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## FIX Message Reference – Fixed Income

Version 1.5  
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## Attention Point

This document is a preliminary version that may change. The structure of data here is to assist B3 clients in the beginning of the development of market data connectivity for the new fixed income platform.

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## Change Log

| Date                | Version | Description  | Author |
|---------------------|---------|--|--------|
| October 23rd, 2023  | 1.0     | - Initial version  | IMKY   |
| November 07th, 2023 | 1.1     | - Added messages Logon (35=A), Heartbeat (35=0), TestRequest (35=1), ResendRequest (35=2), Reject (35=3), SequenceReset (35=4) and Logout (35=5).  | IMKY   |
| January 31st, 2024  | 1.2     | - Added tag SenderSubID (50) in Standard Message Header.<br>- ExecutionReport (35=8): <ul style="list-style-type: none"> <li>added tags that are used for Voice: RegistID (513), Designation (494), CrossId (548), OrigCrossId (551), SettIType (63), SettIDate(64) and SolicitedFlag (377)</li> <li>added tag Execlnst (18)</li> <li>removed tags PositionEffect (77) and CrossedIndicator (2523).</li> </ul> | IMKY   |
| March 21st, 2024    | 1.3     | - Added tags in message ExecutionReport (35=8) that indicate the Legs of an execution: • NoLegs (555), LegSymbol (600), LegSide (624), LegQty (687), LegPrice (566), LegRefID (654).   | IMKY   |
| April 25th, 2024    | 1.4     | - Added tags in message ExecutionReport (35=8):<br><i>No required:</i><br>MaturityDate (541)<br>NoNestedPartyIDs (539)<br><i>Required:</i><br>NestedPartyID (524)<br>NestedPartyIDSource (525)<br>NestedPartyRole (538)  | IMKY   |
| May 3rd, 2024       | 1.5     | Correction of the NestedPartyRole (538) tag domain from 7 to 8.  | IMKY   |

## 1. Standard Messages

### Standard Message Header

| Tag | Tag name     | Req | Data Type         | Comment  |
|-----|--------------|-----|-------------------|--|
| 8   | BeginString  | Y   | String (7)        | "FIX.4.4".   |
| 9   | BodyLength   | Y   | Length (6)        | (Always unencrypted, must be second field in message)  |
| 35  | MsgType      | Y   | String (4)        | (Always unencrypted, must be third field in message)<br>Valid values:<br>8 - Execution Report    |
| 49  | SenderCompID | Y   | String (50)       | Please contact B3 for appropriate CompID assignment.   |
| 50  | SenderSubID  | Y   | String (50)       | User that is performing the action. Usually used on Voice Approvel (35=BN ExecutionAcknowledge). |
| 56  | TargetCompID | Y   | String (50)       | Please contact B3 for appropriate CompID assignment.   |
| 34  | MsgSeqNum    | Y   | Seqnum (9)        | Integer message sequence number.   |
| 52  | SendingTime  | Y   | UTCTimestamp (21) | Expressed in UTC (Universal Time Coordinated)  |

### Standard Message Trailer

| Tag | Tag name | Req | Data Type  | Comment  |
|-----|----------|-----|------------|--|
| 10  | Checksum | Y   | String (3) | Always unencrypted, always last field in message |

## 2. Session Level Messages

### 2.1. Logon (35=A)

| Tag                               | Tag name                        | Req | Data Type   | Comment  |
|-----------------------------------|---------------------------------|-----|-------------|--|
| <b>[Standard Message Header]</b>  |                                 |     |             |  |
| 98                                | EncryptMethod                   | Y   | Int (1)     | Must be "0"  |
| 108                               | HeartBtInt                      | Y   | Int         | Recommended: "30"  |
| 141                               | ResetSeqNumFlag                 | N   | Boolean (1) | Indicates that both sides of the FIX session should reset sequence numbers.  |
| 553                               | Username                        | N   | String      | CAU username   |
| 554                               | Password                        | N   | String      | CAU Password   |
| 35002                             | CancelOnDisconnectType          | N   | Int         | Indicates whether orders should remain active on disconnection.<br>Values valid:<br>0 – Doesn't cancel on disconnection<br>1 – Cancel on disconnection |
| 35003                             | CancelOnDisconnectTimeoutWindow | N   | Int         | Timeout in seconds to trigger cancellation after disconnection   |
| <b>[Standard Message Trailer]</b> |                                 |     |             |  |

## 2.2. Logout (35=5)

| Tag                        | Tag name | Req | Data Type    | Comment                                 |
|----------------------------|----------|-----|--------------|---|
| [Standard Message Header]  |          |     |              |   |
| 58                         | Text     | Y   | String (250) | Explanation for Logout reason (if any). |
| [Standard Message Trailer] |          |     |              |   |

## 2.3. Heartbeat (35=0)

This message is sent over the instrument definition, snapshot recovery and incremental streams to notify customers that the multicast channel join was successful and that B3 will send the data when available.

There is no body for this message, only the standard header with tag 35=0.

## 2.4. TestRequest (35=1)

| Tag                        | Tag Name  | Req'd | Datatype | Comment   |
|----------------------------|-----------|-------|----------|---|
| [Standard Message Header]  |           |       |          |   |
| 112                        | TestReqID | Y     | String   | Identifier required for testing. Field included in the test request message to be returned without resulting flag |
| [Standard Message Trailer] |           |       |          |   |

## 2.5. ResendRequest (35=2)

| Tag                        | Tag Name   | Req | Datatype   | Comment  |
|----------------------------|------------|-----|------------|--|
| [Standard Message Header]  |            |     |            |  |
| 17                         | BeginSeqNo | Y   | SeqNum (9) | Message sequence number of first message in range to be resent   |
| 16                         | EndSeqNo   | Y   | SeqNum (9) | Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo = EndSeqNo If request is for all messages subsequent to a particular message, EndSeqNo = 0 (representing infinity). |
| [Standard Message Trailer] |            |     |            |  |

## 2.6. Reject (35=3)

| Tag                       | Tag Name  | Req | Datatype     | Comment  |
|---------------------------|-----------|-----|--------------|--|
| [Standard Message Header] |           |     |              |  |
| 45                        | RefSeqNum | Y   | SeqNum (9)   | Message sequence number of first message in range to be resent |
| 58                        | Text      | N   | String (250) | Where possible, message to explain reason for rejection        |

| Tag                               | Tag Name            | Req | Datatype   | Comment  |
|-----------------------------------|---------------------|-----|------------|--|
| 371                               | RefTagID            | N   | Int        | The tag number of the FIX field being referenced.  |
| 372                               | RefMsgType          | N   | String (2) | The MsgType of the FIX message being referenced.   |
| 373                               | SessionRejectReason | Y   | Int (6)    | Code to identify reason for a session-level <u>reject</u> message.<br>Valid values:<br>0 = Invalid tag number<br>1 = Required tag missing<br>2 = Tag not defined for this message type<br>3 = Undefined Tag<br>4 = Tag specified without a value<br>5 = Value is incorrect (out of range) for this tag<br>6 = Incorrect data format for value<br>7 = Decryption problem<br>8 = Signature problem<br>9 = ComplID problem<br>10 = Sending time accuracy problem<br>11 = Invalid MsgType<br>12 = XML Validation error<br>13 = Tag appears more than once<br>14 = Tag specified out of required order<br>15 = Repeating group fields out of order<br>16 = Incorrect NumInGroup count for repeating group<br>17 = Non "Data" value includes field delimiter (<SOH> character)<br>99 = Other |
| <b>[Standard Message Trailer]</b> |                     |     |            |  |

## 2.7. SequenceReset (35=4)

| Tag                              | Tag Name        | Req | Datatype           | Comment  |
|----------------------------------|-----------------|-----|--------------------|--|
| <b>[Standard Message Header]</b> |                 |     |                    |  |
| 43                               | PossDupFlag     | N   | Boolean (1)        | Indicates possible retransmission of message with this sequence number<br>Valid values:<br>Y = Possible duplicate<br>N = Original transmission   |
| 122                              | OrigSendingTime | N   | UTC Timestamp (21) | Original time of message transmission (always expressed in UTC) when transmitting orders as the result of a resend request.  |
| 123                              | GapFillFlag     | N   | Boolean (1)        | Indicates that the sequence reset message is replacing administrative or application messages which will not be resent.<br>Valid values:<br>Y = Gap fill message, MsgSeqNum field valid<br>N = Sequence ignore MsgSeqNum |

| Tag                        | Tag Name | Req | Datatype   | Comment             |
|----------------------------|----------|-----|------------|---------------------|
| 36                         | NewSeqNo | Y   | SeqNum (9) | New sequence number |
| [Standard Message Trailer] |          |     |            |                     |

### 3. Application Level Message

#### 3.1. ExecutionReport (35=8)

| Tag                       | Tag name         | Req           | Data Type      | Comment   |
|---------------------------|------------------|---------------|----------------|---|
| [Standard Message Header] |                  |               |                |   |
| 37                        | OrderID          | Y             | String (26)    | Unique identifier for Order as assigned by the exchange. Uniqueness is guaranteed within a single trading day/instrument. Value is "NONE" if order is rejected. |
| 198                       | SecondaryOrderID | N             | String (26)    | Exchange-generated order identifier that changes for each order modification event, or quantity replenishment in disclosed orders.                              |
| 11                        | ClOrdID          | Y             | String (38)    | Unique identifier of the order as assigned by the mBarket participant.  |
| 41                        | OrigClOrdID      | N             | String (38)    | Contains the ClOrdID of the replacement order. Conditionally required when ExecType = 5 (Replace).  |
| 31                        | LastPx           | N             | Price (20)     | Price of this (last) fill.  |
| 32                        | LastQty          | N             | Qty (9)        | Quantity of shares bought/sold on this (last) fill. Conditionally required when ExecType = F (Trade).   |
| 5149                      | Memo             | N             | String (50)    | Free format text field. This field may be used to convey client's relevant info. It's always echoed in the reports.   |
| 111                       | MaxFloor         | N             | Qty (9)        | Maximum number of shares or contracts within an order to be shown on the match engine at any given time. Echo from original order's MaxFloor.                   |
| 453                       | NoPartyIDs       | Y             | NumInGroup (2) | Repeating group below should contain unique combinations of PartyID, PartyIDSource, and PartyRole.  |
| →                         | 448              | PartyID       | Y              | String (50)<br>Used to identify source of PartyID.<br>Conditionally required if NoPartyID > 0.  |
| →                         | 447              | PartyIDSource | Y              | Char (1)<br>Identifies class or source of the PartyID (448) value.<br>Conditionally required if NoPartyID > 0.<br>Valid values:<br>D - Proprietary Custom Code  |



| Tag | Tag name   | Req       | Data Type   | Comment   |  |
|-----|------------|-----------|-------------|---|--|
| →   | 452        | PartyRole | Y           | Int (5)   | Identifies the type or role of the PartyID (448) specified. Conditionally required if NoPartyID > 0.<br>Valid values:<br>36 - Entering Trader<br>54 - Sender Location<br>58 - Entering Desk<br>59 - Executing Desk<br>76 - Desk Id |
| 17  | ExecID     | Y         | String (32) | Unique identifier of execution message as assigned by the exchange – unique per instrument.   |  |
| 19  | ExecRefID  | N         | String (32) | Reference identifier used with Cancel and Correct transaction types.  |  |
| 150 | ExecType   | Y         | Char (1)    | Describes the action that triggered this specific Execution Report - see the OrdStatus (39) tag for the current order status (e.g, Partially Filled).<br>Valid values:<br>0 - New<br>4 - Canceled<br>5 - Replace<br>8 - Rejected<br>A - Pending New<br>D - Restated<br>F - Trade<br>G - Trade Correct<br>H - Trade Cancel |  |
| 18  | ExecInst   | N         | String (5)  | Execution Instruction used to report voice intermediate state during cancel workflow:<br>Valid values:<br>PCC – Pending Cancel Counterparty<br>PCM – Pending Cancel Market Surveillance<br>CRM – Cancel Reject Counterparty<br>CRC – Cancel Reject Market Surveillance  |  |
| 39  | OrdStatus  | Y         | Char (1)    | Order status.<br>Valid values:<br>0 - New<br>1 - Partially Filled<br>2 - Filled<br>4 - Canceled<br>5 - Replaced<br>8 - Rejected   |  |
| 55  | Symbol     | Y         | String (20) | B3 requires that this field is properly set. It contains the human readable form of the SecurityID tag, available in the Security List message in Market Data feed.   |  |
| 48  | SecurityID | N         | String (12) | Security ID as defined by B3. For the SecurityID list, see the Security List message in Market Data feed.   |  |

| Tag  | Tag name      | Req | Data Type         | Comment   |
|------|---------------|-----|-------------------|---|
| 54   | Side          | Y   | Char (1)          | Side of order.<br>Valid values:<br>1 - Buy<br>2 - Sell  |
| 38   | OrderQty      | Y   | Qty (15)          | Quantity ordered.   |
| 40   | OrdType       | Y   | Char (1)          | Conditionally required when ExecType != 8 (Reject) or ExecType != H (Trade bust).<br>Valid values:<br>2 - Limit   |
| 423  | PriceType     | N   | Int (2)           | Code to represent the price type.<br>Valid values:<br>2 - Per Unit<br>9 - Yield   |
| 44   | Price         | N   | Price (20)        | Price per share or contract. Conditionally required if the order type requires a price (not market orders and RLP).   |
| 59   | TimeInForce   | N   | Char (1)          | Specifies how long the order remains in effect. Absence of this field is interpreted as DAY.<br>Valid values:<br>0 - Day<br>L - Liquidity Seeking   |
| 151  | LeavesQty     | Y   | Qty (9)           | Amount of shares open for further execution, or unexecuted.<br>LeavesQty = OrderQty - CumQty.   |
| 14   | CumQty        | Y   | Qty (9)           | Total number of shares or contracts filled.   |
| 6    | AvgPx         | Y   | Price (1)         | Always 0 (zero).  |
| 75   | TradeDate     | N   | LocalMktDate (8)  | Indicates date of trade referenced in this message in YYYYMMDD format (expressed in local time at place of trade). Absence of this field indicates current day (expressed in local time at place of trade). |
| 60   | TransactTime  | N   | UTCTimestamp (21) | Time of execution/order creation; expressed in UTC.   |
| 6032 | UniqueTradeID | N   | String (10)       | Contains the unique identifier for this trade, per instrument + trading date, as assigned by the exchange. Conditionally required if ExecType = F (Trade).  |
| 1180 | ApplID        | N   | String (50)       | Identifies the application with which a message is associated. Used only if application sequencing is in effect.  |
| 58   | Text          | N   | String (250)      | Free format text string   |
| 494  | Designation   | N   | String (38)       | Supplementary registration information for this Order (used for Voice)  |

| Tag | Tag name        | Req              | Data Type      | Comment   |   |  |
|-----|-----------------|------------------|----------------|---|---|--|
| 513 | RegistID        | N                | String (38)    | Reference to Registration Instructions message for this Order (Blotter Trade ID)  |   |  |
| 548 | CrossID         | N                | String (38)    | CrossID for the replacement order (used for Voice)  |   |  |
| 551 | OrigCrossID     | N                | String (38)    | Must match original cross order. Same order chaining mechanism as ClOrdID/OrigClOrdID with single order Cancel/Replace (used for Voice)                       |   |  |
| 382 | NoContraBrokers | N                | NumInGroup (2) | Number of ContraBrokers repeating group instances. Filled up when Voice order (used for Voice)  |   |  |
| →   | 375             | ContraBroker     | N              | String (38)   | Used in voice to inform the counterparty (used for Voice)   |  |
| 63  | SettlType       | N                | Char (1)       | Indicates order settlement period (used for Voice).<br>Valid values:<br>0 - Regular<br>1 - T + 1<br>2 - T + 2<br>3 - T + 3<br>B - BrokenDate                  |   |  |
| 64  | SettlDate       | N                | LocalMktDate   | Specific date of trade settlement (SettlementDate) in YYYYMMDD format (used for Voice)  |   |  |
| 377 | SolicitedFlag   | N                | Boolean        | Indicates whether or not the order was solicited (It is used on Voice to indicates if an action is required by Participant)                                   |   |  |
| 541 | MaturityDate    | N                | LocalMktDate   | Security maturity date.   |   |  |
| 555 | NoLegs          | N                | NumInGroup (2) | For structure products, the corresponding legs will be return at this repeating group. Required only for structured products and ExecType = G (Trade Correct) |   |  |
| →   | 600             | LegSymbol        | N              | String (20)   | Leg concerned Symbol  |  |
| →   | 624             | LegSide          | N              | Char (1)  | Side of order.<br>Valid values:<br>1 - Buy<br>2 - Sell  |  |
| →   | 687             | LegQty           | N              | Qty (9)   | Leg concerned executed Quantity.  |  |
| →   | 566             | LegPrice         | N              | Price (20)  | Leg concerned executed Price.   |  |
| →   | 654             | LegRefID         | N              | String (20)   | Leg concerned TradeID.  |  |
| →   | 539             | NoNestedPartyIDs | N              | NumInGroup (1)  | Repeating group below should contain the broker code where the structure product has been traded in Future platform (PUMA). |  |
| →   | →               | 524              | NestedPartyID  | Y   | String (20)   | Broker code where the structure product has been traded in Future platform (PUMA). |

| Tag                               |   |     | Tag name            | Req | Data Type | Comment   |
|-----------------------------------|---|-----|---------------------|-----|-----------|---|
| →                                 | → | 525 | NestedPartyIDSource | Y   | Char (1)  | Identifies class or source of the PartyID (448) value. Conditionally required if NoPartyID > 0.<br>Valid values:<br>D - Proprietary Custom Code |
| →                                 | → | 538 | NestedPartyRole     | Y   | Int (5)   | Identifies the type or role of the PartyID (448) specified. Conditionally required if NoPartyID > 0.<br>Valid values:<br>7 - Entering Firm      |
| <b>[Standard Message Trailer]</b> |   |     |                     |     |           |   |