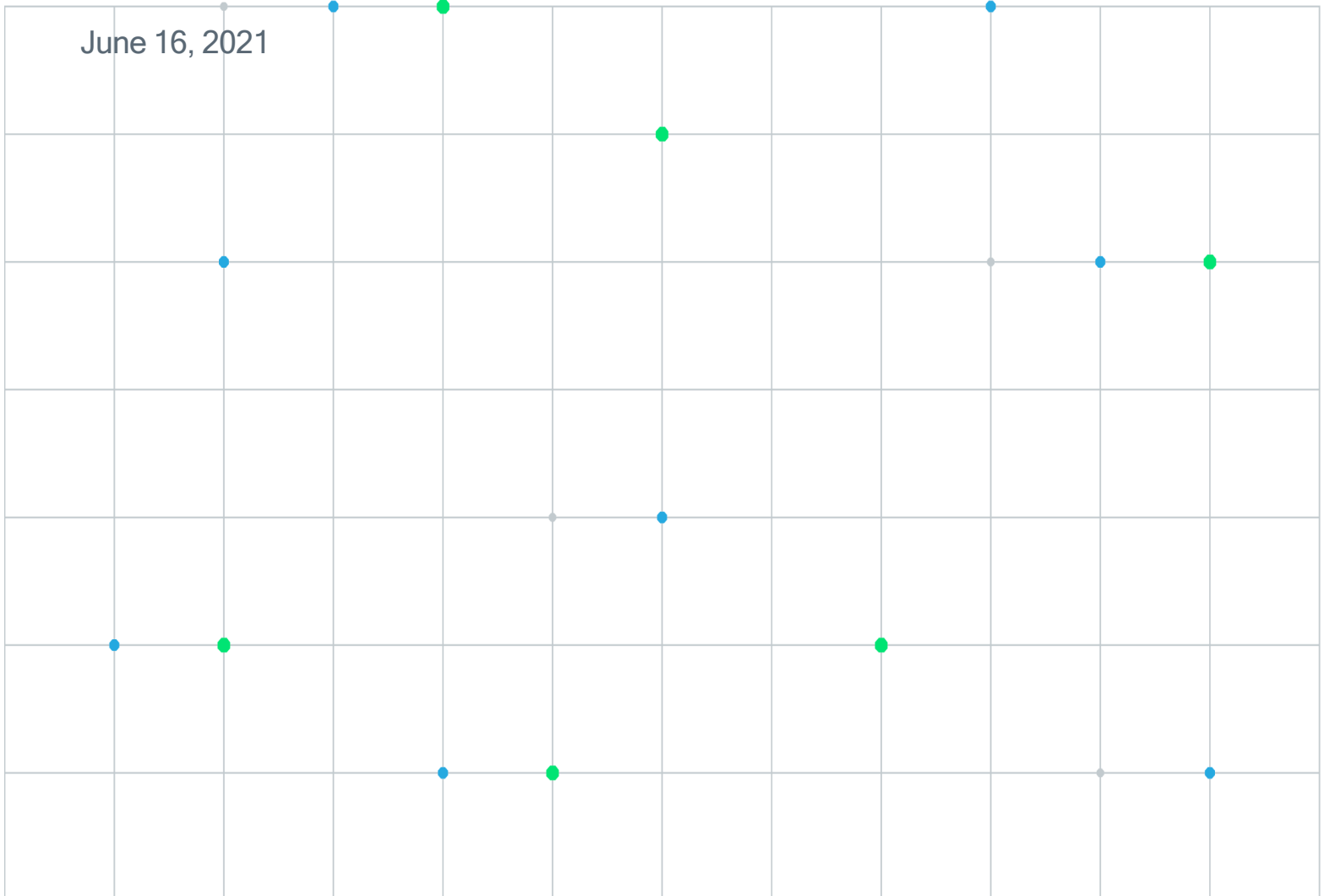


AutoCert+ EBS Spectrum Market Data (Conflated UDP Ultra) User Manual



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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.

This Help system accompanies the AutoCert+ EBS Spectrum Market Data (Conflated UDP Ultra) test suite.

▶ **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 Spectrum Market Data (Conflated UDP Ultra) test suite.

The screenshot shows the 'Current Testing Configuration' form. It includes several dropdown menus for configuration: 'Company Name' (QA), 'Market' (EBS), 'Purpose' (Market Data Conflated UDP Ultra), 'Application System', and 'Test Suite' (EBS Spectrum Market Data). There is also a 'Sendercomp' dropdown and an 'ASSIGN' button. On the right side, there are fields for 'Type', 'Category', and '1603-1605'. At the bottom right, there is a 'Test Suite Status' section with 'Pre-Certification Interview' marked as 'Complete' and 'Test Suite Status' marked as 'Not Tested'.

- a. Select a **Company Name**.
 - b. For **Market**, select EBS.
 - c. For **Purpose**, select Market Data Conflated UDP Ultra.
 - d. Select an **Application System**.
 - e. For **Test Suite**, select EBS Spectrum Market Data.
4. Select a **SenderComp** and select **ASSIGN**.
 5. Complete the [Interview](#) for this test suite.
 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 Spectrum Market Data (Conflated UDP Ultra) Help system.

Date	Description
June 16, 2021	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. You must complete the pre-certification interview before running the test cases.

▶ **To complete the interview:**

Answer each question and select " Complete" when finished.

The screenshot shows a web interface for the interview. At the top, there is a navigation bar with tabs: Interview (selected), Test Suite, Test Case, Post Certification, and Help. Below the navigation bar, there are four questions, each with a grey header bar:

- Which of the following Subscription Request Type does your application support ?**
 - Snapshot
 - Snapshot+Updates
- How do you subscribe to MarketDataRequest ?**
 - Subscribe to instrument level
 - Subscribe to all
- Do you support unsubscribing from the previous subscription ? (SubscriptionReqType-Tag 263 = 2)**
 - Yes
 - No
- Which Market does your application support ?**
 - G10 FX Spot
 - Metals Spot
 - Emergent Markets FX Spot
 - Russian Ruble

At the bottom left of the form, there is a button labeled "Complete".

Certification Tests

Market Data Request by All Request Verification

The purpose of this test is to verify that the client system can send and process a Market Data Request (tag 35-MsgType=V) message.

Note: See the [EBS Spectrum Message Specification](#) for more information.

1. Select a **SenderComp** in the drop-down.
2. Select **Assign**.
3. From the **Contract** drop-down, choose the desired contract and click **Select**.

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

Steps of the test: Market Data Request by All Request Verification

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 the client system can send and process Market Data Request message

Selected Contract: GCU12#_XAU/USD - 760 Unlock

Category	IP	Port
CME MDP Conflated TCP - Spectrum	69.50.114.169	9054

Category	Link
Templates File:	templates_FixBinary.xml
TCP Session Management SBE Schema:	templates_MdpSessionMgmt.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

Description	Flag	Status
1 Over an existing TCP MDP connection, submit a MarketDataRequest message for NoSecurityGroup(tag 37022)=0 (for all entitled), NoRelatedSym (tag 146)=0	<input type="radio"/>	Not Tested
2 Confirm that your application successfully received and processed RequestAck with MDRReqIDStatus=0 [full ack] or MDRReqIDStatus(tag 37720)=1[partial ack]	<input type="radio"/>	Not Tested
3 Submit a MarketDataRequest message to unsubscribe from the subscriptions.	<input type="radio"/>	Not Tested

Key: ● not tested ● complete ● pending ● failed

REFRESH

▶ **To run a Market Data Request by All Request Verification test:**

1. Over an existing TCP MDP connection, submit a Market Data Request (tag 35-MsgType=V) message with tag 37022-NoSecurityGroup=0 (all entitled) and tag 146-NoRelatedSym=0.
2. Select **Yes** or **No** to indicate whether your application successfully received and processed a Request Acknowledgment with tag 37720-MDRReqIDStatus=0 [full acknowledgment] or 1 [partial acknowledgment].
3. Submit a Market Data Request message to unsubscribe from the subscriptions.

Market Data Request by Instrument Level Request Verification (Snapshot Only)

The purpose of this test is to verify that the client system can send and process a Market Data Request (tag 35-MsgType=V) message.

Note: See the [EBS Spectrum Message Specification](#) for more information.

1. Select a **SenderComp** in the drop-down.
2. Select **Assign**.
3. From the **Contract** drop-down, choose the desired contract and click **Select**.

Steps of the test: Market Data Request by Instrument Level Request Verification (Snapshot only)

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 send and process Market Data Request message.

Selected Contract: GCU12#_XAU/USD - 760 Unlock

Category	IP	Port
CME MDP Conflated TCP - Spectrum	69.50.114.169	9054

Category	Link
Templates File:	templates_FixBinary.xml
TCP Session Management SBE Schema:	templates_MdpSessionMgmt.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

Description	Flag	Status
1 Over an existing TCP MDP connection, submit a MarketDataRequest message for 263-SubscriptionReqType=0, NoSecurityGroup(tag 37022)=0 (for all securities client is entitled to) and NoRelatedSym (tag 146)=1 with given securityIDs provided in tag 48 in repeatingGroup	<input type="radio"/>	Not Tested
2 Confirm that your application successfully received and processed RequestAck with MDRReqIDStatus=0 [full ack] or MDRReqIDStatus(tag 37720)=1[partial ack]	<input type="radio"/>	Not Tested
3 Submit a MarketDataRequest message to unsubscribe from the subscriptions.	<input type="radio"/>	Not Tested

REFRESH

Key: not tested complete pending failed

▶ To run a Market Data Request by Instrument Level Request Verification (Snapshot only) test:

1. Over an existing TCP MDP connection, submit a Market Data Request (tag 35-MsgType=V) message with tag 263-SubscriptionReqType=0 [Snapshot], tag 37022-NoSecurityGroup=0 (all securities client is entitled to) and tag 146-NoRelatedSym=1 with the given SecurityIDs provided in tag 48-SecurityID in the repeating group.
2. Select **Yes** or **No** to indicate whether your application successfully received and processed a Request Acknowledgment (tag 35-MsgType=V) with tag 37720-MDRReqIDStatus=0 [full acknowledgment] or 1 [partial acknowledgment].
3. Submit a Market Data Request (35=V) message to unsubscribe from the subscriptions.

Market Data Request by Instrument Level Request Verification (Snapshot and Updates)

The purpose of this test is to verify that the client system can send and process a Market Data Request (tag 35-MsgType=V) message.

Note: See the [EBS Spectrum Message Specification](#) for more information.

1. Select a **SenderComp ID** in the drop-down.
2. Select **Assign**.
3. From the **Contract** drop-down, choose the desired contract and click **Select**.

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

Steps of the test: Market Data Request by Instrument Level Request Verification (Snapshot and Updates)

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 the client system can send and process Market Data Request message.

Selected Contract: GCU12#_XAU/USD - 760 Unlock

Category	IP	Port
CME MDP Conflated TCP - Spectrum	69.50.114.169	9054

Category	Link
Templates File:	templates_FixBinary.xml
TCP Session Management SBE Schema:	templates_MdpSessionMgmt.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

Description	Flag	Status
1 Over an existing TCP MDP connection, submit a MarketDataRequest message for 263-SubscriptionReqType=1, NoSecurityGroup(tag 37022)=0 (for all securities client is entitled to) and NoRelatedSym (tag 146)=1 with given securityIDs provided in tag 48 in repeatingGroup	●	Not Tested
2 Confirm that your application successfully received and processed RequestAck with MDReqIDStatus=0 [full ack] or MDReqIDStatus(tag 37720)=1[partial ack]	●	Not Tested
3 Submit a MarketDataRequest message to unsubscribe from the subscriptions.	●	Not Tested

Key: ● not tested ● complete ● pending ● failed

▶ To run a Market Data Request by Instrument Level Request Verification (Snapshot and Updates) test:

1. Over an existing TCP MDP connection, submit a Market Data Request (tag 35-MsgType=V) message for tag 263-SubscriptionReqType=1 [Snapshot and updates], tag 37022-NoSecurityGroup=0 (all securities client is entitled to) and tag 146-NoRelatedSym=1 with the given SecurityIDs provided in tag 48-SecurityID in the repeating group.
2. Select **Yes** or **No** to indicate whether your application successfully received and processed a Request Acknowledgment (tag 35-MsgType=V) message with tag 37720-MDReqIDStatus=0 [full acknowledgment] or 1 [partial acknowledgment].
3. Submit a Market Data Request (35=V) message to unsubscribe from the subscriptions.

Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP)

The purpose of this test is to verify that the client system can receive and process Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP) market data.

Note: See the [EBS Spectrum Message Specification](#) for more information.

1. Select a **SenderComp ID** in the drop-down.
2. Select **Assign**.
3. From the **Contract** drop-down, choose the desired contract and click **Select**.

Steps of the test: Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP)

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 receive and process Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP)

Selected Contract: GCUS1#_XAU/USD - 760 Unlock

Category	IP	Port
CME MDP Conflated TCP - Spectrum	10.210.245.177	9557
Category	Link	
Templates File:	templates_FixBinary.xml	
TCP Session Management SBE Schema:	templates_MdpSessionMgmt.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

Description	Flag	Status
1 AutoCert+ to generate Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP). Please do not establish TCP MDP connectivity yet.	●	Not Tested
2 Establish a TCP MDP connection and then submit a Market Data Request message	●	Not Tested
3 Confirm Time Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP). Date/Time format should be entered as: YYYYMMDD hhmss	●	Not Tested
4 Receive and process Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP). Date/Time format should be entered as: YYYYMMDD hhmss	●	Not Tested

Key: ● not tested ● complete ● pending ● failed

REFRESH

Note: Step 4 is only required for systems receiving Snapshot+Updates.

▶ **To run a Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP) test:**

1. AutoCert+ generates a Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP).

Note: Please do not establish TCP MDP connectivity yet.

2. Establish a TCP MDP connection and then submit a Market Data Request (tag 35-MsgType=V) message.
3. Enter the following tag values to confirm that your application received and processed the Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP) market data. The Date/Time format should be entered as: YYYYMMDD hhmss.
 - 270-VWAP MDEntryPx
 - 271-VWAP MDEntrySize
 - 273-VWAP MDEntryTime

- 270-VWAP MDEntryPx
- 271-VWAP MDEntrySize
- 273-VWAP MDEntryTime

 **Note:** The following step is only required for systems receiving Snapshot+Updates.

4. Enter the following tag values to confirm that your application received and processed the Volume Weighted Average Price (VWAP) and Time Weighted Average Price (TWAP) market data. The Date/Time format should be entered as: YYYYMMdd hhmmss.
 - 270-VWAP MDEntryPx
 - 271-VWAP MDEntrySize
 - 273-VWAP MDEntryTime
 - 270-VWAP MDEntryPx
 - 271-VWAP MDEntrySize
 - 273-VWAP MDEntryTime

Key Rotation (TCP MDP GW)

The purpose of this test is to verify that the client system can properly logon or Negotiate to the CME system using the security enhancement functionality with key rotation.

Note: You will need 2 valid keys to complete this test.

Note: See the [EBS Spectrum Message Specification](#) for more information.

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

Steps of the test: Key Rotation (TCP MDP GW)

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 the client system can properly logon or Negotiate to the CME system using the security enhancement functionality with key rotation. You will need two valid keys to complete this test.

Description	Flag	Status
1 Over an existing TCP MDP connection, submit a negotiate message using the first secure key pair.	<input type="radio"/>	Not Tested
2 Submit a SubscriberHeartbeat message.	<input type="radio"/>	Not Tested
3 Receive and process an AdminHeartbeat message.	<input type="radio"/>	Not Tested
4 Submit a Terminate message.	<input type="radio"/>	Not Tested
5 Receive and process a Terminate message.	<input type="radio"/>	Not Tested
6 Over a TCP MDP connection again, submit a negotiate message using a different set of secure key pairs other than the ones used in.	<input type="radio"/>	Not Tested
7 Submit a SubscriberHeartbeat message.	<input type="radio"/>	Not Tested
8 Receive and process an AdminHeartbeat message.	<input type="radio"/>	Not Tested

Key: not tested complete pending failed

REFRESH

▶ To run a Key Rotation (TCP MDP GW) test:

1. Over an existing TCP MDP connection, submit a Negotiate message using the first secure key pair.
2. Submit a SubscriberHeartbeat message.
3. Receive and process an AdminHeartbeat message.
4. Submit a Terminate message.
5. Receive and process a Terminate message.
6. Over a TCP MDP connection again, submit a Negotiate message using a different set of secure key pairs other than the ones used in step 1.
7. Submit a SubscriberHeartbeat message.
8. Receive and process an AdminHeartbeat message.