

AutoCert+ Data Insights: Settlements and Valuations User Manual

12 June 2024



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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+ Data Insights: Settlements and Valuations test suite for certifying your application. CME Group provides [Streamlined Simple Binary Encoding \(SBE\)](#) market data on [Settlements and Valuations](#) channels, and certification is mandatory for customers who receive and process SBE market data.

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+ Data Insights: Settlements and Valuations test suite, select the following settings on the **Current Testing Configuration** screen.
 - a. **Company Name:** Select a company profile.
 - b. **Market:** Select "Futures & Options".
 - c. **Purpose:** Select "Streamlined".
 - d. **Application System:** Select a test system.
 - e. **Test Suite:** Select "Data Insights: Settlements and Valuations".
 - f. **Identifier:** Select an identifier and click **Assign**.

The screenshot shows the 'Current Testing Configuration' interface. It includes several dropdown menus for configuration: 'Company Name' (set to QA), 'Market' (set to Futures & Options), 'Purpose' (set to Streamlined), 'Application System' (set to Automated Trading System), and 'Test Suite' (set to Data Insights: Settlements and Valuations). To the right, there are fields for 'Type' (Automated Trading System), 'Category' (Broker System), and three numeric fields (1603, 1604, 1606). Below these is a red note: 'NOTE: This test suite utilizes the NEWRELEASE environment.' At the bottom left, there is an 'Identifier' dropdown (set to HSUJTX) and an 'ASSIGN' button. A small text note below the identifier says 'Select any Identifier. This selection is necessary for the test to function, but will not impact your results.' On the bottom right, there is a 'Test Suite Status' section with two items: 'Pre-Certification Interview' and 'Test Suite Status', both marked as 'Not Complete' or 'Not Tested' with red icons.

4. Complete the [Interview](#) for this test suite.
5. Complete the applicable [test cases](#).
6. Complete the certification process from the [Post Certification](#) tab.

What's New

The following table shows the updates made to the AutoCert+ Data Insights: Settlements and Valuations Help system.

Date	Topic(s)	Description
12 June 2024	Settlements and Valuations SBE Schema for Eris B and C	Validate Eris B and C Dataset values in MDS-tatisticsReport messages on Data Insights - Settlements and Valuations channels.
26 Oct 2022	Format	Website and PDF format changes only.
11 Feb 2022	Settlements and Valuations Cleared Volume and Open Interest End of Day Session High/Low	Split Statistic Messages test into 3 tests.
15 Mar 2019	All	Initial release

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.

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

Interview | Test Suite | Test Case | Post Certification | Help

Which of the following connection type does your application use?

☒ CME SBE UDP Multicast

☐ CME Smart Stream on GCP SBE

Will your application support Futures and Options Settlements and Valuations?

☒ Yes

☐ No

What types of Instruments will your system support for Settlements and Valuation?

☒ Futures

☒ Options

☒ Forwards

Does your system support Cleared Volume and Open Interest?

☐ Yes

☒ No

Does your system support End of Day Session High/Low?

☒ Yes

☐ No

Does your system support Settlements and Valuations?

☒ Yes

☐ No

What types of price format will your system support?

☒ Globex Price (tag 270-MDEntryPX)

☒ Clearing Price (tag 9732-FormattedLastPx)

Will your application support Eris B and C Dataset?

☒ Yes

☐ No

Complete

Test Suite

Use the **Test Suite** tab to run the **Data Insights: Settlements and Valuations Certification Tests** required to certify your application. You are required to select and run each test in the test suite.

Current Testing Configuration

Tester:

Company Name:

Market:

Purpose:

Application System:

Test Suite:

NOTE: This test suite utilizes the NEWRELEASE environment.

Identifier: **FFHIES** **UNASSIGN**

Test Suite Status:

Pre-Certification Interview: **Complete**

Test Suite Status: **Not Tested**

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

Data Insights: Settlements and Valuations Certification Tests Retest Flag Status Mandatory/Optional Executed By

The following tests are available based on your [Interview](#) responses.

- [Statistic Messages](#)
- [Cleared Volume and Open Interest](#)
- [End of Day Session High/Low](#)
- [Recovery via TCP for Settlements and Valuations Messages](#)
- [Eris B and C Dataset](#)

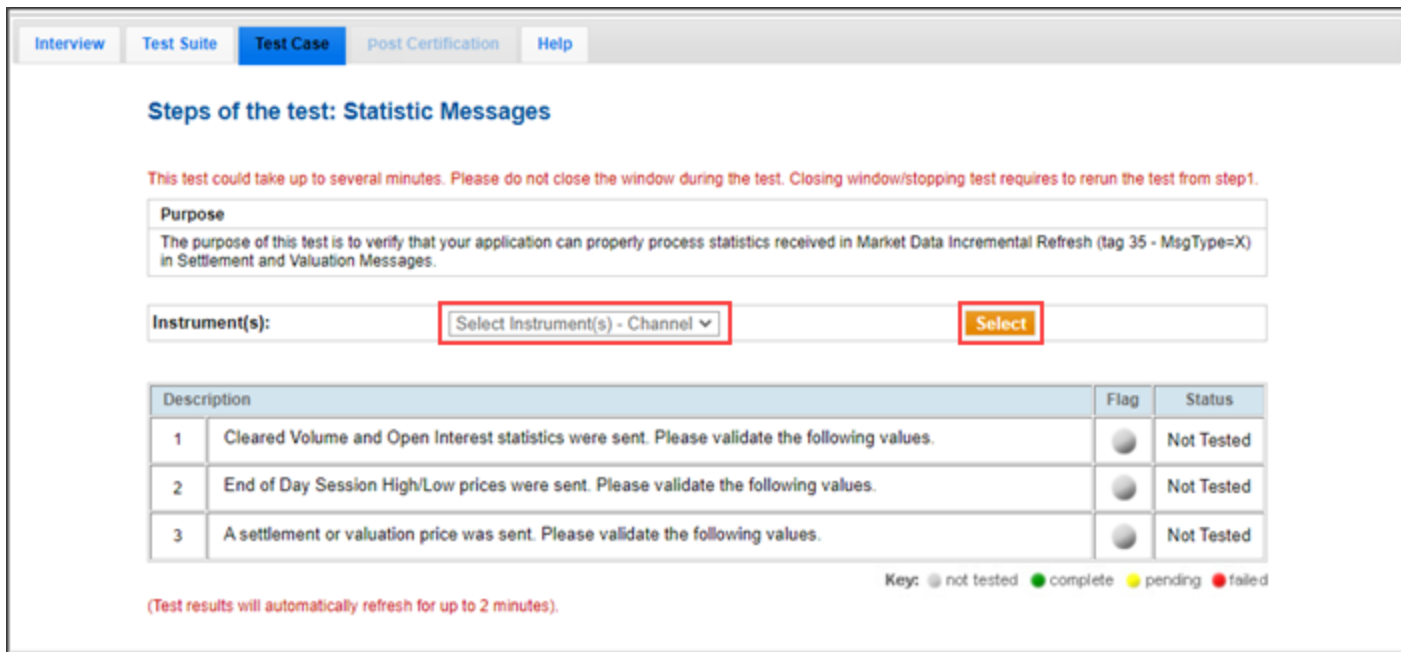
Statistic Messages

The Statistic Messages tests verify that your application can properly receive and process the following statistics in Market Data Incremental Refresh (tag 35 - MsgType=X) messages.

- Cleared Volume and Open Interest statistics
- End of Day Session High/Low prices
- Settlement or valuation prices

To run the Statistic Message test

1. Select **Statistic Messages** on the **Test Suite** tab.
2. On the **Test Case** tab, use the **Instrument(s)** drop down menu to choose an instrument and **SELECT**.










Steps of the test: Statistic Messages

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 process statistics received in Market Data Incremental Refresh (tag 35 - MsgType=X) in Settlement and Valuation Messages.

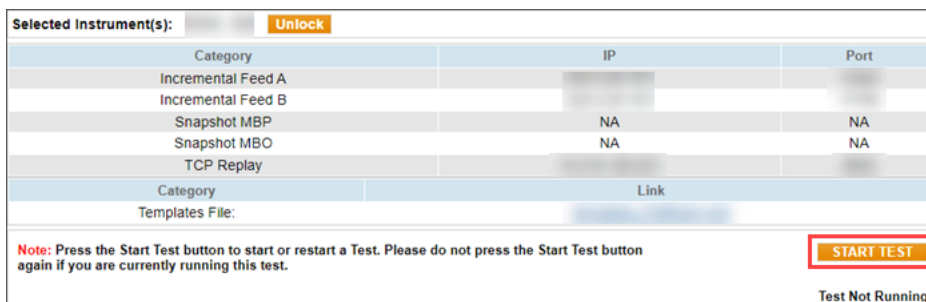
Instrument(s): Select Instrument(s) - Channel Select

Description	Flag	Status
1 Cleared Volume and Open Interest statistics were sent. Please validate the following values.		Not Tested
2 End of Day Session High/Low prices were sent. Please validate the following values.		Not Tested
3 A settlement or valuation price was sent. Please validate the following values.		Not Tested

Key:  not tested  complete  pending  failed

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

3. Select **START TEST**.



Selected Instrument(s): Unlock

Category	IP	Port
Incremental Feed A		
Incremental Feed B		
Snapshot MBP	NA	NA
Snapshot MBO	NA	NA
TCP Replay		

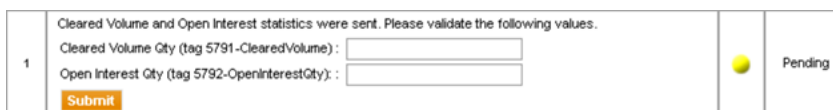
Category	Link
Templates File:	


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


4. Enter the following values for the Cleared Volume and Open Interest statistics that were sent and select **Submit**.



Description	Flag	Status
1 Cleared Volume and Open Interest statistics were sent. Please validate the following values. Cleared Volume Qty (tag 5791-ClearedVolume): <input type="text"/> Open Interest Qty (tag 5792-OpenInterestQty): <input type="text"/> Submit		Pending

- Cleared Volume Quantity (tag 5791-ClearedVolume)
- Open Interest Quantity (tag 5792-OpenInterestQty)

5. Enter the following values for the End of Day Session High/Low prices that were sent and select **Submit**.

2	End of Day Session High/Low prices were sent. Please validate the following values.			Pending
	High Price (tag 332-HighPx) :	<input type="text"/>		
	Low Price (tag 333-LowPx) :	<input type="text"/>		
	Submit			

- High Price (tag 332-HighPx)
- Low Price (tag 333-LowPx)

6. Enter the following values for the Settlement or Valuation price that was sent and select **Submit**.

3	A settlement or valuation price was sent. Please validate the following values.			Pending
	Globex Price (tag 270-MDEntryPx) :	<input type="text"/>		
	Clearing Price (tag 9732-FormattedLastPx) :	<input type="text"/>		
	Settlement or Valuation Price Type (tag 731-SettlPriceType) :	<input type="text" value="Final Actual Cabinet Settlement at Clearing Tick"/>		
	Submit			

- Globex Price (tag 270-MDEntryPx)
- Clearing Price (tag 9732-FormattedLastPx)
- Settlement or Valuation Price Type (tag 731-SettlPriceType)
 - Final Actual Settlement at Trading Tick
 - Final Actual Settlement at Clearing Tick
 - Final Actual Cabinet Settlement at Clearing Tick
 - Preliminary Actual Settlement at Trading Tick
 - Preliminary Theoretical Valuation at Clearing Tick
 - Preliminary Theoretical Valuation at Trading Tick

Cleared Volume and Open Interest

The purpose of this test is to verify that your application can properly process Cleared Volume and Open Interest received in a Market Data Incremental Refresh (tag 35-MsgType=X) message.

To run the Cleared Volume and Open Interest test

- 1. Select **Cleared Volume and Open Interest** on the **Test Suite** tab.
- 2. On the **Test Case** tab, use the **Instrument(s)** drop down menu to choose an instrument and **SELECT**.

InterviewTest Suite**Test Case**Post CertificationHelp

Steps of the test: Cleared Volume and Open Interest

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 process Cleared Volume and Open Interest received in Market Data Incremental Refresh (tag 35 - MsgType=X) Message.

Instrument(s):

Select Instrument(s) - Channel

Select

Description	Flag	Status
1Cleared Volume and Open Interest statistics were sent. Please validate the following values.		Not Tested

Key: not tested complete pending failed

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

- 3. Click **START TEST**.

Selected Instrument(s):Unlock

Category	IP	Port
Incremental Feed A		
Incremental Feed B		
Snapshot MBP	NA	NA
Snapshot MBO	NA	NA
TCP Replay		

CategoryLink

Templates File:

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

- 4. Enter the following values for the Cleared Volume and Open Interest statistics that were sent and select **Submit**.

1	<div>Cleared Volume and Open Interest statistics were sent. Please validate the following values.</div> <div>Cleared Volume Qty (tag 5791-ClearedVolume):</div> <div>Open Interest Qty (tag 5792-OpenInterestQty):</div> <div>Submit</div>	<div></div> <div>Pending</div>
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- Cleared Volume Quantity (tag 5791-ClearedVolume)
- Open Interest Quantity (tag 5792-OpenInterestQty)

End of Day Session High/Low

The purpose of this test is to verify that your application can properly process End of Day Session High/Low prices received in a Market Data Incremental Refresh (tag 35-MsgType=X) message.

▶ To run the End of Day Session High/Low test

1. Select **End of Day Session High/Low** on the **Test Suite** tab.
2. On the **Test Case** tab, use the **Instrument(s)** drop down menu to choose an instrument and **SELECT**.

Steps of the test: End of Day Session High/Low

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 process End of Day Session High/Low received in Market Data Incremental Refresh (tag 35 - MsgType=X) Message.

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

Description	Flag	Status
1 End of Day Session High/Low prices were sent. Please validate the following values.		Not Tested

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

Key: not tested complete pending failed

3. Select **START TEST**.

Selected Instrument(s): Unlock

Category	IP	Port
Incremental Feed A		
Incremental Feed B		
Snapshot MBP	NA	NA
Snapshot MBO	NA	NA
TCP Replay		

Category Link

Templates File:

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

4. Enter the following values for the End of Day Session High/Low prices that were sent and select **Submit**.

2	End of Day Session High/Low prices were sent. Please validate the following values.		
	High Price (tag 332-HighPx):		
	Low Price (tag 333-LowPx):		
	Submit		

Pending

- High Price (tag 332-HighPx)
- Low Price (tag 333-LowPx)

Recovery via TCP Replay for Settlements and Valuation Messages

This test verifies that your application can perform recovery via [TCP Replay](#) for Settlement and Valuation messages.

Note: The TCP Relay test is only available for CME SBE UDP Multicast connections.

To run the Recovery via TCP Replay for Settlements and Valuation Messages test

1. Select **Recovery via TCP Replay for Settlements and Valuation Messages** on the **Test Suite** tab.
2. On the **Test Case** tab, use the **Instrument(s)** drop down menu to choose an instrument and **SELECT**.

Steps of the test: Recovery via TCP Replay for Settlements and Valuation Messages

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 perform recovery via TCP Replay for Settlement and Valuation Messages.

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

Description	Flag	Status
1 AutoCert+ sends some Market Data book updates then creates a gap that needs to be recovered.		Not Tested
2 Establish a TCP connection and submit a Logon message. Was TCP connection established and logon message submitted successfully?		Not Tested
3 Receive a Logon Confirmation message. Was Logon confirmation message received?		Not Tested
4 Submit a Market Data Replay Request message		Not Tested
5 Confirm that your application successfully received the Data Insights: Settlements and Valuation message that was requested in the Market Data Replay Request message		Not Tested
6 Receive and process a Logout message		Not Tested

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

Key: not tested complete pending failed

3. Select **START TEST**.

Selected Instrument(s): Unlock

Category	IP	Port
Incremental Feed A		
Incremental Feed B		
Snapshot MBP	NA	NA
Snapshot MBO	NA	NA
TCP Replay		

Category: Link


Templates File:

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

3. Receive market data book updates with a gap that needs to be recovered.
4. Establish a TCP connection and submit a Logon message.
5. Receive a Logon Confirmation message.
6. Submit a Market Data Replay Request message
7. Confirm that your application successfully received the Data Insights: Settlements and Valuation message that was requested in the Market Data Replay Request message.

5	<p>Confirm that your application successfully received the Data Insights: Settlements and Valuation message that was requested in the Market Data Replay Request message</p> <p>Globex Price (tag 270-MDEntryPX) : <input type="text"/></p> <p>Clearing Price (tag 9732-FormattedLastPx) : <input type="text"/></p> <p><input type="button" value="Submit"/></p>		Pending
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8. Receive and process a Logout message.

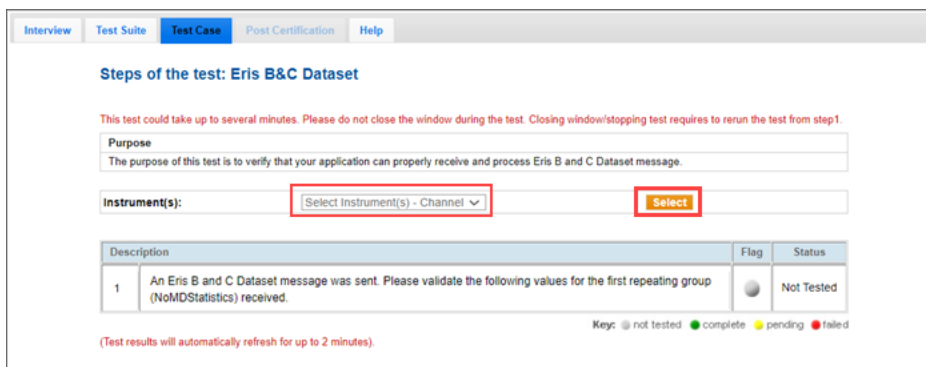
Eris B and C Dataset

The Eris B and C Dataset test verifies that your application can properly receive and process [Eris B and C dataset](#) values in [MDStatisticsReport \(tag 35-MsgType=DP\)](#) messages. Eris B and C market data is provided on the CME Data Insights - Settlements and Valuations channels, and is supported by the MDStatisticsReport414 template added to the SBE schema sent on these channels.

To certify your application, use this test to send back Eris B and C dataset values received in Repeating Group 1 (tag 2474 - NoMDStatistics).

To run the Eris B and C dataset test

1. Select **Eris B and C Dataset** on the **Test Suite** tab.
2. On the **Test Case** tab, use the **Instrument(s)** drop down menu to choose an instrument and **SELECT**.



Steps of the test: Eris B&C Dataset

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 Eris B and C Dataset message.

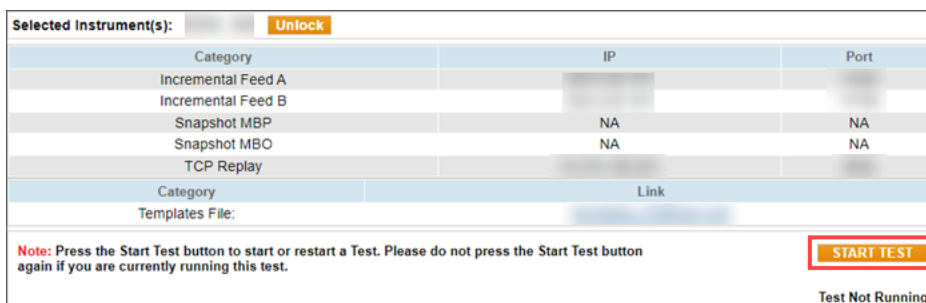
Instrument(s): Select Instrument(s) - Channel ▾ Select

Description	Flag	Status
1 An Eris B and C Dataset message was sent. Please validate the following values for the first repeating group (NoMDStatistics) received.		Not Tested

Key: not tested complete pending failed

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

3. Select **START TEST**.



Selected Instrument(s): Unlock

Category	IP	Port
Incremental Feed A		
Incremental Feed B		
Snapshot MBP	NA	NA
Snapshot MBO	NA	NA
TCP Replay		

Category: Link

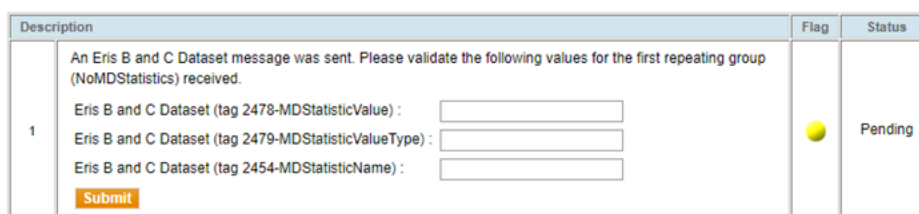
Templates File:

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

4. Enter the following values for the first repeating group (tag 2474-NoMDStatistics) received and select **Submit**.



Description	Flag	Status
1 An Eris B and C Dataset message was sent. Please validate the following values for the first repeating group (NoMDStatistics) received. Eris B and C Dataset (tag 2478-MDStatisticValue) : <input type="text"/> Eris B and C Dataset (tag 2479-MDStatisticValueType) : <input type="text"/> Eris B and C Dataset (tag 2454-MDStatisticName) : <input type="text"/>		Pending

Submit

- Statistic value (tag 2478-MDStatisticValue)
- Type of statistic value: 1=absolute or 2=percentage (tag 2479-MDStatisticValueType)
- Statistic short name or acronym (tag 2454-MDStatisticName)