

Client Application Testing and Certification

This topic provides an overview of the CME client application testing and certification process.

CME Group requires that all client systems transacting on CME Globex via iLink order routing or processing CME Group market data are certified by AutoCert+, an automated testing tool for validating client system functionality. CME Group offers two customer testing [environments](#), **Certification** and **New Release**, for system validation prior to connecting to and transacting on CME Group platforms. Certification ensures messaging and processing reliability and the capability to gracefully recover during abnormal message processing events.

Video Overview

View this video for a brief overview of the Certification environments:



Contents

System Requirements

- [Customer Support](#)

[Prerequisites for Certification](#)
[CME Request Center NR/Cert](#)
[Network Connectivity](#)
[Environments](#)
[iLink Certification](#)

- [General iLink Tag Requirements](#)
- [SenderCompID Naming Convention](#)
- [Separate Sender CompID Per Environment](#)

[Market Data Platform Certification](#)
• [Channel Definitions](#)

[Environment Schedules](#)
[AutoCert+ User Help System](#)

System Requirements

AutoCert+ supports connections that meet the requirements listed on the [Supported Browsers](#) page.

The AutoCert+ tool provides a user-friendly web interface and guides customers through the entire certification process. AutoCert+ is flexible and scalable, allowing customers to simultaneously test order entry and market data messages, and to receive instantaneous test results with an explanation for failed tests.



AutoCert+ functional/certification testing allows a maximum of 10 Transactions Per Second (TPS). A maximum of 70 TPS is allowed for performance testing. In order to enable performance testing (greater than 10 TPS), you must contact [Global Account Management](#).

Log into AutoCert+ at the following link: <https://autocert.cmegroup.com/>.

Customer Support

For additional information regarding client system certification, contact the following CME Group departments:

[Global Account Management](#)

[Certification Support for Electronic Trading \(CSET\)](#)

Prerequisites for Certification

To connect and test in the testing environments complete the following:

1. Request and configure your new [network connection](#) by contacting [Global Account Management](#).
 - a. You are invited to discuss other network options with your Global Account Manager.
 - b. This network connection allows you to perform functional testing on both environments and also to access AutoCert+.
2. Create new [iLink IDs](#) for each environment.
 - a. You can choose the firm IDs that you are using in production to perform front-end to back-end system testing.
 - Third-party system providers can provide and set up temporary IDs to perform functional testing.
 - b. The iLink IDs used for connecting to the testing environments are the same as those used for certifying on AutoCert+.
 - c. The Session IDs indicate which environment you are connected to. If the ID is alpha-numeric-numeric (i.e. C28), you are connected to New Release environment. If the ID is numeric-alpha-numeric (i.e. 7E8), you are connected to Certification environment.
3. Download the config.xml file from the [CME Group FTP site](#) for configuration information for the applicable environment.

CME Request Center NR/Cert

CME Request Center NR/CERT is available to all CME Group Logins registered in AutoCert+. With CME Request Center NR/CERT, you can:

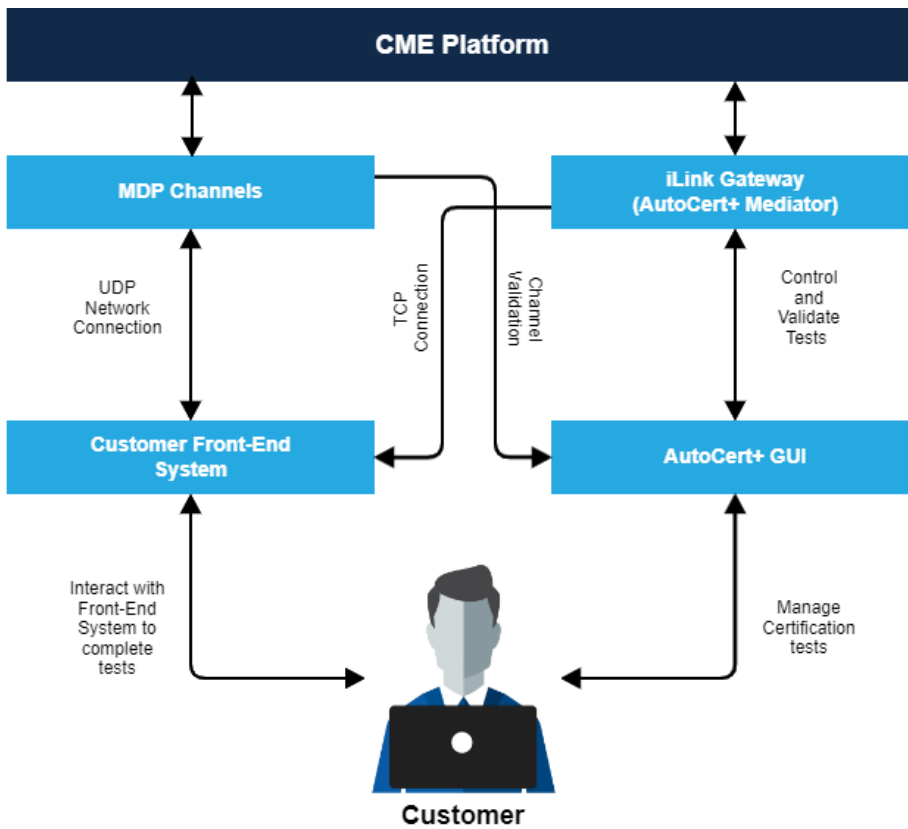
- Manage your Drop Copy ID's for testing
- Manage and create new CERT and New Release session ID's
- Generate and download your iLink and Drop Copy session secure key pairs
- View your certification results (you are permissioned for)
- Register a company, add users and add application systems
- Receive matched trade information for testing

Additional information is available in [CME Request Center NR/CERT User Help System](#).

Access CME Request Center NR/CERT [here](#).

Network Connectivity

The client system connects to AutoCert+ and processes data sent by CME Group as shown in this diagram. For example, a client system certifying on MDP functionality must join the MDP feed and process market data according to the test requirements. Please refer to the [Network Connectivity](#) topic for comprehensive information related to network connectivity solutions.



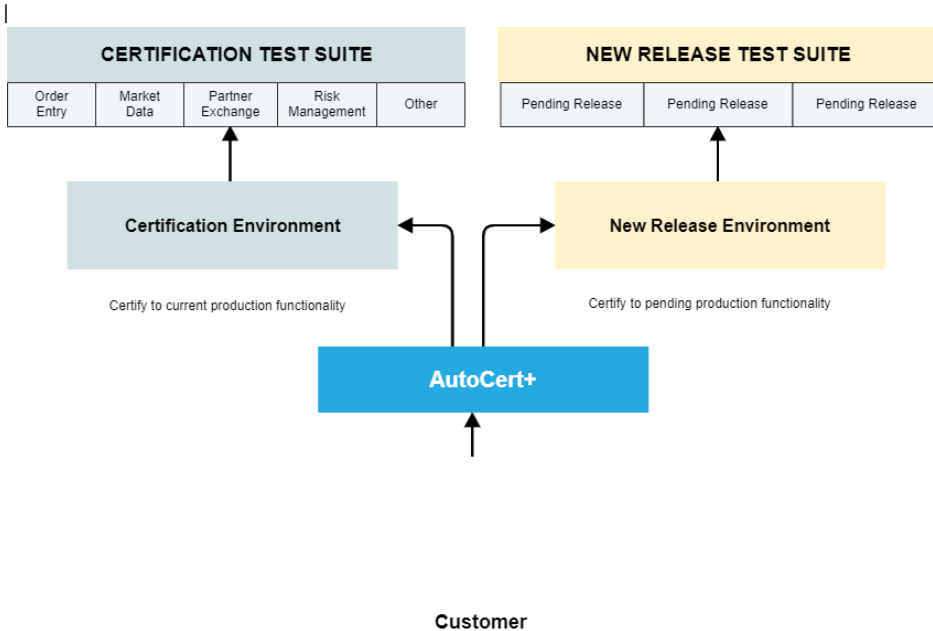
Environments

The **Certification** environment mirrors current production functionality. Use this environment to:

- Certify a client system for core functionality
- Perform maintenance testing
- Perform development testing for new features in production-like conditions

The **New Release** environment allows product and new functionality testing prior to release in production. New functionality is typically available in the New Release environment 6-8 weeks prior to production launch. New products are typically available in New Release 2 weeks prior to production launch. Use the New Release Environment to perform:

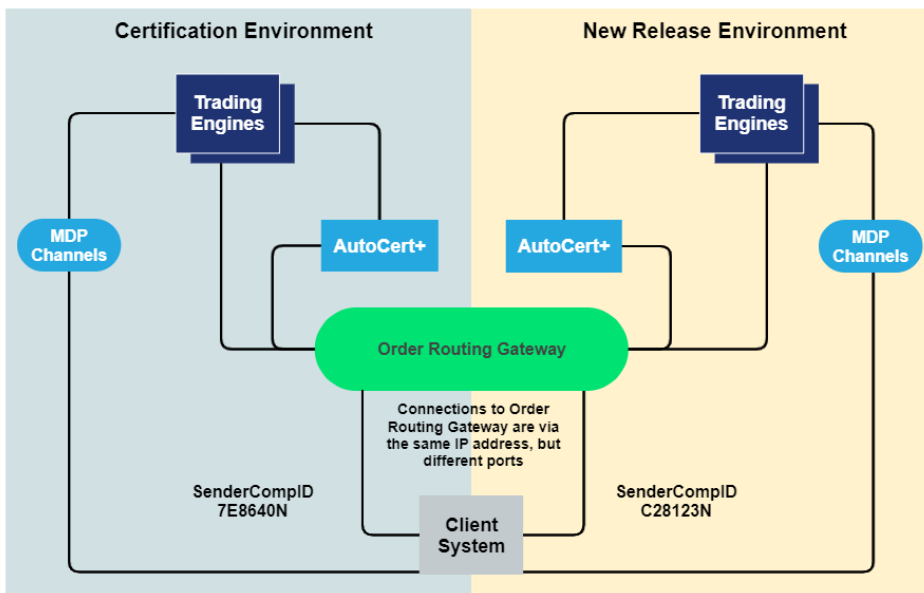
- New Product testing
- Development testing on new functionality
- Certification testing on new functionality



Both environments support **straight-through processing (STP) from CME Globex through CME Clearing testing environments**. In fact, both environments are connected to their own clearing testing environments. This allows customers, who have clearing setup in the production environment, to perform end-to-end testing by submitting and executing orders from their front-end systems and receiving the corresponding clearing trade reports on their back-end systems in conditions similar to production.

Features of the testing environments are shown in the diagram below:

- Connection to both environments is through the Order Routing Gateway using the same IP address via different ports.
- Distinguishing which environment you are connected to is simplified by the ID format structure.



iLink Certification

General iLink Tag Requirements

Please note the following before certifying your application:

- You are required to add milliseconds in the HH:MM:SS.sss format (such as 10:00:29.714) to [tag 60-TransactTime](#) for all inbound messages.
- AutoCert+ validates [tag 167-SecurityType](#) on inbound messages where this tag is required.

- AutoCert+ requires tag 1-Account to be included on all [Order Cancel Request](#) tag 35-MessageType=F messages.

For more information regarding the certification tests, refer to the [AutoCert+ User Help System](#) associated with each test.

SenderCompID Naming Convention

To successfully run and track tests, a System Profile needs to be associated with a SenderCompID. SenderCompIDs are created and assigned to a company. A tester may choose from among the SenderCompIDs available for their company. This SenderCompID then belongs to the tester as long as the tester remains logged into the AutoCertPlus web application or until the tester chooses to un-assign the SenderCompID.

SenderCompID is 7 characters long and is composed of 3 sub-fields:

- Session ID (left-most 3 characters)
- Firm ID (next 3 characters)
- Fault Tolerance Indicator (the last trailing character)

The naming conventions for SenderCompIDs will be different for each environment.

The SenderCompID will be different depending on which environment the user is utilizing.

For example, in the illustration below, the user connects to the Order Routing Gateway with the same IP address but different ports. The SenderCompID will be different for each environment.

- Certification Environment: SenderCompID = 7E8640N
- New Release Environment: SenderCompID = C28123N

Separate Sender CompID Per Environment

The Session ID, Firm ID and Password are assigned and can be obtained by contacting your [Global Account Manager](#). You must obtain a session ID before being able to run any of the certification tests for AutoCert+. If you have more than one application to certify, you can obtain more than one ID.



You must obtain a separate SenderCompID for the New Release environment and the Certification environment. You cannot use one SenderCompID for both environments.

Market Data Platform Certification

Each environment has its own set of Market Data Platform multicast channels. Channel information for both environments is available on the CME Group FTP site as described in [CME Market Data Platform](#).

The Market Data Platform architecture is explained in terms of a [market data group](#). A market data group is a set of UDP channels used to produce market data messages for a set of instruments and/or a set of instrument groups. Market data is organized by Market Data Group, which is a configuration of MDP channels providing all market data required to support markets for a given product or set of products.

- Each channel is assigned a "Dummy Contract"
- Instrument Definition Channels
- Incremental Feed "A" Channels
- Incremental Feed "B" Channels
- Market Recovery Channels

Channel Definitions

To obtain channel definitions for AutoCert +, visit the ftp site and navigate to the current XML configuration file for MDP 3.0 or streamlined SBE:

- [MDP 3.0 - FTP Site Information](#)
- [SBE Streamlined - FTP Site Information](#)



Channels are identified by IP address and port number.



For the AutoCert+ environment, the Instrument Definition and Market Recovery feeds will support a lower mps (message per second) than the other testing and production environments.

Environment Schedules

CME Globex services in Certification and New Release are available from: 8 pm CT Sunday to 4 pm CT Friday, except for a daily maintenance windows:

- 4 pm - 8 pm CT Monday - Thursday
- 2 am - 5 am CT Wednesday

CME Clearing services are available from 8 pm CT Sunday to 4 pm CT Friday, except for a weekly maintenance windows:

- Certification - Tuesdays 12 pm - 5 pm CT
- New Release - Tuesdays 2 am - 5 am CT and Wednesdays 12 pm - 5 pm CT

CME Direct services in Certification and New Release are available from: 8 pm CT Sunday to 4 pm CT Friday, except for daily maintenance windows:

- Certification - Tuesdays 2 am - 7 am CT and 12 pm - 5 pm CT
- New Release - Wednesdays 2 am - 7 am CT and Wednesdays 12 pm - 5 pm CT

Maintenance windows are a specified period of time during which an environment is unavailable in order to allow CME Group staff to launch and test new releases, and perform maintenance operations.

AutoCert+ User Help System

For more information regarding specific certification tests, refer to the [AutoCert+ User Help System](#) related to each test.

