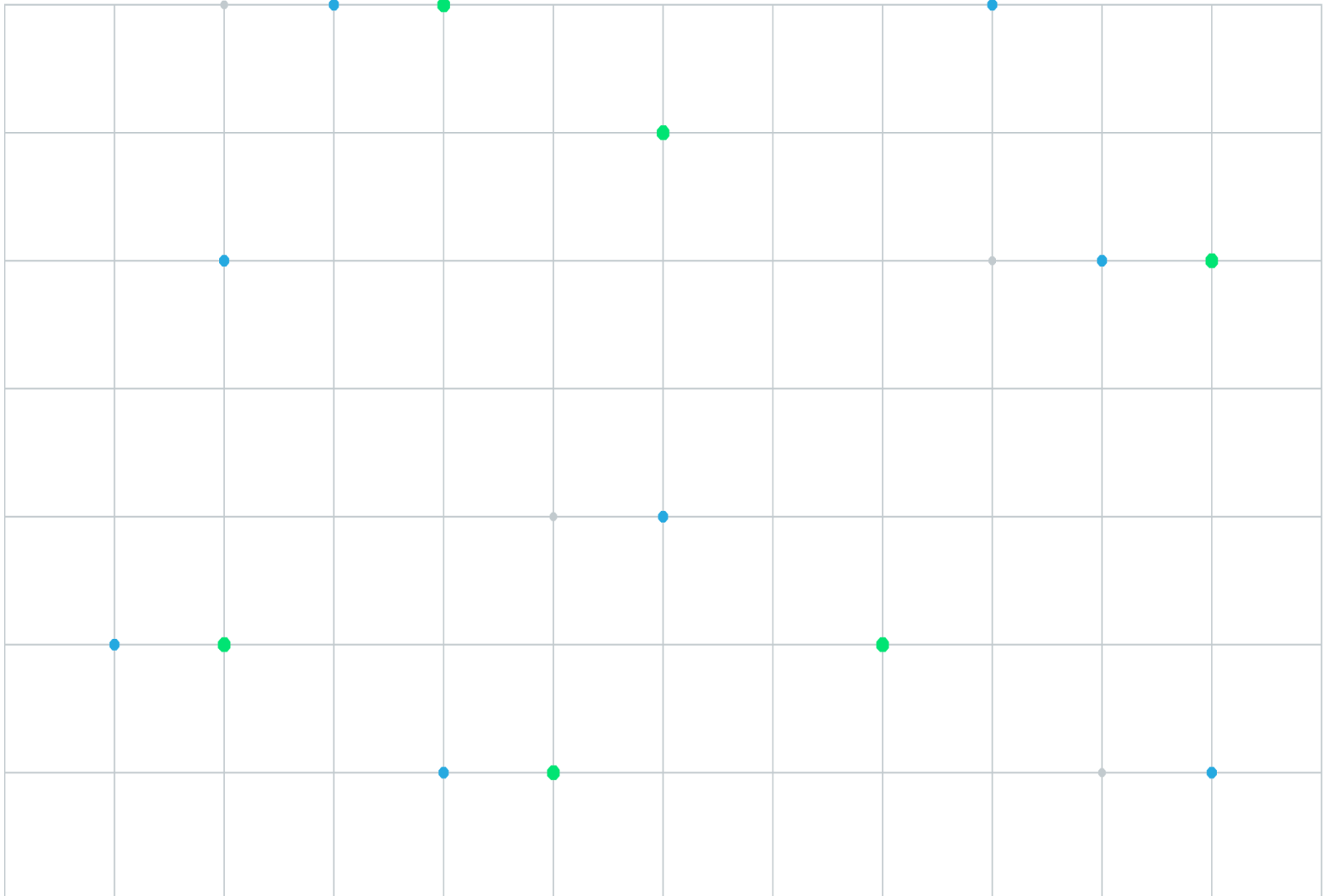


AutoCert+ BrokerTec Chicago MD Price Precision User Manual

April 14, 2025



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Getting Started

The AutoCert+ tool is an automated testing tool for validating application functionality. It provides a web interface for using CME Group certification scenarios. To facilitate the process of connecting a customer application to CME Globex, CME Group provides a dedicated certification environment to allow customers to test their systems before they complete certification. This user manual accompanies the AutoCert+ BrokerTec Chicago MD Price Precision test suite for certifying your application.

The supplemental test is available for:

- *Existing* BrokerTec U.S. Treasury actives clients that intend to trade in the BrokerTec Chicago - U.S. Treasury Actives market segment.
- *New* clients that want to trade in the BrokerTec Chicago market segment.
 - *New* clients must also complete the [BrokerTec U.S. market data certification](#).

Accessing and Navigating AutoCert+

▶ To access and navigate AutoCert+:

1. [Log into](#) the automated certification tool.
2. Review general AutoCert+ test suite [navigation](#) and [general interview](#) information.
3. To access the AutoCert+ BrokerTec Chicago MD Price Precision test suite, select the following settings on the **Current Testing Configuration** screen.
 - a. **Company Name:** Select a company profile.
 - b. **Market:** Select **BrokerTec EU/US**.
 - c. **Purpose:** Select **Market Data**.
 - d. **Application System:** Select a test system.
 - e. **Test Suite:** Select **BrokerTec Chicago MD Price Precision Test**.
 - f. **Identifier:** Select an identifier and click **Assign**.

Current Testing Configuration

<p>Tester: Tom Tester</p> <p>Company Name: Test ▼</p> <p>Market: BrokerTec EU/US ▼</p> <p>Purpose: Market Data ▼</p> <p>Application System: System 1 ▼</p> <p>Test Suite: BrokerTec Chicago MD Price Precision Test ▼</p> <p style="color: red; font-weight: bold; margin-top: 10px;">NOTE: This test suite utilizes the NEWRELEASE environment.</p> <p>Identifier: Select Identifier ▼ ASSIGN</p>	<p>Type: Automated Trading System</p> <p>Category: Prop System</p> <p>1603: System 1</p> <p>1604: 1</p> <p>1605: 2</p> <div style="background-color: #0070c0; color: white; padding: 5px; margin-top: 10px;">Test Suite Status:</div> <p>Pre-Certification Interview: ✔ Complete</p> <p>Test Suite Status: In Progress</p>
--	--

Interview	Test Suite	Test Case	Post Certification	Help		
BrokerTec Chicago MD Price Precision Test Certification Tests						
		Retest	Flag	Status	Mandatory/Optional	Executed By
	Security Definition Message Test		<input type="radio"/>	Not Tested	Mandatory	Tom Tester
	Book Management Messages for Market by Price (MBP)		<input type="radio"/>	Not Tested	Mandatory	Tom Tester
	Book Management Messages for Market by Order (MBO)		<input type="radio"/>	Not Tested	Mandatory	Tom Tester
	Market Data Trade Summary Message		<input type="radio"/>	Not Tested	Mandatory	Tom Tester
REFRESH		Key: <input type="radio"/> not tested <input type="radio"/> complete <input type="radio"/> pending <input type="radio"/> failed				

- Complete the [Interview](#) for this test suite.
- Complete the applicable test cases in the [Test Suite](#).
- Complete the certification process from the [Post Certification](#) tab.

What's New

The list below illustrates the updates made to the AutoCert+ BrokerTec Chicago MD Price Precision Help system.

Date	Topic	Description
June 4, 2025	<ul style="list-style-type: none"> Conflated UDP Book Management Messages for Market by Price (MBP) Conflated UDP Book Management Messages for Market by Order Limited Depth (MBOLD) 	Added two new test cases for conflated UDP Market by Price and Market by Order Limited Depth
April 14, 2025	All	initial publication of this user manual

Interview

The interview consists of a series of questions about your trading application. Based on your responses, certain questions and tests are required and others are optional. You must complete the pre-certification interview before running the test suite.

▶ **To complete the interview:**

1. Select the **Interview** tab.
2. Answer each question and click the **Complete** button.
 - a. Have you already completed BrokerTec market data certification for UST Actives Premium UDP channel?
To use the test suite, Yes is required and indicates that you have already certified an application system for BrokerTec market data.
 - b. For CME MDP Premium, which of the following book structures does your application support ?
At least one of the following is required:
 - [Premium UDP Market by Order Full Depth \(MBOFD\)](#)
 - [Premium UDP Market by Price \(MBP\)](#)
 - [Conflated UDP Market by Price \(MBP\)](#)
 - [Conflated UDP Market by Order Limited Depth \(MBOLD\)](#)

After completing the interview, proceed to the [Test Suite](#).

Current Testing Configuration

<p>Tester: <input type="text" value="Tom Tester"/></p> <p>Company Name: <input type="text" value="Test"/></p> <p>Market: <input type="text" value="BrokerTec EU/US"/></p> <p>Purpose: <input type="text" value="Market Data"/></p> <p>Application System: <input type="text" value="System 1"/></p> <p>Test Suite: <input type="text" value="BrokerTec Chicago MD Price Precision Test"/></p> <p style="color: red; font-weight: bold;">NOTE: This test suite utilizes the NEWRELEASE environment.</p> <p>Identifier: <input type="text" value="Select Identifier"/> ASSIGN</p>	<p>Type: Automated Trading System</p> <p>Category: Prop System</p> <p>1603: System 1</p> <p>1604: 1</p> <p>1605: 2</p>
--	--

Test Suite Status:

Pre-Certification Interview: ✔ Complete

Test Suite Status: In Progress

Interview
Test Suite
Test Case
Post Certification
Help

Have you already completed BrokerTec market data certification for UST Actives Premium UDP channel ?

Yes

No

For CME MDP Premium, which of the following book structures does your application support ?

Premium UDP Market By Order Full Depth (MBOFD)

Premium UDP Market By Price (MBP)

Conflated UDP Market By Price (MBP)

Conflated UDP Market By Order Limited Depth (MBOLD)

Complete

Test Suite

Use the **Test Suite** tab to operate AutoCert+ BrokerTec Chicago MD Price Precision tests to certify your application. You are required to select and run all tests available in the suite.

From the Testing Configuration page, select from the following test cases:

- [Security Definition Message](#)
- [Book Management messages for Market by Price \(MBP\)](#)
- [Book Management for Market by Order \(MBO\)](#)
- [Market Data Trade Summary Message](#)


Security Definition Message

The purpose of this test is to verify that your application can properly receive and process a Security Definition Message.


 For more information, see: [MDP 3.0 - Market Data Security Definition - Fixed Income](#)

To run the Security Definition Message test:

1. On the **Test Case** panel, select an **Instrument - channel**, then **Select** ().

Instrument(s):	Select Instrument(s) - Channel ▾	
	Select Instrument(s) - Channel	
	CB11#_1_1/8_01/11 - 123	
	CB22#_2_2/8_01/222 - 456	
	CB33#_3_3/8_01/32 - 789	

The screen updates to include connection information and a template file to use for the test.

2. Select **START TEST** ().
- The system will send a security definition message.
3. Confirm that your application successfully received and processed the [Security Definition Message](#) by entering values for the following message tags:
 - →1231-MinLotSize
 - tag 1147-UnitOfMeasureQty
 - tag 37703-SubFraction
 - tag 969-MinPriceIncrement

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Steps of the test: Security Definition Message 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 step 1.

Purpose

The purpose of this test is to verify that your application can properly receive and process Security Definition Message.

Selected Instrument(s): CB10#_4_5/8_02/35 - 704 Unlock

Category	IP	Port
Incremental Premium Feed A	sample	12345
Incremental Premium Feed B	sample	12345
Incremental Conflated Feed A	sample	12345
Incremental Conflated Feed B	sample	12345
Premium Snapshot MBP	sample	12345
Premium Snapshot MBO	sample	12345
Conflated Snapshot MBP & MBOLD	sample	12345
Instrument Replay Premium	sample	
Instrument Replay Conflated	sample	12345
TCP Conflated Feed		
TCP Replay	sample	1234

Category	Link
Templates File:	templates_FixBinary.xml

Note: Press the **Start Test** button to start or restart a Test. Please do not press the **Start Test** button again if you are currently running this test.

START TEST
Test Not Running

Description	Flag	Status
1 Confirm that your application successfully received and processed the Security Definition Message.	<input type="radio"/>	Not Tested

Key: ● not tested ● complete ● pending ● failed

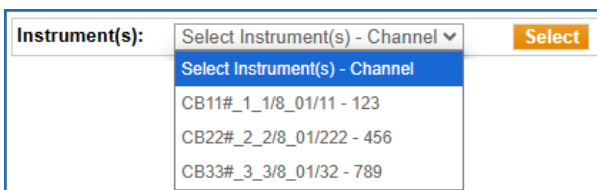
(Test results will automatically refresh for up to 2 minutes).

Book Management Messages - Market by Price (MBP)

The purpose of this test is to verify that your application can properly receive and process book management information for market by price book.

▶ **To run the book management messages - market by price test:**

- On the **Test Case** panel, select an **Instrument - channel**, then **Select** (Select).



The screen updates to include connection information and a template file to use for the test.

- Select **START TEST** (START TEST).
- Confirm books are empty for selected instrument(s) by selecting a response (Yes/No) to the prompt.
- A set of orders for the selected instrument is received.
- Cancellation of the prior orders is received.

- For the selected instrument (step 1), confirm quantities (tag 271-MDEntrySize) and prices (tag 270-MDEntryPx) on the [book](#).

See also: [MDP 3.0 - Market by Price - Multiple Depth Book](#)

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Help

Steps of the test: Book Management Messages for Market by Price (MBP)

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 your application can properly receive and process book management information for market by price book.

Selected Instrument(s): CB11#_1_1/8_01/11 - 123 Unlock

Category	IP	Port
Incremental Premium Feed A	sample	12345
Incremental Premium Feed B	sample	12345
Incremental Conflated Feed A	sample	12345
Incremental Conflated Feed B	sample	12345
Premium Snapshot MBP	sample	12345
Premium Snapshot MBO	sample	12345
Conflated Snapshot MBP & MBOLD	sample	12345
Instrument Replay Premium	sample	
Instrument Replay Conflated	sample	12345
TCP Conflated Feed		
TCP Replay	sample	12345

Category	Link
Templates File:	templates_FixBinary.xml

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. START TEST

Test Not Running

Description	Flag	Status
1 Confirm books are empty for selected instruments.	●	Not Tested
2 Receive a set of orders for the instrument.	●	Not Tested
3 Receive cancellations for orders.	●	Not Tested
4 Confirm quantities and prices on the book for the selected instrument.	●	Not Tested

Key: ● not tested ● complete ● pending ● failed

(Test results will automatically refresh for up to 2 minutes).

Book Management Messages - Market by Order (MBO)

The purpose of this test is to verify that your application can properly receive and process book management information market by order book.

To run the book management messages - market by order test:

- On the **Test Case** panel, select an **Instrument - channel**, then **Select** (Select).

Instrument(s): Select Instrument(s) - Channel ▾ Select

Select Instrument(s) - Channel

CB11#_1_1/8_01/11 - 123

CB22#_2_2/8_01/222 - 456

CB33#_3_3/8_01/32 - 789

The screen updates to include connection information and a template file to use for the test.

2. Select **START TEST** (**START TEST**).
3. Confirm books are empty for selected instrument(s).
Select a response to the prompt (yes/no) to validate the book is empty/cleared.
4. A set of orders for the instrument is received.
5. Cancellations for the orders is received.
6. For *each order*, confirm the price (tag 270-MDEntryPx) and quantity (tag 271-MDEntrySize) by its priority in the [book](#).

i See also: [MDP 3.0 - Market by Order - Book Management](#).

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Steps of the test: Book Management Messages for Market by Order (MBO)

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 step 1.

Purpose

The purpose of this test is to verify that your application can properly receive and process book management information market by order book.

Selected Instrument(s): CB10#_4_5/8_02/35 - 704 Unlock

Category	IP	Port
Incremental Premium Feed A	sample	12345
Incremental Premium Feed B	sample	12345
Incremental Conflated Feed A	sample	12345
Incremental Conflated Feed B	sample	12345
Premium Snapshot MBP	sample	12345
Premium Snapshot MBO	sample	12345
Conflated Snapshot MBP & MBOLD	sample	12345
Instrument Replay Premium	sample	
Instrument Replay Conflated	sample	12345
TCP Conflated Feed		
TCP Replay	sample	1234

Category	Link
Templates File:	templates_FixBinary.xml

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST
Test Not Running

Description	Flag	Status
1	Confirm books are empty for selected instruments.	● Not Tested
2	Receive a set of orders for the instrument.	● Not Tested
3	Receive cancellations for orders.	● Not Tested
4	For each order, confirm the price and quantity by its priority in the book using the following instrument:	● Not Tested

Key: ● not tested ● complete ● pending ● failed

(Test results will automatically refresh for up to 2 minutes).

Market Data Trade Summary Message

The purpose of this test is to verify that your application can properly receive and process Trade summary Message with expanded price precision.

▶ To run the market data trade summary message test:

1. On the **Test Case** panel, select an **Instrument - channel**, then **Select** (**Select**).

Instrument(s):	Select Instrument(s) - Channel ▾	Select
	Select Instrument(s) - Channel	
	CB11#_1_1/8_01/11 - 123	
	CB22#_2_2/8_01/222 - 456	
	CB33#_3_3/8_01/32 - 789	

The screen updates to include connection information and a template file to use for the test.

2. Select **START TEST** (**START TEST**).

A market data [incremental refresh](#) is sent with tag 269-MDEntryType=2 (trade).

3. Validate the message by entering values from the message for the following:

- →270-MDEntryPx
- → 271-MDEntrySize

4. Select a response (yes/no) to confirm your system processed the expanded price precision.

See also: [MDP 3.0 - Trade Summary](#).

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Steps of the test: Market Data Trade Summary Message

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 step 1.

Purpose

The purpose of this test is to verify that your application can properly receive and process Trade summary Message with expanded price precision.

Selected Instrument(s): CB10#_4_5/8_02/35 - 704 Unlock

Category	IP	Port
Incremental Premium Feed A	sample	12345
Incremental Premium Feed B	sample	12345
Incremental Conflated Feed A	sample	12345
Incremental Conflated Feed B	sample	12345
Premium Snapshot MBP	sample	12345
Premium Snapshot MBO	sample	12345
Conflated Snapshot MBP & MBOLD	sample	12345
Instrument Replay Premium	sample	
Instrument Replay Conflated	sample	12345
TCP Conflated Feed		
TCP Replay	sample	1234

Category
Link

Templates File: [templates_FixBinary.xml](#)

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test.

START TEST
Test Not Running

Description	Flag	Status
1	Market data incremental refresh is sent with MDEntryType=2 (trade). Please validate the following values.	● Not Tested
2	Confirm that your downstream system correctly processed the expanded price precision.	● Not Tested

Key: ● not tested ● complete ● pending ● failed

(Test results will automatically refresh for up to 2 minutes).

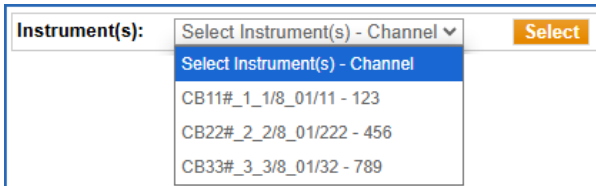
Conflated UDP Book Management Messages for Market by Price (MBP)

The purpose of this test is to verify that your application can properly receive and process book management information (up to five levels) for a conflated market by price book.

The test case is mandatory if *Conflated UDP Market by Price (MBP)* book structure is selected in the [interview](#).

 See also: [CME MDP 3.0 Market Data - BrokerTec](#) on the CME Group Client Systems Wiki.


1. On the **Test Case** panel, select an **Instrument - channel**, then **Select** ().



Instrument(s):	Select Instrument(s) - Channel ▾	Select
	Select Instrument(s) - Channel	
	CB11#_1_1/8_01/11 - 123	
	CB22#_2_2/8_01/222 - 456	
	CB33#_3_3/8_01/32 - 789	

The screen updates to include connection information and a template file to use for the test.

2. Select **START TEST** ().
3. Confirm books are empty for selected instruments.

 See also: [MDP 3.0 - Conflation Processing - BrokerTec and EBS Markets Examples](#) on the CME Group Client Systems Wiki.

4. Receive a set of orders for the first instrument.
5. Receive [cancellations](#) for orders.
6. Confirm quantities (tag 271-MDEntrySize) and prices (tag 270-MDEntryPx) on the book for the selected instrument by entering message values in the test fields.

Interview Test Suite **Test Case** Post Certification Help

Steps of the test: Conflated UDP Book Management Messages for Market by Price (MBP)

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 step 1.

Purpose
The purpose of this test is to verify that your application can properly receive and process book management information for a conflated market by price book.

Selected Instrument(s): CB02#_3_7/8_05/27 - 705 **Unlock**

Category	IP	Port
Incremental Premium Feed A	111.222.333.444	12345
Incremental Premium Feed B	111.222.333.444	12345
Incremental Conflated Feed A	111.222.333.444	12345
Incremental Conflated Feed B	111.222.333.444	12345
Premium Snapshot MBP	111.222.333.444	12345
Premium Snapshot MBO	111.222.333.444	12345
Conflated Snapshot MBP & MBOLD	111.222.333.444	12345
Instrument Replay Premium	111.222.333.444	12345
Instrument Replay Conflated	111.222.333.444	12345
TCP Conflated Feed		
TCP Replay	10.20.30.40	1234

Category	Link
Templates File:	templates_FixBinary.xml

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. **START TEST**

Test Not Running

Description	Flag	Status
1 Confirm books are empty for selected instruments.	<input type="radio"/>	Not Tested
2 Receive a set of orders for the first instrument.	<input type="radio"/>	Not Tested
3 Receive cancellations for orders.	<input type="radio"/>	Not Tested
4 Confirm quantities and prices on the book for the selected instrument.	<input type="radio"/>	Not Tested

Key: not tested complete pending failed

(Test results will automatically refresh for up to 2 minutes).

Conflated UDP Book Management Messages for Market by Order Limited Depth (MBOLD)

The purpose of this test is to verify that your application can properly receive and process book management information for market by order limited depth book.

This test case is mandatory if *Conflated UDP Market By Order Limited Depth (MBOLD)* book structure is selected in the [interview](#).

i See also: [CME MDP 3.0 Market Data - BrokerTec](#) on the CME Group Client Systems Wiki.

1. On the **Test Case** panel, select an **Instrument - channel**, then **Select** (**Select**).

Instrument(s): Select Instrument(s) - Channel ▾ **Select**

Select Instrument(s) - Channel


CB11#_1_1/8_01/11 - 123

CB22#_2_2/8_01/222 - 456

CB33#_3_3/8_01/32 - 789

The screen updates to include connection information and a template file to use for the test.

2. Select **START TEST** (**START TEST**).
3. Confirm books are empty for selected instruments.

 See also: [MDP 3.0 - Conflation Processing - BrokerTec and EBS Markets Examples](#) on the CME Group Client Systems Wiki.

4. Receive a set of orders for the first instrument.
5. Receive [cancellations](#) for orders.
6. For each order, confirm the price (tag 270-MDEntrySize) and quantity (tag 271-MDEntrySize) by its priority in the book using the following instrument:

Interview
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Help

Steps of the test: Conflated UDP Book Management Messages for Market By Order - Limited Depth (MBOLD)

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 step 1.

Purpose

The purpose of this test is to verify that your application can properly receive and process book management information for market by order limited depth book.

Selected Instrument(s): CB02#_3_7/8_05/27 - 705 Unlock

Category	IP	Port
Incremental Premium Feed A	111.222.333.444	12345
Incremental Premium Feed B	111.222.333.444	12345
Incremental Conflated Feed A	111.222.333.444	12345
Incremental Conflated Feed B	111.222.333.444	12345
Premium Snapshot MBP	111.222.333.444	12345
Premium Snapshot MBO	111.222.333.444	12345
Conflated Snapshot MBP & MBOLD	111.222.333.444	12345
Instrument Replay Premium	111.222.333.444	
Instrument Replay Conflated	111.222.333.444	12345
TCP Conflated Feed		
TCP Replay	10.20.30.40	1234

Category	Link
Templates File:	templates_FixBinary.xml

Note: Press the Start Test button to start or restart a Test. Please do not press the Start Test button again if you are currently running this test. START TEST

Test Not Running

Description	Flag	Status
1 Confirm books are empty for selected instruments.	<input type="radio"/>	Not Tested
2 Receive a set of orders for the first instrument.	<input type="radio"/>	Not Tested
3 Receive cancellations for orders.	<input type="radio"/>	Not Tested
4 For each order, confirm the price and quantity by its priority in the book using the following instrument:	<input type="radio"/>	Not Tested

Key: ● not tested ● complete ● pending ● failed

(Test results will automatically refresh for up to 2 minutes).