

FIX Rules of Engagement V2

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# Introduction

The purpose of this document is to outline the test plan related to the FIX market data session. The aim is to verify conformance of the FIX clients with the DBS Digital Exchange FIX Rules Of Engagement (ROE).

The enclosed test cases are expected to be run sequentially using a compliant FIX client. Each test includes the outgoing request(s) sent from the FIX client and expected incoming response(s) from the Exchange.

Please refer to the main DBS Digital Exchange ROE document for more details.

# Test Plan

The test plan is related to FIX Market Data Session.

MD\_F1: Subscribe to a full market depth / full refresh for one instrument.

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| **Outgoing Request: MarketDataRequest [Type ‘V‘]** SubscriptionRequestType (263): 0 - Snapshot MarketDepth (264): 0 - Full Market Depth MDUpdateType (265): 0 - Full Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=2|49=TESTMD|52=20211119-  15:29:57.769|56=DBS|262=70cbf3d9-4a9e-4d8d-9f47-  6bf9800c51ac|263=0|264=0|265=0|146=1|55=BTCUSD|267=8|269=0|269=1|269=2|2  69=4|269=5|269=7|269=8|269=B|10=024| |
| **Expected Response:**  - One 35=W messages containing all requested types |
| Snapshot/Full Refresh <W> message with at least one of the following entries MDEntryType (269):  0 = Bid  1 = Offer  2 = Trade  4 = Opening Price  5 = Closing Price  7 = Trading Session High Price  8 = Trading Session Low Price B = Trade Volume |
| 8=FIX.4.4|9=453|35=W|34=2|49=DBS|52=20211119-  15:29:57.930|56=TESTMD|55=BTCUSD|262=70cbf3d9-4a9e-4d8d-9f47-  6bf9800c51ac|268=11|269=4|270=55000|272=20211119|269=5|270=62150|272=202  11118|269=7|270=80795|269=8|270=1000|269=B|271=384571.46342961|269=0|270  =62130|271=0.004|346=1|290=1|269=0|270=62120|271=0.006|346=1|290=2|269=0  |270=50000|271=1|346=1|290=3|269=1|270=62160|271=0.002|346=1|290=1|269=1  |270=62170|271=0.004|346=1|290=2|269=1|270=62180|271=0.006|346=1|290=3|10  =148| |

MD\_F2: Subscribe to full market depth/streaming incremental update for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V‘]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 0 - Full market Depth  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer |
| 8=FIX.4.4|9=155|35=V|34=2|49=TESTMD|52=20211119-  15:30:10.440|56=DBS|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|263=1|264=0|265=1|146=1|55=BTCUSD|267=3|269=0|269=1|269=2|1  0=019| |
| **Expected Response:**  - one 35=W message containing bid, and offer entries, trade data will always be in first response for any Market data, if available. |
| Snapshot/Full Refresh <W> message with at least one of each of these entries MDEntryType (269):  0 = Bid  1 = Offer |
| 8=FIX.4.4|9=337|35=W|34=2|49=DBS|52=20211119-  15:30:10.598|56=TESTMD|55=BTCUSD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=6|269=0|270=62130|271=0.004|346=1|290=1|269=0|270=62120|  271=0.006|346=1|290=2|269=0|270=50000|271=1|346=1|290=3|269=1|270=62160|  271=0.002|346=1|290=1|269=1|270=62170|271=0.004|346=1|290=2|269=1|270=62  180|271=0.006|346=1|290=3|10=168| |
| Incremental Refresh <X> message for update/delete in orderbook MDEntryType (269):  0 = Bid AND / OR  1 = Offer OR  2 = Trade |
| 8=FIX.4.4|9=158|35=X|34=3|49=DBS|52=20211119-  15:30:10.998|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=0|269=2|55=BTCUSD|270=62130|271=0.004|273=15:30:10  |10=006|  8=FIX.4.4|9=141|35=X|34=4|49=DBS|52=20211119-  15:30:10.998|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=2|269=0|55=BTCUSD|270=62130|290=1|10=199| |

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| 8=FIX.4.4|9=141|35=X|34=5|49=DBS|52=20211119-  15:30:11.613|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=2|269=1|55=BTCUSD|270=62170|290=2|10=191|  8=FIX.4.4|9=141|35=X|34=6|49=DBS|52=20211119-  15:30:11.613|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=2|269=1|55=BTCUSD|270=62160|290=1|10=190|  8=FIX.4.4|9=141|35=X|34=7|49=DBS|52=20211119-  15:30:11.614|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=2|269=1|55=BTCUSD|270=62180|290=1|10=194|  8=FIX.4.4|9=141|35=X|34=8|49=DBS|52=20211119-  15:30:11.614|56=TESTMD|262=5d41e9d6-7591-4fab-9b24-  51deb4fc0428|268=1|279=2|269=0|55=BTCUSD|270=62120|290=1|10=188| |

MD\_F3: Unsubscribe one instrument for full market depth streaming incremental update

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 0 - Full Market Depth  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade |
| 8=FIX.4.4|9=155|35=V|34=2|49=TESTMD|52=20211119-  15:30:25.723|56=DBS|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|263=1|264=0|265=1|146=1|55=BTCUSD|267=3|269=0|269=1|269=2|10  =043| |
| **Expected Response:**  - One 35=W message containing bid and offer entries only |
| Snapshot/Full Refresh <W> message with at least one of each of these entries MDEntryType (269):  0 = Bid  1 = Offer |
| 8=FIX.4.4|9=337|35=W|34=2|49=DBS|52=20211119-  15:30:25.876|56=TESTMD|55=BTCUSD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=6|269=0|270=62130|271=0.004|346=1|290=1|269=0|270=62120|2  71=0.006|346=1|290=2|269=0|270=50000|271=1|346=1|290=3|269=1|270=62160|2  71=0.002|346=1|290=1|269=1|270=62170|271=0.004|346=1|290=2|269=1|270=621  80|271=0.006|346=1|290=3|10=187| |
| Incremental Refresh <X> message MDEntryType (269):  0 = Bid  1 = Offer |
| 8=FIX.4.4|9=158|35=X|34=3|49=DBS|52=20211119-  15:30:26.363|56=TESTMD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=1|279=0|269=2|55=BTCUSD|270=62130|271=0.004|273=15:30:26|  10=020|  8=FIX.4.4|9=141|35=X|34=4|49=DBS|52=20211119-  15:30:26.363|56=TESTMD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=1|279=2|269=0|55=BTCUSD|270=62130|290=1|10=206| |
| **Outgoing Request: MarketDataRequest [Type ‘V’]** |

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| SubscriptionRequestType (263): 2 = Disable previous Snapshot + Update Request (Unsubscribe)  MarketDepth (264): 0 - Full Market Depth MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2- Trade |
| 8=FIX.4.4|9=155|35=V|34=3|49=TESTMD|52=20211119-15:30:26.737|56=DBS|262=efcdf7fd-  9789-4b3d-8b6c-  87d05f91fdfb|263=2|264=0|265=1|146=1|55=BTCUSD|267=3|269=0|269=1|269=2|10=051| |
| **Expected Response:**  - Receive no more 35=W/35=X and session keep heart-beating |

MD\_F4: Subscribe to full market depth / full refresh updates for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 0 - Full Market Depth  MDUpdateType (265): 0 = Full Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade |
| 8=FIX.4.4|9=155|35=V|34=2|49=TESTMD|52=20211119-  15:31:08.283|56=DBS|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|263=1|264=0|265=0|146=1|55=BTCUSD|267=3|269=0|269=1|269=2|1 0=081| |
| **Expected Response:**  - one 35=W message containing bid and offer entries only |
| Snapshot/Full Refresh <W> message with at least one of each of these entries MDEntryType (269):  0 = Bid  1 = Offer |
| 8=FIX.4.4|9=337|35=W|34=2|49=DBS|52=20211119-  15:31:08.436|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- |

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| f0ecde7d7872|268=6|269=0|270=62130|271=0.004|346=1|290=1|269=0|270=62120|2 71=0.006|346=1|290=2|269=0|270=50000|271=1|346=1|290=3|269=1|270=62160|27  1=0.002|346=1|290=1|269=1|270=62170|271=0.004|346=1|290=2|269=1|270=62180|  271=0.006|346=1|290=3|10=217| |
| Further 35=W messages containing the full order book or trades |
| 8=FIX.4.4|9=152|35=W|34=3|49=DBS|52=20211119-  15:31:08.855|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=1|269=2|270=62130|271=0.004|273=15:31:08|10=041|  8=FIX.4.4|9=299|35=W|34=4|49=DBS|52=20211119-  15:31:08.855|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=5|269=0|270=62120|271=0.006|346=1|290=1|269=0|270=50000|2 71=1|346=1|290=2|269=1|270=62160|271=0.002|346=1|290=1|269=1|270=62170|27  1=0.004|346=1|290=2|269=1|270=62180|271=0.006|346=1|290=3|10=034|  8=FIX.4.4|9=261|35=W|34=5|49=DBS|52=20211119-  15:31:10.313|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=4|269=0|270=50000|271=1|346=1|290=1|269=1|270=62160|271= 0.002|346=1|290=1|269=1|270=62170|271=0.004|346=1|290=2|269=1|270=62180|27  1=0.006|346=1|290=3|10=065|  8=FIX.4.4|9=223|35=W|34=6|49=DBS|52=20211119-  15:31:10.313|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=3|269=0|270=50000|271=1|346=1|290=1|269=1|270=62170|271= 0.004|346=1|290=1|269=1|270=62180|271=0.006|346=1|290=2|10=121|  8=FIX.4.4|9=185|35=W|34=7|49=DBS|52=20211119-  15:31:10.313|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=2|269=0|270=50000|271=1|346=1|290=1|269=1|270=62170|271= 0.004|346=1|290=1|10=181|  8=FIX.4.4|9=147|35=W|34=8|49=DBS|52=20211119-  15:31:10.314|56=TESTMD|55=BTCUSD|262=a137a95c-224f-4e8e-9c00- f0ecde7d7872|268=1|269=0|270=50000|271=1|346=1|290=1|10=237| |

MD\_F5: Subscribe to full market depth / trade publish for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 0 - Full Market Depth  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade |
| 8=FIX.4.4|9=155|35=V|34=2|49=TESTMD|52=20211119-  15:30:25.723|56=DBS|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|263=1|264=0|265=1|146=1|55=BTCUSD|267=3|269=0|269=1|269=2|10  =043| |
| **Expected Response:**  - One 35=W message containing bid and offer entries only |
| Snapshot/Full Refresh <W> message with at least one of each of these entries MDEntryType (269):  0 = Bid  1 = Offer |
| 8=FIX.4.4|9=337|35=W|34=2|49=DBS|52=20211119-  15:30:25.876|56=TESTMD|55=BTCUSD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=6|269=0|270=62130|271=0.004|346=1|290=1|269=0|270=62120|2  71=0.006|346=1|290=2|269=0|270=50000|271=1|346=1|290=3|269=1|270=62160|2  71=0.002|346=1|290=1|269=1|270=62170|271=0.004|346=1|290=2|269=1|270=621  80|271=0.006|346=1|290=3|10=187| |
| Match one of the orders to receive NEW Trade and DELETE market data entries |
| Incremental Refresh <X> message MDEntryType (269):  0 = Bid  1 = Offer  2 = Trade  MDUpdateAction (279) : 0 - New  MDUpdateAction (279) : 2 - Delete |
| 8=FIX.4.4|9=158|35=X|34=3|49=DBS|52=20211119-  15:30:26.363|56=TESTMD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=1|279=0|269=2|55=BTCUSD|270=62130|271=0.004|273=15:30:26|  10=020| |

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| 8=FIX.4.4|9=141|35=X|34=4|49=DBS|52=20211119-  15:30:26.363|56=TESTMD|262=efcdf7fd-9789-4b3d-8b6c-  87d05f91fdfb|268=1|279=2|269=0|55=BTCUSD|270=62130|290=1|10=206| |

MD\_T1: Subscribe to best bid/offer one time full refresh for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 0 - Snapshot MarketDepth (264): 1 - Top of Book  MDUpdateType (265): 0 - Full Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=2|49=TESTMD|52=20211206-  11:34:20.509|56=DBS|262=91097cdd-809d-4e0c-b13e-  4b0e63618d65|263=0|264=1|265=0|146=1|55=BTCUSD|267=8|269=0|269=1|269=2|  269=4|269=5|269=7|269=8|269=B|10=096| |
| **Expected Response:**  - One 35=W messages containing all requested types except Trade |
| Snapshot/Full Refresh <W> message with at least one of the following entries MDEntryType (269):  0 = Bid  1 = Offer  4 = Opening Price  5 = Closing Price  7 = Trading Session High Price  8 = Trading Session Low Price B = Trade Volume |
| 8=FIX.4.4|9=304|35=W|34=2|49=DBS|52=20211206-  11:34:20.692|56=TESTMD|55=BTCUSD|262=91097cdd-809d-4e0c-b13e-  4b0e63618d65|268=7|269=4|270=56301|272=20211206|269=5|270=52000|272=2021  1205|269=7|270=80795|269=8|270=1000|269=B|271=385404.79282961|269=0|270=  56291|271=0.004|346=1|290=1|269=1|270=56321|271=0.002|346=1|290=1|10=110| |

MD\_T2: Subscribe to best bid/offer streaming incremental update for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 1 - top of book  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=2|49=TESTMD|52=20211206-  11:34:29.144|56=DBS|262=c15ff58b-88d5-426b-a67e- bbcd32d53ab0|263=1|264=1|265=1|146=1|55=BTCUSD|267=8|269=0|269=1|269=2|269=4|2 69=5|269=7|269=8|269=B|10=032| |
| **Expected Response:**  - One 35=W messages containing all requested types except Trade |
| Snapshot/Full Refresh <W> message with at least one of the following entries MDEntryType (269):  0 = Bid  1 = Offer  4 = Opening Price  5 = Closing Price  7 = Trading Session High Price  8 = Trading Session Low Price B = Trade Volume |
| 8=FIX.4.4|9=304|35=W|34=2|49=DBS|52=20211206-  11:34:29.328|56=TESTMD|55=BTCUSD|262=c15ff58b-88d5-426b-a67e- bbcd32d53ab0|268=7|269=4|270=56301|272=20211206|269=5|270=52000|272=2021 1205|269=7|270=80795|269=8|270=1000|269=B|271=385404.79282961|269=0|270=  56291|271=0.004|346=1|290=1|269=1|270=56321|271=0.002|346=1|290=1|10=045| |
| Incremental Refresh <X> message MDEntryType (269):  0 = Bid  1 = Offer |

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| 8=FIX.4.4|9=193|35=X|34=3|49=DBS|52=20211206-  11:34:35.161|56=TESTMD|262=c15ff58b-88d5-426b-a67e- bbcd32d53ab0|268=2|279=2|269=0|55=BTCUSD|270=56291|290=1|279=0|269=0|55  =BTCUSD|270=51000|271=0.1|346=1|290=1|10=040|  8=FIX.4.4|9=195|35=X|34=4|49=DBS|52=20211206-  11:34:35.775|56=TESTMD|262=c15ff58b-88d5-426b-a67e- bbcd32d53ab0|268=2|279=2|269=1|55=BTCUSD|270=56321|290=1|279=0|269=1|55  =BTCUSD|270=56341|271=0.006|346=1|290=1|10=164|  8=FIX.4.4|9=141|35=X|34=5|49=DBS|52=20211206-  11:34:35.776|56=TESTMD|262=c15ff58b-88d5-426b-a67e- bbcd32d53ab0|268=1|279=2|269=1|55=BTCUSD|270=56341|290=1|10=085| |

MD\_T3: Unsubscribe to best bid/offer streaming incremental update for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 1 - top of book  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=2|49=TESTMD|52=20211206-  11:48:55.618|56=DBS|262=5fab04f8-58d0-4465-8f46-  26608472100f|263=1|264=1|265=1|146=1|55=BTCUSD|267=8|269=0|269=1|269=2|2  69=4|269=5|269=7|269=8|269=B|10=179| |
| **Expected Response:**  - One 35=W messages containing all requested types except Trade |
| Snapshot/Full Refresh <W> message with at least one of the following entries MDEntryType (269):  0 = Bid  1 = Offer  4 = Opening Price  5 = Closing Price  7 = Trading Session High Price  8 = Trading Session Low Price B = Trade Volume |
| 8=FIX.4.4|9=304|35=W|34=2|49=DBS|52=20211206-  11:48:55.797|56=TESTMD|55=BTCUSD|262=5fab04f8-58d0-4465-8f46-  26608472100f|268=7|269=4|270=56301|272=20211206|269=5|270=52000|272=2021  1205|269=7|270=80795|269=8|270=1000|269=B|271=385404.81082961|269=0|270=  56291|271=0.004|346=1|290=1|269=1|270=56321|271=0.002|346=1|290=1|10=187| |
| Incremental Refresh <X> message MDEntryType (269):  0 = Bid  1 = Offer |

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| 8=FIX.4.4|9=190|35=X|34=3|49=DBS|52=20211206-  11:48:56.220|56=TESTMD|262=5fab04f8-58d0-4465-8f46-  26608472100f|268=2|279=0|269=2|55=BTCUSD|270=56291|271=0.004|273=11:48:5  6|279=1|269=B|271=385404.81482961|10=058|  8=FIX.4.4|9=195|35=X|34=4|49=DBS|52=20211206-  11:48:56.220|56=TESTMD|262=5fab04f8-58d0-4465-8f46-  26608472100f|268=2|279=2|269=0|55=BTCUSD|270=56291|290=1|279=0|269=0|55  =BTCUSD|270=56281|271=0.006|346=1|290=1|10=045| |
| **Outgoing Request: MarketDataRequest [Type ‘V’]**  SubscriptionRequestType (263): 2 = Disable previous Snapshot + Update Request (Unsubscribe)  MarketDepth (264): 1 - top of book MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=3|49=TESTMD|52=20211206-  11:48:56.646|56=DBS|262=5fab04f8-58d0-4465-8f46-  26608472100f|263=2|264=1|265=1|146=1|55=BTCUSD|267=8|269=0|269=1|269=2|269=4|26  9=5|269=7|269=8|269=B|10=183| |
| **Expected Response:**  - Receive no more 35=W/35=X and session keep heart-beating |

MD\_T4: Subscribe to best bid/offer trade publish for one instrument

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| **Outgoing Request: MarketDataRequest [Type ‘V’]** SubscriptionRequestType (263): 1 = Snapshot + Updates (Subscribe) MarketDepth (264): 1 - top of book  MDUpdateType (265): 1 = Incremental Refresh  MDEntryType (269): 0 - Bid  MDEntryType (269): 1 - Offer  MDEntryType (269): 2 - Trade  MDEntryType (269): 4 - Opening Price  MDEntryType (269): 5 - Closing Price MDEntryType (269): 7 - Trading Session High Price MDEntryType (269): 8 - Trading Session Low Price MDEntryType (269): B - Trade Volume |
| 8=FIX.4.4|9=185|35=V|34=2|49=TESTMD|52=20211206-  12:36:12.380|56=DBS|262=2cad10b7-0e68-40a1-b240- bde9288e6db7|263=1|264=1|265=1|146=1|55=BTCUSD|267=8|269=0|269=1|269=2| 269=4|269=5|269=7|269=8|269=B|10=179| |
| **Expected Response:**  - One 35=W messages containing all requested types except Trade |
| Snapshot/Full Refresh <W> message with at least one of the following entries MDEntryType (269):  0 = Bid  1 = Offer  4 = Opening Price  5 = Closing Price  7 = Trading Session High Price  8 = Trading Session Low Price B = Trade Volume  \*\*\*showing best bid at price 56291 qty 0.004 |
| 8=FIX.4.4|9=304|35=W|34=2|49=DBS|52=20211206-  12:36:12.515|56=TESTMD|55=BTCUSD|262=2cad10b7-0e68-40a1-b240- bde9288e6db7|268=7|269=4|270=56301|272=20211206|269=5|270=52000|272=2021 1205|269=7|270=80795|269=8|270=1000|269=B|271=385404.82282961|269=0|270=  56291|271=0.004|346=1|290=1|269=1|270=56321|271=0.002|346=1|290=1|10=182| |
| Place a market buy 0.004 BTCUSD order from another user through the UI or other fix session |

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| 8=FIX.4.4|9=194|35=D|34=3|49=TESTNFE2OM|52=20211206-  12:36:12.775|56=DBS|1=99267941-3339-4276-92a6-634c21683652|11=4da56529- ec14-4b17-baf1-77cd6633e0ad|38=0.004|40=1|54=2|55=BTCUSD|59=1|60=20211206- 12:36:12.775|10=177|  **Expected Response:**   * two 35=X messages   + one 35=X message with trade publish @price 56291 qty 0.004   + one 35=X message indicating best offer updated |
| Incremental Refresh <X> message MDEntryType (269):  2 = Trade  B = Trade Volume |
| 8=FIX.4.4|9=190|35=X|34=3|49=DBS|52=20211206-  12:36:12.911|56=TESTMD|262=2cad10b7-0e68-40a1-b240- bde9288e6db7|268=2|279=0|269=2|55=BTCUSD|270=56291|271=0.004|273=12:36:1 2|279=1|269=B|271=385404.82682961|10=061| |
| Incremental Refresh <X> message MDEntryType (269):  0 = Bid  MDUpdateAction (279) : 2 - Delete & 0 - New |
| 8=FIX.4.4|9=195|35=X|34=4|49=DBS|52=20211206-  12:36:12.911|56=TESTMD|262=2cad10b7-0e68-40a1-b240- bde9288e6db7|268=2|279=2|269=0|55=BTCUSD|270=56291|290=1|279=0|269=0|55  =BTCUSD|270=56281|271=0.006|346=1|290=1|10=055| |

# Document Revision History

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| --- | --- | --- | --- |
| Document Version | Change Date | Author | Changes |
| 1.0 | 7 Mar 2022 | Loke Chee Kin | Initial version |
| 2.0 | 5 Jun 2024 | Bryan Kian Hon YEAP | Updated MD\_F2 |