



CME Clearing

Disaster Recovery

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1.0 Introduction

CME Group is committed to the protection of its members, employees, and stakeholders. CME Group has a long history of managing risk. In keeping with that tradition, CME Group has Business Continuity Planning (BCP) Program capabilities in place.

This document describes the processes required to connect to the CME Group Clearing Disaster Recovery (DR) Environment for testing and also describes processes if an official DR event occurs. This document is intended for CME Group customers and system providers.

1.1 Disaster Recovery Event Notification

CME Clearing House utilizes Send Word Now (SWN) to notify clients in the event of an emergency or DR situation. Clients can register to receive all Clearing House notifications at <http://www.cmegroup.com/tools-information/subscriptions/advisory-subscribe.html>

1.2 Recovery Time Frames

The CME Clearing House maintains a Business Impact Analysis (BIA) report. Within the BIA the CME Group identifies recovery times for all its applications with various recovery times. The recovery timeframe in the event there is a disruption to the data center that houses the CME Clearing production environment will be 4 hours or less. Recovery time for additional non-essential applications may occur outside of the 4 hr Recovery Time Objective (RTO) window. If the disruption occurs in a data center that does not house the CME Clearing production environment, no recovery time is needed.

1.3 Disaster Recovery Scenarios

In the event of a DR situation, the CME Clearing House plans for 3 potential scenarios:

- [Firm Production to CME Clearing DR](#)
- [Firm DR to CME Clearing Production](#)
- [Firm DR to CME Clearing DR](#)

The testing scenario for the FIA exercise is dictated by the FIA. On 2 designated Saturdays prior to the FIA test date, the CME Clearing House enables firms to ping test connectivity for that test date. These test times can be coordinated in advance with the CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525.

1.3.1 Firm Production to CME Clearing DR

In this scenario, the CME Group is forced to failover the Clearing environment to the back-up DR environment. Firms will be asked to ensure that their respective production environments can communicate with the CME Clearing back up IP addresses. The IP addresses can be obtained from the CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525.

1.3.2 Firm DR to CME Clearing Production

In this scenario, the firm is forced to failover to its back-up DR environment. Firms will need to inform the CME Clearing House of the change to their IP address. Validation occurs to ensure communication between their back-up environment and the CME Clearing production environment. If needed, contact CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525 for assistance.

1.3.3 Firm DR to CME Clearing DR

In this final scenario, both the CME Group and clients have been forced to failover to their respective DR environments. Firms are expected not only to make their DR IP addresses available to CME Group, but also to obtain CME Clearing DR IP addresses by contacting CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525.

2.0 CME Disaster Recovery Testing

This section describes how CME Clearing conducts regular internal and industry-wide testing.

2.1 Internal Testing

CME Clearing conducts internal fail-over testing on a monthly basis. During that testing, the CME Clearing production environment is failed over to the Disaster Recovery environment. Upon completion of the test, all connections are restored.

2.2 Industry Testing

Annually, CME Clearing participates in industry-wide testing with the FIA. As part of the FIA test, firms are instructed to connect from their DR locations to the CME Clearing DR Environment. Participants must register on the FIA website prior to the exercise. This exercise is typically held on the 3rd or 4th Saturday in October.

In preparation for the FIA test, 2 Saturday clearing connectivity test dates are offered prior to the FIA test date. If a customer would like to participate in any additional connectivity tests throughout the year, they need to contact CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525.

The simulated Clearing (FIA) DR exercise allows firms to complete the following tasks by pointing their DR IP addresses to the CME Clearing DR environment:

- Access all relevant CME Clearing applications via the DR portal
- Complete an MQ ping test
- Submit PCS and Large Trader data
- Retrieve trade register and price data file (SPAN) via DR FTP servers or SFTP servers
- Enter sample block trades in the DR Front-End Clearing (FEC) application

Note: During this exercise, CME Globex runs in the production environment.

Note: The exercise simulates a loss of all connectivity within downtown Chicago; therefore, **both LNET and Jackson Direct are not available during this exercise**. Firms with only one connection are highly encouraged to have a redundant solution that is not dependent on access being available from downtown Chicago.

3.0 Transition to DR Environment

This section provides information on the environment that requires changes should an event dictate failing over to a disaster recovery state.

Network Requirements

Your existing network configuration will remain intact. The only change required for connectivity to the CME Clearing DR environment is the addition of a route statement.

For a complete list of the CME Clearing DR environment IP addresses and port numbers, please contact CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525.

3.1 FTP IP Changes

The CME Clearing House FTP servers are completely redundant. Full back-up DR servers are available for SFTP access and for FTP access. Firms can contact CME Group Clearing Services at ccs@cmegroup.com or 312.207.2525 to obtain the back-up SFTP IP address and FTP IP address for these services.

4.0 CME Group Front-End Clearing Applications

The following section describes Clearing Disaster Recovery (DR) environment processing for CME Group front-end Clearing applications.

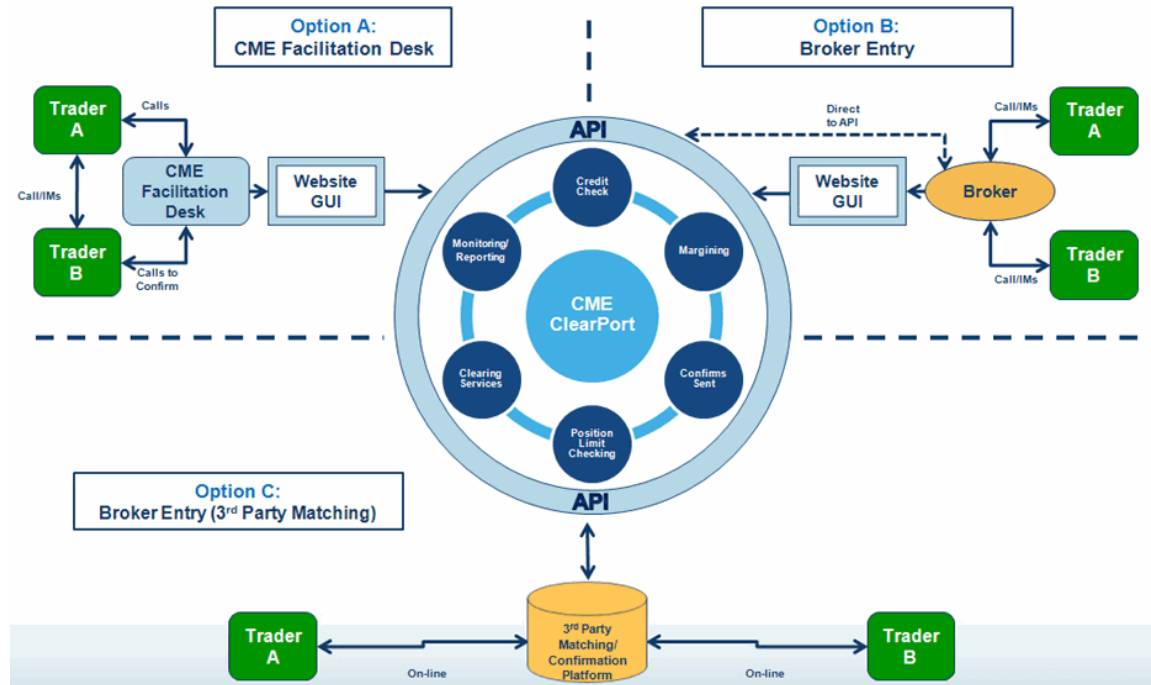
4.1 CME ClearPort

Through CME ClearPort, a front-end clearing application that offers a set of flexible clearing services open to OTC market participants, customers can write trades directly into the CME ClearPort API or submit trades for clearing via a web-based graphical user interface.

Note: CME ClearPort disaster recovery events are handled in the same manner regardless of whether customers submit trades via the web-based GUI or the ClearPort API.

4.1.1 Normal Production Processing Pre-Disaster Recovery Environment

The following figure illustrates a normal CME ClearPort production processing environment.



The CME ClearPort production environment resides in CME Group Datacenter 2 located in downtown Chicago and the disaster recovery environment resides in CME Group Datacenter 1 located in suburban Chicago.

Note: CME ClearPort is a web-based application, and therefore the environment to which you connect (production vs. disaster recovery) is transparent to the user.

4.1.2 Disaster Recovery Event

Disaster Recovery events are categorized into Site, Staff, or Systems. In the case of CME ClearPort, a Site DR event would mean that the location of the CME ClearPort support staff was unavailable. In a Staff DR event, the Operations or Technology side would be unavailable, and a Systems DR event involves the loss of the CME ClearPort environment due to either a hardware failure or the loss of a datacenter.

When Datacenter 2 experiences a DR event, CME Clearport remains unavailable while the Datacenter 1 environment is being established.

4.1.2.1 DR Event Notification

Using an automated messaging tool, the CME Global Control Center (GCC) uploads a list of CME ClearPort contacts. The CME ClearPort team provides GCC management with text explaining the disaster event, and that text is reviewed, edited (if necessary), approved, and dispatched to the email addresses associated with the contact list.

GCC dispatches DR-related messages to the email addresses provided by customers when creating their CME ClearPort IDs. These messages are provided to ClearPort users regardless of whether they are currently logged into ClearPort.

Note: Disaster event messages are not routed to the CME ClearPort front end.

4.1.2.2 Recovery Time Frames

As designated in the related Service Level Agreement (SLA), CME Group attempts to resolve CME ClearPort disaster recovery events within a four-hour time frame. Once CME Group determines the event has been resolved and production Datacenter 2 is available, ClearPort users must re-enter their login.

Note: After a DR event resolution, and prior to Datacenter 2 availability, applicable databases must be brought up and related applications re-started.

4.1.3 Disaster Recovery Environment

ClearPort Clearing is hosted in production Datacenter 2 and the disaster recovery Datacenter 1, where the DR environment runs on DR boxes rather than Production boxes. Datacenter 1 is a cold datacenter in standby mode and is activated only after a disaster recovery event occurs.

Datacenter 2 and Datacenter 1 are duplicate environments where the same applications, servers, and databases are available. These environments are replicated throughout the day to ensure data can be more easily recovered.

When the Datacenter 2 environment is unavailable and the Datacenter 1 environment has been established, CME ClearPort users can log directly into Datacenter 1 using their Datacenter 2 login credentials.

Note: The disaster recovery environment offers all the same functionality as the production environment.

4.1.3.1 Transition to DR Environment

The following rules apply when transitioning to the DR environment:

- The URL by which ClearPort users connect to the CME ClearPort Login page (<https://services.cmegroup.com/cpc/>) is set for Global load balancing. Therefore, users are dynamically redirected from Datacenter 2 to Datacenter 1 during DR testing.
- ClearPort users must log into Datacenter 1 after being redirected.
- Datacenter 1 and Datacenter 2 offer the same functionality to ClearPort users.
- ClearPort customers using an IP, such as Datacenter 2 IP 164.74.122.29, would (for example) have to connect to Datacenter 1 IP 164.74.124.29 during DR testing.
- Datacenter 1 is a cold datacenter and must be brought up after a DR event prior to the redirect from Datacenter 2.
- Trades that are in-flight at the time of a DR event must be re-submitted in the DR environment.
- When hard coding to an IP Address, you will not have the benefit of auto-recovery via the Datacenter 1, but must instead manually point to the Datacenter 1.

5.0 Revision History

Version	Date	Author	Description
1.0	3/24/11	MC/DPM/NU	Initial version.
1.1	6/28/11	JJ	Added CME ClearPort DR section