

Functional Design eCM Test scenarios for the EFET Test facility

- **Trader Seller/Buyer tests**
- **Product tests**

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By order of EFET

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1 INTRODUCTION

EFET defined the electronic Confirmation and Matching (eCM) system to enable electronic exchange of Trade Confirmations and Match suggestions regarding these trades.

Starting with version 3.0 of this standard the messaging layer 'below' this standard is based on ebXML MS V2.0. With this requirement all implementations of the eCM should be interoperable, even when coming from different sources.

In order to check if the standard is detailed enough to reach this interoperability and to check if implementers and users have followed the standard as it was meant, EFET asked KEMA to provide a test facility that is able to simulate the applicable participant roles covering the complete functionality of the eCM standard. This test facility must comprise various test scenarios, selected by EFET, which must be performed by the System Under Test with positive result in order to be certified. The System Under Test can have different functionality, performing the role of a Trader (Seller or Buyer) or Broker. Important is that the Test facility can only test the interfacing with the System Under Test. The test facility will be available on the public Internet, 24 hours per day 7 days per week

This document describes the test scenarios that are to be performed to certify eCM version 3.2 compliant products and a market participant using these products. When the test scenarios are approved by EFET, KEMA will propose selections from the list of scenarios that must be performed in a vendor test and in a market participant test.

Chapter two describes in general the checks that will be performed by the test facility.

In chapter three the behavior of the test facility in case a message is received is described.

Chapter four describes the coding of the test scenarios.

Chapter five describes in details the test scenarios on the transport, semantic and syntax level. Paragraph two of this chapter describes the scenarios for the ebXML layer. These tests always have to be performed prior to all other scenarios. Paragraph three of chapter five describes the scenarios for the business document flow of the EFET eCM.

2 GENERAL CHECKS

This section describes the general checks that will be performed by the test facility on all incoming messages, unless otherwise specified in a test scenario.

- Correct XML structure
- Correct eCM documents conform EFET eCM XML Schema's
- Correct eCM message according to eCM V3.2
- The use of correct EIC-codes
- Correct use of ebXML parameters (CPAID, Service, Action, ConversationID, MessageID, PartyID)
- Correct use of ebXML message encodings (signature formats, compression)
- Each party has one party address where they should send their messages.
- The messages should be according to the test scenario currently active. This involves checking of:
 - Expected message
 - expected changes in data
 - expected references to previous messages

3 GENERAL ACTIONS OF THE TEST FACILITY

This section describes the general actions that will be performed by the Test Facility when it has received a message, unless otherwise specified in a test scenario.

| Incoming Message | Action |
|--|--|
| The source of the incoming message is unknown (the party address is unknown) | <ul style="list-style-type: none">– Message is discarded– No error message is displayed on website |
| There is no scenario active for the sender of the message | <ul style="list-style-type: none">– Message is discarded– No error message is displayed on website |
| Message is not a valid eCM message while a scenario is active | <ul style="list-style-type: none">– Scenario is aborted– Error message is displayed on website– Rejection is sent with code “Validation error” |
| Message is a valid eCM message but not as expected by the scenario | <ul style="list-style-type: none">– Scenario is aborted– Error message is displayed on website– No reply is sent |
| Message is valid and as expected by the scenario | <ul style="list-style-type: none">– Scenario proceeds to the next step (if there is a next step)– Positive ACK is sent– If required by the scenario, the next message is sent. |

4 GENERAL REMARKS ABOUT THE SCENARIOS

Each scenario has a unique code (for example S101010). The scheme for this code is as follows:

- Position 1: An 'S' to indicate that the System Under Test (**SUT**) has to send the first message, a "T" when the Test Facility takes the initiative.
- Position 2: At the moment this number will always be 1. If the eCM Test Facility needs to be extended in the future with a new set of scenarios, this number can be increased for the new scenarios.
- Position 3+4: The eCM message Type:
 - 01: CNF (Trade Confirmation)
 - 02: REJ (Rejection)
 - 03: MSU (Match Suggestion)
 - 04: MSA (Match Suggestion Acceptance)
 - 05: MSR (Match Suggestion Rejection)
 - 06: CAN (Cancellation)
 - 07: ACK (Acknowledgement)
 - 08: BFI (Broker Fee Information)
 - 09: BMN (Broker Match Notification)
 - 10: BCN (Broker Confirmation)
- Position 5+6: The scenario number
- Position 7: Version number. When a scenario needs to be changed (due to an error or new insights) after the parties have started testing, this number can be used to show the scenario is a new version. Standard this number will be 0.

The scenarios contain references to make it easier for the helpdesk to find the necessary specifications. All references are to the eCM standard documents.

The steps of the scenarios are numbered in the following way for a S-Scenario:

- Steps that require action from the SUT (the system of the party performing the test): Odd step numbers
- Steps that require action from the Test Facility: Even step numbers

This can result in skipping a step-number, when one of the systems needs to perform two steps after each other (for example, when the SUT needs to send an Acknowledgement and a Confirmation).

The steps of the scenarios are numbered in the following way for a T-Scenario:

- Steps that require action from the Test Facility: Odd step numbers
- Steps that require action from the SUT (the system of the party performing the test): Even step numbers

This can result in skipping a step-number, when one of the systems needs to perform two steps after each other (for example, when the Test Facility needs to send an Acknowledgement and a Confirmation) .

We defined most scenarios as S-scenarios because we want to avoid the following:

- Test Facility sends a CNF for a Commodity / Market / TransactionType the SUT does not support.
- Test Facility uses locations not supported by the SUT

These situations would never result in a MATCHING status.

In some scenarios the data that must be send must be containing specific data fields.

All specific data entries must be specified and agreed upon before the scenario's can be implemented.

This is avoided when the SUT sends in what they support. The Test Facility can make offences or not on the received data. For the Test Facility it is in most scenario's not relevant which Commodity / Market / TransactionType and locations are being used. In paragraph 5.3.4 there are defined special scenarios so the SUT can prove that they support multiple Commodity / Market / TransactionType combinations.

Each SUT will be assigned a unique EIC-code for the communication. The Test Facility will have a unique EIC-code for:

- Trader Role
- Broker Role

The Test Facility has to perform two roles in some scenario's to test the actual situation as close as possible.

The overall purpose of the testing is that the Test Facility must check that the incoming messages at the test facility side are according what is expected. In the process of entering them at the beginning of the cycle and the delivery at the test facility no changes may occur. Also the other way around: In the process of sending by the test facility and handling the received files at the SUT-side changes may not occur either.

Therefore for every scenario the configured input and changes must be prescribed to be able to verify this (automatically by the Test Facility or manually by the SUT-operator).

For example:

- SUT sends a CNF which contains the information from Trade A. The contents of this trade A must then be specified in the appendix so that there is no discussion about the contents and values that are required
 - The only difference with the appendix may be the EIC-codes of the SUT (Sender / Receiver / Buyer / Seller)
 - Other key fields must stay the same
 - Informational fields may be changed because they should not influence the matching process
- SUT must send an amendment, containing the information from Trade B.
- Test Facility will send an amendment with the information from Trade B.

In combination with the wish of the EFET members the state changes are specified in the scenarios, so checks can be done manually at the SUT-side to verify that the states are according what is expected. **The specified states are the states after handling the step.**

When errors are detected at the Test Facility side the scenario will fail, and the history will show the results of the steps. The states and generated files can then be verified to see where the problem occurred within the SUT.

The Testing of BFI is a local matter and can not be tested with the Test Facility.

Below is an example of the manner how to prescribe specific trades used in scenarios and the state changes required for a good result.

Overview of statuses for CNF and BCN during the scenario

| | System Under Test (Buyer) | | Test Facility (Seller) | Test Facility (Broker) |
|------|----------------------------|-------|------------------------|------------------------|
| Step | CNF 1 | BFI 1 | CNF 2 | BCN 1 |
| 1 | Sending to CP Trade ... | | | |
| 2 | Pending | | | |
| 3 | | Valid | | |
| 4 | | | | Start Trade ... |
| 5 | | | | Pending |

Colors indicate the following knowledge:

| Color in Step Column | Explanation |
|----------------------|-----------------------------|
| Yellow | CNF 1 / BCN 1 of SUT |
| Light Yellow | CNF 2 / BCN 2 of SUT |
| Light Green | CNF 3 / BCN 3 of SUT |
| Light Grey | CNF 1 of Test Facility |
| Dark Grey | CNF 2 of Test Facility |
| Medium Grey | CNF 3 of Test Facility |
| Purple | Related to matching process |

| Color in Step Column | Explanation |
|----------------------|------------------------|
| Yellow | CNF 1 / BCN 1 of SUT |
| Light Yellow | CNF 2 / BCN 1 of SUT |
| Light Green | CNF 3 / BCN 1 of SUT |
| Light Cyan | BFI 1 of SUT |
| Light Grey | CNF 1 of Test Facility |
| Dark Grey | CNF 2 of Test Facility |
| Medium Grey | CNF 3 of Test Facility |
| Light Blue | BCN 1 of Test Facility |
| Medium Blue | BCN 2 of Test Facility |
| Dark Blue | BCN 3 of Test Facility |

Special attention is required for the states not mentioned in the state diagrams of the EFET eCM standard. These states are:

| State | Explanation |
|----------------|---|
| Not Applicable | The state of a trade confirmation document being received is rejected by the ebXML layer The situation is not in the state diagrams but this situation can occur when: <ul style="list-style-type: none">▪ document not according schema▪ ebXML validation is turned on▪ errors detected by the ebXML layer when validating document against schema |
| Rejected | The state of a trade confirmation document being received from counterparty and sent rejection document The situation is not in the state diagrams but this situation can occur when: <ul style="list-style-type: none">▪ errors not detected by the ebXML layer▪ errors not detected by the schema |

The states specified in this document are the states seen in the SUT and not the states seen in the testsystem. Making the scenario's understandable is possible in this document by indicating what the other side is doing. Therefore two states are added:

- The state "Sending to CP" can only be seen in the local system, therefore this state is indicated as "**Start**" to differentiate the local and remote states. This involves CNF and BCN documents.
- The state "Potential Match" can only be seen in the local system, therefore this state is indicated as "**Potential**" to differentiate the local and remote states.

4.1 Testdata product testing

Testdata for product testing will be generated by the Test Facility:

- Activation using a web-interface
- Generation of testfiles (XML-files)
 - Trade Confirmation documents
 - Cancellation documents
- Zipping of all testfiles into a zipfile
- Downloading the zipfile from the website

After receiving the zipfile the testing party (SUT) needs to activate the scenario's and needs to send the required testfiles when required. The filenames of the test data will contain clear references to the scenario's and the step within the scenario's so the testing party knows when to use which file. Only Trade Confirmation documents and Cancellation documents are part of the testdata, as all other documents must be created by the EFET-box of the SUT.

When not all scenario's can be completed with success, the generation of test data must be repeated to retry the scenario's that failed. The generated data for already completed scenario's will also be regenerated, because all tests must succeed in one run without errors, within the certification.

Besides for certification the testfacility can also be used for:

- Development (product-test)
- Learning (end-user test)
- Integration (end-user test after certification before taking new partners into operation)

For these purposes it is allowed to have failed scenario's and then also testdata will be regenerated for already completed scenario's, being able to repeat them again.

When registering on the website a login will be generated for:

- Certification
- Testmode (development, learning and integration)

It will only be possible to test on one of the two accounts at every point in time. This will be handled by agreeing a certain time period for each type of test.

Outside the time periods it will not be possible to use the test facility.

Example of different time periods and different accounts:

| From ... till ... | From ... till ... | From ... till ... |
|--------------------------|----------------------------|--------------------------|
| Development Account 1 | Certification Account 2 | Integration Account 1 |

5 TEST SCENARIOS

5.1 Overview

| Subject of the test | Type of tests | Used in | References |
|----------------------------------|--|-----------------------|--|
| EFET extensions to EbXML MS V2.0 | EbXML messaging | Prod. + Part. Test | EbXML MS 2.0 EFET eCM standard V3.2F draft |
| | | | |
| Real World Business | Business Document Flow <ul style="list-style-type: none"> ▪ Normal behavior ▪ Normal behavior combined with offences | Prod. + Part. Test | EFET eCM standard V3.2F draft |
| | Business Rules <ul style="list-style-type: none"> ▪ Normal behavior ▪ Offences | Prod. + Part. Test | EFET eCM standard V3.2F draft |
| | ECM Fields <ul style="list-style-type: none"> ▪ Normal behavior ▪ Type errors not covered by schema | Prod. + Part. Test | EFET eCM standard V3.2F draft |
| | | | |
| eCM XML document exchange | Syntax | Prod. + Part. Test | EFET eCM standard V3.2F draft |

5.2 Connectivity testing

The purpose of connectivity testing is that it will check if the communication between two systems is valid and makes it possible to continue testing all scenarios.

These scenarios should verify that ebXML Messaging layer works and complies with the eCM Standard ebXML Profile and the ebXML Messaging Service Standard 2.0.

Issues that must be working are:

- Valid ebXML messages
- Communication to the right URI
- Encryption and Decryption of the messages
- Compression and Decompression of the messages

Look at the standard for the required settings.

When problems are available with one of the mentioned issues they must be solved before the testing with the Test Facility can be continued. For all test scenarios the eCM Standard ebXML Profile and the ebXML Messaging Service Standard 2.0 requirements will be tested on the background as it will be stopping the progress during the test scenarios.

When both systems have the “ping-pong” functionality available, this can verify that the other side is reachable and that the configured URI’s are valid.

Preconditions:

- The SUT ebXML implementation is setup with one private/public key pair for its own usage
- SUT provides an external URL for ebXML Service Access by means of HTTP

Look in the standard for the required settings for the ebXML profile mandated by ebXML MS 2.0 / EFET 3.2. The required settings will be tested by the EFET test facility.

Connectivity Test 1: Test the ping-pong functionality (when supported by at least one side)

| System Under Test | Test Facility |
|--------------------|--------------------|
| | Activate Ping-pong |
| Activate Ping-pong | |

Checks performed

- Validate that ping-pong works from Testfacility to System Under Test
- Validate that ping-pong works from System Under Test to Testfacility
- Communication is configured correctly for:
 - Ebxml
 - Routers
 - Firewalls
 - DNZ

Scenario: T101010 – Send a Trade Confirmation (CNF)
 Purpose: To check the ebXML interoperability between the parties
 Test type: Product test and end-user test

| Step | System Under Test | State SUT | Test Facility | State TS |
|------|--|---------------|--|-----------|
| 1 | | - | Send a CNF | Start |
| 2 | Send an ACK | Pending | | Pending |
| 3 | | - | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (<u>Step 1</u>) | - |
| 4 | Send an ACK | Cancelled | | Cancelled |
| 6 | Send a CNF | Sending to CP | | - |
| 7 | | Pending | Send an ACK | Pending |
| 8 | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (<u>Step 6</u>) | | | |
| 9 | | Cancelled | Send an ACK | Cancelled |

Checks performed

- Validate ebXML message against XSD of ebXML
- Check if an Acknowledgement (for CNF) was received
- Check if an Acknowledgement (for CAN) was received
- EFET box functionality can be used in the communication
- Communication works both ways

Overview of statuses for CNF during the scenario

| | System Under Test | Test Facility |
|------|--------------------------|--------------------------|
| Step | CNF 2 | CNF 1 |
| 1 | | Start Trade 4A |
| 2 | | Pending |
| 3 | | |
| 4 | | Cancelled |
| 6 | Start Trade 2A | |
| 7 | Pending | |
| 8 | | |
| 9 | Cancelled | |

Scenario: T101020 – Send a Trade Confirmation (CNF) with an error in ebXML
 ➔ DocumentID missing (structure not according the XML Schema)
 Purpose: To check the ebXML validation against the XML Schema
 Test type: Product test and end-user test

| Step | System Under Test | State SUT | Test Facility | State TS |
|------|---|----------------|---------------|----------------|
| 1 | | - | Send a CNF | Start |
| 2 | Send an ebXML error with DocumentID missing. Note that the error to return is not defined by the eCM-standard. | Not Applicable | | Not Applicable |

Checks performed

- Check if a XML Rejection was received
- Check if the correct rejection reason is returned

Overview of statuses for CNF during the scenario

| | System Under Test | Test Facility |
|------|-------------------|---------------------------------|
| Step | | CNF 1 |
| 1 | | Start Trade 4A |
| 2 | | Not Applicable |

Scenario: T101030 – Send a Trade Confirmation (CNF) with an enumeration error in ebXML
 ➔ AgreementType is invalid (enumeration not valid according the XML Schema)
 Purpose: To check the ebXML validation against the XML Schema
 Test type: Product test and end-user test

| Step | System Under Test | State SUT | Test Facility | State TS |
|------|---|----------------|---------------|----------------|
| 1 | | - | Send a CNF | Start |
| 2 | Send an ebXML error with DocumentID missing. Note that the error to return is not defined by the eCM-standard. | Not Applicable | | Not Applicable |

Checks performed

- Check if an ebXML Rejection was received
- Check if the correct rejection reason is returned

Overview of statuses for CNF during the scenario

| | System Under Test | Test Facility |
|------|-------------------|--------------------------|
| Step | | CNF 1 |
| 1 | | Start Trade 4A |
| 2 | | Not Applicable |

5.3 Scenarios for testing eCM Standard compliance

These scenarios should show that the SUT handles and processes the eCM documents in conformance to the EFET eCM V3.2 standard.

5.3.1 Trader Confirmation Matching Process – Normal behavior

5.3.1.1 Counterparty Trade Confirmation

Scenario: S1 – Full Matching process (SUT = Seller)

Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.

Role: Test Facility acts as a Buyer

Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|-----------------|---|-----------------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Potential |
| 7 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |
| 9 | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - | | - |
| 10 | | Matched | Send an ACK if the MSA is correct | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | Test Facility (Buyer) |
|------|-----------------------------------|------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 1A | |
| 2 | Pending | |
| 4 | | Start Trade 4A |
| 5 | | Pending |
| 6 | | Potential |
| 7 | Match Suggested | Match Suggested |
| 9 | | |
| 10 | Matched | Matched |

Scenario: S2 – Full Matching process (SUT = Buyer)
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|--|-----------------|--|-----------------|
| 1 | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 4 | | Start Trade 3A |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

5.3.1.2 Counterparty Trade Confirmation Amendment

Scenario: S9 – Full Matching process with multiple Amendments (SUT = Seller)

Purpose: To test the full document flow of the Confirmation Matching Process with multiple Amendments to the CNF of the Buyer and if the documents comply with the Business Rules.

Role: Test Facility acts as a Buyer

Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|---|-------------------------|---|-------------------------|
| 1 | Send a CNF to Buyer Document complies with the Business Rules for CNF. <ul style="list-style-type: none"> ▪ DocumentID: new and unique | Sending to CP | | |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ DocumentVersion = 2 ▪ <u>Different</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (<u>Step 4</u>) ▪ DocumentVersion: Augmented from previous CNF of Buyer, Version = 4 ▪ <u>Different</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 7 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |
| 9 | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (<u>Step 1</u>) ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 4</u>) which is already amended in <u>Step 6</u> | | | |

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|-------------------------|---|-------------------------|
| 10 | | Amended + Pending | Send an ACK if the CNF is correct | Amended + Pending |
| 11 | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (Step 9) ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ <u>Same</u> data as in CNF of Seller (Step 1) which was already amended in Step 9 | | | |
| 12 | | Amended + Pending | Send an ACK if the CNF is correct | Amended + Pending |
| 14 | | - | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (Step 6) ▪ DocumentVersion: Augmented from previous CNF of Buyer, Version = 6 ▪ <u>Same</u> data as in CNF of Seller (Step 11) | Start |
| 15 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |
| 16 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (Step 11) ▪ DocumentID and DocumentVersion CNF of last Amendment of Buyer (Step 14) | Potential |
| 17 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |
| 19 | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - | | - |
| 20 | | Matched | Send an ACK if the MSA is correct | Matched |

Overview of statuses for CNF during the scenario

| Step | System Under Test (Seller) | | | Test Facility (Buyer) | | |
|------|----------------------------------|----------------------------------|----------------------------------|--------------------------|--------------------------|--------------------------|
| | CNF 1 | CNF 2 | CNF 3 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 1A | | | | | |
| 2 | Pending | | | | | |
| 4 | | | | Start Trade 4B | | |
| 5 | | | | Pending | | |
| 6 | | | | | Start Trade 4C | |
| 7 | | | | Amended | Pending | |
| 9 | | Sending to CP Trade 1B | | | | |
| 10 | Amended | Pending | | | | |
| 11 | | | Sending to CP Trade 1A | | | |
| 12 | | Amended | Pending | | | |
| 14 | | | | | | Start Trade 4A |
| 15 | | | | | Amended | Pending |
| 16 | | | | | | Potential |
| 17 | | | Match Suggested | | | Match Suggested |
| 19 | | | | | | |
| 20 | | | Matched | | | Matched |

5.3.1.3 Counterparty Trade Confirmation Cancellation

Scenario: S11 – Full Matching Process cancelled by the Buyer and Seller (SUT = Buyer)
 Purpose: To test the cancellation of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|---------------|--|-----------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of cancelled CNF (<u>Step 1</u>) | - | | - |
| 8 | | Cancelled | Send an ACK if the CAN is correct | Cancelled |
| 10 | | - | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of cancelled CNF (<u>Step 4</u>) | - |
| 11 | Send an ACK if the CAN is correct | Cancelled | | Cancelled |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 4 | | Start Trade 3A |
| 5 | | Pending |
| 7 | | |
| 8 | Cancelled | |
| 10 | | |
| 11 | | Cancelled |

5.3.2 Trader Confirmation Matching Process – Business Rules Offences

This paragraph describes test scenario's, which cause business rules offences, but the outcome of each scenario is still a match. This makes it possible to check that the offence is detected and does not disturb the matching process.

Scenario: S12 – lower and same version (Business rule TRC004)
 Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|------------------------|--|------------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: <u>lower as in step 4</u> | Start |
| 7 | Send a REJ with "EFET.AmendmentError" | Failed + Pending | | Failed + Pending |
| 8 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: <u>Same as in step 4</u> | Start |
| 9 | Send a REJ with "EFET.AmendmentError" | Failed | | Failed |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-------------------------|--|-------------------------|
| 10 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in step 4 ▪ DocumentVersion: Augmented from previous CNF of Seller (Step 4) ▪ <u>Same</u> data as in CNF of Buyer (Step 1) | Start |
| 11 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |
| 13 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 1) ▪ DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | - |
| 14 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 16 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 17 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| Step | System Under Test (Buyer) | Test Facility (Seller) | | | |
|------|---------------------------|------------------------|-------------------|-------------------|-------------------|
| | CNF 1 | CNF 2 | CNF 3 | CNF 4 | CNF 5 |
| 1 | Sending to CP Trade 2A | | | | |
| 2 | Pending | | | | |
| 4 | | Start Trade 3B | | | |
| 5 | | Pending | | | |
| 6 | | | Start Trade 3B | | |
| 7 | | | Failed | | |
| 8 | | | Amended | Start Trade 3B | |
| 9 | | | | Failed | |
| 10 | | | | | Start Trade 3A |
| 11 | | Amended | | Amended | Pending |
| 13 | Potential Match | | | | |
| 14 | Match Suggested | | | | Match Suggested |
| 16 | | | | | |
| 17 | Matched | | | | Matched |

Scenario: S14 – negative values (Business rule TRC007)
 Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-------------------------|---|-------------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ Containing <u>negative values</u> for <u>Total Volume</u> | Start |
| 7 | Send a REJ with "EFET.InvalidData" | Amended + Failed | | Amended + Failed |
| 8 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 11 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 1) DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | - |
| 12 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 14 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | | |
|------|---------------------------|------------------------|-------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 4 | | Start Trade 3B | | |
| 5 | | Pending | | |
| 6 | | | Start Trade 3B | |
| 7 | | Amended | Failed | |
| 8 | | | | Start Trade 3A |
| 9 | | | Amended | Pending |
| 11 | Potential Match | | | |
| 12 | Match Suggested | | | Match Suggested |
| 14 | | | | |
| 15 | Matched | | | Matched |

Scenario: S15 – Not all mandatory fields required
(eCM Business Rule from §5.2)

Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process

Role: Test Facility acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-------------------------|---|-------------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> DocumentID: Same as in <u>step 4</u> DocumentVersion: Augmented from previous CNF of Seller Containing <u>no Market specified for a Gas commodity</u> | Start |
| 7 | Send a REJ with "EFET.InvalidData" | Failed | | Failed |
| 8 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: Same as in <u>step 4</u> DocumentVersion: Augmented from previous CNF of Seller <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 11 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 1) DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | - |
| 12 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 14 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| Step | System Under Test (Buyer) | Test Facility (Seller) | | |
|------|---------------------------|------------------------|-------------------|-------------------|
| | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 4 | | Start Trade 3B | | |
| 5 | | Pending | | |
| 6 | | | Start Trade 3B | |
| 7 | | Amended | Failed | |
| 8 | | | | Start Trade 3A |
| 9 | | | Amended | Pending |
| 11 | Potential Match | | | |
| 12 | Match Suggested | | | Match Suggested |
| 14 | | | | |
| 15 | Matched | | | Matched |

Scenario: S16 – Conditional fields not required
(eCM Business Rule from §5.2)

Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process

Role: Test Facility acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|----------------------|---|----------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> DocumentID: Same as in <u>step 4</u> DocumentVersion: Augmented from previous CNF of Seller Containing <u>Market specified for an EAU Phase I commodity</u> | Start |
| 7 | Send a REJ with "EFET.InvalidData" | Failed | | Failed |
| 8 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: Same as in <u>step 4</u> DocumentVersion: Augmented from previous CNF of Seller <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Amended + Pending | | Amended + Pending |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 11 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 1) DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | - |
| 12 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 14 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | | |
|------|---------------------------|------------------------|-------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 4 | | Start Trade 3B | | |
| 5 | | Pending | | |
| 6 | | | Start Trade 3B | |
| 7 | | Amended | Failed | |
| 8 | | | | Start Trade 3A |
| 9 | | | Amended | Pending |
| 11 | Potential Match | | | |
| 12 | Match Suggested | | | Match Suggested |
| 14 | | | | |
| 15 | Matched | | | Matched |

Scenario: S17 – References to unknown documents
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Buyer
 Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|------------------------|---|------------------------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>not referring to an existing MSU</u> | - |
| 7 | Send a REJ with “EFET:ReferencedDocNotExists” | Pending | | Pending |
| 8 | | | Send a MSR Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>not referring to an existing MSU</u> | |
| 9 | Send a REJ with “EFET:ReferencedDocNotExists” | Pending | | Pending |
| 10 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion <u>not matching</u> CNF of Buyer (<u>Step 4</u>) | Potential |
| 11 | Send a REJ with “EFET:ReferencedDocNotExists” | Failed + Pending | | Failed + Pending |

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|---|------------------------|--|------------------------|
| 13 | Send a CNF amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>Step 1</u> ▪ DocumentVersion: <u>Augmented from Step 1</u> ▪ <u>Same</u> data as in <u>Step 1</u> | Sending to CP | | - |
| 14 | | Pending | Send an ACK if the CNF is correct | Pending |
| 16 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion <u>not matching</u> CNF of Seller (<u>Step 13</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Potential |
| 17 | Send a REJ with "EFET:ReferencedDocNotExists" | Failed + Pending | | Failed + Pending |
| 18 | | - | Send a CNF amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>Step 4</u> ▪ DocumentVersion: <u>Augmented from Step 4</u> ▪ <u>Same</u> data as in CNF of Seller (<u>Step 13</u>) | Start |
| 19 | Send an ACK if the CNF is correct | Pending | | Pending |
| 20 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 13</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 18</u>) | Potential |
| 21 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|-----------|-----------------------------------|----------|
| 23 | Send a MSA Contents: ▪ DocumentID of MSU | - | | - |
| 24 | | Matched | Send an ACK if the MSA is correct | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | | Test Facility (Buyer) | |
|------|--|--|----------------------------------|----------------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 1 A | | | |
| 2 | Pending | | | |
| 4 | | | Start Trade 4 A | |
| 5 | | | Pending | |
| 6 | | | | |
| 7 | | | Pending | |
| 8 | | | | |
| 9 | | | Pending | |
| 10 | | | Potential | |
| 11 | Failed | | Pending | |
| 13 | | Sending to CP Trade 1 A | | |
| 14 | Amended | Pending | | |
| 16 | | | Potential | |
| 17 | | Pending | Failed | |
| 18 | | | | Start Trade 4 A |
| 19 | | | Amended | Pending |
| 20 | | | | Potential |
| 21 | | Match Suggested | | Match Suggested |
| 23 | | | | |
| 24 | | Matched | | Matched |

Scenario: S19 – MSA, MSR and CAN referencing unknown documents or not allowed
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>not matching</u> CNF (<u>Step 4</u>) | - |
| 11 | Send a REJ with "EFET:ReferencedDocNotExists" | Match Suggested | | Match Suggested |
| 12 | | - | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>matching</u> CNF (<u>Step 4</u>) | - |
| 13 | Send a REJ with "EFET:RefDocInvalidState" | Match Suggested | | Match Suggested |
| 14 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>not matching</u> MSU (<u>Step 7</u>) | - |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|--|--------------------|---|--------------------|
| 15 | Send a REJ with "EFET:ReferencedDocNotExists" | Match Suggested | | Match Suggested |
| 16 | | - | Send a MSR Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>not matching</u> MSU (<u>Step 7</u>) | - |
| 17 | Send a REJ with "EFET:ReferencedDocNotExists" | Match Suggested | | Match Suggested |
| 18 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of <u>CNF</u> (<u>Step 4</u>) | - |
| 19 | Send a REJ with "EFET:InvalidData" | Match Suggested | | Match Suggested |
| 20 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU (<u>Step 7</u>) | - |
| 21 | Send an ACK if the MSA is correct | Matched | | Matched |
| 22 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU (<u>Step 7</u>) | - |
| 23 | Send a REJ with "EFET:RefDocInvalidState" | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|--|--|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 4 | | Start Trade 3A |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Match Suggested | Match Suggested |
| 12 | | |
| 13 | Match Suggested | Match Suggested |
| 14 | | |
| 15 | Match Suggested | Match Suggested |
| 16 | | |
| 17 | Match Suggested | Match Suggested |
| 18 | | |
| 19 | Match Suggested | Match Suggested |
| 20 | | |
| 21 | Matched | Matched |
| 22 | | |
| 23 | Matched | Matched |

Scenario: S24 – MSU after CAN not allowed
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Buyer
 Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|---------------|---|-----------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID <u>referring to CNF of Step 4</u> | - |
| 7 | Send an ACK if the CAN is correct | Cancelled | | Cancelled |
| 8 | | - | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (<u>Step 4</u>) ▪ DocumentVersion: Augmented from previous CNF of Buyer ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 9 | Send a REJ with “ EFET:MinorVersionInInvalidState ” Note: The description in table A.3 is not correct for this error while Business Rule TRC004 (eCM Version 3.2 January 2006) allows a retransmitted document when state is FAILED. The rule is removed in the eCM Version 3.2 March 2006 but the error in the Reason Codes is still there. | Failed | | Failed |

| | | | | |
|----|--|-----------|--|-----------|
| 10 | | - | Send a MSU Contents: <ul style="list-style-type: none">▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>)▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Cancelled |
| 11 | Send a REJ with "EFET:RefDocInvalidState" | Cancelled | | Cancelled |
| 13 | Send a CAN Contents: <ul style="list-style-type: none">▪ DocumentID referring to CNF of <u>Step 1</u> | - | | - |
| 14 | | Cancelled | Send an ACK if the CAN is correct | Cancelled |
| 16 | | - | Send a CAN Contents: <ul style="list-style-type: none">▪ DocumentID <u>referring to CNF of Step 4</u> | - |
| 17 | Send a REJ with "EFET:RefDocInvalidState" | Cancelled | | Cancelled |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | Test Facility (Buyer) | |
|------|---|---|---|
| Step | CNF 1 | CNF 2 | CNF 3 |
| 1 | Sending to CP <input type="text" value="Trade 1A"/> | | |
| 2 | Pending | | |
| 4 | | Start <input type="text" value="Trade 4A"/> | |
| 5 | | Pending | |
| 6 | Pending | | |
| 7 | | Cancelled | |
| 8 | | | Start <input type="text" value="Trade 4A"/> |
| 9 | | | Failed |
| 10 | | Cancelled | |
| 11 | | Cancelled | |
| 13 | | | |
| 14 | Cancelled | | |
| 16 | | | |
| 17 | | Cancelled | |

Scenario: S25 – CAN referencing a CNF of the other side
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Buyer
 Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|---------------|---|-----------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | | Send a CAN Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of cancelled CNF <u>of the other party</u> (<u>Step 1</u>) | |
| 7 | Send a REJ with “ EFET:InvalidData ” | Pending | | Pending |
| 8 | | - | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as previous CNF (<u>Step 4</u>) ▪ DocumentVersion: Augmented from previous CNF of Buyer ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Pending | | Pending |
| 10 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of last Amendment of Buyer (<u>Step 8</u>) | Potential |

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|--------------------|-----------------------------------|--------------------|
| 11 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |
| 13 | Send a MSA Contents: ▪ DocumentID of MSU | - | | - |
| 14 | | Matched | Send an ACK if the MSA is correct | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | Test Facility (Buyer) | |
|------|---|---------------------------------|---------------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 |
| 1 | Sending to CP Trade 1A | | |
| 2 | Pending | | |
| 4 | | Start Trade 4B | |
| 5 | | Pending | |
| 6 | | | |
| 7 | Pending | Pending | |
| 8 | | | Start Trade 4A |
| 9 | | Amended | Pending |
| 10 | | | Potential |
| 11 | Match Suggested | | Match Suggested |
| 13 | | | |
| 14 | Matched | | Matched |

Scenario: S27 – MSU referencing a CNF in an invalid state
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Buyer
 Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|-----------------|---|-----------------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Potential |
| 7 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |
| 9 | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - | | - |
| 10 | | Matched | Send an ACK if the MSA is correct | Matched |
| 12 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Potential |
| 13 | Send a REJ with "EFET:RefDocInvalidState" | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | Test Facility (Buyer) |
|------|--|--|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP <input type="text" value="Trade 1 A"/> | |
| 2 | Pending | |
| 4 | | Start <input type="text" value="Trade 4 A"/> |
| 5 | | Pending |
| 6 | | Potential |
| 7 | Match Suggested | Match Suggested |
| 9 | | |
| 10 | Matched | Matched |
| 12 | | |
| 13 | Matched | Matched |

Scenario: S28 – MSU referencing to CNF not matching
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Buyer
 Test type: Product test

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|--|-------------------------|---|-------------------------|
| 1 | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Seller (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 4</u>) | Potential |
| 7 | Send an ACK because the documents exist and are in the state PENDING | | | |
| 9 | Send a MSR with “EFET:NoMatch” | | | |
| 10 | | | Send an ACK if the MSR is correct | |
| 11 | Send a CNF amendment <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in Step 1 ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ <u>Same</u> data as in <u>Step 1</u> | Sending to CP | | - |
| 12 | | Amended + Pending | Send an ACK if the CNF is correct | Amended + Pending |

| Step | System Under Test (Seller) | State SUT | Test Facility (Buyer) | State TS |
|------|---|-------------------------|--|-------------------------|
| 14 | | | Send a CNF amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: Augmented from previous CNF of Buyer ▪ <u>Same</u> data as in CNF of Seller (<u>Step 11</u>) | Start |
| 15 | Send an ACK if the CNF is correct | Pending + Amended | | Pending + Amended |
| 16 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 11</u>) ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 14</u>) | Potential |
| 17 | Send an ACK if the MSU is correct | Match Suggested | | Match Suggested |
| 19 | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - | | - |
| 20 | | Matched | Send an ACK if the MSA is correct | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Seller) | | Test Facility (Buyer) | |
|------|-----------------------------------|-----------------------------------|--------------------------|---------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 1 A | | | |
| 2 | Pending | | | |
| 4 | | | Start Trade 4B | |
| 5 | | | Pending | |
| 6 | | | Potential | |
| 7 | Match Suggested | | Match Suggested | |
| 9 | | | | |
| 10 | Failed | | Failed | |
| 11 | | Sending to CP Trade 1 A | | |
| 12 | Amended | Pending | | |
| 14 | | | | Start Trade 4 A |
| 15 | | | Amended | Pending |
| 16 | | | | Potential |
| 17 | | Match Suggested | | Match Suggested |
| 19 | | | | |
| 20 | | Matched | | Matched |

Scenario: S29 – MSU sent by the Seller is not allowed
 Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|------------------------|--|------------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential |
| 7 | Send a REJ with "EFET:InvalidMatchAttempt" | Failed + Pending | | Failed + Pending |
| 8 | | - | Send a CNF Amendment Contents: <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: Augmented from previous CNF of Buyer ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Pending | | Pending |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 11 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 1) DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | - |
| 12 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 14 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | |
|------|---------------------------|------------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3 |
| 1 | Sending to CP Trade 2A | | |
| 2 | Pending | | |
| 4 | | Start Trade 3B | |
| 5 | | Pending | |
| 6 | | | |
| 7 | Pending | Pending | |
| 8 | | | Start Trade 3A |
| 9 | | Amended | Pending |
| 11 | Potential Match | | |
| 12 | Match Suggested | | Match Suggested |
| 14 | | | |
| 15 | Matched | | Matched |

Scenario: S30 – MSA after rejection with MSR

Purpose: To verify the detection of an eCM Business Rule offence and checking that it does not disturb the matching process

Role: Test Facility acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|--|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique Same data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | | Send a MSR Contents: <ul style="list-style-type: none"> DocumentID of MSU (<u>Step 7</u>) | |
| 11 | Send an ACK if the MSR is correct | Failed | | Failed |
| 12 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU (<u>Step 7</u>) | - |
| 13 | Send a REJ with "EFET:RefDocInvalidState" | Failed | | Failed |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 4 | | Start Trade 3A |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Failed | Failed |
| 12 | | |
| 13 | Failed | Failed |

5.3.3 Trader Confirmation Matching Process – eCM Field Type Offences

This paragraph describes test scenario's, which cause eCM Field offences which will not be detected by the schema. The outcome of each scenario is still a match. This makes it possible to check that the offence is detected and does not disturb the matching process.

- Scenario:
- S33.1 – PriceType with 10 decimal places (eCM field type rule in table A.2)
 - ➔ Price within Trade Time Interval Quantity contains value 5.1234567891
 - S33.2 – Numbers not valid according dot-separated (eCM field type rule in table A.2)
 - ➔ Price within Trade Time Interval Quantity contains value 52,0
 - S33.3 – Numbers not valid according leading-zeros (eCM field type rule in table A.2)
 - ➔ Price within Trade Time Interval Quantity contains value 052.0
 - S33.4 – String value too long (eCM field type rule in table A.2)
 - ➔ TraderName with length > 35 characters

Purpose: To verify the detection of an eCM field type offence and checking that it does not disturb the matching process

Role: Test Facility acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|---------------|---|----------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer (S33.1) <ul style="list-style-type: none"> ▪ Containing <u>numbers not valid according length</u> (Price within Trade Time Interval Quantity contains value 5.1234567891) ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: <u>Augmented from step 4</u> | Start |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|------------------------------------|------------------------|---|------------------------|
| 7 | Send a REJ with "EFET.InvalidData" | Failed + Amended | | Failed + Amended |
| 8 | | - | Send a CNF to Buyer (S33.2) <ul style="list-style-type: none"> Containing <u>numbers not valid according dot-separated</u> (Price within Trade Time Interval Quantity contains value 52,0) DocumentID: Same as in <u>step 4</u> DocumentVersion: <u>Augmented from step 6</u> | Start |
| 9 | Send a REJ with "EFET.InvalidData" | Failed + Amended | | Failed + Amended |
| 10 | | - | Send a CNF to Buyer (S33.3) <ul style="list-style-type: none"> Containing <u>numbers not valid according leading-zeros</u> (Price within Trade Time Interval Quantity contains value 052.0) DocumentID: Same as in <u>step 4</u> DocumentVersion: <u>Augmented from step 8</u> | Start |
| 11 | Send a REJ with "EFET.InvalidData" | Failed + Amended | | Failed + Amended |
| 12 | | - | Send a CNF to Buyer (S33.4) <ul style="list-style-type: none"> Containing <u>string length > allowed</u> (TraderName with length > 35 characters) DocumentID: Same as in <u>step 4</u> DocumentVersion: <u>Augmented from step 10</u> | Start |
| 13 | Send a REJ with "EFET.InvalidData" | Failed + Amended | | Failed + Amended |

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|--|-----------------|---|-----------------|
| 14 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in <u>step 6</u> ▪ DocumentVersion: <u>Augmented from step 12</u> ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 15 | Send an ACK if the CNF is correct | Pending | | Pending |
| 17 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 14</u>) | Potential Match | | |
| 18 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 20 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 21 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | | | | | |
|------|---------------------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 | CNF 5 | CNF 6 | CNF 7 |
| | | | S33.1 | S33.2 | S33.3 | S33.4 | |
| 1 | Sending to CP Trade 2A | | | | | | |
| 2 | Pending | | | | | | |
| 4 | | Start Trade 3B | | | | | |
| 5 | | Pending | | | | | |
| 6 | | | Start Trade 3B | | | | |
| 7 | Pending | Amended | Failed | | | | |
| 8 | | | | Start Trade 3B | | | |
| 9 | | | Amended | Failed | | | |
| 10 | | | | | Start Trade 3B | | |
| 11 | | | | Amended | Failed | | |
| 12 | | | | | | Start Trade 3B | |
| 13 | | | | | Amended | Failed | |
| 14 | | | | | | | Start Trade 3A |
| 15 | | | | | | Amended | Pending |
| 17 | Potential Match | | | | | | |
| 18 | Match Suggested | | | | | | Match Suggested |
| 20 | | | | | | | |
| 21 | Matched | | | | | | Matched |

5.3.4 **Trader Confirmation Matching Process – Commodities and markets**

This paragraph describes test scenario's, which validate the different allowed commodities and markets. The outcome of each scenario is still a match. This makes it possible to check that the offence is detected and does not disturb the matching process.

Testing is normally the combination of the following three aspects:

- commodity
- market
- scenario

This then becomes a three dimensional matrix describing all the test possibilities. We only make a selection of this matrix to limit the amount of tests.

We assume that most parties will support the Commodities Gas and Power for the Markets UK, BE, DE and NL. From these 16 combinations we have chosen 8 of them to have a good representation of the real-life situations later on.

Also EUA Trades are part of the tests.

Scenario: S41 – Gas commodity – UK – FOR
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Gas</u> ▪ Market = <u>UK</u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11A | |
| 2 | Pending | |
| 4 | | Start Trade 12A |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S42 – Gas commodity – UK – OPT
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Gas</u> ▪ Market = <u>UK</u> ▪ TransactionType = <u>OPT</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11B | |
| 2 | Pending | |
| 4 | | Start Trade 12B |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S43 – Gas commodity – BE – FOR
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Gas</u> ▪ Market = <u>BE</u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11C | |
| 2 | Pending | |
| 4 | | Start Trade 12C |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S44 – Gas commodity – BE – OPT
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Gas</u> ▪ Market = <u>BE</u> ▪ TransactionType = <u>OPT</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11D | |
| 2 | Pending | |
| 4 | | Start Trade 12D |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S45 – Power commodity – UK – FOR
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Power</u> ▪ Market = <u>UK</u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11E | |
| 2 | Pending | |
| 4 | | Start Trade 12E |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S46 – Power commodity – UK – OPT
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Power</u> ▪ Market = <u>UK</u> ▪ TransactionType = <u>OPT</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11F | |
| 2 | Pending | |
| 4 | | Start Trade 12F |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S47 – Power commodity – DE – FOR
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Power</u> ▪ Market = <u>DE</u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11G | |
| 2 | Pending | |
| 4 | | Start Trade 12G |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S48 – Power commodity – DE – OPT
 Purpose: To verify the support for Gas commodity
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>Power</u> ▪ Market = <u>DE</u> ▪ TransactionType = <u>OPT</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11H | |
| 2 | Pending | |
| 4 | | Start Trade 12H |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S111 – EUA_Phase1
 Purpose: To verify the support for EUA_Phase1
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>EUA_Phase1</u> ▪ Market = <u><n/a></u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11I | |
| 2 | Pending | |
| 4 | | Start Trade 12I |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S112 – EUA_Phase2
 Purpose: To verify the support for EUA_Phase2
 Role: Test Facility acts as a Seller
 Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Commodity = <u>EUA_Phase2</u> ▪ Market = <u><n/a></u> ▪ TransactionType = <u>FOR</u> | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|-----------------------------------|-------------------------------|
| Step | CNF 1 | CNF 2 |
| 1 | Sending to CP Trade 11J | |
| 2 | Pending | |
| 4 | | Start Trade 12J |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S101 – Full Matching process, detecting Potential Match correctly with KEY-fields matching
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|---------------|--|----------|
| 1 | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) except from one change in key-field Commodity !! | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) except from one change in key-field Currency !! | Start |
| 7 | Send an ACK if the CNF is correct | Pending | | Pending |
| 8 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) except from one change in key-field TotalVolume !! | Start |
| 9 | Send an ACK if the CNF is correct | Pending | | Pending |

| | |
|--|--|
| | <p>Repeat steps 8-9 for all possible key fields</p> <p>Key fields are all fields indicated with "Key" in the EFET eCM standard for the Trade Confirmation Document. It can also be conditional fields, depending on the fields being used during the testing (Mostly depending on the Commodity)</p> <p>The following KEY-fields not mentioned in steps 4, 6 and 8 will be changed during these steps:</p> <ul style="list-style-type: none">▪ Market▪ TransactionType▪ DeliveryPointArea▪ BuyerParty▪ SellerParty▪ LoadType▪ Agreement▪ TotalVolumeUnit▪ TradeDate▪ CapacityUnit▪ PriceUnit/Currency▪ PriceUnit/CapacityUnit▪ TotalContractValue▪ Trade Time Interval Quantities<ul style="list-style-type: none">○ DeliveryStartDateAndTime○ DeliveryEndDateAndTime○ ContractCapacity○ Price <p>The following KEY-fields will not be tested:</p> <ul style="list-style-type: none">▪ PricingScheme (not used)<ul style="list-style-type: none">○ PricingSchemeIndex/ID○ PricingSchemeIndex/Currency○ PricingSchemeIndex/PriceUnit/Currency○ PricingSchemeIndex/PriceUnit/Capacity○ PricingSchemeIndex/Increment○ PricingSchemeIndex/Cap○ PricingSchemeIndex/Collar○ PricingSchemeIndex/BasketRatio▪ Option Details (not used)<ul style="list-style-type: none">○ OptionsType○ OptionWriter○ OptionHolder○ OptionStyle○ StrikePrice○ PremiumRate○ PremiumUnit/Currency○ PremiumUnit/Capacity○ PremiumCurrency○ TotalPremiumValue○ PremiumPaymentDate○ ExerciseDateAndTime |
|--|--|

| | | | | |
|-----|---|-----------------|--|-----------------|
| | <p>The following KEY-fields will not be tested:</p> <ul style="list-style-type: none"> ▪ Option Exercise Schedule (not used) <ul style="list-style-type: none"> ○ DeliveryStartDateAndTime ○ DeliveryEndDateAndTime ○ ExerciseDateAndTime ▪ Agents (not used) <ul style="list-style-type: none"> ○ AgentType ▪ ECVNA (not used) <ul style="list-style-type: none"> ○ BSCPartyID ○ BuyerEnergyAccount ○ SellerEnergyAccount ○ BuyerID ○ SellerID ▪ Broker (not used) <ul style="list-style-type: none"> ○ BrokerID ▪ HUB Codification Information (not used) <ul style="list-style-type: none"> ○ BuyerHubCode ○ SellerHubCode ○ BuyerEnergyAccountIdentification ○ SellerEnergyAccountIdentification ○ NotificationAgent ○ TransmissionCharges | | | |
| 98 | | - | <p>Send a CNF to Buyer</p> <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 99 | Send an ACK if the CNF is correct | Pending | | Pending |
| 100 | <p>Send a MSU</p> <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 98</u>) | Potential Match | | - |
| 101 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 102 | | - | <p>Send a MSA</p> <p>Contents:</p> <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 103 | Send an ACK if the MSA is correct | Matched | | Matched |

| | | | | |
|-----|---|-----------|---|-----------|
| 104 | | - | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (Step 4) | - |
| 105 | Send an ACK | Cancelled | | Cancelled |
| | Repeat steps 104-105 for all pending CNF's from Steps 6-96) | | | |
| | | | | |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | | |
|------|---------------------------|------------------------|-------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3..n-1 | CNF n |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 4 | | Start Trade 3A | | |
| 5 | | Pending | | |
| - | | | Start Trade 3A | |
| - | | | Pending | |
| 98 | | | | Start Trade 3A |
| 99 | | | | Pending |
| 100 | Potential Match | | | |
| 101 | Match Suggested | | | Match Suggested |
| 102 | | | | |
| 103 | Matched | | | Matched |
| 104 | | | | |
| 105 | | Cancelled | | |
| - | | | Cancelled | |

Scenario: T102 – Full Matching process, but only one match (SUT = Buyer)
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|--|-----------------|
| 1 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Start |
| 2 | Send an ACK if the CNF is correct | Pending | | Pending |
| 3 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF (<u>Step 1</u>) | Start |
| 4 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | Send a CNF <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF (<u>Step 1</u>) | Sending to CP | | - |
| 7 | | Pending | Send an ACK if the CNF is correct | Pending |
| 8 | Send a MSU <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 6</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 1</u> or <u>Step 3</u>) | Potential Match | | - |
| 9 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 11 | | - | Send a MSA <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 12 | Send an ACK if the MSA is correct | Matched | | Matched |
| 13 | | - | Await for an unexpected MSU for 5 minutes | - |

| | | | | |
|----|-------------|-----------|---|-----------|
| 15 | | - | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (<u>Step 1</u> or <u>Step 3</u>) | - |
| 16 | Send an ACK | Cancelled | | Cancelled |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | |
|------|----------------------------------|----------------------------|--------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 |
| 1 | | Start Trade 3A | |
| 2 | | Pending | |
| 3 | | | Start Trade 3A |
| 4 | | | Pending |
| 6 | Sending to CP Trade 2A | | |
| 7 | Pending | | |
| 8 | Potential Match | | |
| 9 | Match Suggested | Match Suggested (or CNF 3) | |
| 11 | | | |
| 12 | Matched | Matched (or CNF 3) | |
| 13 | | | |
| 15 | | | |
| 16 | | | Cancelled (or CNF 2) |

| | | | | |
|----|--|-----------------|--|-----------------|
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |
| 17 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 3) ▪ DocumentID and DocumentVersion CNF of Seller (Step 6) | Potential Match | | - |
| 18 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 20 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 21 | Send an ACK if the MSA is correct | Matched | | Matched |

NOTE:

The order does not necessarily have to follow the prescribed order from step 7 but the end of the test must result in two matches.

- Order of steps 7 and 9 can be switched
- Completing a match suggestion at a time is not required (Step 17 can be started immediately after step 11 also)
- Matching for CNF 1 with CNF 3 and CNF 2 with CNF 4 is not required as same data can also result in CNF 1 with CNF 4 and CNF 2 with CNF 3. Matching for CNF 2 can also start before matching of CNF 1.

In this test the order can not be checked as prescribed in the diagram.

Overview of statuses for CNF during the scenario

| Step | System Under Test (Buyer) | | Test Facility (Seller) | |
|------|---------------------------|---------------------------|------------------------|-------------------|
| | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 3 | | Sending to CP Trade 2A | | |
| 4 | | Pending | | |
| 6 | | | Start Trade 3A | Start Trade 3A |
| 7 | | | Pending | |
| 9 | | | | Pending |
| 11 | Potential Match | | | |
| 12 | Match Suggested | | Match Suggested | |
| 14 | | | | |
| 15 | Matched | | Matched | |
| 17 | | Potential Match | | |
| 18 | | Match Suggested | | Match Suggested |
| 20 | | | | |
| 21 | | Matched | | Matched |

NOTE:

The order does not necessarily have to follow the prescribed order from step 7 but the end of the test must result in two matches.

- Order of steps 7 and 9 can be switched
- Completing a match suggestion at a time is not required (Step 17 can be started immediately after step 11 also)
- Matching for CNF 1 with CNF 3 and CNF 2 with CNF 4 is not required as same data can also result in CNF 1 with CNF 4 and CNF 2 with CNF 3. Matching for CNF 2 can also start before matching of CNF 1.

In this test the order can not be checked as prescribed in the diagram.

Scenario: S104 – Full Matching process, with quick amendment
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|---|--|---|
| 1 | Send a CNF Contents: <ul style="list-style-type: none"> DocumentID: new and unique | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF (A) Contents: <ul style="list-style-type: none"> DocumentID: new and unique Same data as in <u>Step 1</u> Send a CNF (B) Contents: <ul style="list-style-type: none"> DocumentID: Same DocumentVersion: Augmented within same step Same data as in <u>Step 1</u> | Start Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send an ACK if the CNF is correct and no possible match detected yet. Or Send a REJ with “EFET:AmendmentError” if the CNF is correct and a possible match detected already. | Amended + Pending Or Pending + Not Applicable | | Amended + Pending Or Pending + Not Applicable |
| 9 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (<u>Step 1</u>) DocumentID and DocumentVersion CNF of Seller (<u>Step 4</u>). Version is A or B depending on situation in Step 7. | Potential Match | | - |
| 10 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 12 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 13 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

Situation 1: The two CNF's are treated as Amendment

Note that Step 7 requires an ACK.

| | System Under Test (Buyer) | Test Facility (Seller) | |
|------|---|---|---|
| Step | CNF 1 | CNF 2 (A) | CNF 2 (B) |
| 1 | Sending to CP <input type="text" value="Trade 2A"/> | | |
| 2 | Pending | | |
| 4 | | Start <input type="text" value="Trade 3A"/> | Start <input type="text" value="Trade 3A"/> |
| 5 | | Pending | |
| 7 | | Amended | Pending |
| 9 | Potential Match | | |
| 10 | Match Suggested | | Match Suggested |
| 12 | | | |
| 13 | Matched | | Matched |

Situation 2: The second CNF is treated as defective.

Note that steps 7 (REJ) and 9 (MSU) can be switched in order.

| | System Under Test (Buyer) | Test Facility (Seller) | |
|------|---|---|---|
| Step | CNF 1 | CNF 2 (A) | CNF 2 (B) |
| 1 | Sending to CP <input type="text" value="Trade 2A"/> | | |
| 2 | Pending | | |
| 4 | | Start <input type="text" value="Trade 3A"/> | Start <input type="text" value="Trade 3A"/> |
| 5 | | Pending | |
| 7 | | Pending | Not Applicable |
| 9 | Potential Match | | |
| 10 | Match Suggested | Match Suggested | |
| 12 | | | |
| 13 | Matched | Matched | |

Scenario: T105 – Full Matching process, Amendment and not matching (SUT = Buyer)
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|---------------|---|-----------|
| 1 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Start |
| 2 | Send an ACK if the CNF is correct | Pending | | Pending |
| 3 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in <u>Step 1</u> ▪ DocumentVersion: Augmented from <u>Step 1</u> ▪ <u>Different data required as in Step 1 to avoid match</u> | Start |
| 4 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Seller (<u>Step 1</u>) | Sending to CP | | |
| 7 | | Pending | Send an ACK if the CNF is correct | Pending |
| 8 | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (<u>Step 6</u>) | - | | - |
| 9 | | Cancelled | Send an ACK if the CAN is correct | Cancelled |
| 11 | | - | Send a CAN to cancel the CNF <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of previous sent CNF (<u>Step 3</u>) | - |
| 12 | Send an ACK if the CAN is correct | Cancelled | | Cancelled |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | |
|------|----------------------------------|--------------------------|--------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 |
| | | Start Trade 3A | |
| | | Pending | |
| | | | Start Trade 3B |
| | | Amended | Pending |
| 6 | Sending to CP Trade 2A | | |
| 7 | Pending | | |
| 8 | | | |
| 9 | Cancelled | | |
| 11 | | | |
| 12 | | | Cancelled |

Scenario: S106 – Full Matching process, Amendment after not answered document (SUT = Buyer)

Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.

Role: Test Facility acts as a Seller

Test type: Product test and end-user test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|--|-----------------|---|-----------------|
| 1 | Send a CNF Contents: <ul style="list-style-type: none"> DocumentID: new and unique | Sending to CP | | - |
| 2 | | - | Send no ACK if the CNF is correct forcing an amendment after one hour | - |
| 3 | Send a CNF (after one hour) Contents: <ul style="list-style-type: none"> DocumentID: Same as in Step 1 Documentversion: Augmented from <u>Step 1</u> | Sending to CP | | |
| 4 | | Pending | Send an ACK if the CNF is correct . Verify that the amendment comes after more than one hour. | Pending |
| 6 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique <u>Same data as in CNF of Buyer (Step 3)</u> | Start |
| 7 | Send an ACK if the CNF is correct | Pending | | Pending |
| 9 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (<u>Step 3</u>) DocumentID and DocumentVersion CNF of Seller (<u>Step 6</u>) | Potential Match | | - |
| 10 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 12 | | - | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | - |
| 13 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | | Test Facility (Seller) |
|------|----------------------------------|----------------------------------|--------------------------|
| Step | CNF 1 | CNF 2 | CNF 3 |
| 1 | Sending to CP Trade 2A | | |
| 2 | - | | |
| 3 | Failed | Sending to CP Trade 2A | |
| 4 | Amended | Pending | |
| 6 | | | Start Trade 3A |
| 7 | | | Pending |
| 9 | | Potential Match | |
| 10 | | Match Suggested | Match Suggested |
| 12 | | | |
| 13 | | Matched | Matched |

Scenario: S107– Naming convention not matching type
 (eCM Business Rule from §5.1)

Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process

Role: Test system acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|-------------------------|---|-------------------------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Different</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 6 | | | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ DocumentID: Same as in <u>step 4</u> (<u>With "BCN"</u>) ▪ DocumentVersion: Augmented from previous CNF of Seller | Start |
| 7 | Send a REJ with "EFET:InvalidData" | Pending + Failed | | Pending + Failed |
| 8 | | | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: Same as in <u>step 4</u> ▪ DocumentVersion: Augmented from previous CNF of Seller ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 1</u>) | Start |
| 9 | Send an ACK if the CNF is correct | Pending + Amended | | Pending + Amended |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 11 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 1) DocumentID and DocumentVersion CNF of Seller (Step 8) | Potential Match | | |
| 12 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 14 | | | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | |
| 15 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) | | |
|------|---------------------------|------------------------|-------------------|-------------------|
| Step | CNF 1 | CNF 2 | CNF 3 | CNF 4 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| 4 | | Start Trade 2B | | |
| 5 | | Pending | | |
| 6 | | | Start Trade 3A | |
| 7 | | | Failed | |
| 8 | | | | Start Trade 3A |
| 9 | | Amended | Amended | Pending |
| 11 | Potential Match | | | |
| 12 | Match Suggested | | | Match Suggested |
| 14 | | | | |
| 15 | Matched | | | Matched |

Scenario: S108 – Full Matching process, Informational fields not disturbing matching (SUT = Buyer)

➔ At least one agent required within the CNF

Purpose: To verify the detection of a business rule and checking that it does not disturb the matching process

Role: Test system acts as a Seller

Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|---------------|-----------------------------------|----------|
| 1 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 3 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 4 | | Pending | Send an ACK if the CNF is correct | Pending |
| 5 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 6 | | Pending | Send an ACK if the CNF is correct | Pending |
| 7 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 8 | | Pending | Send an ACK if the CNF is correct | Pending |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|--|-----------------|--|-----------------|
| 9 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 10 | | Pending | Send an ACK if the CNF is correct | Pending |
| 11 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique | Sending to CP | | |
| 12 | | Pending | Send an ACK if the CNF is correct | Pending |
| 13 | Send a CNF to Seller <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ UseFractionUnit not specified or specified as UseFractionUnit = false | Sending to CP | | |
| 14 | | Pending | Send an ACK if the CNF is correct | Pending |
| 16 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Same data as in CNF of Buyer (Step 1) ▪ Informational fields changed DocumentUsage | Start |
| 17 | Send an ACK if the CNF is correct | Pending | | Pending |
| 19 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 1) ▪ DocumentID and DocumentVersion CNF of Seller (Step 16) | Potential Match | | |
| 20 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|-----------------|--|-----------------|
| 22 | | | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | |
| 23 | Send an ACK if the MSA is correct | Matched | | Matched |
| 24 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique <u>Same</u> data as in CNF of Buyer (Step 3) <u>Informational fields changed</u> TradeTime | Start |
| 25 | Send an ACK if the CNF is correct | Pending | | Pending |
| 27 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 3) DocumentID and DocumentVersion CNF of Seller (Step 24) | Potential Match | | |
| 28 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 30 | | | Send a MSA Contents: <ul style="list-style-type: none"> DocumentID of MSU | |
| 31 | Send an ACK if the MSA is correct | Matched | | Matched |
| 32 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> Document complies with the Business Rules for CNF. DocumentID: new and unique <u>Same</u> data as in CNF of Buyer (Step 5) <u>Informational fields changed</u> TraderName | Start |
| 33 | Send an ACK if the CNF is correct | Pending | | Pending |
| 35 | Send a MSU Contents: <ul style="list-style-type: none"> DocumentID and DocumentVersion CNF of Buyer (Step 5) DocumentID and DocumentVersion CNF of Seller (Step 32) | Potential Match | | |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|--------------------|--|--------------------|
| 36 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 38 | | | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | |
| 39 | Send an ACK if the MSA is correct | Matched | | Matched |
| 40 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (Step 7) ▪ <u>Informational fields changed</u> ReceiverRole | Start |
| 41 | Send an ACK if the CNF is correct | Pending | | Pending |
| 43 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 7) ▪ DocumentID and DocumentVersion CNF of Seller (Step 40) | Potential Match | | |
| 44 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 46 | | | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | |
| 47 | Send an ACK if the MSA is correct | Matched | | Matched |
| 48 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (Step 9) ▪ <u>Informational fields changed</u> AgentName | Start |
| 49 | Send an ACK if the CNF is correct | Pending | | Pending |
| 51 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 9) ▪ DocumentID and | Potential Match | | |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| | DocumentVersion CNF of Seller (<u>Step 48</u>) | | | |
| 52 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 54 | | | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | |
| 55 | Send an ACK if the MSA is correct | Matched | | Matched |
| 56 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (<u>Step 11</u>) ▪ <u>Values the same but formatted different (100 becomes 100.0)</u> | Start |
| 57 | Send an ACK if the CNF is correct | Pending | | Pending |
| 59 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (<u>Step 11</u>) ▪ DocumentID and DocumentVersion CNF of Seller (<u>Step 56</u>) ▪ | Potential Match | | |
| 60 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 62 | | | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | |
| 63 | Send an ACK if the MSA is correct | Matched | | Matched |

| Step | System Under Test (Buyer) | State SUT | Test System (Seller) | State TS |
|------|---|-----------------|--|-----------------|
| 64 | | - | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer (Step 13) ▪ <u>Informational fields changed</u> ▪ <u>UseFractionalUnit = false specified when UseFractionUnit not specified in Step 13</u> or <ul style="list-style-type: none"> ▪ <u>UseFractionUnit not specified when UseFractionUnit = false specified in Step 13</u> | Start |
| 65 | Send an ACK if the CNF is correct | Pending | | Pending |
| 67 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 13) ▪ DocumentID and DocumentVersion CNF of Seller (Step 64) | Potential Match | | |
| 68 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 70 | | | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | |
| 71 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | | Test Facility (Seller) | |
|------|----------------------------------|----------------------------------|--------------------------|--------------------------|
| Step | CNF 1 | CNF 2..7 | CNF 8 | CNF 9..14 |
| 1 | Sending to CP Trade 2A | | | |
| 2 | Pending | | | |
| - | | Sending to CP Trade 2B | | |
| - | | Pending | | |
| 16 | | | Start Trade 3A | |
| 17 | | | Pending | |
| 19 | Potential Match | | | |
| 20 | Match Suggested | | Match Suggested | |
| 22 | | | | |
| 23 | Matched | | Matched | |
| - | | | | Start Trade 3B |
| - | | | | Pending |
| - | | Potential Match | | |
| - | | Match Suggested | | Match Suggested |
| - | | | | |
| - | | Matched | | Matched |

Scenario: S109 – Full Matching process with valid date (SUT = Buyer)
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller
 Test type: Product test

| Step | System Under Test (Buyer) | State SUT | Test Facility (Seller) | State TS |
|------|---|-----------------|---|-----------------|
| 1 | Send a CNF Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ Dates in Trade Time Interval Quantities are specifying a time 0000 | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | | Send a CNF to Buyer <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ Same data as in CNF of Buyer (Step 1), but the Dates in Trade Time Interval Quantities are specifying a time 2400 | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Send a MSU Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion CNF of Buyer (Step 1) ▪ DocumentID and DocumentVersion CNF of Seller (Step 6) | Potential Match | | - |
| 8 | | Match Suggested | Send an ACK if the MSU is correct | Match Suggested |
| 10 | | - | Send a MSA Contents: <ul style="list-style-type: none"> ▪ DocumentID of MSU | - |
| 11 | Send an ACK if the MSA is correct | Matched | | Matched |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|---|---|
| Step | CNF 1 | CNF 3 |
| 1 | Sending to CP <input type="text" value="Trade 2A"/> | |
| 2 | Pending | |
| 4 | | Start <input type="text" value="Trade 3A"/> |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

Scenario: S110 – Full Matching process - Bulktesting (SUT = Buyer and Seller)
 Sut = 70 times Buyer, 30 times Seller, 95% matching and 5% cancelled
 Purpose: To test the full document flow of the Confirmation Matching Process and if the documents comply with the Business Rules.
 Role: Test Facility acts as a Seller and Buyer
 Test type: Product test

General description:

SUT and TF send both 100 CNF's and at the same time the matching will start from two sides simultaneously resulting in the end in 95% matched and 5% not matched.

The not matched CNF's must at the end be cancelled by the SUT to avoid problems in other tests (4 times SUT is buyer and 1 time SUT is seller).

The specification of the order can not be predicted because:

- Sending order of the 100 documents can not be predicted
- Starting of matching while having to sent out documents can not be predicted

| Step | System Under Test (Buyer / Seller) | State SUT | Test Facility (Seller / Buyer) | State TS |
|------|---|---|---|---|
| 1 | Send 100 CNF's to Test Facility Contents: <ul style="list-style-type: none"> ▪ DocumentID: new and unique ▪ SUT = Buyer | Sending to CP | | - |
| 2 | | Pending | Send an ACK if the CNF is correct | Pending |
| 4 | | - | Send a CNF to SUT <ul style="list-style-type: none"> ▪ Document complies with the Business Rules for CNF. ▪ DocumentID: new and unique ▪ <u>Same</u> data as in CNF of Buyer / Seller (<u>Step 1</u>) for 95% | Start |
| 5 | Send an ACK if the CNF is correct | Pending | | Pending |
| 7 | Matching of documents where SUT is the Buyer | Pending + Potential Match + Match Suggested + Matched | Matching of documents where TF is the Buyer | Pending + Potential + Match Suggested + Matched |
| 9 | Send CAN for 5 CNF's to Test Facility Contents: <ul style="list-style-type: none"> ▪ DocumentID and DocumentVersion of cancelled CNF (<u>Step 7</u>) | - | | - |
| 10 | | Cancelled | Send an ACK if the CAN is correct | Cancelled |

Overview of statuses for CNF during the scenario

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|----------------------------------|--------------------------|
| Step | CNF 1..70 | CNF 101..170 |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 4 | | Start Trade 3A |
| 5 | | Pending |
| 7 | Potential Match | |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

| | System Under Test (Seller) | Test Facility (Buyer) |
|------|----------------------------------|--------------------------|
| Step | CNF 71..100 | CNF 171..200 |
| 1 | Sending to CP Trade 1A | |
| 2 | Pending | |
| 4 | | Start Trade 4A |
| 5 | | Pending |
| 7 | | Potential |
| 8 | Match Suggested | Match Suggested |
| 10 | | |
| 11 | Matched | Matched |

| | System Under Test (Seller) | Test Facility (Buyer) |
|------|----------------------------------|-----------------------|
| Step | CNF 75 | |
| 1 | Sending to CP Trade 1A | |
| 2 | Pending | |
| 3 | | |
| 4 | Cancelled | |

| | System Under Test (Buyer) | Test Facility (Seller) |
|------|----------------------------------|------------------------|
| Step | CNF 5, 25, 45 and 65 | |
| 1 | Sending to CP Trade 2A | |
| 2 | Pending | |
| 3 | | |
| 4 | Cancelled | |