



**BORSA
İSTANBUL**

**DERIVATIVES MARKET
FIX CERTIFICATION PROGRAMME
ORDER ENTRY STAGE**

HALKA AÇIK

DERIVATIVES MARKET

FIX CERTIFICATION PROGRAMME

ORDER ENTRY STAGE

..... BISTECH FIX 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
FIX environment.

Certification process consists of the sections below:

1. Connectivity Test
2. Order Entry and Functionality
 - a. Base Level
 - b. Medium Level
 - c. Advanced Level
 - d. Market Making
3. Closing the System

Equity Market BISTECH FIX certification (base or advanced levels) will be valid for Derivatives Market BISTECH FIX certification (base level only) as well. Those members who have been certified for Equity Market can skip Connectivity Test Section, Base Level steps in Order Entry and Functionality Section and Closing the System Section. Likewise, the members who have been certified for Market Making in Equity Market can skip the Market Making steps in Order Entry and Functionality Section. For the members who have been certified for Equity Market;

If they want to have Base Level certificate for Derivatives Market, no additional certification process is required.

If they want to have Medium Level certificate for Derivatives Market, only Medium Level steps in Order Entry and Functionality Section is required.

If they want to have Advanced Level certificate for Derivatives Market, both Medium Level steps and Advanced Level steps in Order Entry and Functionality Section are required. For the members who do not have any BISTECH FIX certificate, Connectivity Test Section, Base Level steps in Order Entry and Functionality Section and Closing the System Section are required. But Medium Level, Advanced Level and Market Making steps are optional.

HALKA AÇIK

Certification Steps	Steps That Members Are Responsible For														
	Does Not Have Equity Market Certification						Has Equity Market Base/Advanced Certification						Has Equity Market Market Making Certification		
	Deriv. Base	Deriv. Medium	Deriv. Advanced	Deriv. Base + MM	Deriv. Medium + MM	Deriv. Advanced + MM	Deriv. Base	Deriv. Medium	Deriv. Advanced	Deriv. Base + MM	Deriv. Medium + MM	Deriv. Advanced + MM	Deriv. Base + MM	Deriv. Medium + MM	Deriv. Advanced + MM
1. Connectivity Test															
2. Order Entry and Functionality															
a. Base Level Steps															
b. Medium Level Steps															
c. Advanced Level Steps															
d. Market Making Steps															
3. Closing the System															

Please perform the transactions below 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. When a transaction is sent to the system, the integrity of the message and whether it is accurately

processed in the system of the member or not is controlled. After that control, the proper checkbox under each step will be ticked regarding whether expected impact occurred or not (Expected messages are received / Problem with messages).

Inform the officers immediately if an unexpected situation occurs. Please send the document to Borsa Istanbul officers after filling the part at the end of it.

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

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 operation of their own member systems.

SECTION 1: CONNECTIVITY TESTS

1. Logon with Password Change

- Send the first Logon message of the day with sequence number 1. (Password=LLL).
- Receive Logout message from the system with “Password Expired” message. (SessionStatus=8 – Password Expired).

Expected messages are received. Problem with messages

- Send Logon message with Password Change. (554=LLL 925=MMM). Receive Logon message from the system with “Password Changed” status.

Expected messages are received. Problem with messages

2. Logout Message

- Send Logout message and receive Logout message from the system with “Logout Complete”.

Expected messages are received. Problem with messages

3. Logon Message with Reset Sequence Number Flag

- Send Logon message with reset sequence number. (ResetSeqNumFlag=Y, SeqNum=1).
- Receive Logon message from the system with “Active” status. (SessionStatus=0 SeqNum=1)

Expected messages are received. Problem with messages

4. Sending Resend Request Message

Enter Order

- Send below orders to the system and receive Execution reports (Orders should be Limit, Day order, Position should be “Open” and Account should be “DE-1”):

1. F_ARCLK1224 (*Partition1*) BUY Price: 7.00 Quantity: 10 [ClOrdID=1]
2. F_EREGL1224 (*Partition2*) BUY Price: 7.00 Quantity: 10 [ClOrdID=2]
3. F_KOZAL1224 (*Partition3*)BUY Price: 7.00 Quantity: 10 [ClOrdID=3]
4. F_TUPRS1224 (*Partition4*) BUY Price: 7.00 Quantity: 10 [ClOrdID=4]
5. O_USDTRYKE1223P21500 (*Partition5*) BUY Price: 7.00 Quantity: 10[ClOrdID=5]
6. F_TRT020926T17_1223(*Partition6*) BUY Price: 7.00 Quantity: 10 [ClOrdID=6]

Expected messages are received. Problem with messages

HALKA AÇIK

Logout

- Send Logout message and receive Logout message.

Expected messages are received. Problem with messages

Executions

While user is logged out, orders that will match with user's orders will be entered to the system. Orders of the user will be executed and execution messages (Execution Report - Trade) will be written to the message queue of the user.

Logon and Resend Request

- Send Logon message to the system without resetting the sequence number and receive Logon message from the system.

Expected messages are received. Problem with messages

- Send Resend Request message to the system due the fact that higher sequence number than expected is received. Following Execution Report messages will be received from the system as response to the Resend Request:

1. F_ARCLK1224 BUY Price: 7.00 Quantity: 10 fully traded.
2. F_EREGL1224 BUY Price: 7.00 Quantity: 10 fully traded.
3. F_KOZAL1224 BUY Price: 7.00 Quantity: 10 fully traded.
4. F_TUPRS1224 BUY Price: 7.00 Quantity: 10 fully traded.
5. O_USDTRYKE1223P21500 BUY Price: 7.00 Quantity: 10 fully traded.
6. F_TRT020926T17_1223 BUY Price: 7.00 Quantity: 10 fully traded.

Expected messages are received. Problem with messages

1. **Logout**

- Send Logout message and receive Logout message.

Expected messages are received. Problem with messages

2. **Replying Resend Request Message**

Before user logs in to the system, expected sequence number on the server side will be decreased to a lower number manually. When user logs in to the system without resetting the sequence number, Resend Request message will be sent from the system.

HALKA AÇIK

Logon

Send Logon message without resetting Sequence number and receive Logon message from system.

Expected messages are received. Problem with messages

- Resend request message will be received from the system right after the Logon message. Resend Request message must be replied according to below principals. System will not respond with any message if there is not a problem with resent messages.
 - Sequence Reset message with GapFillFlag=Y and NewSeqNum field should be sent instead of session messages that will be resent.
 - Application messages should be resent with PossDupFlag=Y and OrigSendingTime fields.

Expected messages are received. Problem with messages

3. **Logout**

- Send Logout message and receive Logout message.

Expected messages are received. Problem with messages

SECTION 2: ORDER ENTRY AND FUNCTIONALITY

HALKA AÇIK

Information about the instruments that will be used during test are listed below:

Connectivity Test and Base Level Steps	Partition	Base Price
F_AEFES1224	1	6.5
F_ARCLK1224	1	7.0
F_GARAN1224	2	6.6
F_EREGL1224	2	7.0
F_KARSN1224	3	6.5
F_KOZAL1224	3	7.0
F_SISE1224	3	6.8
F_TUPRS1224	4	80.0
F_VAKBN1224	4	6.0
F_YKBNK1224	4	3.8

Medium Level Steps	Partition	Base Price
O_USDTRYKE1223P21500	5	7.0
TM_O_USDTRYKE311224P19250	4	7.0
F_EURUSD1224	5	1.13
F_XU0301224	4	100.0
F_USDTRYM2-M1	5	FIX RD üzerinden çekilebilir.
F_TRT020926T17_1223	6	6.0

Advanced Level Steps	Partition	Base Price
F_TUPRS1224	4	80.0
F_TCELL1224	4	12.0

Market Making Steps	Partition	Base Price
F_AKSEN1224	1	3.2
F_HALKB1224	2	4.2
F_KRDMD1224	3	5.2
F_SKBNK1224	3	5.0
F_TAVHL1224	4	4.0
F_VESTL1224	4	4.05
F_BIMAS1224	1	3.2
F_HEKTS1224	4	3.9
F_KOZAA1224	3	3.0
F_PETKM1224	3	3.0
F_TKFEN1224	4	3.2
F_YKBNK1224	4	3.8

HALKA AÇIK

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

Notes

- ✓ Orders should be Limit priced Day and Position = Open orders unless it is noted otherwise.
- ✓ For the members who do not support order amendment (OrderCancelReplace) message, order cancelation + new order submission can be used instead of order amendment. In that case, order priority is lost even if order amendment may keep the order priority.
- ✓ Orders should be submitted with Account = "DE-1".
- ✓ For On Close and GTS orders, the value of "KAP" session in FIX protocol is "1".

HALKA AÇIK

DropCopy Connection

Connect to the DropCopy Port (will be given before test) with FIX DropCopy user. User should be stay connected during the test. After test is completed, message log file of DropCopy connection will be requested in addition to the message log files of FIX Order Entry connection.

- Send Logon message with resetting sequence number and receive Logon message from the system.

Expected messages are received. Problem with messages

HALKA AÇIK

BASE LEVEL

CONTINUOUS AUCTION

Enter the following orders and check the Execution Report messages.

- | | | |
|--------|---|---------------|
| i. | F_AEFES1224 - BUY - 20 Quantity – 6.50 TL – Day | [ClOrdID=20] |
| ii. | F_AEFES1224 – BUY – 20 Quantity – 6.60 TL – Day | [ClOrdID=30] |
| iii. | F_AEFES1224 – BUY – 50 Quantity – 6.70 TL – GTD (31.12.2023) | [ClOrdID=40] |
| iv. | F_AEFES1224 – SELL – 20 Quantity – 6.80 TL – Day | [ClOrdID=50] |
| v. | F_GARAN1224 – BUY – 20 Quantity – 6.90 TL – Day | [ClOrdID=60] |
| vi. | F_GARAN1224 – BUY – 90 Quantity – 6.90 TL – Day | [ClOrdID=70] |
| vii. | F_GARAN1224 – BUY – 80 Quantity – 6.80 TL – Day | [ClOrdID=80] |
| viii. | F_GARAN1224 – BUY – 70 Quantity – 6.70 TL – Day | [ClOrdID=90] |
| ix. | F_GARAN1224 – BUY – 60 Quantity – 6.60 TL – FAK (IOC) | [ClOrdID=100] |
| x. | F_GARAN1224 – BUY – 50 Quantity – 6.80 TL – GTD (31.12.2023) | [ClOrdID=110] |
| xi. | F_GARAN1224 – SELL – 10 Quantity – 7.10 TL – GTD (31.12.2023) | [ClOrdID=120] |
| xii. | F_GARAN1224 – SELL – 20 Quantity – 7.20 TL – FAK (IOC) | [ClOrdID=130] |
| xiii. | F_GARAN1224 – SELL – 750 Quantity – 7.30 TL – Day | [ClOrdID=140] |
| xiv. | F_KARSN1224 – BUY – 20 Quantity – 6.90 TL – Day | [ClOrdID=150] |
| xv. | F_KARSN1224 – BUY – 80 Quantity – 6.80 TL – Day | [ClOrdID=160] |
| xvi. | F_KARSN1224 – SELL – 100 Quantity – 6.70 TL – GTD | [ClOrdID=170] |
| xvii. | F_KARSN1224 – BUY – 60 Quantity – 6.60 TL – FAK (IOC) | [ClOrdID=180] |
| xviii. | F_SISE1224 – BUY – 50 Quantity – 6.80 TL – GTD (31.12.2023) | [ClOrdID=190] |
| xix. | F_SISE1224 – BUY – 50 Quantity – 7.10 TL – GTD (31.12.2023) | [ClOrdID=200] |
| xx. | F_SISE1224 – SELL – 20 Quantity – 7.00 TL – Day | [ClOrdID=210] |
| xxi. | F_SISE1224 – SELL – 750 Quantity – 7.30 TL – FAK(IOC) | [ClOrdID=220] |
| xxii. | F_TUPRS1224 - BUY – 100 Quantity – 5.0 TL – Day | [ClOrdID=230] |
| xxiii. | F_TUPRS1224 - SELL – 160 Quantity – 5.0 TL – FAK | [ClOrdID=240] |
| xxiv. | F_VAKBN1224 - SELL – 80 Quantity – 6.0 TL – Day | [ClOrdID=250] |
| xxv. | F_VAKBN1224 – BUY – 100 Quantity – 6.20 TL – GTD (31.12.2023) | [ClOrdID=260] |

Expected messages are received. Problem with messages

1. Cancel the following orders and check the Execution Report messages.

- | | |
|------|---|
| i. | [ClOrdID = 20] F_AEFES1224 - BUY - 20 Quantity – 6.50 TL – Day |
| ii. | [ClOrdID = 90] F_GARAN1224 – BUY – 70 Quantity – 6.70 TL – Day |
| iii. | [ClOrdID = 120] F_GARAN1224 – SELL – 10 Quantity – 7.10 TL – GTD (31.12.2023) |
| iv. | [ClOrdID = 190] F_SISE1224 – BUY – 50 Quantity – 6.80 TL – GTD |

Expected messages are received. Problem with messages

HALKA AÇIK

2. Modify the quantity and price fields of the following orders and check the Execution Report messages.

- i. [ClOrdID = 30] F_AEFES1224 – BUY – 20 Quantity – 6.80 TL – Day [ClOrdID=270]
- ii. [ClOrdID = 80] F_GARAN1224 – BUY – 81 Quantity – 6.80 TL – Day [ClOrdID=280]
- iii. [ClOrdID = 140] F_GARAN1224 – SELL – 750 Quantity – 7.20 TL – Day [ClOrdID=290]
- iv. [ClOrdID = 160] F_KARSN1224 – BUY – 50 Quantity – 6.70 TL – Day [ClOrdID=300]
- v. [ClOrdID = 260] F_VAKBN1224 – BUY – 20 Quantity – 6.00 TL – GTD [ClOrdID=310]

Expected messages are received. Problem with messages

3. Modify the validity period of the following orders and check the Execution Report messages.

- i. [ClOrdID = 60] F_GARAN1224 – BUY – 20 Quantity – 6.90 TL – **GTD (Test Date - today)** [ClOrdID=320]
- ii. [ClOrdID = 110] F_GARAN1224 – BUY – 50 Quantity – 6.80 TL – **Day** [ClOrdID=330]

Expected messages are received. Problem with messages

4. Check the Execution Report messages of the following orders.

- i. Trade 1: F_AEFES1224 – 20 lot – 6.80 TL
- ii. Trade 2: F_KARSN1224 – 20 lot – 6.90 TL
- iii. Trade 3: F_KARSN1224 – 80 lot – 6.80 TL
- iv. Trade 3: F_SISE1224 – 20 lot – 7.10 TL
- v. Trade 4: F_TUPRS1224 – 100 lot – 5.0 TL
- vi. Trade 5: F_VAKBN1224 – 80 lot – 6.00 TL

Expected messages are received. Problem with messages

5. Enter the following orders and check the Execution Report messages.

- i. F_GARAN1224 – BUY – 100 Quantity – 7.00 TL – Day [ClOrdID=340]

Borsa İstanbul tarafından girilen emir ile eşleşen emre ilişkin gelecek Execution Report ve Trade Capture Report mesajlarının kontrolünü yapınız.

- i. Trade 1: 50 Quantity 7.00 TL

Expected messages are received. Problem with messages

HALKA AÇIK

6. **F_GARAN1224** modify the order below which is partially matched and receive Execution Report message.

- i. F_GARAN1224 – BUY – **70 Quantity*** – 7.00 TL – Day [CfOrdID=350]

*Order with original quantity of 100 is partially executed and remains 50 in the orderbook before modification. When order is modified as quantity 70, partially executed quantity will be extracted and passive order in the orderbook will be updated as quantity 20. Check and confirm that 20 is received in the LeavesQty field (151=20). (This warning messages is for users who send Order Cancel Replace Request for order modification.)

Expected messages are received. Problem with messages

7. For **F_SAHOL1224**, enter the following orders and check the Execution Report messages.

- i. F_SAHOL1224 – BUY – 50 Quantity – 10 TL – Day [CfOrdID=360]
ii. F_SAHOL1224 – SELL – 90 Quantity – 10 TL – Day [CfOrdID=370]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- i. Trade 1: 50 Quantity 10 TL

Cancel order below and receive Order Cancel Reject message regarding that the order is fully matched.

- i. F_SAHOL1224 – BUY – 50 Quantity – 10 TL – Day

Expected messages are received. Problem with messages

8. For **F_SAHOL1224**, enter the following orders and check the Execution Report messages.

- i. F_SAHOL1224 – BUY – 100 Quantity – 9.90 TL – Day [CfOrdID=380]

Girilen emir üzerinde Quantity değişikliği yapınız ve maksimum emir Quantity'nin aşıldığına ilişkin gelecek Order Cancel Reject mesajının alındığını kontrol ediniz.

- i. F_SAHOL1224 – BUY – **10000 Quantity** – 9.90 TL – Day [CfOrdID=390]

Expected messages are received. Problem with messages

9. For instrument **F_SAHOL1224**, enter order below and receive Execution Report message regarding that the price is out of the limits.

- i. F_SAHOL122 – SELL – 100 Quantity – 1 TL – Day [CfOrdID=400]

HALKA AÇIK

Expected messages are received. Problem with messages

MEDIUM LEVEL

OPENING SESSION

10. F_XU0301224 enter the following orders and check the Execution Report messages.

- i. F_XU0301224 – BUY – 20 lot – 8,012 TL – Day [ClOrdID=410]
- ii. F_XU0301224 – BUY – 90 lot – 8,012 TL – Day [ClOrdID=420]
- iii. F_XU0301224 – BUY – 80 lot – 8,011 TL – Day [ClOrdID=430]
- iv. F_XU0301224 – BUY – 70 lot – 8,000 TL – Day [ClOrdID=440]
- v. F_XU0301224 – BUY – 60 lot – 7,999 TL – Day [ClOrdID=450]
- vi. F_XU0301224 – BUY – 50 lot – 7,998 TL – Day [ClOrdID=460]
- vii. F_XU0301224 – SELL – 10 lot – 8,012 TL – Day [ClOrdID=470]
- viii. F_XU0301224 – SELL – 20 lot – 8,013 TL – Day [ClOrdID=480]
- ix. F_XU0301224 – SELL – 250 lot – 8,014 TL – Day [ClOrdID=490]
- x. F_XU0301224 – SELL – 350 lot – 8,015 TL – Day [ClOrdID=500]
- xi. F_XU0301224 – SELL – 450 lot – 8,016 TL – Day [ClOrdID=510]
- xii. F_XU0301224 – SELL – 550 lot – 8,017 TL – Day [ClOrdID=520]

Cancel the below orders and check the Execution Report messages.

- i. [ClOrdID = 450] F_XU0301224 – BUY – 60 lot – 7,999 TL – Day
- ii. [ClOrdID = 460] F_XU0301224 – BUY – 50 lot – 7,998 TL – Day
- iii. [ClOrdID = 510] F_XU0301224 – SELL – 450 lot – 8,016 TL – Day
- iv. [ClOrdID = 550] F_XU0301224 – SELL – 550 lot – 8,017 TL – Day

Expected messages are received. Problem with messages

OPENING SESSION ORDER MATCHING

Check the Execution Report and Trade Capture messages of the following trade.

- i. Trade 1: 10 lot 8,012 TL

HALKA AÇIK

Expected messages are received. Problem with messages

SÜREKLİ MÜZAYEDE

11. Enter the orders below and check the Execution Report messages.

- i. **O_XU030E1223C100.000** - BUY – 100 Quantity – 0.50 TL – Day – Position = Closed
[ClOrdID=520]
- ii. **O_XU030E1223C100.000** - SELL – 60 Quantity – Market to Limit – GTD (31.12.2023)
[ClOrdID=530]

Check the Execution Report and Trade Capture Report messages of the following trade.

- i. Trade 1: 60 Quantity 0.50 TL

Expected messages are received. Problem with messages

12. **O_XU030E1223C100.000** modify the order below which is partially matched and receive Execution Report message.

- i. BUY – **50 Quantity***** – 0.50 TL – Day [ClOrdID=540]

*** Order with original quantity of 100 is partially executed and remains 40 in the orderbook before modification. When order is modified as quantity 50, since 60 quantity of the order is executed before and there is no remaining quantity to be executed order will be removed (as fully matched). Check and confirm that 0 is received in the LeavesQty field (151=0). (This warning messages is for users who send Order Cancel Replace Request for order modification. The ones who do not modify the order should cancel the order.)

Expected messages are received. Problem with messages

13. **TM_O_USDTRYKE311224P19250** enter the following orders and check the Execution Reports.

- i. BUY – 200 Quantity – 0.1 TL – GTS (KAP) [ClOrdID=550]
- ii. SELL – 100 Quantity - Market – FOK – Position = Closed [ClOrdID=560]
- iii. SELL – 250 Quantity – Market to Limit – GTC [ClOrdID=570]
- iv. BUY – 200 Quantity – Market – FAK [ClOrdID=580]

Check Execution Report and Trade Capture Report messages regarding the trades below.

- i. Trade 1: 100 Quantity 0.1 TL
- ii. Trade 2: 100 Quantity 0.1 TL
- iii. Trade 3: 150 Quantity 0.1 TL

HALKA AÇIK

Check Execution Report message regarding the cancellation of the order below.

- i. 200 Quantity - Market – FAK

Expected messages are received. Problem with messages

14. **F_EURUSD1224** enter orders below and receive Execution Report messages.

- i. BUY – 100 Quantity – 1.15 TL – Day – Trigger Order (Same instrument Last Price = 1.14 Direction = UP) [ClOrdID=590]
- ii. BUY – 200 Quantity – 1.14 TL – Day [ClOrdID=600]
- iii. SELL – 500 Quantity – Market to Limit - Day [ClOrdID=610]
- iv. BUY – 200 Quantity – 1.13 TL – Day [ClOrdID=620]
- v. SELL – 150 Quantity – 1.15 TL – Day [ClOrdID=630]
- vi. SELL – 200 Quantity – Market - Session State Order (KAP)– FAK [ClOrdID=640]
- vii. SELL – 150 Quantity – Market - Session State Order (KAP)– FAK [ClOrdID=650]
- viii. BUY – 200 Quantity – Market - Session State Order (KAP)– FAK [ClOrdID=660]
- ix. BUY – 150 Quantity – Market - Session State Order (KAP)– FAK [ClOrdID=670]
- x. BUY – 500 Quantity – Market - Session State Order (KAP)– FAK [ClOrdID=680]

Check Execution Report and Trade Capture Report messages regarding the trades below.

- i. Trade 1: 200 Quantity 1.14 TL
- ii. Trade 2: 100 Quantity 1.14 TL

Check Execution Report message regarding the activation of the trigger order below.

- i. 100 Quantity – 1.15 TL – Day – Trigger Order (Same Instrument Last Price = 1.14 Direction = UP)

Expected messages are received. Problem with messages

15. **F_XU0301224** enter orders below and receive Execution Report messages.

- i. BUY – 100 Quantity – 100 TL – Day – Off-hours [ClOrdID=690]
- ii. BUY – 90 Quantity – 101 TL – GTD (**Test Date – Today**) – Off-hours [ClOrdID=700]
- iii. SELL – 80 Quantity – 103 TL – GTD (31.12.2023) – Off-hours [ClOrdID=710]
- iv. SELL – 120 Quantity – 104 TL – GTD (31.12.2020) [ClOrdID=720]
- v. SELL – 100 Quantity – 102 TL – Day [ClOrdID=730]

Expected messages are received. Problem with messages

16. **F_USDTRYM2-M1** enter orders below and receive Execution Report messages.

HALKA AÇIK

- i. BUY – 50 Quantity – 0.10 TL – Day [ClOrdID=740]
- ii. BUY – 60 Quantity – 0.11 TL – Day [ClOrdID=750]
- iii. SELL – 30 Quantity – 0.12 TL – FOK [ClOrdID=760]
- iv. SELL – 40 Quantity – Market – FAK [ClOrdID=770]

Check Execution Report and Trade Capture Report messages regarding the trades below.

- i. Trade 1: 50 Quantity 0.0002 TL
- ii. Trade 2: 50 Quantity 0.0002 TL
- iii. Trade 3: 40 Quantity (-0.0002) TL

Check Execution Report message regarding the cancellation of the order below.

- i. SELL – 30 Quantity – 0.12 TL – FOK

Expected messages are received. Problem with messages

TRADE REPORT

NOTE: TradeReportID given by user is recommended to be produced from the same numbering series as the ClOrdID. We applied this principle for test steps below and continued numbering from the last used ClOrdID value. TradeReportID must be entered as indicated below each step.

NOTE II: For equity options TrdType (828) = 626, for equity futures TrdType (828) = 624.

NOTE III: Trade reports for F_AKBNK1224 will be subject to exchange approval during the test.

NOTE IV: For trade reports, messages should be sent with Position = Open.

17. O_AKBNKE1223P8.00 enter BUY side of TradeReport with following details: 7000 quantity at price level 0.5 TRY with counterparty code BIXXX and check Trade Capture Report Ack message is received.

[TradeReportID:1010]

Expected messages are received. Problem with messages

18. For instrument O_AKBNKE1224P8.00, Exchange operator will enter the Sell side of the Trade Report of which you entered Buy side with TradeReportID=1010. Check the Trade Capture Report – Confirmation message indicating your TradeReport is matched by the system.

- i. (TradeReportRefID=1010) **O_AKBNKE1223P8.00** 7000 Quantity 0,5 TL

Expected messages are received. Problem with messages

HALKA AÇIK

19. For instrument O_AKBNKE1224P8.00, enter SELL side of TradeReport with following details: 8000 quantity at price level 0.5 TRY with counterparty code BIXXX and check Trade Capture Report Ack message is received.
[TradeReportID:1020]

Expected messages are received. Problem with messages

20. For instrument O_AKBNKE1224P8.00, cancel SELL side of Trade Report (TradeReportRefID: 1020) and check Trade Capture Report Ack message is received.
[TradeReportID:1030]

Expected messages are received. Problem with messages

21. For instrument O_AKBNKE1224P8.00, Exchange operator will enter the BUY side of a Trade Report on behalf of BIXXX participant with counterparty is set to your participant code. Details: 7500 quantity at price level 0.6 TRY Check Trade Capture Report – Notification message is received.
i. **O_AKBNKE1223P8.00** 7500 Quantity 0.6 TL BUY Counterparty: BIXXX

Expected messages are received. Problem with messages

Enter the SELL side of the TradeReport sent by BIXXX participant in order to confirm the trade report and check Trade Capture Report Ack message is received. (7500 quantity – 0.6 TRY, Counterparty: BIXXX).

[TradeReportID:1040]

Expected messages are received. Problem with messages

Check the Trade Capture Report – Confirmation message is received indicating that your Trade Report is matched by the system.

- i. (TradeReportRefID=1040) **O_AKBNKE1223P8.00** 7500 Quantity 0.6 TL Counterparty: BIXXX)

Expected messages are received. Problem with messages

Check Trade Report – Delete Notification message is received indicating that Trade Capture Report - Notification message sent previously is not valid anymore. You have fulfilled the TradeReport waiting for your confirmation and you will receive this message to delete the notification on your side.

- i. **O_AKBNKE1223P8.00** 7500 Quantity 0.6 TL Counterparty: BIXXX

Expected messages are received. Problem with messages

HALKA AÇIK

22. For instrument O_AKBNKE1224P8.00, Exchange operator will enter the SELL side of a Trade Report on behalf of BIXXX participant with counterparty is set to your participant code. Details: 8500 quantity at price level 0.65 TRY Check Trade Capture Report – Notification message is received.

- i. **O_AKBNKE1223P8.00** 8500 Quantity 0.65 TL SELL Counterparty: BIXXX

Expected messages are received. Problem with messages

This Trade Report will be cancelled by Exchange operator on behalf of BIXXX before you confirm it. Check Trade Capture Report – Delete Notification message is received indicating that the notification previously sent is not valid anymore.

- i. **O_AKBNKE1223P8.00** 8500 Quantity 0.65 TL SELL Counterparty: BIXXX

Expected messages are received. Problem with messages

23. For instrument O_AKBNKE1224P8.00, enter two sided TradeReport with following details: 9000 quantity at price level 0.55 TRY with both side partyid code is your participant code and check Trade Capture Report Ack messages are received. **[TradeReportID:1050]**

- i. (TradeReportRefID=1050) **O_AKBNKE1223P8.00** 9000 Quantity 0.55 TL Two Party Trade Report Accepted
ii. (TradeReportRefID=1050) **O_AKBNKE1223P8.00** 9000 Quantity 0.55 TL Two Party Trade Report Confirmation

Expected messages are received. Problem with messages

24. For instrument F_AKBNK1224, Exchange operator will enter two Trade Reports on behalf of BIXXX participant with counterparty is set to your participant code. Details: 9000 quantity at price level 7.50 TRY SELL side and 8000 quantity at price level 7.55 TRY BUY side Check Trade Capture Report – Notification message is received.

- i. **F_AKBNK1224** 9000 Quantity 7.50 TL SELL Counterparty: BIXXX
ii. **F_AKBNK1224** 8000 Quantity 7.55 TL BUY Counterparty: BIXXX

Expected messages are received. Problem with messages

Enter the counter side of the TradeReports above in order to confirm them and check Trade Capture Report Ack messages are received.

- i. **F_AKBNK1224** 9000 Quantity 7.50 TL BUY Counterparty: BIXXX

[TradeReportID:1060]

HALKA AÇIK

- ii. **F_AKBNK1224** 8000 Quantity 7.55 TL SELL Counterparty: BIXXX

[TradeReportID:1070]

Expected messages are received. Problem with messages

Check Trade Capture Report – Matched messages are received indicating that the TradeReports are matched.

- i. (TradeReportRefID=1060) **F_AKBNK1224** 9000 Quantity 7.50 TL
ii. (TradeReportRefID=1070) **F_AKBNK1224** 8000 Quantity 7.55 TL

Expected messages are received. Problem with messages

The trade with TradeReportRefID=1060 will be approved by Exchange operator. Check Trade Capture Report – Novated message which indicates the approval of Exchange and trade message are received.

- i. (TradeReportRefID=1060) **F_AKBNK1224** 9000 Quantity 7.50 TL (Trade Capture Report - Novated)
ii. (TradeReportRefID=1060) **F_AKBNK1224** 9000 Quantity 7.50 TL (Trade Capture Report – Auto match)

Expected messages are received. Problem with messages

The trade with TradeReportRefID=1060 will be rejected by Exchange operator. Check Trade Capture Report – Rejected message is received indicating that the trade report is rejected by Exchange.

- i. (TradeReportRefID=1070) **F_AKBNK1224** 8000 Quantity 7.55 TL (Trade Capture Report - Rejected)

Expected messages are received. Problem with messages

ON CLOSE ORDER – MATCH

25. Since On Close Order Match session is started, check Execution Report and Trade Capture Report messages regarding the trades below are received for instrument F_EURUSD1224.

- i. Trade 1: 200 Quantity 1,14 TL
ii. Trade 2:150 Quantity 1,14 TL
iii. Trade 3: 200 Quantity 1,14 TL

Expected messages are received. Problem with messages

HALKA AÇIK

Check Execution Report messages are received indicating that the Session State (KAP) order below is canceled.

- i. (CIOrdID=680) BUY – 500 Quantity – Market - Session State Order (KAP)– FAK

Expected messages are received. Problem with messages

AFTER HOURS SESSION

26. Check Execution Report messages are received indicating that the orders which are not off hours flagged (T+1) are paused.

Expected messages are received. Problem with messages

27. **F_XU0301224** enter orders below and receive reject messages indicating that the orders are not off hours orders.

- i. BUY – 150 Quantity – 103 TL – Day [CIOrdID=780]
- ii. BUY – 160 Quantity – 104 TL – FAK [CIOrdID=790]

Expected messages are received. Problem with messages

28. **F_XU0301224** enter orders below and receive Execution Report messages.

- i. BUY – 100 Quantity – 102 TL – Day – Off-hours [CIOrdID=800]
- ii. BUY – 110 Quantity – 103 TL – FAK – Off-hours [CIOrdID=810]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- i. Trade 1: 80 Quantity 103 TL

Expected messages are received. Problem with messages

ADVANCED LEVEL

TAILOR-MADE INSTRUMENTS

29. Create a Tailor Made instrument with Price = 56.000 TRY and Expire Date = Certification date – today by using **O_AKBNKE1223C14.50** and receive Security Definition and Security Definition Update Report messages.

HALKA AÇIK

Expected messages are received. Problem with messages

The Tailor Made instrument created above will be in “VIOP_ARA” session state and Exchange Operator will change the state to continuous auction. After session change, enter the orders below the instrument and receive Execution Report messages.

- i. BUY – 30 Quantity – 0.40 TL – Day [CfOrdID=820]
- ii. SELL – 50 Quantity – 0.40 TL – FAK [CfOrdID=830]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- i. Trade 1: 30 Quantity 0.40 TL

Check Execution Report message indicating the cancelation of the order below.

- i. SELL – 20 Quantity – 0.40 TL – FAK (CfOrdID=830 olan emir)

Expected messages are received. Problem with messages

- 30.** Create a Tailor Made instrument with Price = 73.000 TRY and Expire Date = Certification date – today by using **O_USDTRYKE1223C18900** and receive Security Definition and Security Definition Update Report messages.

The Tailor Made instrument created above will be in “VIOP_ARA” session state and Exchange Operator will change the state to continuous auction. After session change, enter the orders below the instrument and receive Execution Report messages.

- i. BUY – 100 Quantity – 0.50 TL – Day [CfOrdID=840]
- ii. SELL – 80 Quantity – 0.50 TL – Day [CfOrdID=850]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- ii. Trade 1: 80 Quantity 0.50 TL

Expected messages are received. Problem with messages

- 31.** Create a Tailor Made instrument with Price = 81.000 TRY and Expire Date = Certification date – today by using **O_XU030E1223C100.000** and receive Security Definition and Security Definition Update Report messages.

Expected messages are received. Problem with messages

HALKA AÇIK

The Tailor Made instrument created above will be in “VIOP_ARA” session state and Exchange Operator will change the state to continuous auction. After session change, enter the orders below the instrument and receive Execution Report messages.

- i. BUY – 50 Quantity – 0.60 TL – Day [ClOrdID=860]
- ii. SELL – 80 Quantity – 0.60 TL – FAK [ClOrdID=870]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- iii. Trade 1: 50 Quantity 0.60 TL

Check Execution Report message indicating the cancelation of the order below.

- iv. SELL – 30 Quantity – 0.60 TL – FAK (ClOrdID=870 olan emir)

Expected messages are received. Problem with messages

32. Create a Tailor Made Combination instrument by using **O_XU030E1223C100.000** and **O_XU030E1223C102.000**. Receive Security Definition and Security Definition Update Report messages.

- i. **O_XU030E1223C100.000:** BUY – Ratio = 1
- ii. **O_XU030E1223C102.000:** SELL – Ratio = 1

Enter the orders below for the Tailor Made Combination instrument created above and receive Execution Report messages

- i. BUY – 50 Quantity – 0.05 TL – Day [ClOrdID=880]
- ii. SELL – 40 Quantity – 0.05 TL – FOK [ClOrdID=890]

Check Execution Report and Trade Capture Report messages regarding the trade below.

- i. Trade 1: 50 Quantity (-0.04 TL)

Check Execution Report message indicating the cancelation of the order below.

- i. SELL – 40 Quantity – 0.05 TL – FOK

Expected messages are received. Problem with messages

LINKED ORDERS AND ADVERTISING ORDER

33. In this step, Exchange operator will enter the following linked orders via TW (on behalf of the member).

- i. F_TUPRS1224 - BUY – 100 Quantity – 80 TL – Day
- ii. F_TCELL1224- SELL – 100 Quantity – 12 TL – Day

HALKA AÇIK

F_TCELL1224 enter the order below and receive Execution Report message.

- i. BUY – 40 Quantity – 12 TL – FOK [CIOrdID=900]

Check Execution Report and Trade Capture Report messages regarding the trade below. Also, check Execution Report messages indicating that the quantity of the linked orders decreased.

- i. Trade 1: 40 Quantity 12 TL

Expected messages are received. Problem with messages

34. In this step, Exchange operator will enter the following advertising order via TW (on behalf of the member). Check Execution Report message for the following advertising order via Drop copy channel.

- i. F_TUPRS1224 - BUY – 5000 Quantity – 80 TL – Day

Expected messages are received. Problem with messages

MARKET MAKING

Notes

- ✓ Quotes should be Limit priced Day and Position = Open orders unless it is noted otherwise.
- ✓ There will be no response from the system for successful MassQuote entries. MassQuote Acknowledgement message will be sent if one or more Quote entry has incorrect value. MassQuote message will be validated by Exchange operator and user will be informed.
- ✓ It is strongly recommended that the QuoteIDs are taken from the same numbering series as the ClOrdID in cases where Orders and Quotes are submitted through the same FIX session. This principle is applied for test steps below and previously used ClOrdIDs/TradeReportIDs are not used.
- ✓ “QuoteEntryID” value that will be given to each quote entry is started from 1 and incremented by one for each quote entry. Given QuoteEntryIDs are expected for MassQuote messages that include more than one quotes.
- ✓ Entered successful MassQuotes will be checked from Trader Workstation by Exchange Operator.

HALKA AÇIK

CONTINUOUS AUCTION

32. Enter the quote orders below.

- i. F_AKSEN1224 - 3.20 – 3.25 TL – 20şer lot
- ii. F_HALKB1224 – 4.20 – 4.25 TL – 20şer lot
- iii. F_KRDMD1224 – 5.20 – 5.25 TL – 20şer lot
- iv. F_SKBNK1224 – 5.00 – 5.05 TL – 20şer lot
- v. F_TAVHL1223 – 4.00 – 4.10 TL – 20şer lot
- vi. F_VESTL1224 – 4.05 – 4.10 TL – 20şer lot

Expected messages are received. Problem with messages

33. Modify the quote orders as below. Quote entry on this instrument will be updated.

- i. F_AKSEN1224 - 3.22 – 3.25 TL – 20şer lot (*QuoteEntryID=1*)
- ii. F_HALKB1224 – 4.25 – 4.30 TL – 20şer lot (*QuoteEntryID=2*)
- iii. F_KRDMD1224 – 5.25 – 5.30 TL – 20şer lot (*QuoteEntryID=3*)
- iv. F_SKBNK1224 – 5.05 – 5.10 TL – 20şer lot (*QuoteEntryID=4*)
- v. F_TAVHL1223 – 4.05 – 4.15 TL – 20şer lot (*QuoteEntryID=5*)
- vi. F_VESTL1224 – 4.10 – 4.15 TL – 20şer lot (*QuoteEntryID=6*)

Expected messages are received. Problem with messages

34. Enter the orders below and check the Execution Reports.

- i. F_AKSEN1224 - SELL – 20 Quantity – 3.22 TL – Day [**ClOrdID=910**]
- ii. F_HALKB1224 – SELL – 20 Quantity – 4.25 TL – Day [**ClOrdID=920**]
- iii. F_KRDMD1224 – SELL – 20 Quantity – 5.25 TL – Day [**ClOrdID=930**]
- iv. F_SKBNK1224 – SELL – 20 Quantity – 5.05 TL – Day [**ClOrdID=940**]
- v. F_TAVHL1223 – SELL – 20 Quantity – 4.05 TL – Day [**ClOrdID=950**]
- vi. F_VESTL1224 – SELL – 20 Quantity – 4.10 TL – Day [**ClOrdID=960**]

Check Execution Report and Trade Report messages are received for below trades.

- i. Trade 1: 20 Quantity 3.22 TL
- ii. Trade 2: 20 Quantity 4.25 TL
- iii. Trade 3: 20 Quantity 5.25 TL
- iv. Trade 4: 20 Quantity 5.05 TL
- v. Trade 5: 20 Quantity 4.05 TL
- vi. Trade 6: 20 Quantity 4.10 TL

Expected messages are received. Problem with messages

35. F_AKSEN1224 update BUY side of the quote with price 3.21 TRY and quantity 20.

HALKA AÇIK

Expected messages are received. Problem with messages

36. **F_AKSEN1224** update SELL side of the quote with quantity 100.

NOTE: No acknowledgement message will be sent from the system after a successful quote update. Exchange operator will check the new quantity of the quote from Trading Workstation after quote update.

Expected messages are received. Problem with messages

37. **F_AKSEN1224** cancel only the BUY side of the quote entered above.

Expected messages are received. Problem with messages

38. **F_AKSEN1224** cancel the SELL side of the quote entered above.

Expected messages are received. Problem with messages

39. **F_AKSEN1224** enter MassQuote only on BUY side at price level 3.23 TRY and quantity 100.

Expected messages are received. Problem with messages

40. **F_AKSEN1224** enter MassQuote only on SELL side at price level 3.27 TRY and quantity 100.

Expected messages are received. Problem with messages

41. **F_AKSEN1224** Cancel the quote on instrument.

Expected messages are received. Problem with messages

42. Enter a single MassQuote message on below instruments with given price levels, size and QuoteEntryID.

F_BIMAS1224 : BUY: 3.21 TL 100 Quantity – SELL: 3.25 100 Quantity

(QuoteEntryID=7)

F_HEKTS1224 : BUY: 3.90 TL 50 Quantity – SELL: 3.92 75 Quantity

HALKA AÇIK

(QuoteEntryID=8)

F_KOZAA1224 : BUY: 3.00 TL 100 Quantity – SELL: 3.10 100 Quantity

(QuoteEntryID=9)

F_PETKM1224 : BUY: 3.20 TL 100 Quantity – SELL: 3.25 100 Quantity

(QuoteEntryID=10)

F_TKFEN1224 : BUY: 3.22 TL 100 Quantity – SELL: 3.24 100 Quantity

(QuoteEntryID=11)

F_YKBNK1224: BUY: 3.80 TL 100 Quantity – SELL: 3.85 100 Quantity

Expected messages are received. Problem with messages

43. Enter a single MassQuote message on below instruments with given price levels, size and QuoteEntryID.

F_BIMAS1224 : : BUY: 3.20 TL 100 Quantity – SELL: 3.24 100 Quantity

F_HEKTS1224 : : BUY: 3.94 TL 50 Quantity – SELL: 3.92 75 Quantity

Check that “Mass Quote Acknowledgement - Some Quotes Rejected” message is received due to rejection of 2nd quote entry in the MassQuote message.

Expected messages are received. Problem with messages

44. Enter a single MassQuote message on below instruments with given price levels, size and QuoteEntryID.

F_BIMAS1224 : BUY: 3.25 TL 100 Quantity – SELL: 3.22 100 Quantity

F_HEKTS1224: BUY: 3.94 TL 50 Quantity – SELL: 3.92 75 Quantity

Check that “Mass Quote Acknowledgement – All Quotes Rejected” message is received due to rejection of all quote entries in the MassQuote message.

Expected messages are received. Problem with messages

SECTION 3: CLOSING THE SYSTEM

HALKA AÇIK

END OF DAY BATCH

Check cancel messages (Execution Report - cancelled) for Expired day orders and Good Till Date orders.

Expected messages are received. Problem with messages

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

Expected messages are received. Problem with messages

NEXT DAY CONNECTION

System will be restarted with next day configuration. “Execution Report - Restatement” messages will be sent from the system for Good Till Date orders that remain open for the upcoming trading day. In order to receive these Execution Report messages, Logon message must be sent without resetting Sequence number.

- Logon message, Sequence number=1, ResetSeqNumFlag=N (34=1, 141=N or do not send field 141)
- Logon message will be received.

Expected messages are received. Problem with messages

- Logon message from the system will be sent with a Sequence number higher than 1. Client system should detect the Sequence gap and send a Resend Request message to the system. Check the Execution Report – Restatement messages that are sent from the system as response to the Resend Request.

Expected messages are received. Problem with messages

FAILOVER TO SECONDARY GATEWAY (ORDER ENTRY)

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

- Send Logon message without resetting Sequence number and receive Logon message.

Expected messages are received. Problem with messages

HALKA AÇIK

- Enter below orders to the secondary system and receive Execution Report (accepted) messages:

- **F_ALARK1224** BUY Price: 6.80 Quantity:10 (*Partition1*) [**ClOrdID=970**]
- **F_FROTO1224** BUY Price :6.00 Quantity 10 (*Partition2*) [**ClOrdID=980**]
- **F_MGROS1224** BUY Price :6.00 Quantity 10 (*Partition3*) [**ClOrdID=990**]
- **F_TOASO1224** BUY Price :6.00 Quantity 10 (*Partition4*) [**ClOrdID=1000**]
- **F_USDTRY1224** BUY Price :6.00 Quantity 10 (*Partition5*) [**ClOrdID=1010**]
- **F_TRT020926T17_1224** BUY Price :6.00 Quantity 10 (*Partition6*) [**ClOrdID=1020**]

Expected messages are received. Problem with messages

FAILOVER TO SECONDARY GATEWAY (DROP COPY)

The connection from the primary DC Gateway IPs is terminated. While the user is in the Logout state, orders that match the user orders are entered into the system. User orders are executed and execution reports (Execution Report - Trade) are written to the user's message queue.

Drop copy connections are established in all partitions with the given Secondary Gateway IPs. The ports used in the primary gateway connection will be used.

- The Logon message is sent and the Logon message is received from the system without resetting the sequence number.

Expected messages are received. Problem with messages

- Since the Sequence number of the message coming from the server is higher than expected, a Resend Request message is sent to the system. It is seen that the missed messages are received from the system in response to the Resend Request message:

- **F_ALARK1224** Price: 6.80 Quantity:10 fully traded.
- **F_FROTO1224** Price :6.00 Quantity 10 fully traded.
- **F_MGROS1224** Price :6.00 Quantity 10 fully traded.
- **F_TOASO1224** Price :6.00 Quantity 10 fully traded.
- **F_USDTRY1224** Price :6.00 Quantity 10 fully traded.
- **F_TRT020926T17_1224** Price :6.00 Quantity 10 fully traded.

Expected messages are received. Problem with messages

- The following order entries are made through the OE channel and it is checked that Execution Report messages are received in the secondary Drop Copy connections.

- **F_ALARK1224** BUY Price: 6.80 Quantity:10 (*Partition1*) [**ClOrdID=1030**]
- **F_FROTO1224** BUY Price :6.00 Quantity 10 (*Partition2*) [**ClOrdID=1040**]

HALKA AÇIK

- **F_MGROS1224** BUY Price :6.00 Quantity 10 (*Partition3*) [**ClOrdID=1050**]
- **F_TOASO1224** BUY Price :6.00 Quantity 10 (*Partition4*) [**ClOrdID=1060**]
- **F_USDTRY1224** BUY Price :6.00 Quantity 10 (*Partition5*) [**ClOrdID=1070**]
- **F_TRT020926T17_1224** BUY Price :6.00 Quantity 10 (*Partition6*) [**ClOrdID=1080**]

Expected messages are received. Problem with messages

HALKA AÇIK

TEST EVALUATION

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

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