



**BORSA
İSTANBUL**

BISTECH 3.0

TEST ENVIRONMENT
TECHNICAL INFORMATION

Update:02 February 2023

1. BISTECH 3.0 Phase Release Technical Information

1.1 Launched New Features

1. By increasing the number of partitions in the operating system from 2 to 6, similar load balancing is achieved between partitions.
2. In the new partition structure, instrument distributions have been rearranged. Information on which partition the instruments are in can be obtained from the partition information in the FIX Reference Data – Security Definition message. The partition distribution table according to the markets is given below;

		Partition-1	Partition-2	Partition-3	Partition-4	Partition-5	Partition-6
Equity Market	<i>The instruments are distributed in the first four partitions.</i>	*	*	*	*		
Derivatives Market	<i>Instruments are distributed across all six partitions</i>	*	*	*	*	*	*
Debt Securities Market	<i>Instruments are generally concentrated in the sixth partition, but there are instruments in the first four partitions. A total of five partitions are used.</i>	*	*	*	*		*
Precious Metals and Diamond Markets	<i>The instruments are only in the sixth partition.</i>						*

3. The system architecture on FIX and OUCH API servers has been changed, and the single-thread structure has been changed to multi-thread structure. In addition, order transmission over the FIX/OUCH API has been made partition independent, so that each order transmission API user can send orders to all partitions.
4. Active-passive operating structure was changed in FIX API Drop Copy channel architecture and active-active working structure was adopted. The standby server has also become active as the primary server. For the FIX DC connection on the standby server, a connection can be made with the same port from a different IP address.
5. ITCH API will continue to work based on partition and additional ports have been defined for data flow of newly added partitions.

1.2 Effect of New Features on Market Connections

The changes that will occur in the connections of our members during the BISTECH 3.0 release are given below.

The final user set that will be valid in the test environment has been published on the <https://connectint3.borsaistanbul.com> platform.

There will be no change in the physical connections (network system) provided for institutions to access markets and data flow.

1.2.1 FIXAPI Order Entry

Only one user will be enough for a full market connection. Currently, in markets where one set of users (1st Partition user and 2nd Partition user) is required for a full market connection, the second user has been relegated to passive status. The first user's order sending limit per second (throttling limit) is left the same.

FIXAPI order entry users on a market basis are detailed below with examples;

Market	FIXAPI Order Entry User
EQUITY MARKET	<p>Currently, one set of users (One 1st Partition user and one 2nd Partition user) is used for an Equity Market connection.</p> <p>After the phase release, there is no change in the first user in the same user set, the user can use the same username and password, and can send orders to all partitions where Equity Market instruments operate.</p> <p>The status of the second user is deactivated.</p>

	<p>Two sample scenarios are given below for FIXAPI order entry, this will differ for each of our members according to the number of users.</p> <p><i>Example 1:</i> Currently, XXX member has a total of one user set (One 1st Partition user and one 2nd Partition user) for 1 Equity market connection. After BISTECH 3.0, for 1 Equity Market connection, it will be able to continue with 1 user (XXX_FIX1), 1 user (XXX_FIX2) has become passive.</p> <p>XXX_FIX1</p> <p>XXX_FIX2</p> <p><i>Example 2:</i> Currently, YYY member has three user sets (Three 1st Partition users and three 2nd Partition users) for 3 Equity market connections. After BISTECH 3.0, for 3 Equity Market connections, it will be able to continue with 3 users (YYY_FIX1, YYY_FIX3, YYY_FIX5), 3 users (YYY_FIX2, YYY_FIX4, YYY_FIX6) have become passive.</p> <p>YYY_FIX1</p> <p>YYY_FIX2</p> <p>YYY_FIX3</p> <p>YYY_FIX4</p> <p>YYY_FIX5</p> <p>YYY_FIX6</p>
<p>DERIVATIVES MARKET</p>	<p>Currently, one user set (One 1st Partition user and one 2nd Partition user) is used for derivatives market connection.</p> <p>After Bistech 3.0, there is no change in the first user in the same user set, the user can be used with the same username and password, and can send orders to all partitions where derivatives market instruments operate.</p> <p>The status of the second user is deactivated.</p> <p>Two sample scenarios are given below for FIXAPI order entry , this will differ for each of our members according to the number of users.</p>

	<p><i>Example 1:</i> Currently, XXX member has a total of one user set (One 1st Partition user and one 2nd Partition user) for 1 Derivatives market connection. After BISTECH 3.0, for 1 VIOP market connection, it will be able to continue with 1 user (XXX_FIX1_D), 1 user (XXX_FIX2_D) has become passive.</p> <p>XXX_FIX1_D</p> <p>XXX_FIX2_D</p> <p><i>Example 2:</i> Currently, YYY member has three user sets (Three 1st Partition users and three 2nd Partition users) for 3 Derivatives market connections. After BISTECH 3.0, for 3 VIOP market connections, it will be able to continue with 3 users (YYY_FIX1_D, YYY_FIX3_D, YYY_FIX5_D), 3 users (YYY_FIX2_D, YYY_FIX4_D, YYY_FIX6_D) have become passive.</p> <p>YYY_FIX1_D</p> <p>YYY_FIX2_D</p> <p>YYY_FIX3_D</p> <p>YYY_FIX4_D</p> <p>YYY_FIX5_D</p> <p>YYY_FIX6_D</p>
<p>DEBT SECURITIES MARKET</p>	<p>Currently, one user set (One 1st Partition user and one 2nd Partition user) is used for a Debt Securities market connection.</p> <p>After the Bistech 3.0, there is no change in the first user in the same user set, the user can be used with the same username and password, and Debt Securities market can send orders to all partitions where market instruments operate.</p> <p>The status of the second user is deactivated.</p> <p>Below are two sample scenarios for FIXAPI order entry, this will differ for each of our members depending on the number of users.</p> <p><i>Example 1:</i> Currently, XXX member has a total of one user set (One 1st Partition user and one 2nd Partition user) for 1 Debt Securities market connection. After BISTECH 3.0, 1 Debt Securities market will be able to continue with 1 user for market connection (XXX_FIX1_F), 1 user (XXX_FIX2_F) has become passive.</p>

	<p>XXX_FIX1_F</p> <p>XXX_FIX2_F</p> <p><i>Example 2: Currently, YYY member has two user sets (Two 1st Partition users and two 2nd Partition users) for 2 Debt Securities market connections. After BISTECH 3.0 transition, 2 Debt Securities market will be able to continue with 2 users for market connection (YYY_FIX1_F, YYY_FIX3_F), 2 users (YYY_FIX2_F, YYY_FIX4_F) have become passive.</i></p> <p>YYY_FIX1_F</p> <p>YYY_FIX2_F</p> <p>YYY_FIX3_F</p> <p>YYY_FIX4_F</p>
<p>PRECIOUS METALS & DIAMOND MARKETS</p>	<p>Currently, one user is used for a market connection. After the BISTECH 3.0, no changes are planned in the FIXAPI order entry user.</p>

1.2.2 FIXAPI Reference Data

No changes are planned to the existing FIXAPI Reference Data user connections during the BISTECH 3.0 release.

1.2.3 FIXAPI Drop Copy

FIXAPI Drop Copy users will continue to work on a partition basis. Existing users in markets with a large number of partitions will be made passive, and new Drop Copy users created in accordance with the new structure will be shared with members. The name standard, 5-character short code (signature) information and port range have been updated for FIXAPI Drop Copy users.

In the test environment, the Drop Copy filters have not been updated yet, all Drop Copy users will receive the data unfiltered. In the coming days, the filters will be updated in the test environment.

FIXAPI Drop Copy users on a market basis are detailed below with examples;

Market	FIXAPI Drop Copy User								
<p>EQUITY MARKET</p>	<p>Currently, 2 drop copy users are used for a market connection.</p> <p>After release;</p> <ul style="list-style-type: none"> - All currently used drop copy users have been passive. - For a full market connection, all drop messages can be received with a total of 4 newly defined drop copy users. <p>Below are two example scenarios for FIXAPI Drop Copy users, this will differ for each of our members according to the number of users.</p> <p><i>Example 1: Currently, XXX member has 1 market connection, a total of 2 users. After BISTECH 3.0 transition, 1 market connection will be able to continue with 4 newly defined users, 2 existing users have become passive.</i></p> <table border="1" data-bbox="584 761 1476 1094"> <thead> <tr> <th data-bbox="584 761 947 920">Existing Users <i>(in passive state after Bistech 3.0)</i></th> <th data-bbox="947 761 1476 920">New Users <i>(available after Bistech 3.0)</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="584 920 947 1094"> XXX_FIXUEADC1 XXX_FIXUEADC2 </td> <td data-bbox="947 920 1476 1094"> XXX_FIXUEA_DC1_P1_E XXX_FIXUEA_DC1_P2_E XXX_FIXUEA_DC1_P3_E XXX_FIXUEA_DC1_P4_E </td> </tr> </tbody> </table> <p><i>Example 2: Currently, YYY member has 3 market connections, a total of 6 users. After BISTECH 3.0, 3 market connections will be able to continue with 12 (3 x 4) newly defined users, 6 existing users have become passive.</i></p> <table border="1" data-bbox="584 1193 1476 1353"> <thead> <tr> <th data-bbox="584 1193 947 1353">Existing Users <i>(in passive state after Bistech 3.0)</i></th> <th data-bbox="947 1193 1476 1353">New Users <i>(available after Bistech 3.0)</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="584 1193 947 1353"></td> <td data-bbox="947 1193 1476 1353"></td> </tr> </tbody> </table>	Existing Users <i>(in passive state after Bistech 3.0)</i>	New Users <i>(available after Bistech 3.0)</i>	XXX_FIXUEADC1 XXX_FIXUEADC2	XXX_FIXUEA_DC1_P1_E XXX_FIXUEA_DC1_P2_E XXX_FIXUEA_DC1_P3_E XXX_FIXUEA_DC1_P4_E	Existing Users <i>(in passive state after Bistech 3.0)</i>	New Users <i>(available after Bistech 3.0)</i>		
Existing Users <i>(in passive state after Bistech 3.0)</i>	New Users <i>(available after Bistech 3.0)</i>								
XXX_FIXUEADC1 XXX_FIXUEADC2	XXX_FIXUEA_DC1_P1_E XXX_FIXUEA_DC1_P2_E XXX_FIXUEA_DC1_P3_E XXX_FIXUEA_DC1_P4_E								
Existing Users <i>(in passive state after Bistech 3.0)</i>	New Users <i>(available after Bistech 3.0)</i>								

	<p><i>YYY_FIXUEADC1</i></p> <p><i>YYY_FIXUEADC2</i></p>	<p><i>YYY_FIXUEA_DC1_P1_E</i></p> <p><i>YYY_FIXUEA_DC1_P2_E</i></p> <p><i>YYY_FIXUEA_DC1_P3_E</i></p> <p><i>YYY_FIXUEA_DC1_P4_E</i></p>					
	<p><i>YYY_FIXUEADC3</i></p> <p><i>YYY_FIXUEADC4</i></p>	<p><i>YYY_FIXUEA_DC2_P1_E</i></p> <p><i>YYY_FIXUEA_DC2_P2_E</i></p> <p><i>YYY_FIXUEA_DC2_P3_E</i></p> <p><i>YYY_FIXUEA_DC2_P4_E</i></p>					
	<p><i>YYY_FIXUEADC5</i></p> <p><i>YYY_FIXUEADC6</i></p>	<p><i>YYY_FIXUEA_DC3_P1_E</i></p> <p><i>YYY_FIXUEA_DC3_P2_E</i></p> <p><i>YYY_FIXUEA_DC3_P3_E</i></p> <p><i>YYY_FIXUEA_DC3_P4_E</i></p>					
DERIVATIVES MARKET	<p>Currently, one user set (1st Partition user and 2nd Partition user) is used for a Derivatives market connection.</p> <p>After release;</p> <ul style="list-style-type: none"> - - All currently used drop copy users have been passive. - - For a full Derivatives market connection, there will be a total of 6 drop copy users in a newly defined drop copy user set, and in this way, all drop messages can be received. <p>Below are two example scenarios for FIXAPI Drop Copy users, this will differ for each of our members according to the number of users.</p> <p><i>Example 1: Currently, XXX member has one user set (One 1st Partition user and one 2nd Partition user) for 1 Derivatives market connection. After BISTECH 3.0, there will be a total of 6 drop copy users in one drop copy user set for 1 Derivatives market connection, one user set currently used has become inactive.</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><i>Existing Users</i></td> <td style="text-align: center;"><i>New Users</i></td> </tr> <tr> <td style="text-align: center;"><i>(in passive state after Bistech 3.0)</i></td> <td style="text-align: center;"><i>(available after Bistech 3.0)</i></td> </tr> </table>			<i>Existing Users</i>	<i>New Users</i>	<i>(in passive state after Bistech 3.0)</i>	<i>(available after Bistech 3.0)</i>
<i>Existing Users</i>	<i>New Users</i>						
<i>(in passive state after Bistech 3.0)</i>	<i>(available after Bistech 3.0)</i>						

XXX_FIXUEADC1_D	XXX_FIXUEA_DC1_P1_D
XXX_FIXUEADC2_D	XXX_FIXUEA_DC1_P2_D
	XXX_FIXUEA_DC1_P3_D
	XXX_FIXUEA_DC1_P4_D
	XXX_FIXUEA_DC1_P5_D
	XXX_FIXUEA_DC1_P6_D

Example 2: Currently, YYY member has three user sets (Three 1st Partition users and three 2nd Partition users) for 3 Derivatives market connections. After BISTECH 3.0, it will be able to continue with 18 (3 x 6) newly defined users for 3 Derivatives market connections, three user sets currently used have become passive.

<i>Existing Users (in passive state after Bistech 3.0)</i>	<i>New Users (available after Bistech 3.0)</i>
YYY_FIXUEADC1_D YYY_FIXUEADC2_D	YYY_FIXUEA_DC1_P1_D YYY_FIXUEA_DC1_P2_D YYY_FIXUEA_DC1_P3_D YYY_FIXUEA_DC1_P4_D YYY_FIXUEA_DC1_P5_D YYY_FIXUEA_DC1_P6_D
YYY_FIXCOLODC1_D YYY_FIXCOLODC2_D	YYY_FIXCOLO_DC1_P1_D YYY_FIXCOLO_DC1_P2_D YYY_FIXCOLO_DC1_P3_D YYY_FIXCOLO_DC1_P4_D YYY_FIXCOLO_DC1_P5_D YYY_FIXCOLO_DC1_P6_D
YYY_FIXCOLODC3_D	YYY_FIXCOLO_DC2_P1_D

		YYY_FIXCOLODC4_D	YYY_FIXCOLO_DC2_P2_D YYY_FIXCOLO_DC2_P3_D YYY_FIXCOLO_DC2_P4_D YYY_FIXCOLO_DC2_P5_D YYY_FIXCOLO_DC2_P6_D					
<p>DEBT SECURITIES MARKET</p>	<p>Currently, two drop copy users are used for a market connection.</p> <p>After release;</p> <ul style="list-style-type: none"> - All currently used drop copy users have been disabled. - For a full market connection, all drop messages can be received with a total of 5 newly defined drop copy users. <p>Below are two example scenarios for FIXAPI Drop Copy users, this will differ for each of our members according to the number of users.</p> <p><i>Example 1: Currently, XXX member has 1 market connection, a total of 2 users. After BISTECH 3.0, 1 market connection will be able to continue with 5 newly defined users, 2 existing users have become passive.</i></p> <table border="1" data-bbox="584 943 1476 1331" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th data-bbox="584 943 949 1102"> <i>Existing Users</i> (in passive state after Bistech 3.0) </th> <th data-bbox="949 943 1476 1102"> <i>New Users</i> (available after Bistech 3.0) </th> </tr> </thead> <tbody> <tr> <td data-bbox="584 1102 949 1331"> XXX_FIXUEADC1_F XXX_FIXUEADC2_F </td> <td data-bbox="949 1102 1476 1331"> XXX_FIXUEA_DC1_P1_F XXX_FIXUEA_DC1_P2_F XXX_FIXUEA_DC1_P3_F XXX_FIXUEA_DC1_P4_F XXX_FIXUEA_DC1_P6_F </td> </tr> </tbody> </table>				<i>Existing Users</i> (in passive state after Bistech 3.0)	<i>New Users</i> (available after Bistech 3.0)	XXX_FIXUEADC1_F XXX_FIXUEADC2_F	XXX_FIXUEA_DC1_P1_F XXX_FIXUEA_DC1_P2_F XXX_FIXUEA_DC1_P3_F XXX_FIXUEA_DC1_P4_F XXX_FIXUEA_DC1_P6_F
<i>Existing Users</i> (in passive state after Bistech 3.0)	<i>New Users</i> (available after Bistech 3.0)							
XXX_FIXUEADC1_F XXX_FIXUEADC2_F	XXX_FIXUEA_DC1_P1_F XXX_FIXUEA_DC1_P2_F XXX_FIXUEA_DC1_P3_F XXX_FIXUEA_DC1_P4_F XXX_FIXUEA_DC1_P6_F							

Example 2: Currently, YYY member has 2 market connections, a total of 4 users. After BISTECH 3.0, 2 market connections will be able to continue with 10 (2 x 5) newly defined users, 4 existing users have become passive.

<i>Existing Users</i> <i>(in passive state after Bistech 3.0)</i>	<i>New Users</i> <i>(available after Bistech 3.0)</i>
YYY_FIXUEADC1_F YYY_FIXUEADC2_F	YYY_FIXUEA_DC1_P1_F YYY_FIXUEA_DC1_P2_F YYY_FIXUEA_DC1_P3_F YYY_FIXUEA_DC1_P4_F YYY_FIXUEA_DC1_P6_F
YYY_FIXUEADC3_F YYY_FIXUEADC4_F	YYY_FIXUEA_DC2_P1_F YYY_FIXUEA_DC2_P2_F YYY_FIXUEA_DC2_P3_F YYY_FIXUEA_DC2_P4_F YYY_FIXUEA_DC2_P6_F

PRECIOUS METALS & DIAMOND MARKETS

Currently, one user is used for a market connection. After the BISTECH 3.0 transition, no changes are planned in the FIXAPI order entry user.

1.2.4 OUCH API Order Entry

Only one user will be enough for a full market connection. The second user is inactive. The first user's order sending limit per second (throttling limit) is left the same.

OUCH API order entry users on a market basis are detailed below with examples;

Market	OUCH API Order Entry User
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EQUITY MARKET	<p>Currently, two users are used for a market connection.</p> <p>After the transition, there is no change in the first user, the user can use the same username and password, and can send orders to all partitions where market instruments operate.</p> <p>The status of the second user is deactivated.</p> <p>Below are two sample scenarios for FIXAPI order entry, this will differ for each of our members depending on the number of users.</p> <p><i>Example 1:</i> Currently, XXX member has 1 market connection, a total of 2 users. After BISTECH 3.0, 1 market connection will be able to continue with 1 user (XXXEH1), 1 user (XXXEH2) has become passive.</p> <p>XXXEH1</p> <p>XXXEH2</p> <p><i>Example 2:</i> Currently, YYY member has 5 market connections, a total of 10 users. After the BISTECH 3.0, 5 market connections will be able to continue with 5 users, 5 users have become passive.</p> <p>YYYEH1, YYYEH3, YYYEH5, YYYEH7, YYYEH9</p> <p>YYYEH2, YYYEH4, YYYEH6, YYYEH8, YYYEHA</p>
DERIVATIVES MARKET	<p>Currently, one set of users (1.Partition user and 2.Partition user) is used for a Derivatives market connection.</p> <p>After the transition, there is no change in the first user in the same user set, the user can be used with the same username and password, and Derivatives market can send orders to all partitions where market instruments operate.</p> <p>The status of the second user is deactivated.</p> <p>Below are two sample scenarios for OUCH API order entry, this will differ for each of our members depending on the number of users.</p> <p><i>Example 1:</i> Currently, XXX member has one user set (One 1st Partition user and one 2nd Partition user) for 1 Derivatives market connection. After BISTECH 3.0, for 1 Derivatives market connection, it will be able to continue with 1 user (XXXDH1), 1 user (XXXDH2) has become passive.</p>

	<p><i>XXXDH1</i></p> <p><i>XXXDH2</i></p> <p><i>Example 2: Currently, YYY member has two user sets (Two 1st Partition users and two 2nd Partition users) for 2 Derivatives market connections. After BISTECH 3.0, it will be possible to continue with 2 users for 2 Derivatives market connections, 2 users have become passive.</i></p> <p><i>YYYDH1, YYYDH3</i></p> <p><i>YYYED2, YYYED4</i></p>
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1.2.5 ITCH Mold (UDP) ve ITCH Glimpse

ITCH API will continue to work based on partition.

Additional port configurations have been made for each new partition in order to listen to the data flow to be sent from the partitions where Equity and Derivatives market instruments are located in the ITCH data broadcast. (Detail Table: BISTECH 3.0 Member Test Environment IP-Port Mapping)

However, there is no need for new Glimpse user definitions, and Glimpse snapshot data will continue to be taken with existing Equity and Derivatives market user definitions.

1.2.6 PTRM

Our members using PTRM will need to reorganize their risk groups (PTLG) around newly identified and inactivated users.

1.3 Effects of New Features on Message Structures

Within the scope of BISTECH 3.0 release;

1. FIXAPI has no effect on Order Entry, Reference Data and Drop Copy message structures and tags. No changes have been made to the existing technical documents.
2. OUCH Order entry has no effect on message structure and tags. No changes have been made to the current technical document.
3. No changes have been made to the ITCH technical document.

1.4 BISTECH 3.0 Member Test Environment IP-Port Mapping

	UEA	COLO
TW	10.57.3.62	
FIX OE/RD	10.57.3.62	194.0.142.72
FIX DC	10.57.3.63	194.0.142.74
OUCH	10.57.3.61	194.0.142.71
Data Dissemination	10.57.3.68	185.76.203.246

		IP	Partition 1	Partition 2	Partition 3	Partition 4	Partition 5	Partition 6	Protocol
EQUITY	ITCHMOLD	233.113.216.65	21001	21002	21003	21004	21005	21006	moldudp
	ITCHSOUP	10.57.3.61 (UEA)	21501	21502	21503	21504	21505	21506	soupbintcp
		194.0.142.71							
	ITCHRW	194.0.142.71	24001	24002	24003	24004	24005	24006	moldudp
	GLIMPSE	10.57.3.61 (Instance A)	21801	21803	21805	21807	-	-	soupbintcp
		10.57.3.61 (Instance B)	21802	21804	21806	21808	-	-	
DERIVATIVES	ITCHMOLD	233.113.216.65	21101	21102	21103	21104	21105	21106	moldudp
	ITCHSOUP	10.57.3.63 (UEA)	21501	21502	21503	21504	21505	21506	soupbintcp
		194.0.142.74							
	ITCHRW	194.0.142.74	24001	24002	24003	24004	24005	24006	moldudp
	GLIMPSE	10.57.3.63 (Instance A)	21801	21803	21805	21807	21809	21811	soupbintcp
		10.57.3.63 (Instance B)	21802	21804	21806	21808	21810	21812	
All Markets	TIP	185.76.203.246	39101 veya 39103						soupbintcp
		10.57.3.68							

*There will be no data flow over Partition 5 and Partition 6 for the Equity Market.