



BRASIL
BOLSA
BALCÃO

UMDF PUMA Conflated

Certification Script

Version: 1.3
Last modified:
29/08/2019

Contact

Trading Certification

- tradingcertification@b3.com.br
- +55 11 2565-5029

Content

1. Preface	5
2. Pre Requisite	6
A. Session Messages	8
B1. Security List	8
B2. Market Data	9
C1. Pre-Open Market Phase	10
C2. Open Market Phase	11
C3. Special Auction	12
C4. Paused Market Phase	13
C5. Final Closing Call	14
C6. After Market	15
C7. Index and ETFs	16
D. News Messages	16
E. Snapshot	16
F. Derivatives	17
G. User Defined Spread (UDS)	17
H. Market Totals	18

Revision History

Date	Version	Description	Author
April 22, 2014	1.0	- Document Creation	AMS
July 02, 2014	1.1	- Automation of Certification script on MyCTC	AMS
September 02, 2014	1.2	- Required scenarios review	MAB
August 29, 2019	1.3	- Removed scenarios "Securities Lending – BTC" and "Trade History"	Trading Certification

1. Preface

This document describes the series of tests that qualify a third-party institution to connect to B3 for receiving Market Data for Derivatives and Equities segments using FIX 5.0 SP2 encoded in FAST 1.1.

FIX is a technical specification for an electronic communication of trade-related messages. It is an open standard managed by members of FIX Protocol Limited. (www.fixprotocol.org).

This document outlines the certification process to receive Market Data through B3's U MDF PUMA Conflated and is provided for third-parties which need trading connectivity with B3.

To request copies of this document, please contact: tradingcertification@b3.com.br

2. Pre Requisite

The test scenarios will be executed sequentially, all FIX messages should follow the specification in “UMDF PUMA Conflated FIX Market Data Messaging Specification” available on the B3’s website at: http://www.b3.com.br/en_us/solutions/platforms/puma-trading-system/for-developers-and-vendors/umdf-puma-conflated/

3. Glossary

MBO	Market By Order
MBP	Market By Price
TOB	Top of Book
TOP	Theoretical Opening Price
UDS	User Defined Spread
MOA	Market On Auction
MOC	Market On Close
ETF	Exchange Traded Funds

A. Session Messages

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
A1.1	Sends Logon Message	Receive the Logon message.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
A1.2	Wait a Heartbeat message	Receive Heartbeat message.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
A1.3	Sends Logout Message.	Receive the Logout message.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

B1. Security List

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
B1.1	Subscribe all instruments 263=1	Receive Security List 560=0	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.2	Unsubscribe 263=2	Receive confirmation of cancellation	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.3	Subscribe instruments by Security Type 263=1 tag 167	Receive Security List 560=0	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.4	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.5	Subscribe instruments by Invalid Type 263=1 tag 167	Receive rejection message.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.6	Subscribe instruments by Product 263=1 tag 460	Receive Security List 560=0	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.7	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.8	Subscribe instruments by Invalid Product 263=1 tag 460	Receive rejection message.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.9	Subscribe instruments by CFICode 263=1 tag 461	Receive Security List 560=0	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

B1.10	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B1.11	Subscribe instruments by Invalid CFICode 263=1 tag 461	Receive rejection message.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

B2. Market Data

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
B2.1	Subscribe all instruments 263=1	Receive Snapshot Full Refresh of all instruments available	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.2	Unsubscribe 263=2	Receive confirmation of cancellation	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.3	Subscribe only one instrument	Snapshot Full Refresh of the instrument subscribed.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.4	Unsubscribe 263=2	Receive confirmation of cancellation	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.5	Subscribe instruments by group.	Snapshot Full Refresh of the instruments from group subscribed.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.6	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.7	Subscribe instrument by type.	Snapshot Full Refresh of the instruments from type subscribed.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.8	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.9	Subscribe instrument by product	Snapshot Full Refresh of the instruments from product subscribed.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.10	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
B2.11	Subscribe instruments by CFICode	Snapshot Full Refresh of the instruments from CFI Code subscribed.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

B2.12	Unsubscribe 263=2	Receive confirmation of cancellation	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
-------	-------------------	--------------------------------------	---	-------------------------------	------------------------------

C1. Pre-Open Market Phase

Available: Equities and Derivatives

Trading Certification schedules the Pre-Open Market Phase

Step	Description	Expected Result	Req	Status	
C1.1	Subscribe the instrument chosen.	MBO: Snapshot Full Refresh with tag 625=21	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Snapshot Full Refresh with tag 625=21		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	MBO: New 6th level BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Updates on 3rd level BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.3	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	MBO: New Top of book on ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of book on ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.4	TRADING CERTIFICATION sends BID order MOA and ASK order at 100@Closing Price.	MBO: New Top of book on BID and 2 nd level ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of book on BID and increase quantity on ASK Top of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.5	TRADING CERTIFICATION cancels BID and ASK orders at Closing price	MBO: Delete 7th level BID and 2 nd level ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Decrease 4th level BID and Top of book ASK quantities		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.6	TRADING CERTIFICATION changes market phase to OPEN	MBO: Update all levels and trade at Closing price	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Update all levels and trade at Closing price		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C1.7	Unsubscribe the instrument.		Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C2. Open Market Phase

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
C2.1	Subscribe the instrument chosen.	MBO: Snapshot Full Refresh with tag 625=17	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Snapshot Full Refresh with tag 625=17		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.2	TRADING CERTIFICATION sends BID order 100@Closing Price.	MBO: New 6th level BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Updates on 3rd level BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.3	TRADING CERTIFICATION sends ASK order at 100@Best Price.	MBO: New order at 3rd level ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Increase Top of Book quantity		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.4	TRADING CERTIFICATION changes Instrument state to PAUSED	MBO: Receive Security Status (35=f) with 326=02 and 1174=101	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security Status (35=f) with 326=02 and 1174=101		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.5	TRADING CERTIFICATION deletes best ASK order	MBO: New Top of Book on ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Decrease quantity on ASK Top of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.6	TRADING CERTIFICATION changes Instrument state to RESERVED	MBO: Receive Security Status (35=f) with 326=21 and 1174=101	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security Status (35=f) with 326=21 and 1174=101		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.7	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	MBO: New Top of Book ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.8	TRADING CERTIFICATION changes Instrument state to Open.	MBO: Incremental Refresh with new ASK on Top of Book, new trades and Delete From BID (279=4); Security Status changes to 326=17 with 1174=102	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Incremental Refresh with new ASK on Top of Book, new trades and Delete From BID (279=4); Security Status changes to 326=17 with 1174=102		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C2.9	TRADING CERTIFICATION sends 2 BID Orders at 100@Closing Price + 1 tick.	MBO: New BID Top of Book and 2nd level	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book on BID side		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.10	TRADING CERTIFICATION sends a Trade on Behalf	MBO: New trade with 277=2	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New trade with 277=2		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.11	TRADING CERTIFICATION changes Instrument State to Closed..	MBO: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.12	TRADING CERTIFICATION changes Instrument state to Open.	MBO: Security Status changes to 326=17 with 1174=102	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Security Status changes to 326=17 with 1174=102		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C2.13	Unsubscribe the instrument.		Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C3. Special Auction

Available: Equities

Wait for Trading Certification to configure the Special Auction

Step	Description	Expected Result	Req	Status	
C3.1	TRADING CERTIFICATION sets an instrument to Special Auction	MBO: Receive Security List message with 37015=8	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security List message with 37015=8		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.2	TRADING CERTIFICATION sends new BID order at 100@Closing Price	MBO: New Top of Book on BID	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book on BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.3	TRADING CERTIFICATION sends new ASK at 100@Closing Price + 1 tick.	MBO: New Top of Book on ASK	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book on ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C3.4	TRADING CERTIFICATION sends MOA on BID	MBO: New Top of Book on BID with no price	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book on BID with no price		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.5	TRADING CERTIFICATION modifies ASK price.	MBO: New Top of Book on ASK	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top of Book on ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.6	TRADING CERTIFICATION changes the instrument state to OPEN	MBO: New trades and Security Status change to 326=17	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New trades and Security Status change to 326=17.		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.7	TRADING CERTIFICATION sends BID and ASK orders.	MBO: New BID and ASK on Top Of Book	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New BID and ASK on Top Of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.8	TRADING CERTIFICATION changes the Market Phase to PAUSED	MBO: Security Status changes to 625=02	C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Security Status changes to 625=02		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C3.9	Unsubscribe the instrument.		C	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C4. Paused Market Phase

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
C4.1	Subscribe the instrument chosen.	MBO: Snapshot Full Refresh with 625=02	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Snapshot Full Refresh with 625=02		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C4.2	TRADING CERTIFICATION cancels BID order	MBO: Receive Incremental Refresh with BID delete 269=0 279=2	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Incremental Refresh with BID delete 269=0 279=2		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C4.3	TRADING CERTIFICATION changes the Market Phase to Final Closing Call	MBO: Receive Incremental Refresh with ASK delete 269=1 279=2	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Incremental Refresh with ASK delete 269=1 279=2		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C4.4	TRADING CERTIFICATION changes the Market Phase to Final Closing Call	MBO: Receive Security Status with 625=101	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security Status with 625=101		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C4.5	Unsubscribe the instrument.		Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C5. Final Closing Call

Available: Equities and Derivatives

Trading Certification schedules the FCC Market Phase

Step	Description	Expected Result	Req	Status	
C5.1	Subscribe the instrument chosen.	MBO: Snapshot Full Refresh with 625=101 and 326=101 and MOC order on BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Snapshot Full Refresh with 625=101 and 326=101 and MOC order on BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.2	TRADING CERTIFICATION sends ASK order at 100@Closing Price	MBO: New ASK order on Top	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New ASK order on Top		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.3	TRADING CERTIFICATION sends BID order at 100@Closing Price + 1 tick.	MBO: New 2 nd level BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New 2 nd level BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.4	TRADING CERTIFICATION changes ASK order quantity	MBO: Increase quantity on ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Increase quantity on ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	MBO: New 2 nd level ASK	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Increase quantity on ASK		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.6	Final Closing Call ends	MBO: New trades	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New trades		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C5.7	TRADING CERTIFICATION changes the Market Phase to PreClose	MBO: Security Status message with 625=18	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Security Status message with 625=18		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C5.8	Unsubscribe the instrument.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
------	-----------------------------	---	-------------------------------	------------------------------

C6. After Market

Available: Equities and Derivatives

Before starting step B6.1, please, wait for Trading Certification to populate the book.

Step	Description	Expected Result	Req	Status	
C6.1	Subscribe the instrument chosen.	MBO: Snapshot Full Refresh with 625=17 and 336=6	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Snapshot Full Refresh com 625=17 and 336=6		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	MBO: New order on BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New order on BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.3	TRADING CERTIFICATION sends new ASK order 100@best price.	MBO: New ASK on 3rd level	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Increase quantity on ASK Top Of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.4	TRADING CERTIFICATION deletes Top of ASK	MBO: New ASK Top Of Book	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Decrease quantity on Top Of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price	MBO: New ASK Top of Book, Delete From BID and new trades (1174=102)	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New ASK Top of Book, Delete From BID and new trades (1174=102)		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.6	TRADING CERTIFICATION sends new BID orders at 100@Closing Price + 1 tick	MBO: New Top Of Book and 2 nd level on BID	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New Top Of Book on BID		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.7	TRADING CERTIFICATION changes instrument state to CLOSED	MBO: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C6.8	Unsubscribe the instrument.		Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

C7. Index and ETFs

Available: Equities

Step	Description	Expected Result	Req	Status	
C7.1	Subscribe Index	MBO: Receive Security List with instruments related to Indexes and ETF	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C7.2	TRADING CERTIFICATION creates new trades on instruments that compose the chosen INDEX	MBO: Incremental Refresh with updates on Index Value	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C7.3	Wait for 30 seconds connected to Incremental stream	MBO: Incremental Refresh with updates on Index Value	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
C7.4	Unsubscribe the instrument.		N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

D. News Messages

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
D1.1	Subscribe instrument (35=V)	Receive Snapshot Full Refresh (35=W)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
D1.2	TRADING CERTIFICATION sends News to the chosen instrument.	Receive News Message (35=B)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
D1.3	Unsubscribe the instrument.		N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

E. Snapshot

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
E1.1	Customer subscribes an instrument with empty book.	MBO: Receive the Snapshot Full Refresh with empty book.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive the Snapshot Full Refresh with empty book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
E1.2	Customer unsubscribes the instrument, TRADING CERTIFICATION sends orders on the BID side, Customer subscribes the instrument.	MBO: Receive the Snapshot Full Refresh with orders on BID side of the book	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive the Snapshot Full Refresh with orders on BID side of the book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

E1.3	Customer unsubscribes the instrument, TRADING CERTIFICATION sends orders on the ASK side, Customer subscribes the instrument.	MBO: Receive the Snapshot Full Refresh with orders on BID side of the book.	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive the Snapshot Full Refresh with orders on BID side of the book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
E1.4	TRADING CERTIFICATION places BID orders that match.	MBO: Customer receives Incremental Refresh with the new Trades	Y	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Customer receives Incremental Refresh with the new Trades		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

F. Derivatives

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
F1.1	Subscribe instrument from Future Contract (167=FUT)	Receive Snapshot Full Refresh with Open Interest, Hard Limits and Settlement Price.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
F1.2	TRADING CERTIFICATION sends orders with Open Interest.	Incremental Refresh with Open Interest (269=C)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

G. User Defined Spread (UDS)

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
G1.1	TRADING CERTIFICATION creates new UDS with 2 legs	MBO: Receive Security List message (35=y) on Options channel related to the first leg. Check tag 555 and Security Status=Forbidden.	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security List message (35=y) on Options channel related to the first leg. Check tag 555 and Security Status=Forbidden		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
G1.2	Request UDS created.	MBO: Receive Snapshot Full Refresh	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Snapshot Full Refresh		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
G1.3	TRADING CERTIFICATION changes the instrument state to RESERVED	MBO: Receive Security Status (35=f) with 326=21	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security Status (35=f) with 326=21		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

G1.4	TRADING CERTIFICATION sends BID order to the UDS	MBO: New BID on Top of Book	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: New BID on Top of Book		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
G1.5	TRADING CERTIFICATION changes the instrument state to OPEN.	MBO: Receive Security Status (35=f) with 326=17	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Receive Security Status (35=f) with 326=17		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
G1.6	TRADING CERTIFICATION sends ASK order to the UDS.	MBO: Trade on UDS and both legs	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
		MBP: Trade on UDS and both legs		<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
G1.7	Unsubscribe the instrument.		N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E

H. Market Totals

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
H1.1	Send Market Totals Request (35=UTOTQ, 263=1)	Receive confirmation message (35=UTOTP) Receive Market Totals (35=UTOTC)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
H1.2	Wait 30 seconds	Receive Market Totals update (35=UTOT)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
H1.3	Send Market Totals Request repeating the MDRReqID.	Receive rejection message (35=UTOTP, 281=1)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
H1.4	Unsubscribe Market Totals (35=UTOTQ, 263=2)	Market Totals unsubscribed	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E
H1.5	Unsubscribe again the same Market Totals (35=UTOTQ, 263=2)	Receive rejection message (35=UTOTP, 281=Y)	N	<input type="checkbox"/> Pass	<input type="checkbox"/> N/E