

# AutoCert+ EBS Direct 2.0 - Maker API User Manual

February 28, 2023



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# **Getting Started**

The AutoCert+ tool is an automated testing tool for validating application functionality. It provides an easy-to-use web interface for walking through CME Group certification scenarios.

To facilitate the process of connecting a customer application, CME Group provides a dedicated certification environment to allow customers to test their systems before they complete certification.

Certification session details will be assigned and forwarded to the customer, including certification target locations and firm / user Identifiers.

This Help system accompanies the AutoCert+ EBS Direct 2.0 - Maker API test suite.

EBS Direct 2.0 is a low latency relationship based trading platform and is backwards compatible with the existing 1.0 platform. This document represents a FIX 4.4 compliant specification for market makers to provide liquidity to EBS clients.

# To run and navigate AutoCert+:

- 1. Log into the automated certification tool.
- 2. Review general AutoCert+ test suite navigation and general interview information.
- 3. Navigate to the AutoCert+ EBS Direct 2.0 Maker API test suite.

	Current Testing	Configur	ation	
Tester: Company Name: Market: Purpose: Application System: Test Suite:	Tommy Tester TRADECO EBS EBS Direct 2.0 - Maker API EBS Direct 2.0 - Maker API EBS Direct 2.0 - Maker API Utilizes the NEWREL FASE environment	▼ ▼ ▼	Type: Category: 1603: 1604: 1605:	Automated Trading System Broker System TEST1 test test
NOTE. This lests		iieiit.	Test Suite Pre-Certific Test Suite	Status: Cation Interview: ONot Complete Status: Not Tested

- a. Select a Company Name.
- b. For Market, select EBS.
- c. For Purpose, select EBS Direct 2.0 Maker API.
- d. Select an Application System.
- e. For **Test Suite**, select *EBS Direct 2.0 Maker API*.
- 4. (if applicable) Select an Identifier and select ASSIGN.
- 5. Complete the Interview for this test suite.

Available test cases are determined by interview question responses.

I For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

- 6. Complete applicable test cases.
- 7. Complete the certification process from the Post Certification tab.

# What's New

The list below illustrates the updates made to the AutoCert+ EBS Direct 2.0 - Maker API Help system.

Date	Торіс	Description
February 28, 2023	All	initial release

# Interview

The interview consists of a series of questions about your trading application.

Based on your responses, certain tests are required and others are optional.

The pre-certification interview must be completed before running the test cases.

• For the initial EBS Direct Maker API certification period:

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

- AutoCert+ test cases will appear in read-only format.

To complete the interview:

Answer each question, then select **Complete** when finished.

Intervie	w Test Suite Test Case Post Certification Help
	Which product will your system support ?
~	FX Spot
~	Precious Metal
	Will your system support Multiplexing ?
	Yes
$\bigcirc$	No
	Will your system support Sweepable Pricing and Trading ?
	Tes
	Will your system support Single Ticket Driving and Trading 2
	Yes
	No
	For Sweepable Pricing, which MarketDepth will your system support ?
~	Full book
	Top of book
	Number of price levels
	For Single Ticket Pricing, which MarketDepth will your system support ?
Sec. 1	Full book
	lop of Dook
	For Order Entry, which Order Type will your system support ?
	Enni ( OK) Previousk Quoted
	Ser Order Entry which feature will your system support 2
	The cost
	DK Trade
~	None
	ExecID (Tag 17) has maximum length of 28 characters and sending greater than the maximum length will be rejected. Please acknowledge your system will not sent ID greater than maximum length of 28 characters. Acknowledge

# **Session Layer Tests**

This section contains information on the EBS Direct 2.0 Maker API - Session Layer tests.

# Market Data / Order Session Logon Tests

The purpose of this test is to verify that the client system can connect to EBS with ResetSeqNumFlag = Y on every Logon to force a session reset.

- I For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

• Note:DO NOT select the START TEST button once the test is in progress.

If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

Interview	w Test Suite	Test Case	Post Certification	Help						
Steps This test	of the test: N could take up to sev	<b>/larket Data</b> reral minutes. Pl	a Session Logo ease do not close the wi	n Test	ing the test. Cl	osing windo	w/stopping t	est requires to r	erun the t	est from step1.
Purpos	e									
The pur	rpose of this test is t	o verify that the	client system can conne	ct to EBS	with ResetSe	qNumFlag =	Y on every	Logon to force	a session	reset.
Descri	ption								Flag	Status
1	Over the Market	Data session,	submit a Logon messa	age.						Complete
2	2 Receive and process a Logon acknowledgement message. Ocmplete								Complete	
							Key: 🔵 not	tested 🔵 comp	olete 😐 p	ending 🔴 faile d

**Note**: This test is used for both *Market DataMarket Data Session Logon Test or Order SessionOrder Session Logon Test* formats. The above image shows the Market Data format version of the test.

View Order Session test screen Interview Test Suite Test Case Post Certification Help Steps of the test: Order Session Logon Test This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1. Purpose The purpose of this test is to verify that the client system can connect to EBS with ResetSeqNumFlag = Y on every Logon to force a session reset. Description Status Flag Over the Order session, submit a Logon message 1 Complete 2 Receive and process a Logon acknowledgement message Complete Key: 🕘 not tested 🕒 complete 😑 pending 🛑 failed

# ▶ To run a Market Data or Order Session Logon Test:

- 1. Over the Market Data / Order session, submit a Logon (35=A) message.
- 2. Receive and process a Logon acknowledgement message.

# Market Data/Order Session Verify Test Request Procedure/Methodology

The purpose of this test is to verify that the client system reacts correctly in case of an interruption of communication with EBS.

I For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

#### **To select the test:**

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

• Note:DO NOT select the START TEST button once the test is in progress.

If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

## To run a Market Data Session Verify Test Request Procedure/Methodology test:

Interviev	w Test Suite	Test Case	Post Certification	Help						
Steps	Steps of the test: Market Data Session Verify Test Request Procedure/Methodology									
This test	This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.									
Purpos	e									
The pur	rpose of this test is t	to verify that the	client system reacts con	ectly in ca	ase of an interr	ruption of co	mmunication	with EBS.		
Please	assign an identifie	er and if require	d, please make sure a	valid inst	trument is sel	ected prior	executing a	test case.		
Descri	ption								Flag	Status
1	Over the Market	Data session,	receive and process a	Heartbe	at message.				۲	Not Tested
2	Receive and pro	cess a Test Re	quest message.							Not Tested
3	Submit a Heartb	eat message ir	respond to the receiv	ed Test F	Request mess	age.			٠	Not Tested
4	Submit a Test Re	equest messag	e.							Not Tested
5	Due to heartbeat	t timeout, subm	it a Logout message o	or disconi	nect the sessi	ion.				Not Tested
	Key: O not tested O complete O pending O failed									

1. Over the Market Data session, receive and process a Heartbeat message.

- 2. Receive and process a Test Request (35=1) message.
- 3. Submit a Heartbeat (35=0) message in respond to the received Test Request message.
- 4. Submit a Test Request (35=1) message.
- 5. Due to heartbeat timeout, submit a Logout (35=5) message or disconnect the session.

To run an Order Session Verify Test Request Procedure/Methodology test:

Intervie	w Test Suite Test Case Post Certification Help									
Steps	Steps of the test: Order Session Verify Test Request Procedure/Methodology									
This test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	run the t	est from step1.							
Purpo	\$e									
The pu	rpose of this test is to verify that the client system reacts correctly in case of an interruption of communication with EBS.									
Please	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.									
Descr	iption	Flag	Status							
1	Over the Order session, submit a Heartbeat message.	٠	Not Tested							
2	Receive and process a Heartbeat message.	٠	Not Tested							
3	Submit a Heartbeat message.	٠	Not Tested							
4	Receive and process a Test Request message.	٠	Not Tested							
5	Submit a Heartbeat message in respond to the received Test Request message.	٠	Not Tested							
6	Submit a Test Request message.	٠	Not Tested							
7	Due to heartbeat timeout, submit a Logout message or disconnect the session.	٠	Not Tested							
	Key: 🔘 not tested 🕚 compl	ete 😑 p	ending 🔴 failed							

- 1. Over the Order session, submit a Heartbeat (35=0) message.
- 2. Receive and process a Heartbeat message.
- 3. Submit a Heartbeat (35=0) message.
- 4. Receive and process a Test Request (35=1) message.
- 5. Submit a Heartbeat (35=0) message in response to the received Test Request message.
- 6. Submit a Test Request (35=1) message.
- 7. Due to heartbeat timeout, submit a Logout (35=5) message or disconnect the session.

# Market Data / Order Session Hard Disconnection Test

The purpose of this test is to verify that the client system reacts correctly in case of hard disconnection with EBS.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

#### To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

4. Select from available tests:

- Market Data Session Hard Disconnection Test
- Order Session Hard Disconnection Test

# **To run a Market Data Session Hard Disconnection Test:**

Interview	Test Suite	Test Case	Post Certification	Help				
Steps	of the test:	Market Dat	a Session Hard	Disco	nnection Test			
This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.								
Purpose								
The put	pose of this test is	to verify that the	client system reacts co	mecuy in c				
						-	24.4	
Descrip	ption					Flag	Status	
1	Over the Marke	t Data session,	submit a Snapshot Fi	ull Refres	h message.	•	Complete	
2	A hard disconne	ection is simulat	ed.			•	Complete	
3	After few secon	ds, reconnect th	ne Market Data sessio	on and su	bmit a Logon message.	۲	Complete	
4	4 Receive and process a Logon acknowledgement message. Or Complete							
Key: In not tested Complete Opending Called								

- 5. Over the Market Data session, submit a Snapshot Full Refresh (35=W) message.
- 6. A hard disconnection is simulated.
- 7. After few seconds, reconnect the Market Data session and submit a Logon (35=A) message.
- 8. Receive and process a Logon acknowledgement message.

## **To run an Order Session Hard Disconnection Test:**

Interview	v Test Suite	Test Case	Post Certification	Help						
Steps This test	Steps of the test: Order Session Hard Disconnection Test This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.									
Purpos	e									
The pur	pose of this test is	to verify that the	client system reacts co	rrectly in c	ase of hard disconnection with EBS.					
Descri	ption					Flag	Status			
1	Over the Order	session, submi	t a Heartbeat messag	e.		•	Complete			
2	A hard disconne	ction is simulat	ed.			۲	Complete			
3	After few second	ds, reconnect ti	ne Order session and	submit a	Logon message.	۲	Complete			
4	4 Receive and process a Logon acknowledgement message. Ocmplete									
	Key: Onot tested Complete Opending Ofailed									

- 5. Over the Order session, submit a <u>Heartbeat</u> (35=0) message.
- 6. A hard disconnection is simulated.
- 7. After few seconds, reconnect the Order session and submit a Logon (35=A) message.
- 8. Receive and process a Logon acknowledgement message.

# Market Data / Order Session Graceful Disconnection Test

The purpose of this test is to verify that the client system reacts correctly in case of graceful disconnection logout from EBS.



- Over the Market Data session, submit a <u>Snapshot Full Refresh</u> (35=W) message. A graceful disconnection is simulated.
- 2. Receive and process a Logout (35=5) message.
- 3. After few seconds, reconnect the Market Data session and submit a Logon (35=A) message.
- 4. Receive and process a Logon acknowledgement message.

# To run an Order Session Graceful Disconnection Test:

tervie	w Test Suite Test Case	Post Certification	Help			
teps	s of the test: Order Se	ssion Graceful D	sconnection Te	est		
nis tes	t could take up to several minutes	Please do not close the v	indow during the test. C	Closing window/stopping test re	quires to rerun the	test from step
Purpo	ose					
The p	urpose of this test is to verify that	the client system reacts co	rectly in case of gracefu	ul disconnection logout from EE	3S.	
Desci	ription				Flag	Status
1	Over the Order session, sub	mit a Heartbeat messag	е.		•	Complete
2	A graceful disconnection is s	imulated. Receive and p	rocess a Logout mess	sage.	•	Complete
3	After few seconds, reconnec	t the Order session and	submit a Logon mess	age.	•	Complete

1. Over the Order session, submit a <u>Heartbeat</u> (35=0) message.

A graceful disconnection is simulated.

- 2. Receive and process a Logout (35=5)message.
- 3. After few seconds, reconnect the Order session and submit a Logon (35=A) message.
- 4. Receive and process a Logon acknowledgement message.

# Market Data / Order Session Logout Test

The purpose of this test is to verify that the client system logout with good practice.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

## **To select the test:**

 $\triangleright$ 

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

To run a Market Data / Order Session Logout Test:

Interview	Test Suite	Test Case	Post Certification	Help					
Steps	of the test: I	Market Dat	a Session Logo	out Tes	it				
This test o	This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.								
Purpos	e								
The pur	pose of this test is	to verify that the	client system logout wi	th good pr	ractice.				
Descrip	otion					Flag	Status		
1	Over the Market	Data session,	submit a Test Reque	st messag	ge.	•	Complete		
2	Receive and pro	ocess a Heartbe	eat message.				Complete		
3	Submit a Logou	t message.				۲	Complete		
4	Receive and pro	ocess a Logout	acknowledgement m	essage.			Complete		
					Key: 🏐 not tested 🜘 compl	ete 😑 p	ending 😑 failed		

Note: This test is used for both Market DataMarket Data Session Logout Test or Order SessionOrder Session Logout Test formats. The above image shows the Market Data format version of the test.

iew O	order Session test scr	een								
Intervie	w Test Suite Test Case	Post Certification	Help							
Steps This test	could take up to several minutes	SSION LOGOUT TES Please do not close the w	<b>t</b> indow du	uring the to	est. Closir	ng windo	w/stopping	test requires	to rerun the	test from step1.
The pu	rpose of this test is to verify that t	ne client system logout wit	h good pi	ractice.						
Descr	iption								Flag	Status
1	Over the Order session, sub	mit a Test Request mess	age.						۲	Complete
2	Receive and process a Hear	tbeat message.								Complete
3	Submit a Logout message.									Complete
4	Receive and process a Logo	ut acknowledgement me	ssage.							Complete
						ŀ	(ey: 🔵 not	tested 🌒 d	complete 😑	pending 😑 failed

- 1. Over the Market Data / Order session, submit a Test Request (35=1) message.
- 2. Receive and process a Heartbeat message.
- 3. Submit a Logout (35=5) message.
- 4. Receive and process a Logout acknowledgement message.

# Market Data / Order Session Request and Order IDs Test

The purpose of this test is to confirm client system's *Message Identifier* (ExecId) / *Order Identifier* (OrderID) / *Test Request Identifier* (TestReqId) don't contain special characters.



- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

#### To select the test:

1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.

- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

 $\triangleright$ 

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# To run a Market Data / Order Session Order IDs Test:

CME Group will verify client submitted messages and reply with additional information to resolve issues (if applicable).

Interview	Test Suite	Test Case	Post Certification	Help				
Steps of	the test: M	arket Data	Session Reque	est and	l Order IDs Test			
This test could	I take up to seve	eral minutes. Ple	ease do not close the wir	dow durir	ng the test. Closing window/stopping tes	t requires to re	run the t	est from step1.
Purpose								
The purpose	e of this test is to	confirm client s	system's Execid/OrderID	/TestReql	d don't contain special chars.			
Description	ı						Flag	Status
1 CS	ET to confirm (	client system's	Execid/OrderID/TestR	eqld don	't contain special chars.		۲	Complete
					Key: 🏐 not tes	sted 🔵 comple	ete 😐 p	ending 🔴 failed

**Note**: This test is used for both *Market DataMarket Data Session Order IDsTest or Order SessionOrder Session Order IDs Test* formats. The above image shows the Market Data format version of the test.

#### View Order Session test screen

ntervie	w Test Suite Test Case	Post Certification Help	
Steps	of the test: Order Sess	sion Request and Order IDs Test	
This test	t could take up to several minutes. P	Please do not close the window during the test. Closing window/stopping test requires to rerun t	ne test from step1.
Purpo	se		
The pu	urpose of this test is to confirm client	t system's Execld/OrderID/TestReqId don't contain special chars.	
Descr	iption	Fla	g Status
1	CSET to confirm client system'	's Execld/OrderID/TestReqId don't contain special chars.	Complete
	1	Key: 🕘 not tested 🔎 complete	) pending 🔴 failed

# Market Data / Order Session Heartbeat Interval Test

The purpose of this test is to confirm client system's heartbeats at regular intervals (greater than 0) and correct.

In the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

# To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

terview Test Suite Test Case Post Certification Help		
teps of the test: Market Data Session Heartbeat Interval Test		
his test could take up to several minutes. Please do not close the window during the test. Closing window/stop	ping test requires to rerun the	est from step1
Purpose		
The purpose of this test is to confirm client system's heartbeats at regular intervals and correct.		
Description	Flag	Status
1 CSET to confirm client system's heartbeats at regular intervals and correct.	•	Complete

CME Group will verify client systems heartbeat intervals and reply with additional information to resolve issues (if applicable).

**Note**: This test is used for both *Market DataMarket Data Heartbeat Interval or Order SessionOrder Session Heartbeat Interval* formats. The above image shows the Market Data format version of the test.

terview Test Suite	Test Case	Post Certification	Help						
eps of the test:	Order Sessi	ion Heartbeat li	nterval	Test					
s test could take up to s	everal minutes. Ple	ease do not close the w	indow durir	g the test. Closir	ıg window	stopping tes	st requires to	rerun the	test from step
urpose									
he purpose of this test	s to confirm client s	system's heartbeats at r	egular inte	vals and correct.					
he purpose of this test	s to confirm client s	system's heartbeats at r	egular inte	vals and correct.					
he purpose of this test	s to confirm client s	system's heartbeats at r	egular inte	vals and correct.					
he purpose of this test	s to confirm client s	system's heartbeats at r	egular inte	vals and correct.				Flag	Status

# Market Data / Order Session FIX version Tests

The purpose of this test is to confirm client system's is sending FIX version 4.4.

Note: For additional information, see EBS Direct 2.0 - Maker API Development Considerations - FIX Version.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### To select the test:

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- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

	Note If a test is r issue.	2:DO NOT s not procee	select the STAF ading to the nex	RT TEST xt step	۲ button once the test is in progre , clicking the <b>Refresh</b> button ( العلام المراجعة)	SS. Resh	) below the	e test ste	os may re	solve the
Interview	Test Suite	Test Case	Post Certification	Help						
Steps of This test of Purpose The purp	ould take up to sev	Market Data	a Session FIX ve ease do not close the wi	ersion indow duri version 4.	Test ng the test. Closing window/stopping test requires to re 4.	erun the	test from step1.			
Descrip	tion					Flag	Status			
1	CSET to confirm	n client system's	is sending FIX versio	n 4.4.			Complete			
					Key: 🏐 not tested 🜘 compl	lete 💛 i	pending 😑 faile d			

CME Group will verify client submitted messages and reply with additional information to resolve issues (if applicable).

<b>Note</b> : This test is used for both Market Data <i>or</i> Order Session Test formats. The format version of the test.	abov	ve image sho	ows the Market Dat
View Order Session test screen			
Interview Test Suite Test Case Post Certification Help			
Steps of the test: Order Session FIX version Test         This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rem         Purpose         The purpose of this test is to confirm client system's is sending FIX version 4.4.	un the t	test from step1.	
Description	Flag	Status	
CSET to confirm client system's is sending FIX version 4.4.	۲	Complete	
Key: D not tested O comple	te 😐 p	oending 🛑 failed	

# Market Data / Order Session Tag 97-PossResend Verification Tests

The purpose of this test is to confirm client submitted messages do not contain tag 97-PossResend, a standard header message that indicates that the message is a possible resend of a previously transmitted message.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

## **To select the Test:**

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

	<b>Note</b> If a test is r issue.	DO NOT : not procee	select the STAR ding to the ne	t step	button once the test is in progre	SS. Resh	) below the	e test steps	may resol	ve tł
Interview	Test Suite	Test Case	Post Certification	Help						
Steps ( This test c Purpose The purp	build take up to serve	Varket Data veral minutes. Pl to confirm client	a Session Tag 9 ease do not close the wi system's is not sending	7-Poss indow durin tag 97.	Resend Verification Test ng the test. Closing window/stopping test requires to r	erun the	test from step1.			
Descrip	tion					Flag	Status			
1	CSET to confirm	client system's	s is not sending tag 97				Complete			
					Key: 🏐 not tested 🕚 comp	lete 😑 p	pending 😑 failed			

CME Group will verify client submitted messages and reply with additional information to resolve issues (if applicable).

**Note**: This test is used for both *Market DataTag 97-PossResend Verification or Order SessionTag 97-PossResend Verification* formats. The above image shows the Market Data format version of the test.

Test Case	Post Certification	Help			
Order Sessi	on Tag 97-Poss	sResen	d Verification Test		
veral minutes. Ple	ase do not close the wi	ndow durin	ng the test. Closing window/stoppin	g test requires to rerun the t	est from step1
to confirm client s	ystem's is not sending t	tag 97.			
				Flag	Status
	Test Case Order Sessi everal minutes. Ple to confirm client s	Test Case Post Certification Order Session Tag 97-Post weral minutes. Please do not close the wi to confirm client system's is not sending to	Test Case         Post Certification         Help           Order Session Tag 97-PossResen         weral minutes. Please do not close the window during to confirm client system's is not sending tag 97.	Test Case         Post Certification         Help           Order Session Tag 97-PossResend Verification Test         weral minutes. Please do not close the window during the test. Closing window/stoppin           to confirm client system's is not sending tag 97.         Post Certification tag 97.	Test Case       Post Certification       Help         Order Session Tag 97-PossResend Verification Test         weral minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the to confirm client system's is not sending tag 97.

# Market Data / Order Session Timestamp Verification Test

The purpose of this test is to confirm client system's is sending timestamp with millisecond precision.

If the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET).

#### To select the Test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the START TEST button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

Interview Test Suite Test Case Post Certification Help		
Steps of the test: Market Data Session Timestamp Ve	ification Test	
his test could take up to several minutes. Please do not close the window during the	e test. Closing window/stopping test requires to rerun the test f	rom step1.
Purpose		
The purpose of this test is to confirm client system's is sending timestamp with mi	second precision.	
Description	Flag	Status
1 CSET to confirm client system's is is sending timestamp with millis	cond precision. O	omplete

CME Group will verify client submitted messages and reply with additional information to resolve issues (if applicable).

Note: This test is used for both Market DataTimestamp Verification or Order SessionTimestamp Verification formats. The above image shows the Market Data format version of the test.

Interview Test Suite Test Case Post Certification Help		
Steps of the test: Order Session Timestamp Verification Test		
his test could take up to several minutes. Please do not close the window during the test. Closing window/stopp	ing test requires to rerun the	test from step
Purpose		
The purpose of this test is to confirm client system's is sending timestamp with millisecond precision.		
Description	Flag	Status
Description 1 CSET to confirm client system's is is sending timestamp with millisecond precision.	Flag	Statu

# **Business Layer Tests**

This section contains information on the EBS Direct 2.0 Maker API - Session Layer tests.

# Market Data Sweepable Pricing Tests

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

## To select the Test:

# (missing or bad snippet)

- 4. Select from available tests to continue:
- Market Data Sweepable Pricing with Full Book Depth Test
- Market Data Sweepable Pricing with Top of Book Test
- Market Data Sweepable Pricing with Number of Price Levels Test
- Market Data Sweepable Pricing with Full Book Depth Test for Previously Quoted Model
- Market Data Sweepable Pricing with Top of Book Test for Previously Quoted Model

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- Market Data Sweepable Pricing with Number of Price Levels Test for Previously Quoted Model
- Market Data Sweepable Pricing Reject Subscription Test

#### Market Data Sweepable Pricing with Full Book Depth Test

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with a Market Data Snapshot Full Refresh message.

terview	Test Suite	Test Case	Post Certification	Help			
teps o	of the test: I	Market Dat	a Sweepable Pi	ricing v	vith Full Book Depth Test	arun tha t	act from stan1
Purpose	und take up to se	verai minutes. P	lease do not close the v	indow du	ing the test. Closing windowstopping test requires to h		est nom step i
The purpo Full Refre	ose of this test is t sh message.	to verify that the	client system can recei	ve and pro	cess Market Data Request message and respond with	Market E	)ata Snapshot
	-						
Descript	ion					Flag	Status
1 (	Over the Market subscribing to F	Data session, ull book Depth	receive and process	a Market	Data Request message for Sweepable Pricing	•	Complete
1 ( 5 2 (5	Over the Market subscribing to F Send Market Da	Data session, ull book Depth ta Snapshot F	receive and process ull Refresh message.	a Market	Data Request message for Sweepable Pricing	•	Complete Complete

#### continued from 4 (top)

- Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Sweepable Pricing subscribing to Full book Depth (tag 264-MarketDepth=0).
- 6. Send Market Data Snapshot Full Refresh (35=W) message.
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize).

# Market Data Sweepable Pricing with Top of Book Test

Interv	iew Test Suite Test Case Post Certification Help		
Steps	of the test: Market Data Sweepable Pricing with Top of Book Test		
This test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	run the t	est from step1.
Purpo	se		
The pu Full Re	irpose of this test is to verify that the client system can receive and process Market Data Request message and respond with I fresh message.	Market E	ata Snapshot
Please	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
Descr	iption	Flag	Status
1	Over the Market Data session, receive and process a Market Data Request message for Sweepable Pricing subscribing to Top of Book.	٠	Not Tested
2	Send Market Data Snapshot Full Refresh message.	٠	Not Tested
3	Send Market Data Snapshot Full Refresh message with changes in price and size.	٠	Not Tested
	Key: 🏐 not tested 🔹 compli	ete 😑 p	ending 🛑 failed

- 5. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Sweepable Pricing subscribing to Top of Book (tag 264-MarketDepth=1).
- 6. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message.

7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize).

# Market Data Sweepable Pricing with Number of Price Levels Test

ntervie	w Test Suite Test Case Post Certification Help		
Steps	of the test: Market Data Sweepable Pricing with Number of Price Levels Test	orun the t	est from sten1
Purpo			cat nom stop t
The pr Full Re	urpose of this test is to verify that the client system can receive and process Market Data Request message and respond with efresh message.	Market E	ata Snapshot)
	-		
Pleas	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
Desci	iption	Flag	Status
1	Over the Market Data session, receive and process a Market Data Request message for Sweepable Pricing subscribing to the pre-configured Price Levels.	٠	Not Tested
2	Send Market Data Snapshot Full Refresh message with the pre-configured Price Levels.	٠	Not Tested
	Send Market Data Snapshot Full Refresh message with the pre-configured Price Levels changing in price and		Not Tested
3	SIZE.	-	

# continued from 4 (top)

- 5. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Sweepable Pricing subscribing to the pre-configured Price Levels (tag 264-MarketDepth).
- 6. Send Market Data Snapshot Full Refresh (35=W) message with the pre-configured Price Levels.
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels changing price and size (→270-MDEntryPx, →271-MDEntrySize).

# Market Data Sweepable Pricing - Previously Quoted Tests

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message using the Previously Quoted Model.

# Market Data Sweepable Pricing with Full Book Depth Test for Previously Quoted Model

teps o lodel	Test Suite Test Case	Post Certification	Help	ith Full Book Depth Test for Previ	ously (	Quoted
nis test cou	uld take up to several minutes. Ple	ease do not close the w	indow duri	ng the test. Closing window/stopping test requires to	rerun the t	est from step1
The purpo Full Refree	ose of this test is to verify that the o sh message using Previously Quo	client system can receiv sted Model.	e and proc	ess Market Data Request message and respond with	n Market E	Data Snapshot
lease as	sign an identifier and if required	d, please make sure a	valid inst	rument is selected prior executing a test case.	Flag	[
Descripti	IOT					Statua
1 C s	Over the Market Data session, r subscribing to Full book Depth.	eceive and process a	Market D	ata Request message for Sweepable Pricing		Status Not Tested
1 C s 2 S	Over the Market Data session, r subscribing to Full book Depth. Send Market Data Snapshot Fu	receive and process a II Refresh message u	Market D	ata Request message for Sweepable Pricing		Status Not Tested Not Tested
1 C 2 S 3 N	Over the Market Data session, r subscribing to Full book Depth. Send Market Data Snapshot Fu Send Market Data Snapshot Fu Model.	receive and process a II Refresh message u II Refresh message w	Market D sing Previ	ously Quoted Model.		Status Not Tested Not Tested

- Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Sweepable Pricing subscribing to Full book Depth (tag 264-MarketDepth=0).
- 6. Send Market Data Snapshot Full Refresh (35=W) message using Previously Quoted Model.
- Send Market Data Snapshot Full Refresh (35=W) message with changes in price and size using Previously Quoted Model (→299-QuoteEntryID, →270-MDEntryPx, →271-MDEntrySize).

#### Market Data Sweepable Pricing with Top of Book Test for Previously Quoted Model

/ Test Suite	Test Case	Post Certification	Help			
of the test: N	larket Data	a Sweepable Pri	icing w	ith Top of Book Test for Previ	ously Quo	ted Model
ould take up to sev	eral minutes. Ple	ease do not close the wi	ndow duri	ng the test. Closing window/stopping test requi	es to rerun the	test from step1
)						
oose of this test is to	o verify that the o	client system can receiv	e and proc	ess Market Data Request message and respo	nd with Market	Data Snapshot
can measage using	g i reviously due					
assign an identifie	r and if require	d, please make sure a	valid inst	rument is selected prior executing a test ca	e.	
-						
tion					Flag	Status
tion Over the Market subscribing to To	Data session, r p of Book.	receive and process a	Market D	ata Request message for Sweepable Prici	Flag	Status Not Tested
tion Over the Market subscribing to To Send Market Dat	Data session, r p of Book. a Snapshot Fu	receive and process a Il Refresh message us	Market D sing Previ	ata Request message for Sweepable Prici ously Quoted Model.	Flag	Status Not Tested Not Tested
	of the test: N build take up to sev source of this test is t each message using ussign an identifie	of the test: Market Data of the test: Market Data build take up to several minutes. Pla mose of this test is to verify that the esh message using Previously Quo	Dest Suite lest Case Post Ceruincation of the test: Market Data Sweepable Pri pould take up to several minutes. Please do not close the wi prose of this test is to verify that the client system can receive esh message using Previously Quoted Model.	Dest Suffe         Test Case         Post Certification         Help           of the test: Market Data Sweepable Pricing would take up to several minutes. Please do not close the window during the several minutes. Please do not close the several minutes. Ple	Test Suite         Test Case         Post Certification         neip           of the test:         Market Data         Sweepable Pricing with Top of Book Test for Previce           ould take up to several minutes.         Please do not close the window during the test.         Closing window/stopping test require           oose of this test is to verify that the client system can receive and process Market Data Request message and responses message using Previously Quoted Model.         selected prior executing a test case	Lest Suite       Lest Case       Post Certification       Help         of the test:       Market Data Sweepable Pricing with Top of Book Test for Previously Quo         ould take up to several minutes.       Please do not close the window during the test. Closing window/stopping test requires to rerun the         iose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market         esh message using Previously Quoted Model.         issign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.

## continued from 4 (top)

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- 5. Over the Market Data session, receive and process a Market Data Request (35=V) message for Sweepable Pricing subscribing to Top of Book (tag 264-MarketDepth=1).
- 6. Send Market Data Snapshot Full Refresh (35=W) message using Previously Quoted Model.
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with changes in price and size using the Previously Quoted Model (→299-QuoteEntryID, →270-MDEntryPx, →271-MDEntrySize).

Market Data Sweepable Pricing with Number of Price Levels Test for Previously Quoted Model

Intervi	w Test Suite Test Case	Post Certification	Help		
Steps Quote	of the test: Market Data d Model	Sweepable Pri	cing with Number of Price Levels Test for	r Prev	iously
Purpor	e	ase do not close the wi	now during the test. Closing window/stopping test requires to it	siun men	est nom step t.
The pu Full Re	rpose of this test is to verify that the c fresh message using Previously Quo	client system can receive ted Model.	and process Market Data Request message and respond with	Market [	Data Snapshot
Please	assign an identifier and if required	d, please make sure a v	valid instrument is selected prior executing a test case.		
Descr	ption			Flag	Status
1	Over the Market Data session, r subscribing to the pre-configure	eceive and process a d Price Levels.	Market Data Request message for Sweepable Pricing	٠	Not Tested
2	Send Market Data Snapshot Ful Quoted Model.	ll Refresh message wi	th the pre-configured Price Levels using Previously	٠	Not Tested
3	Send Market Data Snapshot Ful size using Previously Quoted Me	ll Refresh message wi odel.	th the pre-configured Price Levels changing in price and	٠	Not Tested
			Key: 🏐 not tested 🜘 comp	lete 💛 p	ending 🛑 failed

- 5. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Sweepable Pricing subscribing to the pre-configured Price Levels (tag 264-MarketDepth).
- 6. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels using Previously Quoted Model.
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels changing in price and size using the Previously Quoted Model (→299-QuoteEntryID, →270-MDEntryPx, →271-MDEntrySize).

# Market Data Sweepable Pricing Reject Subscription Test

The purpose of this test is to verify that the client system can reject Market Data Request with Market Data Request Reject message.

## Market Data Sweepable Pricing Reject Subscription Test

Intervie	w Test Suite Test Case Post Certification Help		
Steps	s of the test: Market Data Sweepable Pricing Reject Subscription Test		
his tes	t could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to r	rerun the t	est from step1
Purpo	\$ <del>6</del>		
The p	urpose of this test is to verify that the client system can reject Market Data Request with Market Data Request Reject messag	je.	
Deser		Flag	
Desci	TIPLION	Fiag	Status
1	Over the Market Data session, receive and process a Market Data Request message for Sweepable Pricing.		Status Complete
1 2	Over the Market Data session, receive and process a Market Data Request message for Sweepable Pricing. Send Market Data Request Reject message.		Status Complete Complete

## continued from 4 (top)

- 5. Over the Market Data session, receive and process a Market Data Request (35=V) message for Sweepable Pricing.
- 6. Send Market Data Request Reject (35=Y) message.

# Market Data Single Ticket Pricing

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message.

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

## To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

4. Select from available tests to continue:

- Market Data Single Ticket Pricing with Full Book Depth Test
- Market Data Single Ticket Pricing with Top of Book Test
- Market Data Single Ticket Pricing with Number of Price Levels Test
- Market Data Single Ticket Pricing with Full Book Depth Test for Previously Quoted Model
- Market Data Single Ticket Pricing with Top of Book Test for Previously Quoted Model
- Market Data Single Ticket Pricing with Number of Price Levels Test for Previously Quoted Model
- Market Data Single Ticket Pricing Reject Subscription Test

#### Market Data Single Ticket Pricing with Full Book Depth Test

terview	Test Suite	Test Case	Post Certification	Help		
<b>teps</b> (	of the test: N ould take up to sev	<b>farket Dat</b>	a Single Ticket	Pricing with Full Book Depth Test indow during the test. Closing window/stopping test requires to re	erun the f	est from step
Purpose	;					
The purp	ose of this test is t	o verify that the	client system can receiv	e and process Market Data Request message and respond with	Market [	Data Snapshot
uirkei	esii messaye.					
Please a	ssion an identifie	r and if require	d, please make sure a	valid instrument is selected prior executing a test case		
		i ana ir roquire	ai piedee mane eare a	faile modulinent to colocide prior exceeding a cost cases		
Descrip	tion				Flag	Status
1	Over the Market subscribing to Fu	Data session, Ill book Depth.	receive and process a	Market Data Request message for Single Ticket Pricing	٠	Not Tested
2	Send Market Dat	a Snapshot Fi	Ill Refresh message.		٠	Not Tested
2	Send Market Dat Send Market Dat	a Snapshot Fu a Snapshot Fu	III Refresh message. III Refresh message w	/ith changes in price and size.		Not Tested

# continued from 4 (top)

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- 1. Over the Market Data session, receive and process a Market Data Request (35=V) message for Single Ticket Pricing subscribing to Full book Depth (tag 264-MarketDepth=0).
- 2. Send a Market Data Snapshot Full Refresh (35=W) message.
- 3. Send a Market Data Snapshot Full Refresh (35=W) message with changes in price and size ( $\rightarrow$ 270-MDEntryPx,  $\rightarrow$  271-MDEntrySize).

tervie	ew Test Suite Test Case Post Certification Help		
eps	of the test: Market Data Single Ticket Pricing with Top of Book Test		
s test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	erun the	test from step1.
urpo	80		
he pu	irpose of this test is to verify that the client system can receive and process Market Data Request message and respond with	Market [	Data Snapshot
uli Re	enesn message.		
ull Re	enessage.		
un Re	anesh message. ? ? assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
lease	aness message. ⇒ assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case. iption	Flag	Status
lease lease )escr	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case. iption Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to Top of Book.	Flag	Status Not Tested
lease )escr 1	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.  iption Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to Top of Book. Send Market Data Snapshot Full Refresh message.	Flag	Status Not Tested Not Tested

- Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Single Ticket Pricing subscribing to Top of Book (tag 264-MarketDepth=1).
- 2. Send a Market Data Snapshot Full Refresh (35=W) message.
- 3. Send a Market Data Snapshot Full Refresh (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize).

Market Data Single Ticket Pricing with Number of Price Levels Test

ler vie	w rest suite rest case Post Certification Relp		
eps	of the test: Market Data Single Ticket Pricing with Number of Price Levels Test		
s test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	erun the t	est from step
urpos	se		
he pu ull Re	rpose of this test is to verify that the client system can receive and process Market Data Request message and respond with fresh message.	Market [	Data Snapsho
	-		
lease	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
lease )escri	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Status
lease )escri 1	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case. iption Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to the pre-configured Price Levels.	Flag	Status Not Tested
lease )escri 1 2	A assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Status Not Tested

#### continued from 4 (top)

- 1. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Single Ticket Pricing subscribing to the pre-configured Price Levels (tag 264-MarketDepth).
- 2. Send a <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels using Previously Quoted Model.
- 3. Send a <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels changing in price and size (→270-MDEntryPx, →271-MDEntrySize) using Previously Quoted Model (→299-QuoteEntryID).

# Market Data Single Ticket Pricing with Full Book Depth Test for Previously Quoted Model

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message using Previously Quoted Model.

Intervi	ew Test Suite Test Case Post Certification Help		
Steps /lode	s of the test: Market Data Single Ticket Pricing with Full Book Depth Test for Prev 1 t could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	viously	y Quoted
Purpo	se		
The pu	urpose of this test is to verify that the client system can receive and process Market Data Request message and respond with	Market [	ata Snapsho
Fuil Re	erresh message using Previously Quoted Model.		
Please	a assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
Desci	iption	Flag	Status
1	Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to Full book Depth.	٠	Not Teste
2	Send Market Data Snapshot Full Refresh message using Previously Quoted Model.	٠	Not Teste
3	Send Market Data Snapshot Full Refresh message with changes in price and size using Previously Quoted Model.	٠	Not Teste
			21 22

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- 1. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Single Ticket Pricing subscribing to Full book Depth (tag 264-MarketDepth=0).
- 2. Send a Market Data Snapshot Full Refresh (35=W) message using Previously Quoted Model (→299-QuoteEntryID).
- 3. Send a Market Data Snapshot Full Refresh (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize) using Previously Quoted Model (→299-QuoteEntryID).

Market Data Single Ticket Pricing with Top of Book Test for Previously Quoted Model

ep: ode s tes	S OF THE TEST: MARKET DATA SINGLE LICKET PRICING WITH TOP OF BOOK TEST FOR PREVIOUS bi It could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	sly Qu	IOTEC test from step1
urpo	JSE CONTRACTOR CONTRA TOR CONTRACTOR CONTRA TOR CONTRACTOR CONTRA TOR CONTRAC		
he p	urpose of this test is to verify that the client system can receive and process Market Data Request message and respond with effects message using Previously Quoted Model	Market [	Data Snapshot
unity	encen message asing i reviously adoled model.		
leas	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
leas	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Ctatus
leas )esc	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case. ription	Flag	Status
leas )esc 1	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.  ription Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to Top of Book.	Flag	Status Not Tested
leas )esc 1 2	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.  ription Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing subscribing to Top of Book. Send Market Data Snapshot Full Refresh message using Previously Quoted Model.	Flag	Status Not Tested Not Tested

### continued from 4 (top)

- Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Single Ticket Pricing subscribing to Top of Book (tag 264-MarketDepth=1).
- 2. Send a Market Data Snapshot Full Refresh (35=W) message using Previously Quoted Model.
- 3. Send a <u>Market Data Snapshot Full Refresh</u> (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize) using Previously Quoted Model (→299-QuoteEntryID),

Market Data Single Ticket Pricing with Number of Price Levels Test for Previously Quoted Model

the test: Ma	arket Dete						
lodel take up to sever	ral minutes. Plea	ase do not close the win	vricing w	th Number of Price	e Levels Test f	for Pre	eviously
of this test is to message using I	verify that the cl Previously Quot	ient system can receive ed Model.	and proces	Market Data Request messa	ge and respond with	Market E	)ata Snapsho
gn an identifier	and if required	, please make sure a v	alid instrun	ent is selected prior execut	ing a test case.		
						Flag	Status
er the Market D scribing to the	ata session, re pre-configured	eceive and process a l Price Levels.	Market Data	Request message for Sing	le Ticket Pricing	٠	Not Teste
nd Market Data oted Model.	Snapshot Full	Refresh message wit	h the pre-c	nfigured Price Levels using	g Previously	٠	Not Teste
nd Market Data e using Previou	Snapshot Full sly Quoted Mo	Refresh message wit del.	h the pre-c	nfigured Price Levels chan	ging in price and		Not Teste
	odel take up to sever of this test is to message using i yn an identifier ar the Market Data oted Morket Data oted Morket Data	Iodel take up to several minutes. Plead of this test is to verify that the cl message using Previously Quot gn an identifier and if required ar the Market Data session, re scribing to the pre-configured nd Market Data Snapshot Full oted Model.	In take up to several minutes. Please do not close the win of this test is to verify that the client system can receive message using Previously Quoted Model. In an identifier and if required, please make sure a verify ar the Market Data session, receive and process a l scribing to the pre-configured Price Levels. Ind Market Data Snapshot Full Refresh message with oted Model.	Iodel take up to several minutes. Please do not close the window during th of this test is to verify that the client system can receive and process message using Previously Quoted Model.  n an identifier and if required, please make sure a valid instrum ar the Market Data session, receive and process a Market Data scribing to the pre-configured Price Levels.  Ind Market Data Snapshot Full Refresh message with the pre-co oted Model.	In the pre-configured Price Levels.	Iodel take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re of this test is to verify that the client system can receive and process Market Data Request message and respond with message using Previously Quoted Model.  In an identifier and if required, please make sure a valid instrument is selected prior executing a test case.  are the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing iscribing to the pre-configured Price Levels.  Ind Market Data Snapshot Full Refresh message with the pre-configured Price Levels using Previously oted Model.	Iodel         take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the f         of this test is to verify that the client system can receive and process Market Data Request message and respond with Market D         of this test is to verify that the client system can receive and process Market Data Request message and respond with Market D         of this test is to verify that the client system can receive and process Market Data Request message and respond with Market D         on an identifier and if required, please make sure a valid instrument is selected prior executing a test case.         Image: the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing iscribing to the pre-configured Price Levels.         Image: the Market Data Snapshot Full Refresh message with the pre-configured Price Levels using Previously oted Model.         Image: the Market Data Snapshot Full Refresh message with the pre-configured Price Levels changing in price and a using Previously Quited Model.

- 1. Over the Market Data session, receive and process a <u>Market Data Request</u> (35=V) message for Single Ticket Pricing subscribing to the pre-configured Price Levels (tag 264-MarketDepth).
- 2. Send a <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels using Previously Quoted Model.
- 3. Send a <u>Market Data Snapshot Full Refresh</u> (35=W) message with the pre-configured Price Levels changing in price and size (→270-MDEntryPx, →271-MDEntrySize) using Previously Quoted Model (→299-QuoteEntryID).

# Market Data Single Ticket Pricing Reject Subscription Test

The purpose of this test is to verify that the client system can reject Market Data Request with Market Data Request Reject message.

eps o	of the test: Market Data Single Ticket Pricing Reject Subscription Test		
s test co	uld take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to r	erun the	test from step1
urpose			
	ene of this lead is to use if the dised evolution one relied Market Data Descent with Market Data Descent Desce	e	
he purp	use of this test is to verify that the client system can reject market Data Request with market Data Request Reject messag		
he purp	use of this test is to verify that the client system can reject marker data request with marker data request reject messag		
he purp Iease a	ssign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
he purp Iease a	ssign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
he purp lease a Descript	ssign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Status
he purp lease a Descript	ssign an identifier and if required, please make sure a valid instrument is selected prior executing a test case. ion Over the Market Data session, receive and process a Market Data Request message for Single Ticket Pricing.	Flag	Status Not Tested

continued from 4 (top)

- 5. Over the Market Data session, receive and process a Market Data Request (35=V) message for Single Ticket Pricing.
- 6. Send Market Data Request Reject (35=Y) message.

# Market Data Multiplex Pricing / Pull prices Test

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### > To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

- 4. Select from available tests to continue:
  - Market Data Multiplex Pricing Test
  - Market Data Multiplex Pricing Pull prices Test

# **Market Data Multiplex Pricing Test**

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message using Multiplex.

Intervi	ew Test Suite Test Case Post Certification Help		
teps	of the test: Market Data Multiplex Pricing Test		
is test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	erun the f	est from step1.
Purpo	se		
The pu Full Re	rpose of this test is to verify that the client system can receive and process Market Data Request message and respond with fresh message using Multiplex.	Market [	)ata Snapshot
lease	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
Descr	intion	Flag	Status
	Quer the Market Data session, respins and presses a Market Data Deguest message using Multiplay	- mag	Net Tested
1	Over the Market Data session, receive and process a Market Data Request message using Multiplex.		Not lested
2	Send Market Data Snapshot Full Refresh message with multiple Pricing Segments.		Not Tested
2 3	Send Market Data Snapshot Full Refresh message with multiple Pricing Segments. Send Market Data Snapshot Full Refresh message with multiple Pricing Segments changing in price and size.	•	Not Tested Not Tested

#### continued from 4 (top)

- 5. Over the Market Data session, receive and process a Market Data Request (35=V) message using Multiplex.
- 6. Send Market Data Snapshot Full Refresh (35=W) message with multiple Pricing Segments (tag 1500-MDStreamID).
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with multiple Pricing Segments (tag 1500-MDStreamID) changing in price and size (→270-MDEntryPx, →271-MDEntrySize).

# Market Data Multiplex Pricing Pull prices Test

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message and empty book using Multiplex.

Intervie	ew Test Suite Te	st Case	Post Certification	Help							
Steps	of the test: Mark	et Data I	Multiplex Pric	ing Pul	I prices T	est					
his test	could take up to several n	ninutes. Pleas	se do not close the w	indow durii	ng the test. Clo	sing windo	w/stopping	test requir	es to ren	un the t	est from step1
Purpo	se										
The pu Full Re	rpose of this test is to verif	fy that the clie book using M	ent system can receiv Multiplex.	ve and proc	ess Market Da	ta Reques	t message a	and respon	nd with M	larket D	ata Snapshot
		been boing i									
Please	assign an identifier and	if required,	please make sure a	valid inst	rument is sele	cted prior	executing	a test cas	se.		
Descr	iption									Flag	Status
1	Over the Market Data	session, rec	ceive and process a	a Market D	ata Request	message	using Multi	plex.		٠	Not Tested
2	Send Market Data Sn	apshot Full F	Refresh message w	ith multipl	e Pricing Seg	ments.				٠	Not Tested
3	Send Market Data Sn	apshot Full F	Refresh message w	ith multipl	e Pricing Seg	ments ch	anging in p	rice and s	size.	٠	Not Tested
4	Send Market Data Sna	apshot Full F	Refresh Empty Boo	k messag	e for a single	Price Seg	ment.			٠	Not Tested

- 5. Over the Market Data session, receive and process a Market Data Request (35=V) message using Multiplex.
- 6. Send Market Data Snapshot Full Refresh (35=W) message with multiple Pricing Segments (tag 1500-MDStreamID).
- 7. Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with multiple Pricing Segments (tag 1500-MDStreamID) changing in price and size (→270-MDEntryPx, →271-MDEntrySize).
- Send <u>Market Data Snapshot Full Refresh</u> (35=W) Empty Book (→269-MDEntryType=J) message for a single Price Segment (tag 1500-MDStreamID).

# Market Data No pricing on Subscription Test

The purpose of this test is to verify that the client system can recognize pricing is unavailable and should send Market Data Snapshot Full Refresh Empty Book message.

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

# > To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# To run the Market Data No pricing on Subscription Test:

Intervi	ew Test Suite Test Case Post Certification Help		
Steps	of the test: Market Data No pricing on subscription Test		
This test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	run the t	est from step1.
The pu Book r	urpose of this test is to verify that the client system can recognize pricing is unavailable and should send Market Data Snapsh nessage.	ot Full Re	fresh Empty
Desci	iption	Flag	Status
1	Over the Market Data session, receive and process a Market Data Request message.	•	Complete
2	As there is no pricing available, send Market Data Snapshot Full Refresh Empty Book message.		Complete
	Key: 🏐 not tested 🔎 comp	lete 😑 p	ending 🔴 failed

- 1. Over the Market Data session, receive and process a Market Data Request (35=V) message.
- As there is no pricing available, send a <u>Market Data Snapshot Full Refresh</u> (35=W) Empty Book message (→269-MDEntryType=J).

# **Market Data Pull Prices Test**

The purpose of this test is to verify that the client system can receive and process Market Data Request message and respond with Market Data Snapshot Full Refresh message and empty book.

For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

Market Data Pull Prices Test:

Interview	Test Suite	Test Case	Post Certification	Help							
Steps	of the test: I	Market Dat	a Pull prices Te	st							
'his test c	ould take up to se	veral minutes. Pl	ease do not close the w	indow dui	ring the te	st. Closing v	window/ste	opping test	requires to	rerun the t	est from step1
Purpose	•										
The purp Full Refr	oose of this test is esh message and	to verify that the empty book.	client system can recei	/e and pro	ocess Mai	ket Data Re	equest me	ssage and i	respond wit	h Market E	)ata Snapshot
Descrip	tion									Flag	Status
1	Over the Market	t Data session,	receive and process a	a Market I	Data Re	quest mess	age.				Complete
2	Send Market Da	ata Snapshot Fu	ull Refresh message.								Complete
3	Send Market Da	ata Snapshot Fu	ull Refresh message v	/ith chang	ges in pri	ce and size	e.				Complete
4	Send Market Da	ata Snapshot Fu	ull Refresh Empty Boo	k messa	ge.						Complete
1							Кеу:	not test	ted 🔵 com	plete 💛 p	, bending 🕚 fail

- 4. Over the Market Data session, receive and process a Market Data Request (35=V) message.
- 5. Send Market Data Snapshot Full Refresh (35=W) message.
- Send <u>Market Data Snapshot Full Refresh</u> (35=W) message with changes in price and size (→270-MDEntryPx, →271-MDEntrySize).
- 7. Send Market Data Snapshot Full Refresh (35=W) Empty Book message (→269-MDEntryType=J).

# Market Data Unsubscription Test

The purpose of this test is to verify that the client system can receive and process Market Data unsubscribe request.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

## To run the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

Interv	ew Test Suite Test Case Post Certification Help		
Steps	s of the test: Market Data Unsubscription Test		
This tes	t could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to n	erun the f	est from step1.
The p	arpose of this test is to verify that the client system can receive and process Market Data unsubscribe request.		
Deec	istion	Flag	Statue
1	Over the Market Data session, receive and process a Market Data Request message.		Complete
2	Send Market Data Snapshot Full Refresh message.		Complete
3	Receive and process a Market Data Unsubscribe Request message.		Complete
4	Stop sending Market Data Snapshot Full Refresh message for the unsubscribed instrument.		Complete
	Key: 🔘 not tested 🔴 comp	lete 💛 k	ending 😑 faile

- 4. Over the Market Data session, receive and process a Market Data Request (35=V) message.
- 5. Send Market Data Snapshot Full Refresh (35=W) message.
- Receive and process a Market Data Unsubscribe Request [35=V (tag 263-SubscriptionRequestType=2, tag 58-Text)] message.
- 7. Stop sending Market Data Snapshot Full Refresh (35=W) message for the unsubscribed instrument.

# **Market Data Price Precision Test**

The purpose of this test is to confirm client system is sending prices complying with EBS price precision.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

CME Group will verify client system's price precision and reply with additional information to resolve issues (if applicable).

teps of the test: Market Data Price precision Test		
is test could take up to several minutes. Please do not close the window during the test. Closing windo	w/stopping test requires to rerun the	test from step1
Purpose		
The purpose of this test is to confirm client system is sending prices complying with EBS price precision	1.	
	Flag	Status
Description		
Description     CSET to confirm client system's pricing price precision.	•	Complete

# Order Entry Sweepable Trading Tests

- AutoCert+ test cases will appear in read-only format.	
- To complete Interview responses and Tests, users must first contact Certification	on Support for Electronic Trading (CSET)
To select the test:	
1. Select a Identifier from the drop-down and select ASSIGN if not already ass	igned.
2. From the <b>Test Suite</b> tab, select the linked test.	
3. Click the <b>START TEST</b> button.	
<b>Note</b> :DO NOT select the START TEST button once the test is in progre If a test is not proceeding to the next step, clicking the <b>Refresh</b> button ( <b>Ref</b> issue.	ss. RESH ) below the test steps may resolve the
4. Select from available tests to continue:	
Order Entry Sweepable Trading Limit Order for First Rung Test	
Order Entry Sweepable Trading Previously Quoted Order for First Rule	ng Test
Order Entry Sweepable Trading Limit Order for Another Rung Test	
Order Entry Sweepable Trading Previously Quoted Order for Another	r Rung Test
Order Entry Sweepable Trading Limit Order for First Rung Test	
The purpose of this test is to verify the client system can fill a sweepable Limit order	r for first rung.
Interview Test Suite Test Case Post Certification Help	
Steps of the test: Order Entry Sweepable Trading Limit Order for First Rung Test	
This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	run the test from step1.
Purpose The purpose of this test is to verify the client system can fill a sweepable Limit order for first rung.	
Description           1         Over the Order session, receive and process a Sweepable Limit Order message with a quantity matching the top of book volume.	Flag         Status           Omega         Complete
2 Send Full Fill Execution Report.	Complete
Key: D not tested Comple	ete 🥚 pending 🕚 failed

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# continued from 4 (top)

- 5. Over the Order session, receive and process a <u>Sweepable</u> Limit <u>Order</u> (35=D) message with a quantity matching the top of book volume.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)].

#### Order Entry Sweepable Trading Previously Quoted Order for First Rung Test

The purpose of this test is to verify the client system can fill a sweepable previously quoted order for first rung.

Interview	Test Suite	Test Case	Post Certification	Help			
<b>teps</b> (	of the test: C		Sweepable Tra	ading F	Previously Quoted Order for First F	Rung 1	Test
Purpose	•				······································		
The purp	ose of this test is to	o verify the clien	t system can fill a swee	pable prev	iously quoted order for first rung.		
Please a	ssign an identifie	r and if require	d, please make sure a	valid inst	rument is selected prior executing a test case.	Flag	Status
1	Over the Order s matching the top	ession, receive of book volum	e and process a Swee e.	pable Pre	viously Quoted Order message with a quantity	٠	Not Tested
2	Send Full Fill Exe	ecution Report				٢	Not Tested

## continued from 4 (top)

- Over the Order session, receive and process a <u>Sweepable</u> Previously Quoted <u>Order</u> [35=D (tag 40-OrdType=D, tag 117-QuoteID)] message with a quantity matching the top of book volume.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)].

# Order Entry Sweepable Trading Limit Order for Another Rung Test

The purpose of this test is to verify the client system can fill a sweepable Limit order for another rung.

nterview	Test Suite	Test Case	Post Certification	Help			
<b>teps</b> nis test c	of the test: (	Order Entry veral minutes. Pl	Sweepable Tra	ading L	Limit Order for Another Rung Te ing the test. Closing window/stopping test require	<b>st</b> s to rerun the	test from step1.
Purpos	e						
The pur	pose of this test is	to verify the clier	nt system can fill a swee	pable Lim	it order for another rung.		
Descrip	otion					Flag	Status
1	Over the Order s first rung.	session, receive	e and process a Swee	pable Lin	nit Order message with a quantity matching th	1e 🔵	Complete
2	Send Full Fill Ex	ecution Report	for the first rung.			•	Complete
3	Receive and pro	ocess a Sweepa	able Limit Order mess	age with a	a quantity matching the second rung.	•	Complete
4	Send Full Fill Ex	ecution Report	for the second rung.			•	Complete
					Key: 🏐 not tested 🔵	complete 😑 j	pending 😑 faile

- 5. Over the Order session, receive and process a <u>Sweepable</u> Limit <u>Order</u> (35=D) message with a quantity matching the first rung.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)] for the first rung.

- 7. Receive and process a Sweepable Limit Order message with a quantity matching the second rung.
- 8. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)] for the second rung.

#### Order Entry Sweepable Trading Previously Quoted Order for Another Rung Test

The purpose of this test is to verify the client system can fill a sweepable previously quoted order for another rung.

is test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to n	erun the t	lest from step1
urpo	\$e		
he pu	rpose of this test is to verify the client system can fill a sweepable previously quoted order for another rung.		
lease	e assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Status
	Over the Order session receive and process a Sweepable Previously Quoted Order message with a quantity		Not Tested
1	matching the first rung.		
1	Send Full Fill Execution Report for the first rung.	•	Not Tested
1 2 3	matching the first rung. Send Full Fill Execution Report for the first rung. Receive and process a Sweepable Previously Quoted Order message with a quantity matching the second rung.	•	Not Tested

# continued from 4 (top)

- Over the Order session, receive and process a <u>Sweepable</u> Previously Quoted <u>Order</u> [35=D (tag 40-OrdType=D, tag 117-QuoteID)] message with a quantity matching the first rung.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)]. for the first rung.
- 7. Receive and process a Sweepable Previously Quoted Order [35=D (tag 40-OrdType=D, tag 117-QuoteID)] message with a quantity matching the second rung.
- 8. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)] for the second rung.

# **Order Entry Single Ticket Trading Tests**

For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

## To select the test:

- 1. Select a **Identifier** from the drop-down and select **ASSIGN** if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

4. Select from available tests to continue:

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- Order Entry Single Ticket Trading Limit Order for First Rung Test
- Order Entry Single Ticket Trading Previously Quoted Order for First Rung Test
- Order Entry Single Ticket Trading Limit Order for Another Rung Test
- Order Entry Single Ticket Trading Previously Quoted Order for Another Rung Test
- Order Entry Single Ticket Trading Limit Order for First Rung Test

The purpose of this test is to verify the client system can fill a single ticket limit order for first rung.

erviev	Test Suite     Test Case     Post Certification     Help		
teps	of the test: Order Entry Single Ticket Trading Limit Order for First Rung Test		
is tes	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to	rerun the	test from step1.
Purpo The pi	se rpose of this test is to verify the client system can fill a single ticket limit order for first rung.		
Please	assinn an identifier and if required inlesse make sure a valid instrument is selected prior execution a test case		
	, daarun on nuchunci onu n regumen, piedae more aure o vollu illati ullietti la aetelleu phot executitu o teat coae,		
	a aangin an raamamer ana ni requirea, prease make aare a valitu insu unient is selected prior executing a test case.		
Desci	iption	Flag	Status
Desci 1	Over the Order session, receive and process a Single Ticket Limit Order message with a quantity matching the top of book volume.	Flag	Status Not Tested
Desci 1 2	iption Over the Order session, receive and process a Single Ticket Limit Order message with a quantity matching the top of book volume. Send Full Fill Execution Report.	Flag	Status Not Tested Not Tested

#### continued from 4 (top)

- Over the Order session, receive and process a Single Ticket Order [35=D (tag 40-OrdType=2)] message with a quantity matching the top of book volume.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)].

Order Entry Single Ticket Trading Previously Quoted Order for First Rung Test

The purpose of this test is to verify the client system can fill a single ticket previously quoted order for first rung.

terview	Test Suite	Test Case	Post Certification	Help			
steps o	of the test:	Order Enti	y Single Ticket	Tradin	g Previously Quoted Order fo	r First Rung	g Test
nis test co	ould take up to se	everal minutes. F	Please do not close the	window du	ing the test. Closing window/stopping test req	uires to rerun the	test from step1.
Purpose							
The purp	ose of this test is	to verify the clie	ent system can fill a sing	le ticket pr	eviously quoted order for first rung.		
Please a Descript	ssign an identif ion	ier and if requi	red, please make sure	a valid ins	trument is selected prior executing a test o	Flag	Status
1	Over the Order quantity matchi	session, receining the top of b	ve and process a Sing ook volume.	le Ticket I	Previously Quoted Order message with a	۵	Not Tested
2	Send Full Fill E	xecution Repo	rt.				Not Tested
					Kong pot tested		nending etciler

# continued from 4 (top)

- Over the Order session, receive and process a Single Ticket Previously Quoted Order [35=D (tag 40-OrdType=D, tag 117-QuoteID)] message with a quantity (tag 38-OrderQty) matching the top of book volume.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)].

Order Entry Single Ticket Trading Limit Order for Another Rung Test

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The purpose of this test is to verify the client system can fill a single ticket limit order for another rung.

Intervie	w Test Suite Test Case Post Certification Help		
Steps	of the test: Order Entry Single Ticket Trading Limit Order for Another Rung Tes	t	
Purpo	could take up to several minutes. Please do not close the window during the test. Closing windowistopping test requires to t	erun me i	est from step 1.
The pu	rpose of this test is to verify the client system can fill a single ticket limit order for another rung.		
Please	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.		
Descr	iption	Flag	Status
1	Over the Order session, receive and process a Single Ticket Limit Order message with a quantity matching the first rung.	٠	Not Tested
2	Send Full Fill Execution Report for the first rung.	٠	Not Tested
3	Receive and process a Single Ticket Limit Order message with a quantity matching the second rung.	۲	Not Tested
4	Send Full Fill Execution Report for the second rung.	٠	Not Tested
	Key: 🏐 not tested 🌑 comp	olete 😑 p	oending 🔴 failed

## continued from 4 (top)

- 5. Over the Order session, receive and process a Single Ticket Limit Order (35=D) message with a quantity matching the first rung.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)]. for the first rung.
- Receive and process a Single Ticket Limit Order [35=D (tag 40-OrdType=2, tag 44-Price) message with a quantity (tag 38-OrderQty) matching the second rung.
- 8. Send Full Fill Execution Report (35=8) for the second rung.

# Order Entry Single Ticket Trading Previously Quoted Order for Another Rung Test

The purpose of this test is to verify the client system can fill a single ticket previously quoted order for another rung.

Interv	iew Test Suite Test Case Post Certification Help								
Steps	Steps of the test: Order Entry Single Ticket Trading Previously Quoted Order for Another Rung Test								
This test	This test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1								
Purpo	se								
The pu	rpose of this test is to verify the client system can fill a single ticket order for another rung, using the Previously Quoted Mode	el.							
Please	assinn an identifier and if required, please make sure a valid instrument is selected prior execution a test case								
Ficase	assign an identifier and it required, please make sure a valid insu unient is selected prior executing a test case.								
Descr	iption	Flag	Status						
1	1         Over the Order session, receive and process a Single Ticket Previously Quoted Order message with a quantity matching the first rung.         Not Tested								
2	Send Full Fill Execution Report for the first rung.	۲	Not Tested						
3	Receive and process a Single Ticket Previously Quoted Order message with a quantity matching the second rung.	٠	Not Tested						
4	Send Full Fill Execution Report for the second rung.	٠	Not Tested						
	Key: 🏐 not tested 🐞 comp	lete 💛 p	oending 😑 failed						

- 5. Over the Order session, receive and process a Single Ticket Previously Quoted Order [35=D (tag 40-OrdType=D, tag 117-QuoteID)] message with a quantity matching the first rung.
- 6. Send Full Fill Execution Report [35=8 (tag 150-ExecType=F, tag 39-OrdStatus=2)]. for the first rung.
- 7. Receive and process a Single Ticket Previously Quoted Order message with a quantity matching the second rung.
- 8. Send Full Fill Execution Report for the second rung.

# **Order Entry Multiplex Pricing Test**

The purpose of this test is to verify the client system can fill a multiplex order.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

#### To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

Note:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# To run an Order Entry Multiplex Pricing Test:

- 1. Over the Order session, receive and process a Multiplex Order (35=D) message.
- 2. Send Full Fill Execution Report [35=8 (tag 39-OrdStatus=2, tag 150-ExecType=F)].

tervie	w Test Suite	Test Case	Post Certification	Help						
teps	s of the test:	Order Entr	y Multiplex Price	cing Te	st					
nis tes	t could take up to se	veral minutes. P	lease do not close the	window du	uring the test. Clo	osing wind	dow/stopping	g test requires t	o rerun the	test from step
Purpo	se									
The p	urpose of this test is	to verify the clier	nt system can fill a mul	tiplex orde	۲.					
Pleas	e assign an identifi	er and if require	ed, please make sure	a valid in:	strument is sele	ected pric	or executing	g a test case.		
Pleas	e assign an identifi	er and if require	ed, please make sure	a valid in:	strument is sele	ected pric	or executing	g a test case.		
Pleas Desc	e assign an identifi ription	er and if require	ed, please make sure	a valid in:	strument is sele	ected pric	or executing	g a test case.	Flag	Status
Pleas Desc 1	e assign an identifi ription Over the Order	er and if require session, receiv	ed, please make sure	a valid in: tiplex Ord	strument is sele er message.	ected pric	or executing	g a test case.	Flag	Status Not Tested
Pleas Desc 1 2	e assign an identifi ription Over the Order Send Full Fill E2	er and if require session, receiv kecution Report	ed, please make sure e and process a Mult t.	a valid in:	strument is sele er message.	ected pric	or executing	g a test case.	Flag	Status Not Tested

# **Order Cancelled Test**

The purpose of this test is to verify the client system can send an order cancelled Execution Report.

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

**To select the test:** 

 $\triangleright$ 

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# To run an Order Cancelled Test:

- 1. Over the Order session, receive and process an Order (35=D) message with off-market limit price.
- 2. Send Order Cancelled Execution Report [35=8 (tag 150-ExecType=4, tag 103-OrdRejReason)].

nterview	Test Suite	Test Case	Post Certification	Help							
	f the test: (	Order Cano	celled Test	uindow dur	na the test	Closing w	indow/eto	uning test re	aquires to re	arun tha t	est from
Purpose	and take up to se	veral minutes. P	lease do not close the v		ng the test	. Closing w	indomistoj	iping test re	squires to re	siun nic r	carnon
The purpo	se of this test is	to verify the clier	nt system can send an o	order cance	lled Execu	tion Repor	t.				
Descripti	0.0									Flag	Sta
1	Over the Order	session, receiv	e and process an Ord	er messa	je with off	-market lir	nit price.				Com
2 8	Send Order Car	ncelled Execution	on Report.								Com
							Key:	🕽 not teste	d 🔵 comp	lete 😑 p	ending

# **Order Rejected Test**

The purpose of this test is to verify the client system can send an Order Rejected Execution Report.

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

# To select the test:

- 1. Select a **Identifier** from the drop-down and select **ASSIGN** if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# **To run an Order Rejected Test:**

- 1. Over the Order session, receive and process an Order (35=D) message.
- 2. Send Order Rejected Execution Report [35=8 (tag 150-ExecType=8, tag 103-OrdRejReason)].

Intervi	ew Test Suite Test Case	Post Certification	Help						
Steps	s of the test: Order Rej	ected Test							
This tes	t could take up to several minutes.	Please do not close the w	indow duri	ng the test. Clos	sing window/	stopping test	requires to re	erun the t	est from step1.
Purpo	ose								
The p	urpose of this test is to verify the cli	ent system can send an o	rder reject	ed Execution Re	eport.				
Desci	ription							Flag	Status
1	Over the Order session, recei	ve and process an Ord	er messag	Ie.					Complete
2	Send Order Rejected Executi	on Report.							Complete
	Key: O not tested Complete Pending Failed								

# **Order Entry Processing Execution Acknowledgment Test**

The purpose of this test is to verify the client system can receive and process an Execution Acknowledgment message.

- For the initial EBS Direct Maker API certification period:
- AutoCert+ test cases will appear in read-only format.
- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the Test Suite tab, select the linked test.
- 3. Click the **START TEST** button.

```
Note:DO NOT select the START TEST button once the test is in progress.
If a test is not proceeding to the next step, clicking the Refresh button (REFRESH) below the test steps may resolve the issue.
```

To run an Order Entry Processing Execution Acknowledgement Test

- 1. Over the Order session, receive and process an Order (35=D) message.
- 2. Send Full Fill Execution Report (35=8).
- 3. Receive and process Execution Ack message.

Intervie	w Test Suite Test Case Post Certification Help						
Steps	teps of the test: Order Entry Processing Execution Ack Test						
This tes	his test could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to rerun the test from step1.						
The p	urpose of this test is to verify the client system can receive and process Execution Ack.						
Desc	ription	Flag	Status				
1	Over the Order session, receive and process an Order message.	۲	Complete				
2	Send Full Fill Execution Report.	۲	Complete				
3	Receive and process Execution Ack message.	۲	Complete				
Key:  The first of							

# **Order Entry Processing Don't Know Trade Test**

The purpose of this test is to verify the client system can receive and process a Don't Know Trade.

• For the initial EBS Direct Maker API certification period:

- AutoCert+ test cases will appear in read-only format.

- To complete Interview responses and Tests, users must first contact Certification Support for Electronic Trading (CSET)

# To select the test:

- 1. Select a Identifier from the drop-down and select ASSIGN if not already assigned.
- 2. From the **Test Suite** tab, select the linked test.
- 3. Click the **START TEST** button.

**Note**:DO NOT select the START TEST button once the test is in progress. If a test is not proceeding to the next step, clicking the **Refresh** button (**REFRESH**) below the test steps may resolve the issue.

# To run a Order Entry Processing Don't know Trade Test

- 1. Over the Order session, receive and process an Order (35=D) message.
- 2. Send Full Fill Execution Report (35=8).
- 3. Receive and process Don't Know Trade (35=Q) message.

Intervi	w Test Suite Test Case Post Certification Help						
Steps	of the test: Order Entry Processing Don't Know Trade Test						
This test	could take up to several minutes. Please do not close the window during the test. Closing window/stopping test requires to re	erun the t	test from step1.				
Purpo	ae						
The pu	rpose of this test is to verify the client system can receive and process Don't Know Trade.						
Descr	assign an identifier and if required, please make sure a valid instrument is selected prior executing a test case.	Flag	Status				
1	Over the Order session, receive and process an Order message.	٠	Not Tested				
2	Send Full Fill Execution Report.	٠	Not Tested				
3	Receive and process Don't Know Trade message.	٠	Not Tested				
	Key: ◎ not tested ● complete ● pending ● failed						