UMDF PUMA BINARY

Certification Script

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Trading Certification

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Contents

Revision History

Date	Version	Description	Author
March 30, 2023	1.1	- Scenario updates for the SBE proccedures	Trading Certification
January 26,, 2023	1.0	- Document Creation	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 SBE protocol.

SBE 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/).

2. Pre requisite

The test scenarios will be executed sequentially, all messages should follow the specification in "MARKET DATA B3: BINARY UMDF Messaging Specification Guidelines – Version 1.5.4"
These documents are available on the B3's website at:
https://clientes.b3.com.br/data/files/53/A6/A6/A2/DB0F68103189BD68180808FF/BinaryUMDF-MessageSpecificationGuidelines-v.1.5.4.pdf

3. Glossary

MBO	Market By Order
UDS	User Defined Spread
MOA	Market On Auction
MOC	Market On Close
ETF	Exchange Traded Funds

4. Test Scenarios

This Certification Script follows a logical sequence according to the Market Phases during a regular trading day, including After Market session. The Certification script starts from the Closing price for the chosen instrument and price increments according to the tick of the price. The execution sequence must be followed straight from the beginning to the end. Any unforeseen circumstances that might shutdown or crash the application will require a whole new conformance test.

The following table describes the sessions and their objectives for this Certification Script.

Scenarios	Objective
A. Channel Messages	Test the SBE messages on the channel.
B. Market Phases	Pass through all the Market Phases and Instrument States
C. Strategies	Receive Market Data messages to UDS.

A. Channel Messages
Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
A.1	Connect to idle Incremental stream and wait for Heartbeat message	Receive Sequence message.	Y	☐ Pass	☐N/E
A.2	Connect to Instrument Definition stream and wait for Security List messages.	Receive Security List Messages.	N	☐ Pass	☐N/E

B1. Pre-Open Market Phase

Available: Equities and Derivatives

	TRADING CERTIFICATION schedules the Pre-Open Market Phase				
Step	Description	Expected Result	Req	Status	
B1.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	Snapshot Full Refresh.	Y	☐ Pass	☐ N/E
B1.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	New 6th level BID	Y	☐ Pass	☐ N/E
B1.3	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	New Top of book on ASK	Y	☐ Pass	☐ N/E
B1.4	TRADING CERTIFICATION sends BID order MOA and ASK order at 100@Closing Price.	New Top of book on BID and 2nd level ASK	Y	☐ Pass	☐ N/E
B1.5	TRADING CERTIFICATION cancels BID and ASK orders at Closing price	Delete 7th level BID and 2nd level ASK	Y	☐ Pass	☐ N/E
B1.6	TRADING CERTIFICATION changes market phase to OPEN	Update all levels and trade at Closing price	Y	☐ Pass	☐ N/E

B2. Open Market Phase

Available: Equities and Derivatives

	TRADING CERTIFICATION schedules the OPEN Phase				
Step	Description	Expected Result	Req	Status	
B2.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	Snapshot Full Refresh.	Y	☐ Pass	☐ N/E
B2.2	TRADING CERTIFICATION sends BID order 100@Closing Price.	New 6th level BID	Y	☐ Pass	☐ N/E
B2.3	TRADING CERTIFICATION sends ASK order at 100@Best Price.	New order at 3rd level ASK	Y	☐ Pass	☐ N/E
B2.4	TRADING CERTIFICATION changes Instrument state to PAUSED	Receive Security Status	Y	☐ Pass	☐ N/E
B2.5	TRADING CERTIFICATION deletes best ASK order	New Top of Book on ASK	Y	☐ Pass	☐ N/E
B2.6	TRADING CERTIFICATION changes Instrument state to RESERVED	Receive Security Status	Y	☐ Pass	☐ N/E
B2.7	TRADING CERTIFICATION sends ASK order at Closing Price.	New Top of Book ASK	Y	☐ Pass	☐ N/E
B2.8	TRADING CERTIFICATION changes instrument state to Open	Incremental Refresh with new ASK on Top of Book, new trades and Delete From BID; Security Status update.	Y	☐ Pass	☐ N/E
B2.9	TRADING CERTIFICATION sends 2 BID Orders at 100@Closing Price + 1 tick.	New BID Top of Book and 2nd level	Y	☐ Pass	☐ N/E
B2.10	TRADING CERTIFICATION sends a Trade on Behalf	New trade	Y	☐ Pass	☐ N/E
B2.11	TRADING CERTIFICATION changes Instrument State to Closed.	Incremental Refresh with Delete From; Security Status update.	Y	☐ Pass	☐ N/E
B2.12	TRADING CERTIFICATION changes Instrument state to Open.	Security Status update.	Y	☐ Pass	☐ N/E

B3. Special Auction

Available: Equities

	Wait for Trading Certification to configure the Special Auction				
Step	Description	Expected Result	Req	Status	
B3.1	TRADING CERTIFICATION sets an instrument to Special Auction	Receive Security List	N	☐ Pass	☐ N/E
B3.2	TRADING CERTIFICATION sends new BID order at 100@Closing Price	New Top of Book on BID	N	☐ Pass	☐ N/E
B3.3	TRADING CERTIFICATION sends new ASK at 100@Closing Price + 1 tick.	New Top of Book on ASK	N	☐ Pass	☐ N/E
B3.4	TRADING CERTIFICATION sends MOA on BID	New Top of Book on BID with no price	N	☐ Pass	☐ N/E
B3.5	TRADING CERTIFICATION modifies ASK price.	New Top of Book on ASK	N	☐ Pass	☐ N/E
B3.6	TRADING CERTIFICATION changes the instrument state to OPEN	New trades and Security Status update.	N	☐ Pass	☐ N/E
B3.7	TRADING CERTIFICATION sends BID and ASK orders.	New BID and ASK on Top Of Book	N	☐ Pass	☐ N/E
B3.8	TRADING CERTIFICATION changes the Market Phase to PAUSED	Security Status update.	N	☐ Pass	☐ N/E

B4. Paused Market Phase

Available: Equities and Derivatives

	Trading certification shedules the PAUSED Phase				
Step	Description	Expected Result	Req	Status	
B4.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	Snapshot Full Refresh	Y	☐ Pass	☐ N/E
B4.2	TRADING CERTIFICATION cancels BID order	Receive Incremental Refresh with BID	Y	☐ Pass	☐ N/E
B4.3	TRADING CERTIFICATION cancels ASK order	Receive Incremental Refresh with ASK	Y	☐ Pass	☐ N/E
B4.4	TRADING CERTIFICATION changes the Market Phase to Final Closing Call	Security Status update.	Y	☐ Pass	☐ N/E

B5. Final Closing Call

Available: Equities and Derivatives

	TRADING CERTIFICATION schedules the FCC Market Phase				
Step	Description	Expected Result	Req	Status	
B5.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	Snapshot Full Refresh and MOC order on BID	Y	☐ Pass	☐ N/E
B5.2	TRADING CERTIFICATION sends ASK order at 100@Closing Price	New ASK order on Top	Y	☐ Pass	☐ N/E
B5.3	TRADING CERTIFICATION sends BID order at 100@Closing Price + 1 tick.	New 2nd level BID	Y	☐ Pass	☐ N/E
B5.4	TRADING CERTIFICATION changes ASK order quantity	Increase quantity on ASK	Y	☐ Pass	☐ N/E
B5.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	New 2nd level ASK	Y	☐ Pass	☐ N/E
B5.6	Final Closing Call ends	New trades	Y	☐ Pass	☐ N/E
B5.7	TRADING CERTIFICATION changes the Market Phase to PreClose	Security Status update.	Y	☐ Pass	☐ N/E

B6. 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	
B6.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	Snapshot Full Refresh	Y	☐ Pass	☐ N/E
B6.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	New order on BID	Y	☐ Pass	☐ N/E
B6.3	TRADING CERTIFICATION sends new ASK order 100@best price.	New ASK on 3rd level	Y	☐ Pass	☐ N/E
B6.4	TRADING CERTIFICATION deletes Top of ASK	New ASK Top Of Book	Y	☐ Pass	☐ N/E
B6.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price	New ASK Top of Book, Delete From BID and new trades	Y	☐ Pass	☐ N/E
B6.6	TRADING CERTIFICATION sends new BID orders at 100@Closing Price + 1 tick	New Top Of Book and 2nd level on BID	Y	☐ Pass	☐ N/E
B6.7	TRADING CERTIFICATION changes instrument state to CLOSED	Incremental Refresh with Delete From; Security Status update.	Y	☐ Pass	☐ N/E

C. User Defined Spread (UDS)

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
D4.1	TRADING CERTIFICATION creates new UDS with 2 legs	Receive Security List message on Options channel related to the first leg.	N	☐ Pass	☐ N/E
D4.2	Request UDS created.	Receive Snapshot Full Refresh	N	☐ Pass	☐ N/E
D4.3	TRADING CERTIFICATION changes the instrument state to RESERVED	Receive Security Status	N	☐ Pass	☐ N/E
D4.4	TRADING CERTIFICATION sends BID order to the UDS	New BID on Top of Book	N	☐ Pass	☐ N/E
D4.5	TRADING CERTIFICATION changes the instrument state to OPEN.	Receive Security Status	N	☐ Pass	☐ N/E
D4.6	TRADING CERTIFICATION sends ASK order to the UDS.	Trade on UDS and both legs	N	☐ Pass	☐ N/E