ECM DOCUMENT 3

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RECOMMENDATIONS

FOR

EFET COMPLIANT

CENTRAL MATCHING SERVICE

VERSION 1.9.

CREATED BY EFET IT TF – BUSINESS WORKGROUP

Revision History

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I. EXECUTIVE SUMMARY

The goal of this document is to describe the business requirements and recommendations towards an EFET compliant Central Matching Service.

I.1. PROBLEM DEFINITION

Increasingly energy trading companies are now looking towards the integration and straight-through processing, both internally and externally, to enhance business process efficiency and reduce operational risk and cost. But many are still hesitating as they weigh the costs and benefits.

Indeed, unlike in the financial world were widely accepted electronic communication standards exist, business process integration in the energy trading marketplace is by definition cumbersome and cost intensive due to the very lack of widely accepted electronic communication standards. Each service provider (exchanges, broker platforms, clearing houses, matching services, etc.) and each software vendor use their own "standard" requiring implementation of a different interface and cumbersome translation for each of these "standards". This results in an unmanageable "spaghetti" network of interfaces.

To solve the business process integration problem, an electronic communication standard (=common language) must be established within the industry and put into place within the organizations. The messages and processes that need standardization in the Energy Trading world are, for example, trade confirmations, deal information, scheduling, nominations, clearing, invoicing, quotes, …

By standardizing the exchange of this information and the corresponding processes both internally and externally, companies could reduce costs and streamline internal business processes. This standardization has to be driven by an accepted industry wide neutral body.

I.2. EFET STANDARDS

EFET deems it can be the industry wide neutral body that drives the definition of such an industry standard. EFET has thus created the EFET IT Taskforce whose task is to define such an **EFET Standard**.

The EFET standard will define the general structure of the electronic messages and how these electronic messages can be exchanged. The EFET standard applies to all electronic messages exchanged in the energy trade environment, and therefore can be considered a general standard.

This standard will also define the **reference codes (semantics of the language)** to be used for commonly used data within these electronic messages. This includes the unique codes identifying the different trading parties, and the reference codes for energy specific characteristics such as market, commodity, … These reference codes should also be used in paper and fax communications.

I.3. ECM AS PILOT

The EFET IT taskforce decided on a phased development to enable the speedy implementation of the standard. The initial version of this EFET standard will be geared towards a concrete process bearing in mind future generalization and extension. Developing standards for a specific business process rather than trying to cover all possible scenarios will rapidly produce measurable results.

The business process concerning the exchange and validation of electronic trade confirmations has been chosen in the initial version of the standard. This will be referred to as ECM, which stands for "Electronic Confirmation and/or Matching".

As a first step, **the ECM process itself will be clearly defined and agreed**. Once the workflow has been established on how two trading parties will interact to confirm a deal, the message flows and message structure definitions needed to support this process will be defined.

This ECM process is described in **EFET ECM doc2 - EFET Standards 1.0 - Central Matching and P2P Authentication Process** based on the definitions in **EFET ECM doc1 - Lexicon.**

The **EFET ECM standard will then consist of the definition of the exact message flow, message content and message structure** for the information exchanged during an ECM process.

This standard is described in **EFET ECM doc4 - EFET Standards 1.0 - Core Components & Coding Scheme** and **EFET ECM doc5 - EFET Standards 1.0 - ECM Interface Definition.**

I.4. REQUEST FOR A CENTRAL MATCHING SERVICE PROVIDER TO BE EFET COMPLIANT

The EFET members expect any Central Matching Service provider to comply to both the Standard EFET ECM processes and the EFET Standard. The compliancy with the EFET standards as detailed in **chapter II** is thus a **FUNDAMENTAL REQUIREMENT**.

Besides this fundamental requirement, the EFET IT TF has defined in **chapter III and IV** a number of common wishes in terms of matching algorithm, user interface, special features, data confidentiality etc… These expectations are not absolute requirements but **strong recommendations** that are meant to provide the Central Matching Service provider with a clear view on industry wishes. Any Central Matching Service provider considering and following these recommendations would have a distinctive competitive advantage.

II. FUNDAMENTAL REQUIREMENT TO COMPLY WITH EFET STANDARDS

This chapter highlights the **ABSOLUTE and FUNDAMENTAL REQUIREMENT** for a Central Matching Service to comply with:

- The standard ECMS process as described in **EFET ECM doc2 - EFET Standards 1.0 - Central Matching and P2P Authentication Process**
- The standard ECM interface as described in **EFET ECM doc4 - EFET Standards 1.0 - Core Components & Coding Scheme** and **EFET ECM doc5 - EFET Standards 1.0 - ECM Interface Definition**

II.1. COMPLIANCY WITH STANDARD EFET ECM PROCESS

The Central Matching Service Provider will take trade confirmations as input and report a matching result, interpreting the different scenarios as specified in **EFET ECM doc2 - EFET Standards 1.0 - Central Matching and P2P Authentication Process**. This result can be a match or a time out. The matching result will contain the counter party trade confirmation content.

II.2. COMPLIANCY WITH EFET STANDARDS

All messages sent to and from the Central Matching Service have to comply with the EFET ECM Standard as described in **EFET ECM doc4 - EFET Standards 1.0 - Core Components & Coding Scheme** and **EFET ECM doc5 - EFET Standards 1.0 - ECM Interface Definition.**

This implies some Central Matching Service Providers might have to build a translator to convert the EFET XML messages into their current XML structures before processing them and vice versa.

Note:

The EFET standards, as described in Document 4 and Document 5, are meant to be an open standard.

The EFET standards are managed by EFET and available for everyone without restriction to implement, use, publish and promote.

If however a provider comes up with a better proposition for or a suggestion for an amendment to this standard, EFET will consider adapting the EFET standard accordingly in a later release.

III. STRONG FUNCTIONAL RECOMMENDATIONS

This chapter highlights the common expectations of the European Energy Traders in terms of functions, processes, service level agreement etc…

These are, as opposed to the compliancy requirement of the previous chapter, but very STRONG RECOMMENDATIONS!

Note:

Some of these recommendations might be amended (e.g. if a provider comes up with a better proposition or can motivate the irrelevance of a specific recommendation).

III.1. MATCHING PROCESS

III.1.1. MATCHING ALGORITHM

A distinction is to be made between Key Fields and Information Fields (see also document 2). Within the set of key fields, one could further distinguish between primary key fields and secondary key fields.

Prior to the matching process being undertaken there will be a validation to check the message format and content validity.

Once validated, a confirmation will enter the matching algorithm. It will be attributed the status "pending" until a possible corresponding counter party confirmation has been found.

For two confirmations to be seen as confirming the same trade, all **Key Fields** (Primary + Secondary) have to be identical. This means that two confirmations with a difference in a key field value will not be identified as confirming the same trade, i.e. they will not be identified as a match.

If two confirmations match on all Primary Key Fields, but not on all Secondary Key Fields, their status is changed to "pending with mismatch". This indicates that there is another confirmation in the system that might correspond to the same trade but that does not match entirely.

Confirmations in "pending with mismatch" status remain in the matching queue and will continue to be checked against other possible matches.

The **Information Fields** are only used for information purposes and are not to be taken into account in the matching algorithm.

Key Fields

- Buyer (1)
- Buyer Energy Account
- Seller (2)
- Seller Energy Account
- Market
- Commodity
- Load Type
- Trade Type
- Trade Date
- Agreement
- Broker (*)
- Delivery Point (3)
- Start Date & Time (4)
- End Date & Time (5)
- Contract Capacity (*)
- Capacity Unit (*)
- Total Volume (*)
- Currency
- Price (*)

The fields marked with a (*) are good candidates for secondary key fields, the other fields would then be the primary key fields. Within the primary key fields, a matching order (1 to 5) has been identified to streamline the matching process and enhance performance. All other Key Fields can be treated in any further sequence.

Note: Normally, the matching via a central matching service will only be used for simple deal types. The comment field should always be empty in this case. However, if the two parties agree on the exact structure of the extra deal information they put in the Comment field, the Central Matching Service can be used to match complex deals as well.

Information Fields

- Document ID
- Document Version
- Trader Name
- Trade Time
- Comment

Note: In the future, when gas and gas options will be supported extra primary and secondary key and information fields might be added.

III.1.2. MATCH RESULT REPORTING

In case of a match, a **unique Authentication ID** should be generated. The Central Matching Service will immediately send a **trade confirmation match message** to both parties.

This match message should contain the Authentication ID, both Document ID's and the full details of both trade confirmations.

For unmatched confirmations, an online report should be available with all counter party confirmations having the same primary key fields but with discrepancies in the secondary key fields. See also II.2.

III.1.3. CONFIRMATION LIFE CYCLE

Reporting on a confirmation should consider following statuses:

- **Received**: Confirmation has been received by the service, but has not yet been checked for validity.
- **Rejected**: Confirmation has been rejected (did not pass validation) and is archived. Reasons for rejection can be invalid data (not EFET ECM compliant), counter party not subscriber of system, ... See also III.1.4. exception handling.
- **Pending**: Confirmation has been checked for data validity and is in the matching queue. A pending confirmation can be **"Pending with Mismatch"**, meaning there have been possible matches found (identification of counter party confirmations with the same Key Fields), but no full match (all Secondary Fields are not identical).
- **Matched**: A counter party confirmation has been received and completely matches on all primary AND secondary key fields. The trade confirmation is given status "matched" and archived for later reference. Match is reported.
- **Cancelled**: Confirmation has been withdrawn by the originator (via Graphical User Interface) and archived for later reference.
- **Time Out**: Confirmation has been removed from the matching queue because time out limit (3 business days) has been reached. Confirmation is archived for later reference. Time out is calculated from the time where the confirmation enters the matching queue.

Note: **Archived confirmations** are not active any more in the sense that they are not taken into consideration in the matching queue but they are still available for reporting.

Important note on the usage of data: The trade confirmation data can only be used for reports requested by the trading parties. The information can under no circumstance be used by the central matching service provider for other reports, unless explicit approval has been granted from all involved trading parties.

III.1.4. EXCEPTION HANDLING

A **business exception** might be that **an incorrect confirmation has been send**. The user should have the following two options to correct his error:

- **Send a new confirmation with the same Document ID**. The system when receiving a confirmation will always first check whether another confirmation referring to the same Document ID is already present in the system. If it finds one and this one does NOT have status "matched", the old one will be cancelled and archived and the new one will be given status "pending" and processed.

- **Cancel** the incorrect confirmation via a user interface. The user should only be able to cancel a confirmation if it does not have status "matched".

The system should also be able to handle **other user errors** such:

- User sends a confirmation with an **invalid format**. This confirmation should be rejected at validation.
- User sends a confirmation on a trade with a **counter party which is not registered to the system**. This confirmation should be rejected at validation.
- User sends **twice** exactly the same confirmation. This confirmation can be ignored.
- User sends a **confirmation with a Document ID that already exists in the system**. This confirmation should be rejected at validation if the old confirmation has status "matched" otherwise this confirmation will replace the old confirmation and get status pending.

System failures should immediately generate a message warning to the users.

III.2. ADDITIONAL REPORTS

Note: For communication purposes between parties upon matched trades, the fields Document ID, Authentication ID (when applicable), counter party Document ID (when applicable) should be available on ALL reports.

Reports that should be available online and in real time:

- **Confirmations having been matched**: Full Match result including Authentication Document ID, Reference Document ID and CPTY Document ID but also the full trade confirmation data from both parties.
- **Possible Matches**: report on pending confirmations for which pending counter party confirmations have been found with the same primary key fields but for with the secondary key fields are not identical. This report should allow the party to view the content of all linked confirmations (incl. Reference Document ID and counter party Document ID's).
- **Confirmations** (received, pending) **of which you are not the originator but identifying you as being the Buyer or the Seller:** Document ID, status and full details.
- **Confirmations having recently been rejected**: Document ID and the detailed reason for rejection of the confirmation.
- **Confirmation overview**: list of all own trade confirmations incl. recently archived ones and their current status: Document ID, status.

An end of day (or on request?) batch should generate a downloadable version of all reports as listed above.

Following additional reports might be included in this end of day or on request batch:

- **Confirmation History overview**: detailing all former transactions related to a Document ID (incl. archived ones).

III.3. USER INTERFACE

Each company should be given a number of **different logins** (password protected).

Profiles shall be defined to allow some logins to have certain authorisations such as cancellation of confirmations, etc… and others to only have read only access rights.

The **reports should be highly user configurable** in terms of drill down capabilities, sorting, filtering, level of detail etc. The system should allow both reporting on paper and in electronic format.

The aim here is to facilitate the auditing of a confirmation at any stage of the matching process.

IV. ADDITIONAL NON-FUNCTIONAL RECOMMENDATIONS

IV.1. AUDIT TRAIL AVAILABILITY

Note: yet to be checked by the EFET IT TF Legal workgroup.

A **full audit trail** of all incoming and outgoing messages and of all transactions occurring within the system has to be kept for at least one year. An electronic download of all such information relevant to a party must be possible on request.

Deletion of any data has to be agreed upon by BOTH interested parties!

All archived records should be **retrievable on request** either online or data storage medium (e.g. CD) and this within the time period according to the law of land.

IV.2. SLA

The users would expect the Central Service Provider to sign a SLA (Service Level Agreement) containing **the interface compliancy, functional requirements and audit trail availability** as mentioned in former paragraphs of the current document.

Additional terms would describe:

- Exact service including **full documentation of functionalities**
- **Training and testing processes**
- **Change requests and release procedures**
- **Service availability**: The system should ideally be available 24h/24h 7/7 with a response time of e.g. 5 min, meaning messages should be processed in the matching algorithm not later than 5 min after reception by the Service Provider.
- **Service reliability**: Does the service provider ensure system recovery within 1 hour?
- **Helpdesk/support services**: What level of support does the Service Provider offer? 24h/24h 7/7?
- **Indemnities**: What indemnity does the Service Provider offer in case a match is reported on confirmations that in reality do not match?
- **Data ownership, security & confidentiality**: Users might want to be ensured their data is not used for other commercial purposes. Other users might allow use of aggregated data for construction of price indices if this is limited to highly liquid markets. The service provider should ensure users or external parties can not access each others data. An exception to this rule is a confirmation sent by one user but in which another user is buyer or seller. Additionally a clause should state what happens with the data in case of termination of the contract (bankruptcy, change of service provider...).
- **Penalties on non-delivery**: Non-delivery can be proven if key performance indicators are agreed upon.