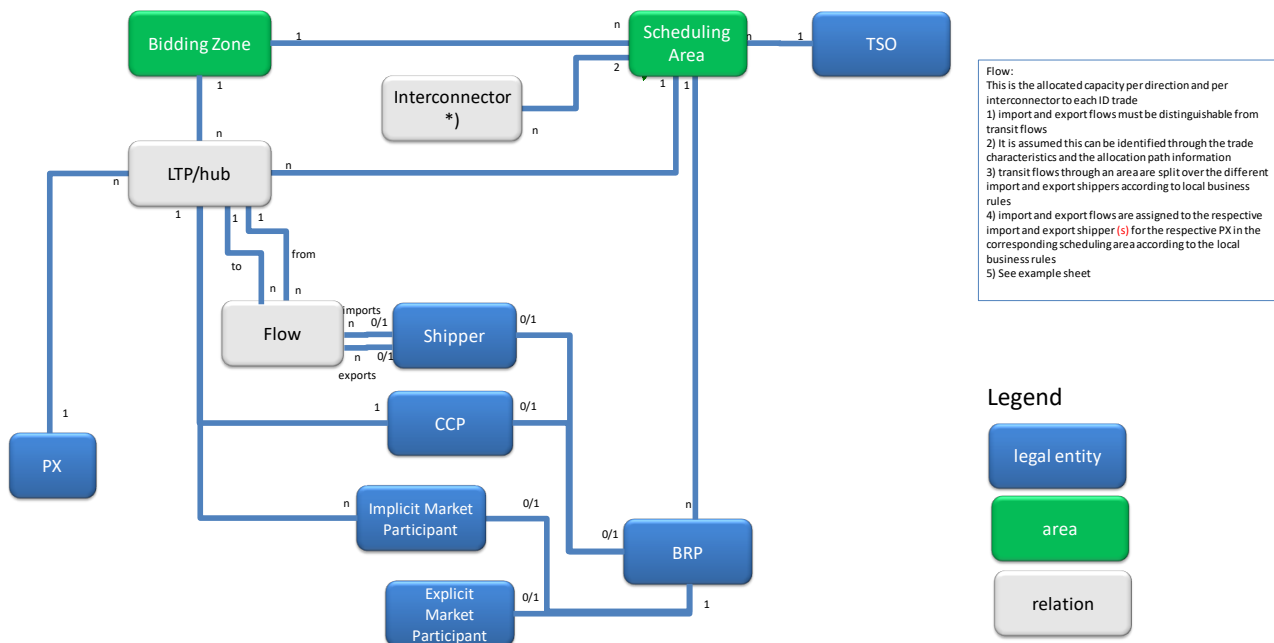
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VIII	Collateral calculation	Production	CCP Clearing system			11
17b	Collateral Requirement update	Transfer		CCP Clearing system	Shipping System	VIII
18	Hub Nomination	Transfer		CCP Clearing system	TSO Post-Coupling Systems	11
VI	XB Nomination on behalf of the Physical Shipper (Option A+ only)	Production	TSO Post - Coupling Systems			13a
VII	Scheduled Exchanges verification process	Production	TSO Post-Coupling Systems			13b
19a	Transactions	Transfer		CCP Clearing system	Implicit Market Participants	11
19b	Collateral Requirement update	Transfer		CCP Clearing system	Implicit Market Participants	VIII
20a	XB Nomination	Transfer		Explicit Market Participants	TSO Post-Coupling System	3b
20b	Hub nomination	Transfer		Explicit Market Participants	TSO Post-Coupling System	3b
IX	Shipper to shipper clearing	Production	Shipping system			12
X	Shipper to CCP clearing	Production	CCP Clearing system			12
101a	Nominated positions Implicit Market Participants	Transfer		TSO Post-Coupling System	Implicit Market Participants	10
101b	Nominated positions BRP Shipper	Transfer		TSO Post-Coupling System	Shipping system	16a, 16b, VI, VII
101c	Nominated positions BRP local CCP	Transfer		TSO Post-Coupling System	CCP Clearing system	10, 16a, 18
101d	Nominated positions Explicit Market Participants	Transfer		TSO Post-Coupling System	Explicit Market Participants	20a, 20b, VI, VII

2.6. Logical Model for SIDC/IDCT

The picture below shows the entity relationship diagram with the required functional entities and their mutual relations. The Exhibit 1 provides the necessary definitions.



Flow:
 This is the allocated capacity per direction and per interconnector to each ID trade
 1) Import and export flows must be distinguishable from transit flows
 2) It is assumed this can be identified through the trade characteristics and the allocation path information
 3) transit flows through an area are split over the different import and export shippers according to local business rules
 4) Import and export flows are assigned to the respective import and export shipper (s) for the respective PX in the corresponding scheduling area according to the local business rules
 5) See example sheet

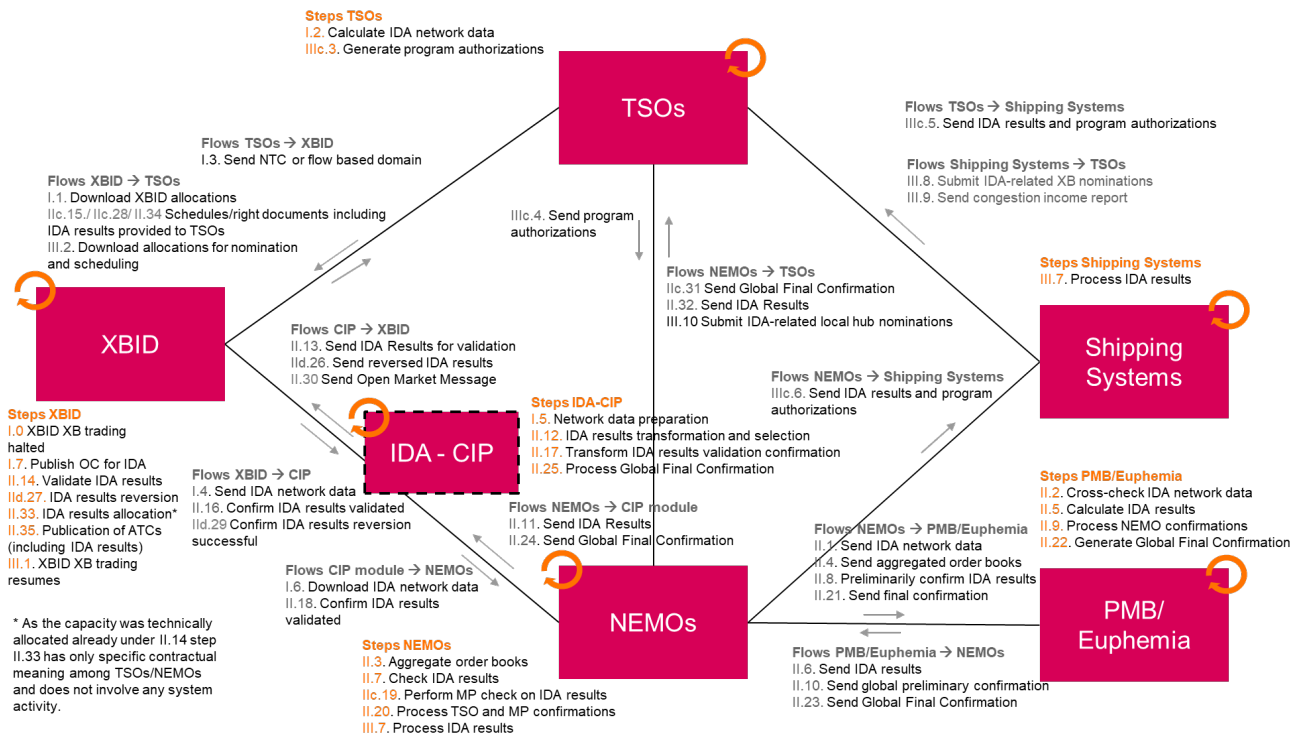
*) Please note that each pair of scheduling areas can have more than one interconnector

3 High-level functional architecture and business process – SIDC/IDA

3.1. SIDC/IDA Architecture overview

The architecture overview shown below was jointly drafted. It is explained in the following articles of this chapter, which are devoted to:

- The Systems shown,
- The processes shown,
- The Agents shown,
- The information produced and exchanged,
- The sequence in which the information is produced and exchanged,



3.2. SIDC/IDA Systems

In the architecture diagram, the automated systems ('Systems') that are expected to play a role in the IDA Solution are indicated with rectangles. These systems may either be existing systems adapted to the XBID Solution and/or IDA Solution or systems to be newly built.

The Systems distinguished are logical or virtual systems. This means, they do not necessarily correspond to single software applications or to dedicated computer hardware. The latter entities belong to the IT perspective.

The following Systems are distinguished.

TSO Pre-Coupling Systems

The back-end systems of the TSOs involved are grouped together as the 'TSO Pre-coupling System'. This grouping is made on the assumption that these systems each manipulate essentially the same information. The TSO Pre-Coupling Systems support the TSO processes for capacity calculation and for determining the intraday capacity allocation constraints for the IntraDay Auction.

XBID – CMM Module

In the context of IDA, CMM module is playing a role in both pre-coupling and coupling:

- In the pre-coupling process, it collects all the input data provided by TSOs and it uses them to generate one complete input data file, containing the network data information for all the borders included in the IDA topology
- In the coupling process, it validates the IDA results in the form of allocation request.

NEMO Trading Systems

The Trading Systems of the NEMOs are grouped together as the 'NEMO Trading Systems. It includes the solution used by each NEMO to support the market activities in Intraday Auction (local trading solution). This grouping is made on the assumption that these systems each manipulate essentially the same kind of information.

Among others the NEMO trading systems provide the following features:

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- They collect, anonymizes, aggregates the orders received from their market participants. A 'trading solution client' is provided by the NEMOs to their market participants for their activities on the market (submit orders, receive market coupling results, etc...).
- They receive the required information from XBID System via IDA CIP Tool (network data constraints, confirmations).
- They validate the results from NEMOs perspective.
- They provide the required information to the market participants and to the clearing systems.

IDA CIP Tool

The IDA CIP Tool is the system used to process and to elaborate some specific sets of data and to exchange files/flows between XBID CMM and NEMOs systems.

- It processes received data from CMM .
- It provides processed CMM data to NEMOs.
- It accepts result data from NEMOs.
- It provides processed results data to CMM .
- It ensures consistency of results between NEMOs and XBID CMM.

EUPHEMIA algorithm

It is the algorithm that has been developed to solve the problem associated with the coupling of the day-ahead power markets and that is used to solve the analogous problem for the Intra-Day Auction.

PMB System

PCR Matcher Broker (PMB) is the system used by each NEMO to share the data needed for the auction with the other NEMOs and with EUPHEMIA. It is comprised of two modules, the Broker and the Matcher:

- a. the Broker module acts as the interface to every other PMB (to share data via a dedicated and secured cloud) and with local NEMO IT systems.
- b. the Matcher module makes all the data received from the Broker module available to EUPHEMIA and activates the algorithm. This module also receives the results of the price coupling from the algorithm and forwards to the results to the Broker module.

3.3. Agents in SIDC/IDA

Differently than in continuous trading, in IDA only implicit allocation is available, therefore the only Agent to be considered is the Implicit Market Participant.

Implicit Market Participants

An Implicit Market Participant is trading party on a Local Trading System (i.e. the NEMO Trading System), which can:

- enter his offers towards SIDC/IDA via I NEMO Trading Systems for SIDC/IDA;
- check the results the NEMOs publish

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3.5. Sequence in which information is produced and exchanged in SIDC/IDA

Please note that the envisaged sequence of the data flows and processes shown in the HLA for SIDC/IDA is as indicated in the table below.

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ID	Step	Action	Produced by	Sent by	Received by	Predecessor
(I.0)	Halt of cross border trading in XBID platform for SIDC/IDCT	Production	XBID CMM			-
(I.1)	Download XBID Allocations	Transfer		XBID System (CMM)	TSO Pre-coupling systems	(I.0)
(I.2)	Calculation of SIDC/IDA network data	Production	TSO Pre-coupling systems			(I.1)
(I.3)	Send NTC/Flow-based domain	Transfer		TSO Pre-coupling systems	XBID System (CMM)	(I.2)
(I.4)	Send SIDC/IDA network data	Transfer		XBID System (CMM)	IDA CIP Tool	(I.3)
(I.5)	Network data preparation by the IDA CIP Tool	Production	IDA CIP Tool			(I.4)
(I.6)	Download SIDC/IDA network data	Transfer		IDA CIP Tool	NEMO Trading Systems	(I.5)
(I.7)	Publish offered capacity for IDA	Production	TSO Pre-coupling systems			(I.3)
(II.1)	Send IDA network data	Transfer		NEMO Trading Systems	PMB	(I.6)
(II.2)	Cross-check IDA network data	Production	PMB			(II.1)
(II.3)	Aggregate order books	Production	NEMO Trading Systems			-
(II.4)	Send aggregated order books	Transfer		NEMO Trading Systems	PMB	(II.3)
(II.5)	Calculate SIDC/IDA results	Production	PMB/EUPHEMI A			(II.1) and (II.4)
(II.6)	Send IDA results – [From PMB to NEMOs]	Transfer		PMB	NEMO Trading Systems	(II.5)
(II.7)	Check SIDC/IDA results	Production	NEMO Trading Systems			(II.6)
(II.8)	Preliminarily confirm SIDC/IDA results	Transfer		NEMO Trading Systems	PMB	(II.7)
(II.9)	Process NEMO confirmations	Production	PMB			(II.8)

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(II.10)	Send global preliminary confirmation	Transfer		PMB	NEMO Trading Systems	(II.9)
(II.11)	Send SIDC/IDA Results – [From NEMOs to SIDC/IDA CIP]	Transfer		NEMO Trading Systems	IDA CIP	(II.6)
(II.12)	SIDC/IDA results transformation and selection	Production	IDA CIP Tool			(II.11)
(II.13)	Send SIDC/IDA Results for validation	Transfer		IDA CIP Tool	XBID CMM	(II.12)
(II.14)	Validate SIDC/IDA results	Production	XBID CMM			(I.2) and (II.13)
(II.c15)	Schedules/rights document including SIDC/IDA results provided to TSOs	Transfer		XBID CMM	TSO Pre-coupling systems	(II.14)
(II.16)	Confirm SIDC/IDA results validated - [from CMM to IDA CIP Tool]	Transfer		XBID CMM	IDA CIP Tool	(II.14)
(II.17)	Transform SIDC/IDA results validation confirmation	Production	IDA CIP Tool			(II.16)
(II.18)	Confirm SIDC/IDA results validated - [from IDA CIP Tool to NEMOs]			IDA CIP Tool	NEMO Trading Systems	(II.17)
(II.c19)	Perform market participant check on SIDC/IDA results	Production	NEMO Trading Systems			(II.10)
(II.20)	Process TSO and market participant confirmations	Production	NEMO Trading Systems			(II.18) and (II.c19)
(II.21)	Send final confirmation	Transfer		NEMO Trading Systems	PMB	(II.20)
(II.22)	Generate Global Final Confirmation	Production	PMB			(II.21)
(II.23)	Send Global Final Confirmation (II.23) [from PMB to NEMOs]	Transfer		PMB	NEMO Trading Systems	(II.22)
(II.24)	Send Global Final Confirmation – [from NEMOs to IDA CIP]	Transfer		NEMO Trading Systems	IDA CIP Tool	(II.23)
(II.25)	Process Global Final Confirmation	Production	IDA CIP Tool			(II.24)
(II.d.26)	Send reversed IDA results	Transfer		IDA CIP Tool	XBID CMM	(II.25)
(II.d.27)	IDA results reversion	Production	XBID CMM			(II.d.26)
(II.d.28)	Schedules/rights document including IDA results provided to TSOs	Transfer		XBID CMM	TSO Pre-coupling systems	(II.d.26)

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(II.d.29)	Confirm IDA results reversion successful	Transfer		XBID CMM	IDA CIP	(II.d.27)
(II.30)	Send Open Market Message	Transfer		IDA CIP	XBID CMM	(II.25) or (II.d.29)