UMDF PUMA 2.0

Certification Script

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Contact

Trading Certification

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

Contents

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 "C2 - Unified News Channel" and "G – Securities Lending – BTC"	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 UMDF PUMA 2.0 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 FIX/FAST Market Data Messaging Specification" and "UMDF FIX/FAST Message Reference".
These documents are available on the B3's website at:
http://www.b3.com.br/en_us/solutions/platforms/puma-trading-system/for-developers-and-vendors/umdf-unified-market-data-feed/

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

4. Test Scenarios

This Certification Script follows a logical sequence according to the Market Phases during a regular trading day, including After Market session. Most scenarios can be executed on any book type stream, such as MBO, MBP and/or TOB. 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.

There are also some specific scenarios for News messages, Market Recovery and new functionalities in UMDF PUMA 2.0. The following table describes the sessions and their objectives for this Certification Script.

Scenarios	Objective
A. Session Messages	Test the session level FIX messages available in UMDF PUMA
B. Market Phases	Pass through all the Market Phases and Instrument States
C. News Messages	Receive News messages on regular Channels
D. Message Recovery	Simulate market recovery by Snapshot and TCP methods.
E. Strategies	Receive Market Data messages to UDS.

A. Session Messages

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
A.1	Connect to idle Incremental stream and wait for Heartbeat message	Receive Heartbeat message (35=0)	Y	☐ Pass	☐N/E
A.2	Connect to Instrument Definition stream and wait for Security List messages.	Receive Security List Messages (35=y).	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	**MBO:** Snapshot Full Refresh with tag 625=21	Y	☐ Pass ☐ N/E
		MBP: Snapshot Full Refresh with tag 625=21		☐ Pass ☐ N/E
		TOB: Snapshot Full Refresh with tag 625=21		☐ Pass ☐ N/E
B1.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	**MBO:** New 6th level BID	Y	☐ Pass ☐ N/E
		MBP: Updates on 3rd level BID		☐ Pass ☐ N/E
		TOB: No updates		☐ Pass ☐ N/E
B1.3	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	**MBO:** New Top of book on ASK	Y	☐ Pass ☐ N/E
		MBP: New Top of book on ASK		☐ Pass ☐ N/E
		TOB: New Top of book on ASK		☐ Pass ☐ N/E
B1.4	TRADING CERTIFICATION sends BID order MOA and ASK order at 100@Closing Price.	**MBO:** New Top of book on BID and 2nd level ASK	Y	☐ Pass ☐ N/E
		MBP: New Top of book on BID and increase quantity on ASK Top of Book		☐ Pass ☐ N/E
		TOB: New Top of book on BID and increase quantity on ASK Top of Book		☐ Pass ☐ N/E
B1.5	TRADING CERTIFICATION cancels BID and ASK orders at Closing price	**MBO:** Delete 7th level BID and 2nd level ASK	Y	☐ Pass ☐ N/E
		MBP: Decrease 4th level BID and Top of book ASK quantities		☐ Pass ☐ N/E
		TOB: Decrease ASK quantity		☐ Pass ☐ N/E
B1.6	TRADING CERTIFICATION changes market phase to OPEN	**MBO:** Update all levels and trade at Closing price	Y	☐ Pass ☐ N/E
		MBP: Update all levels and trade at Closing price		☐ Pass ☐ N/E
		TOB: Update all levels and trade at Closing price		☐ Pass ☐ N/E

B2. Open Market Phase

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
B2.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	**MBO:** Snapshot Full Refresh with tag 625=17	Y	☐ Pass	☐ N/E
		MBP: Snapshot Full Refresh with tag 625=17		☐ Pass	☐ N/E
		TOB: Snapshot Full Refresh with tag 625=17		☐ Pass	☐ N/E
B2.2	TRADING CERTIFICATION sends BID order 100@Closing Price.	**MBO:** New 6th level BID	Y	☐ Pass	☐ N/E
		MBP: Updates on 3rd level BID		☐ Pass	☐ N/E
		TOB: No updates		☐ Pass	☐ N/E
B2.3	TRADING CERTIFICATION sends ASK order at 100@Best Price.	**MBO:** New order at 3rd level ASK	Y	☐ Pass	☐ N/E
		MBP: Increase Top of Book quantity		☐ Pass	☐ N/E
		TOB: Increase Top of Book quantity		☐ Pass	☐ N/E
B2.4	TRADING CERTIFICATION changes Instrument state to PAUSED	**MBO:** Receive Security Status (35=f) with 326=02 and 1174=101	Y	☐ Pass	☐ N/E
		MBP: Receive Security Status (35=f) with 326=02 and 1174=101		☐ Pass	☐ N/E
		TOB: Receive Security Status (35=f) with 326=02 and 1174=101		☐ Pass	☐ N/E
B2.5	TRADING CERTIFICATION deletes best ASK order	**MBO:** New Top of Book on ASK	Y	☐ Pass	☐ N/E
		MBP: Decrease quantity on ASK Top of Book		☐ Pass	☐ N/E
		TOB: Decrease quantity on ASK		☐ Pass	☐ N/E
B2.6	TRADING CERTIFICATION changes Instrument state to RESERVED	**MBO:** Receive Security Status (35=f) with 326=21 and 1174=101	Y	☐ Pass	☐ N/E
		MBP: Receive Security Status (35=f) with 326=21 and 1174=101		☐ Pass	☐ N/E
		TOB: Receive Security Status (35=f) with 326=21 and 1174=101		☐ Pass	☐ N/E

B2.7	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	**MBO:** New Top of Book ASK	Y	☐ Pass	☐ N/E
		MBP: New Top of Book ASK		☐ Pass	☐ N/E
		TOB: New Top of Book ASK		☐ Pass	☐ N/E
B2.8	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	☐ Pass	☐ 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		☐ Pass	☐ N/E
		TOB: 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		☐ Pass	☐ N/E
B2.9	TRADING CERTIFICATION sends 2 BID Orders at 100@Closing Price + 1 tick.	**MBO:** New BID Top of Book and 2nd level	Y	☐ Pass	☐ N/E
		MBP: New Top of Book on BID side		☐ Pass	☐ N/E
		TOB: New Top of Book on BID side		☐ Pass	☐ N/E
B2.10	TRADING CERTIFICATION sends a Trade on Behalf	**MBO:** New trade with 277=2	Y	☐ Pass	☐ N/E
		MBP: New trade with 277=2		☐ Pass	☐ N/E
		TOB: New trade with 277=2		☐ Pass	☐ N/E
B2.11	TRADING CERTIFICATION changes Instrument State to Closed.	**MBO:** Incremental Refresh with Delete From (279=4); Security Status changes to 326=04	Y	☐ Pass	☐ N/E
		MBP: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		☐ Pass	☐ N/E
		TOB: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		☐ Pass	☐ N/E

Step	Description	Expected Result	Req	Status	
B2.12	TRADING CERTIFICATION changes Instrument state to Open.	**MBO:** Security Status changes to 326=17 with 1174=102	Y	☐ Pass	☐ N/E
		MBP: Security Status changes to 326=17 with 1174=102		☐ Pass	☐ N/E
		TOB: Security Status changes to 326=17 with 1174=102		☐ 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	**MBO:** Receive Security List message with 37015=8	C	☐ Pass	☐ N/E
		MBP: Receive Security List message with 37015=8		☐ Pass	☐ N/E
		TOB: Receive Security List message with 37015=8		☐ Pass	☐ N/E
B3.2	TRADING CERTIFICATION sends new BID order at 100@Closing Price	**MBO:** New Top of Book on BID	C	☐ Pass	☐ N/E
		MBP: New Top of Book on BID		☐ Pass	☐ N/E
		TOB: New BID		☐ Pass	☐ N/E
B3.3	TRADING CERTIFICATION sends new ASK at 100@Closing Price + 1 tick.	**MBO:** New Top of Book on ASK	C	☐ Pass	☐ N/E
		MBP: New Top of Book on ASK		☐ Pass	☐ N/E
		TOB: New ASK		☐ Pass	☐ N/E
B3.4	TRADING CERTIFICATION sends MOA on BID	**MBO:** New Top of Book on BID with no price	C	☐ Pass	☐ N/E
		MBP: New Top of Book on BID with no price		☐ Pass	☐ N/E
		TOB: New BID with no price		☐ Pass	☐ N/E

B3.5	TRADING CERTIFICATION modifies ASK price.	**MBO:** New Top of Book on ASK	C	☐ Pass	☐ N/E
		MBP: New Top of Book on ASK		☐ Pass	☐ N/E
		TOB: New ASK		☐ Pass	☐ N/E
B3.6	TRADING CERTIFICATION changes the instrument state to OPEN	**MBO: N**ew trades and Security Status change to 326=17	C	☐ Pass	☐ N/E
		MBP: New trades and Security Status change to 326=17		☐ Pass	☐ N/E
		TOB: New trades and Security Status change to 326=17		☐ Pass	☐ N/E
B3.7	TRADING CERTIFICATION sends BID and ASK orders.	**MBO:** New BID and ASK on Top Of Book	C	☐ Pass	☐ N/E
		MBP: New BID and ASK on Top Of Book		☐ Pass	☐ N/E
		TOB: New BID and ASK on Top Of Book		☐ Pass	☐ N/E
B3.8	TRADING CERTIFICATION changes the Market Phase to PAUSED	**MBO:** Security Status changes to 625=02	C	☐ Pass	☐ N/E
		MBP: Security Status changes to 625=02		☐ Pass	☐ N/E
		TOB: Security Status changes to 625=02		☐ Pass	☐ N/E

B4. Paused Market Phase

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
B4.1	Connect to the Market Recovery (Snapshot) stream of the chosen channel	**MBO:** Snapshot Full Refresh with 625=02	Y	☐ Pass	☐ N/E
		MBP: Snapshot Full Refresh with 625=02		☐ Pass	☐ N/E
		TOB: Snapshot Full Refresh with 625=02		☐ Pass	☐ N/E
B4.2	TRADING CERTIFICATION cancels BID order	**MBO:** Receive Incremental Refresh with BID delete 269=0 279=2	Y	☐ Pass	☐ N/E
		MBP: Receive Incremental Refresh with BID delete 269=0 279=2		☐ Pass	☐ N/E
		TOB: Receive Incremental Refresh with BID delete 269=0 279=2		☐ Pass	☐ N/E
B4.3	TRADING CERTIFICATION cancels ASK order	**MBO:** Receive Incremental Refresh with ASK delete 269=1 279=2	Y	☐ Pass	☐ N/E
		MBP: Receive Incremental Refresh with ASK delete 269=1 279=2		☐ Pass	☐ N/E
		TOB: Receive Incremental Refresh with ASK delete 269=1 279=2		☐ Pass	☐ N/E
B4.4	TRADING CERTIFICATION changes the Market Phase to Final Closing Call	**MBO:** Receive Security Status with 625=101	Y	☐ Pass	☐ N/E
		MBP: Receive Security Status with 625=101		☐ Pass	☐ N/E
		TOB: Receive Security Status with 625=101		☐ 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	**MBO:** Snapshot Full Refresh with 625=101 and 326=101 and MOC order on BID	Y	☐ Pass	☐ N/E
		MBP: Snapshot Full Refresh with 625=101 and 326=101 and MOC order on BID		☐ Pass	☐ N/E
		TOB: Snapshot Full Refresh with 625=101 and 326=101 and MOC order on BID		☐ Pass	☐ N/E

B5.2	TRADING CERTIFICATION sends ASK order at 100@Closing Price	**MBO:** New ASK order on Top	Y	☐ Pass	☐ N/E
		MBP: New ASK order on Top		☐ Pass	☐ N/E
		TOB: New ASK order on Top		☐ Pass	☐ N/E
B5.3	TRADING CERTIFICATION sends BID order at 100@Closing Price + 1 tick.	**MBO:** New 2nd level BID	Y	☐ Pass	☐ N/E
		MBP: New 2nd level BID		☐ Pass	☐ N/E
		TOB: Nothing changes		☐ Pass	☐ N/E
B5.4	TRADING CERTIFICATION changes ASK order quantity	**MBO:** Increase quantity on ASK	Y	☐ Pass	☐ N/E
		MBP: Increase quantity on ASK		☐ Pass	☐ N/E
		TOB: Increase quantity on ASK		☐ Pass	☐ N/E
B5.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price.	**MBO:** New 2nd level ASK	Y	☐ Pass	☐ N/E
		MBP: Increase quantity on ASK		☐ Pass	☐ N/E
		TOB: Increase quantity on ASK		☐ Pass	☐ N/E
B5.6	Final Closing Call ends	**MBO:** New trades	Y	☐ Pass	☐ N/E
		MBP: New trades		☐ Pass	☐ N/E
		TOB: New trades		☐ Pass	☐ N/E
B5.7	TRADING CERTIFICATION changes the Market Phase to PreClose	**MBO:** Security Status message with 625=18	Y	☐ Pass	☐ N/E
		MBP: Security Status message with 625=18		☐ Pass	☐ N/E
		TOB: Security Status message with 625=18		☐ 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	**MBO:** Snapshot Full Refresh with 625=17 e 336=6	Y	☐ Pass	☐ N/E
		MBP: Snapshot Full Refresh with 625=17 e 336=6		☐ Pass	☐ N/E
		TOB: Snapshot Full Refresh with 625=17 e 336=6		☐ Pass	☐ N/E
B6.2	TRADING CERTIFICATION sends BID order at 100@Closing Price.	**MBO:** New order on BID	Y	☐ Pass	☐ N/E
		MBP: New order on BID		☐ Pass	☐ N/E
		TOB: Nothing changes		☐ Pass	☐ N/E
B6.3	TRADING CERTIFICATION sends new ASK order 100@best price.	**MBO:** New ASK on 3rd level	Y	☐ Pass	☐ N/E
		MBP: Increase quantity on ASK Top Of Book		☐ Pass	☐ N/E
		TOB: Increase quantity on ASK		☐ Pass	☐ N/E
B6.4	TRADING CERTIFICATION deletes Top of ASK	**MBO:** New ASK Top Of Book	Y	☐ Pass	☐ N/E
		MBP: Decrease quantity on Top Of Book		☐ Pass	☐ N/E
		TOB: Decrease quantity on Top Of Book		☐ Pass	☐ N/E
B6.5	TRADING CERTIFICATION sends ASK order at 100@Closing Price	**MBO:** New ASK Top of Book, Delete From BID and new trades (1174=102)	Y	☐ Pass	☐ N/E
		MBP: New ASK Top of Book, Delete From BID and new trades (1174=102)		☐ Pass	☐ N/E
		TOB: New ASK Top of Book, Delete From BID and new trades (1174=102)		☐ Pass	☐ N/E
B6.6	TRADING CERTIFICATION sends new BID orders at 100@Closing Price + 1 tick	**MBO**: New Top Of Book and 2nd level on BID	Y	☐ Pass	☐ N/E
		MBP: New Top Of Book on BID		☐ Pass	☐ N/E
		TOB: New Top Of Book on BID		☐ Pass	☐ N/E

B6.7	TRADING CERTIFICATION changes instrument state to CLOSED	**MBO:** Incremental Refresh with Delete From (279=4); Security Status changes to 326=04	Y	☐ Pass	☐ N/E
		MBP: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		☐ Pass	☐ N/E
		TOB: Incremental Refresh with Delete From (279=4); Security Status changes to 326=04		☐ Pass	☐ N/E

B7. Index and ETF

Available: Equities

Step	Description	Expected Result	Req	Status	
B7.1	Connect to the Security Definition stream of channel 62	**MBO:** Receive Security List with instruments related to Indexes and ETF	N	☐ Pass	☐ N/E
B7.2	TRADING CERTIFICATION creates new trades on instruments that compose the chosen INDEX	**MBO:** Incremental Refresh with updates on Index Value	N	☐ Pass	☐ N/E
B7.3	Wait for 30 seconds connected to Incremental stream	**MBO:** Incremental Refresh with updates on Index Value	N	☐ Pass	☐ N/E

C1. News Messages

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
C1	Connect to an instrument channel TRADING CERTIFICATION sends News to the chosen channel	**MBO:** Receive News Message (35=B)	N	☐ Pass	☐ N/E
		MBP: Receive News Message (35=B)		☐ Pass	☐ N/E
		TOB: Receive News Message (35=B)		☐ Pass	☐ N/E

D1. Snapshot

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
D1.1	Customer connects to a channel with all instruments having empty books	**MBO:** Receive the Snapshot Full Refresh with empty book	Y	☐ Pass	☐ N/E
		MBP: Receive the Snapshot Full Refresh with empty book		☐ Pass	☐ N/E
		TOB: Receive the Snapshot Full Refresh with empty book		☐ Pass	☐ N/E
D1.2	Customer disconnects from the channel. TRADING CERTIFICATION sends orders on the BID side Customer reconnects to the channel	**MBO:** Get the Snapshot Full Refresh with orders on BID side of the book	Y	☐ Pass	☐ N/E
		MBP: Get the Snapshot Full Refresh with orders on BID side of the book		☐ Pass	☐ N/E
		TOB: Get the Snapshot Full Refresh with orders on BID side of the book		☐ Pass	☐ N/E
D1.3	Customer disconnects from the channel TRADING CERTIFICATION cleans up the book and places ASK orders. Customer reconnects to the channel	**MBO:** Get the Snapshot Full Refresh with orders only on ASK side of the book	Y	☐ Pass	☐ N/E
		MBP: Get the Snapshot Full Refresh with orders only on ASK side of the book		☐ Pass	☐ N/E
		TOB: Get the Snapshot Full Refresh with orders only on ASK side of the book.		☐ Pass	☐ N/E
D1.4	TRADING CERTIFICATION places BID orders that match.	**MBO:** Customer receives Incremental Refresh with the new Trades	Y	☐ Pass	☐ N/E
		MBP: Customer receives Incremental Refresh with the new Trades		☐ Pass	☐ N/E
		TOB: Customer receives Incremental Refresh with the new Trades		☐ Pass	☐ N/E

D2. TCP Replayer

Available: Equities and Derivatives

	This scenario is not mandatory if another Market Recovery method is used				
Step	Description	Expected Result	Req	Status	
D2.1	Customer connects to a channel with all instruments having empty books	Receive the Snapshot Full Refresh with empty book	Y	☐ Pass	☐ N/E
D2.2	Customer disconnects from the channel TRADING CERTIFICATION sends orders on the BID side Customer sends a request (35=BW) with the range of messages regarding to the BID orders sent.	Receive Application Message Request Acknowledgment (35=BX) with tag 1348=0; Receive Application Raw Data Reporting (35=URDR) containing Incremental Refreshes in the requested range; Receive Application Message Report (35=BY) with tag 1426=3.	Y	☐ Pass	☐ N/E
D2.3	Customer disconnects from the channel TRADING CERTIFICATION cleans up the book and places ASK orders, Customer requests the range of messages regarding the ASK orders sent.	Receive Application Message Request Acknowledgment (35=BX) with tag 1348=0; Receive Application Raw Data Reporting (35=URDR) containing Incremental Refreshes in the requested range; Receive Application Message Report (35=BY) with tag 1426=3.	Y	☐ Pass	☐ N/E

D3. TCP Historical Replayer

Available: Equities and Derivatives

	This scenario is not mandatory if another Market Recovery method is used.				
Step	Description	Expected Result	Req	Status	
D3.1	Logon to the TCP Historical Recovery session	Logon Message acknowledgement	Y	☐ Pass	☐ N/E
D3.2	Send an Application Message Request (35=BW) to recover 20 Incremental Refresh messages prior to the last 500. (e.g. if 34=3000, request from 2470 to 2490)	Receive Application Message Request Acknowledgment (35=BX) with tag 1348=0; Receive Application Raw Data Reporting (35=URDR) containing Incremental Refreshes in the requested range; Receive Application Message Report (35=BY) com tag 1426=3.	Y	☐ Pass	☐ N/E
D3.3	Send an ApplicationMessageRequest to recover last day Incremental Refresh messages (TRADING CERTIFICATION informs the range of messages Sequence Number to be requested)	Receive Application Message Request Acknowledgment (35=BX) with tag 1348=0. Receive Application Raw Data Reporting (35=URDR) containing Incremental Refreshes in the requested range. Receive Application Message Report (35=BY) com tag 1426=3	Y	☐ Pass	☐ N/E
D3.4	Send an ApplicationMessageRequest to recover Incremental Refresh messages older than two days	Receive Application Message Request Acknowledgment (35=BX) with tag 1348=0. Receive Application Message Report (35=BY) with tags 1426=4 and 1354=1	Y	☐ Pass	☐ N/E
D3.5	Send ApplicationMessageRequest to recover Incremental Refresh messages from an inexistent channel	Receive Application Message Request Acknowledgment (35=BX) with tags 1348=1 and 1354=0.	Y	☐ Pass	☐ N/E

E. User Defined Spread (UDS)

Available: Equities and Derivatives

Step	Description	Expected Result	Req	Status	
E4.1	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	☐ Pass	☐ N/E
		MBP: Receive Security List message (35=y) on Options channel related to the first leg. Check tag 555 and Security Status=Forbidden		☐ Pass	☐ N/E
		TOB: Receive Security List message (35=y) on Options channel related to the first leg. Check tag 555 and Security Status=Forbidden.		☐ Pass	☐ N/E
E4.2	Request UDS created.	**MBO:** Receive Snapshot Full Refresh	N	☐ Pass	☐ N/E
		MBP: Receive Snapshot Full Refresh		☐ Pass	☐ N/E
		TOB: Receive Snapshot Full Refresh		☐ Pass	☐ N/E
E4.3	TRADING CERTIFICATION changes the instrument state to RESERVED	**MBO:** Receive Security Status (35=f) with 326=21	N	☐ Pass	☐ N/E
		MBP: Receive Security Status (35=f) with 326=21		☐ Pass	☐ N/E
		TOB: Receive Security Status (35=f) with 326=21		☐ Pass	☐ N/E
E4.4	TRADING CERTIFICATION sends BID order to the UDS	**MBO:** New BID on Top of Book	N	☐ Pass	☐ N/E
		MBP: New BID on Top of Book		☐ Pass	☐ N/E
		TOB: New BID		☐ Pass	☐ N/E
E4.5	TRADING CERTIFICATION changes the instrument state to OPEN.	**MBO:** Receive Security Status (35=f) with 326=17	N	☐ Pass	☐ N/E
		MBP: Receive Security Status (35=f) with 326=17		☐ Pass	☐ N/E
		TOB: Receive Security Status (35=f) with 326=17		☐ Pass	☐ N/E
E4.6	TRADING CERTIFICATION sends ASK order to the UDS.	**MBO:** Trade on UDS and both legs	N	☐ Pass	☐ N/E
		MBP: Trade on UDS and both legs		☐ Pass	☐ N/E
		TOB: Trade on UDS and both legs		☐ Pass	☐ N/E