



**BORSA
İSTANBUL**

**DERIVATIVES MARKET
BISTECH OUCH CERTIFICATION PROGRAM**

2020, Version 1.3

DERIVATIVES MARKET BISTECH OUCH CERTIFICATION PROGRAM

..... BISTECH OUCH ORDER ENTRY STAGE CONNECTIVITY TEST

To The Attention of Our Members:

The purpose of this test is to enable our members to test their own systems as they are in BISTECH OUCH environment.

Order entry part of the test is segmented according to required phases of routine operation. It comprises Continuous Transaction and Throttling (Maximum number of orders allowed in unit time) test sections.

Please perform the below transactions in order and make sure to check the messages incoming at every step when you carry out these transactions.

First, determine the impact expected to occur when order is sent to the system.

Whether expected impact occurred or not after order or any request is sent to the system will be controlled by dimensional and contextual integrity and accuracy of the response which reached you with respect to the activity at the first degree. By controlling whether the activities are accurately processed or not at your main system which is the source of the activities carried out from every channel at the back in the second degree, proper blanks below each option will be ticked.

Inform the officers immediately if an unexpected situation occurs.

Please send the document to Borsa Istanbul officers after filling the part spared for you at the end of the test.

Legal Liability fully pertains to the member in disputes which may arise between the customers and members who do not use some of order and transaction functions in their OUCH programs which are taking part in existing transaction rules of Derivatives Market and allowed by Derivatives Market to be used with BISTECH OUCH.

For this reason, we recommend our members to inform their customers on this subject and form the proper legal basis with their customers.

Our members are fully responsible for faultless perform of the member system.

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SECTION 1:

CONNECTIVITY TEST

1. Login Request Packet

- Send the Login Request Packet with 0 (zero) in Requested Sequence Number field and empty Requested Session field (Password=123456). Login Accepted Packet should be received.

Expected messages are received. Problem with messages

2. Heartbeat Packet

- The server and the client should send a Server Heartbeat Packet anytime more than 1 second passes where no data has been sent to the counter side. At this step, it should be confirmed that Heartbeat Packet of server is received and Heartbeat Packet is sent by client fulfilling the Heartbeat requirement mentioned above.

Expected messages are received. Problem with messages

3. Logout Request Packet

- Send Logout Request Packet and system terminates the TCP/IP socket.

Expected messages are received. Problem with messages

4. Login Request Packet Failure

- Send the Login Request Packet with 0 (zero) in Requested Sequence Number field and empty Requested Session field (Password=123). **Login Rejected** will be received

Expected messages are received. Problem with messages

with Reject Reason Code=A (Incorrect Username/Password).

5. Login Request Packet

- ✓ Send the Login Request Packet with 0 (zero) in Requested Sequence Number field and empty Requested Session field (Password=123456). Login Accepted Packet should be received.

Expected messages are received. Problem with messages

SECTION 2:

ORDER ENTRY AND FUNCTIONALITY

Instruments that will be used during test are listed below with Partition, Base Price and OrderBookID information:

Instrument	Partition	Base Price	Order Book ID
F_GARAN1220	1	7,76	38674900
O_XU030E1220C100.000	2	9,3	15218117
F_XU0301220	2	102	603589
F_USDTRY1220	2	3	685380
F_USDTRYM2-M1	2		Please check through FIX RD or ITCH
O_AKBNKE1220P8.00	1	0,15	39720076

Reference Data (Security Definition, Security Status, Price Limits etc.) regarding the instruments that are listed will be available through FIX Reference Data and ITCH Market Data connection.

Order Details:

- ✓ For Order Entry via OUCH Protocol, OrderBookID (SecurityID) of the instrument must be used instead of Symbol name. OrderBookID of the instruments that are used for Certification Test is given on the table above.
- ✓ Orders should be **Limit** priced **Day** and **Position = Open** orders unless it is noted otherwise.
- ✓ Orders should be submitted with Account **DE-1**.
- ✓ Values sent in Reference (Customer Info) field will not be checked (pass-through field). It is a mandatory field in OUCH protocol and should be sent in compliance with OUCH Specification Document.
- ✓ Clients are allowed to send Cancel Order and Enter Order (New) messages instead of sending Replace Order. Please note that cancelling an order and sending a new one will definitely cause losing the time priority of the order while it is possible to retain the time priority with Replace Order message in certain circumstances.

DropCopy Connection

Execution Report messages of Order Entry/Replace/Cancel messages that are entered via OUCH protocol will be received over FIX DropCopy connection. Clients will be provided with DropCopy connection details to be used during the Certification Test on request.

Default configuration of DropCopy connection is aimed at receiving messages of all users of the participant without any filter (FIX, TW, OUCH). It is possible to configure the DropCopy connection to receive messages of specific users.

Continuous Auction

1. **F_GARAN1220** enter orders listed below and receive Order Accepted messages.

- | | | |
|-------|---|-------------------|
| i. | F_GARAN1220 – BUY – 200 Qty – 7.20 TRY – Day | [Order Token=10] |
| ii. | F_GARAN1220 – BUY – 90 Qty – 7.15 TRY – Day – Position = Close | [Order Token=20] |
| iii. | F_GARAN1220 – BUY – 80 Qty – 7.10 TRY – Day | [Order Token=30] |
| iv. | F_GARAN1220 – BUY – 70 Qty – 7.05 TRY – Day | [Order Token=40] |
| v. | F_GARAN1220 – BUY – 60 Qty – 7.00 TRY – Fill or Kill | [Order Token=50] |
| vi. | F_GARAN1220 – BUY – 50 Qty – 6.95 TRY – Fill and Kill | [Order Token=60] |
| vii. | F_GARAN1220 – SELL– 10 Qty – 7.25 TRY – Day | [Order Token=70] |
| viii. | F_GARAN1220 – SELL– 20 Qty – 7.30 TRY – Day – Position = Default | [Order Token=80] |
| ix. | F_GARAN1220 – SELL– 250 Qty – 7.40 TRY – Day | [Order Token=90] |
| x. | F_GARAN1220 – SELL– 350 Qty – 7.45 TRY – Day | [Order Token=100] |
| xi. | F_GARAN1220 – SELL– 450 Qty – 7.50 TRY – Fill and Kill | [Order Token=110] |
| xii. | F_GARAN1220 – SELL– 550 Qty – 7.55 TRY – Fill or Kill – Position=Close | [Order Token=120] |

Expected messages are received. Problem with messages

Below orders will be cancelled. Check the related Order Cancelled messages.

- i. (Order Token=50) F_GARAN1220 – BUY – 60 Qty – 7.00 TRY – Fill or Kill
- ii. (Order Token=60) F_GARAN1220 – BUY – 50 Qty – 6.95 TRY – Fill and Kill
- iii. (Order Token=110) F_GARAN1220 – SELL– 450 Qty – 7.50 TRY – Fill and Kill
- iv. (Order Token=120) F_GARAN1220 – SELL– 550 Qty – 7.55 TRY – Fill or Kill

Expected messages are received. Problem with messages

2. **F_GARAN1220** cancel below order with **Order Token** as reference (Cancel Order by Order Token) and receive Order Cancelled message.

- i. (Order Token=20) F_GARAN1220 – BUY – 90 Qty – 7.15 TRY – Day [Order Token=130]

Expected messages are received. Problem with messages

3. **F_GARAN1220 cancel** below order with **OrderID** as reference (Cancel Order by OrderID) and receive Order Cancelled message.

- i. (Order Token=90) F_GARAN1220 – SELL– 250 Qty – 7.40 TRY – Day [Order Token=140]

Expected messages are received. Problem with messages

4. **F_GARAN1220 modify price** of below orders and receive Order Replaced message. Status of the order will be changed to “**Paused**” by the system.

- i. (Order Token=30) – BUY – 80 Qty – 6.10 TRY – Day [Order Token=150]

Expected messages are received. Problem with messages

5. **F_GARAN1220** modify below orders as underlined and receive Order Replaced messages.

- i. (Order Token=40) BUY – 70 Qty – 7.10 TRY – Day [Order Token=160]
ii. (Order Token=100) SELL– 355 Qty – 7.50 TRY – Day [Order Token=170]

Expected messages are received. Problem with messages

6. **F_GARAN1220** enter below orders and receive Order Rejected messages with order reject codes indicated below.

- i. BUY – 100 Qty – 15.00 TRY – Day [Order Token=180]
Order Reject Code: (-420131) “The premium is outside the allowed price limits for this instrument”
- ii. SELL – 150 Qty – 7.10 TRY – Day [Order Token=170]
(A previously used Order Token should be sent !)
Order Reject Code: (-800002) “The token is not unique”

Expected messages are received. Problem with messages

7. **F_GARAN1220** enter orders listed below and receive Order Accepted messages.

- i. BUY – 100 Qty – 7.30 TRY – Day [Order Token=190]
ii. SELL – 90 Qty – 7.20 TRY – Day [Order Token=200]

Check the Order Executed messages related with below executions:

- i. Trade 1: 20 Qty 7.30 TRY
ii. Trade 2: 10 Qty 7.25 TRY
iii. Trade 3: 70 Qty 7.20 TRY
iv. Trade 4: 20 Qty 7.20 TRY

Expected messages are received. Problem with messages

8. **O_XU030E1220C100.000** enter below orders (partition 2) and receive Order Accepted messages.
- i. BUY – 20 Qty – 15.20 TRY – Day **[Order Token=210]**
 - ii. BUY – 30 Qty – 15.10 TRY – Day **[Order Token=220]**
 - iii. SELL– 100 Qty – 15.20 TRY –Day **[Order Token=230]**

Check Order Executed messages of trades below:

- i. Trade 1: 20 Qty 15.200 TRY

Expected messages are received. Problem with messages

9. **O_XU030E1220C100.000** modify quantity of your partially traded order and receive Order Replaced message.

- i. (Order Token=230) SELL – 70 Qty* – 15.15 TRY – Day **[Order Token=240]**

Expected messages are received. Problem with messages

10. **F_USDTRYM2-M1** enter below orders and receive Order Accepted messages.

- i. BUY – 140 Qty – 0.10 TRY – Day **[Order Token=250]**
- ii. SELL– 150 Qty – (-0.12 TRY) – Day **[Order Token=260]**

Check Order Executed messages of trades below:

- i. Trade 1 : 100 Quantity 0.0002 TRY
- ii. Trade 2 : 100 Quantity (-0.0002) TRY

Expected messages are received. Problem with messages

11. **F_USDTRYM2-M1** modify quantity of your partially traded order and receive Order Replaced message.

- i. (Order Token=250) BUY – 100 Qty** – 0.15 TRY – Day **[Order Token=270]**

Expected messages are received. Problem with messages

* Order with original quantity of 100 lots is partially executed and remains 80 lots in the orderbook before modification. When order is modified as 70 lots, partially executed quantity will be extracted and passive order in the orderbook will be updated as 50 lots. Check and confirm that 50 is received in the Quantity (Quantity=50) field in Order Replaced message. (This warning message is for users who send Order Replace for order modification.)

** Order with original quantity of 140 lots is partially executed and remains 40 lots in the orderbook before modification. When order is modified as 100 lots, partially executed quantity will be extracted and passive order in the orderbook will be deleted. Check and confirm that 0 is received in the Quantity field (Quantity=0) and Order State = 2 (Not on book). Please note that PreTrade Quantity field is received as 0 (zero) in the Order Replaced message. (This warning message is for users who send Order Replace for order modification.)

12. F_USDTRYM2-M1 cancel below order and receive Order Cancelled message.

i. (Order Token=260) SELL– 50 Qty – 0.10 TRY – Day

[Order Token=280]

Expected messages are received. Problem with messages

13. Logout & Login Request Packet – Continue with last Sequence Number Received

- ✓ Send Logout Request Packet and terminate the connection.
- ✓ Send the Login Request Packet with the last received sequence number from the server in Requested Sequence Number field and empty Requested Session field (Password=123456). Login Accepted Packet should be received.

Expected messages are received. Problem with messages

Throttling Test

14. Send below BUY and SELL orders for 500 times each, total of 1000 orders in compliance with the Throttling limit of 100 orders per second which is configured in the system for your user at the moment of test.

Throttling limit is configured as 100 orders per second. Therefore total of 1000 orders below must be sent at a pace rate of 100 orders per second in 10 seconds.

i. **F_USDTRY1220** – BUY – 10 Qty – 2.95 TRY – Day

[Order Token=600]

ii. **F_USDTRY1220** – SELL – 10 Qty – 2.95 TRY – Day

[Order Token=1100]

Expected messages are received. Problem with messages

Failover to Secondary Gateway

Terminate connection with Primary OUCH Gateway IP and Ports and connect to secondary OUCH Gateway IP and Port provided.

- ✓ Send Login Request Packet without resetting Sequence number (with the last sequence number received from the system) and receive Login Accepted Packet.

Expected messages are received. Problem with messages

- ✓ Enter below orders to the secondary system and receive Order Accepted messages:
 - **O_AKBNKE1220P8.00** BUY Price: 0.20 Qty: 70 (*Partition1*) **[Order Token=4]**
 - **F_XU0301220** BUY Price: 88 Qty: 10 (*Partition2*) **[Order Token=5]**

Expected messages are received. Problem with messages

End of Day Batch

End of Day Batch will be processed. Check cancel messages (Order Cancelled) for Expired Day orders.

Expected messages are received. Problem with messages

Logout from the system after expected cancel messages are received. System will be terminated after End of Day Batch.

Expected messages are received. Problem with messages

Test Evaluation

Title of the Brokerage House/ISV	
Technical Staff Participated in the Test (Client)	
Exchange Official Participated in the Test	
General Evaluation (to be filled by BIST officials)	

Please contact with bistechsupport_autoticket@borsaistanbul.com for your questions.