

TRADE CONFIRMATION SYSTEM

CONFORMANCE SCRIPT FOR FUND AGENTS PARTICIPATING IN THE NAV TRADING FACILITY

This conformance test is specific to customers participating into the NAV Trading Facility. The NAV Trading facility is based on a forward pricing principle between a broker/dealer and a fund agent with a single execution moment.

The instruments concerned are open-ended investment funds, including ETFs.

This conformance script is dedicated to fund agents participating in the NAV Trading Facility. Therefore, in all the tests below, CTSG will act as the broker.

Fund agents participating in the NAV Trading Facility using a TCS SLE must use a **protocol V4 CCG interface**. As a pre-requisite of this specific conformance script, they must therefore complete the **Appendix: UTP-Direct v4 protocol enhancement Self-Test**.

In order to book conformance tests, members should contact the Customer Technical Support Group (CTSG) at ctsg@nyx.com, tel. +33(0)1 4927 5092.

CONFORMANCE SCRIPT

RECEPTION / ACCEPTANCE / REFUSAL OF A DECLARATION

The first part of the test is to validate the reception / acceptance / refusal by the fund agent of a declaration submitted by a broker.

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
Fund agent successfully receives a TCS declaration (d) as a 'fund order in quantity'	<p>CTSG submits a TCS declaration (d) on a valid instrument for the NAV Trading Facility. The declaration is submitted as a 'fund order in quantity'.</p> <p>The fund agent should confirm that he successfully receives the declaration via a TCS Notice (n) message.</p> <p>He should also confirm the operation type and the value of the Pre Matching Indicator corresponding to a new declaration.</p>	<p>For a fund order in quantity, OperationTypeIndicator = 'i'.</p> <p>TCS SLE equivalent = '0412'</p>
Fund agent successfully receives a TCS declaration (d) as a 'fund order in Cash'	<p>The test is the same as above. The only difference is that CTSG submits a TCS declaration (d) as a 'fund order in Cash'.</p>	<p>For a fund order in Cash, OperationTypeIndicator = 'l'.</p> <p>TCS SLE Equivalent = '0412'</p>

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
<p>Fund agent accepts the TCS declaration (d) submitted as a 'fund order in quantity'</p>	<p>The fund agent should answer to the declaration previously submitted as a 'fund order in quantity' by submitting a TCS declaration (d). <i>The mandatory fields of the declaration must match those of the declaration submitted by CTSG.</i></p> <p>CTSG and the fund agent both receive a TCS Notice (n). The fund agent should confirm to CTSG the values of the following fields: ExecType, ExecTrans Type, OrdStatus.</p> <p>The fund agent should also confirm that the declaration has been pre-matched, i.e. the PreMatchingIndicator is different from 0.</p>	<p>For a fund order in quantity, OperationTypeIndicator = 'i'. TCS SLE equivalent = '0411'</p>
<p>Fund agent accepts the TCS declaration (d) submitted as a 'fund order in Cash'</p>	<p>The test is the same as above except that the fund agent should accept the declaration previously submitted by CTSG as a 'fund order in Cash'.</p>	<p>For a fund order in Cash, OperationTypeIndicator = 'l'. TCS SLE Equivalent = '0411'</p>
<p>Fund agent answers to a declaration however submits an incorrect declaration</p>	<p>CTSG submits a TCS declaration (d) as a fund order in cash or in quantity. The fund agent should confirm the reception of the TCS Notice (n) and the operation type.</p> <p>The fund agent answers by a TCS Declaration (d) however some of the mandatory criteria do not match with the declaration submitted by CTSG (example: different quantity).</p> <p>Both CTSG and the fund agent receive a TCS Notice (n) however considered as a new declaration. The fund agent should confirm to CTSG the value of the Pre Matching Indicator.</p>	<p>The goal of this test is for the fund agent to understand the consequences of an incorrectly submitted declaration .</p> <p>If one of more of the mandatory criteria is the not the same as those specified in the broker declaration, a new declaration will occur and no match can occur (Pre MatchingIndicator is set to '0').</p>

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
Fund agent refuses a TCS declaration (d)	<p>CTSG submits a TCS declaration (d) as a fund order in quantity or in Cash. The fund agent should confirm the reception of the TCS Notice (n) as well as the operation type.</p> <p>The fund agent refuses the declaration, i.e. answers by a TCS Declaration refusal (c).</p> <p>Both CTSG and the fund agent receive a TCS Notice (n). The fund agent should confirm to CTSG the values of the following fields: ExecType, ExecTrans Type, OrdStatus, ExecRestatement Reason.</p>	<p>To refuse the declaration, the TCSMsgType should be set to '0403'.</p> <p>TCS SLE equivalent = '0414'</p>

■ **VALIDATION OF THE PRE MATCHING INDICATORS**

The goal of the tests below is for the fund agent to validate the different values of the PreMatchingIndicator field depending on whether instruments trade at daily, J+1, J+2 or J+3 cut-off time.

Note that the tests below will be performed on instruments belonging to different trading groups.

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
TCS declaration submitted before / after the daily cut-off time	<p>CTSG submits a TCS declaration (d) as a 'fund order in quantity' or a 'fund order in cash' before the cut-off time.</p> <p>The fund agent answers by a TCS Declaration (c) to accept the declaration. The acceptance is done before the cut-off time.</p> <p>The fund agent should confirm the value of the PreMatchingIndicator field.</p> <p>The same test as above is repeated after the cut-off time. The fund agent should confirm the value of the PreMatching Indicator field in this second scenario.</p>	<p>Cut-off time is set to 4:30PM CET.</p> <p>The first part of the test should be performed before the cut-off time while the second time must be completed after this time.</p> <p>PreMatchingIndicator = '1' or '2'</p>
TCS declaration submitted before / after the J+1 cut-off time	<p>Same test as above. The only difference is that the test is done on an instrument that follows the J+1 cycle.</p>	<p>PreMatchingIndicator = '2' or '3'</p>

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
TCS declaration submitted before / after the J+2 cut-off time	Same test as above. The only difference is that the test is done on an instrument that follows the J+2 cycle.	PreMatchingIndicator = '3' or '4'
TCS declaration submitted before / after the J+3 cut-off time	Same test as above. The only difference is that the test is done on an instrument that follows the J+3 cycle.	PreMatchingIndicator = '4' or '5'
Change in the Trading Period	At the end of the trading day a fixed cut-off time separates one trading day from the other. A XDP 'TCS State Change' (535) message is broadcast. The fund agent should confirm to CTSG that he successfully receives and handles this message in his market data application.	

■ **NAV +/- ENTRY BY THE FUND AGENT**

The goal of the tests below is for the fund agent to validate the entry of the NAV +/- price. The NAV +/- price can be entered at any time from the opening of TCS to the fixed execution time.

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
Fund agent submits the NAV +/- price with ByPassIndicator set to '0'	The fund agent enters the NAV +/- price by sending a TCS Price Input (p) message with the ByPassIndicator set to '0'. In this case, the NAV +/- is checked against a percentage deviation. In this test, the NAV +/- price will be outside the percentage deviation. The price input will be rejected and the fund agent receives a TCS message reject (d) message. The fund agent should confirm to CTSG the reception of message as well as the rejection code received.	The goals of this test are to understand the goal of the ByPassIndicator field and to validate rejection codes received when a TCS rejection message (d) is received by the fund agent.
Fund agent submits the NAV +/- price with ByPassIndicator set to '1'	The fund agent enters the NAV +/- price by sending a TCS Price Input (p) message with the ByPassIndicator set to '1'. No control of the NAV +/- price against a % deviation is done. The fund agent should confirm to CTSG the reception of a TCS Price Acknowledgement (q) message.	

TEST CASE TITLE	TEST CASE DESCRIPTION	COMMENTS
Matching at execution time	Following the execution time, a confirmation of trade will be sent through a TCS Notice (n).	TCS SLE equivalent = '0415'
XDP Market Data messages sent as the result of the matching	<p>After the execution time, the NAV +/- price is broadcast in the XDP Price Update (214) message. The fund agent should confirm to CTSG the reception of the message.</p> <p>Following each trade, a XDP TCS trade (242) message is also broadcast. The fund agent should confirm to CTSG that his market data application receives and handles this message.</p>	The XDP Price Update message is sent whatever a trade matches or not.

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