

# MDP 3.0 - Dissemination

The CME Group Market Data Platform (MDP) disseminates bid, ask, trade, and statistical data for CME Group markets and also provides recovery and supporting services for market data processing.

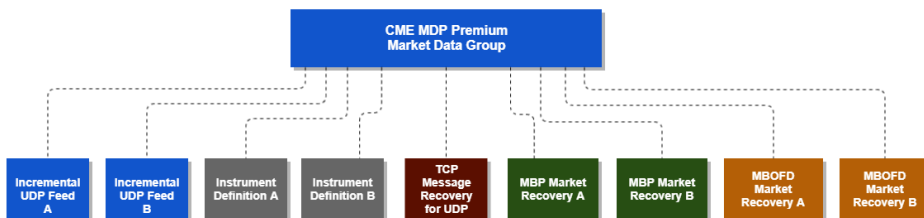
- Market Data Groups
  - CME MDP Premium (Futures and Options, BrokerTec)
  - CME MDP Conflated User Datagram Protocol (UDP) (BrokerTec)
  - CME MDP Conflated Transmission Control Protocol (TCP) (BrokerTec)
  - CME MDP Component Overview
    - UDP Incremental Feed
    - UDP Market Recovery Feeds
    - UDP Instrument Definition Feed
    - TCP Message Recovery
    - TCP MDP Gateway
    - Incremental Feed
    - Market Recovery Feed
    - Instrument Definition Feed
    - TCP Replay
  - Market Data Services

## Market Data 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.

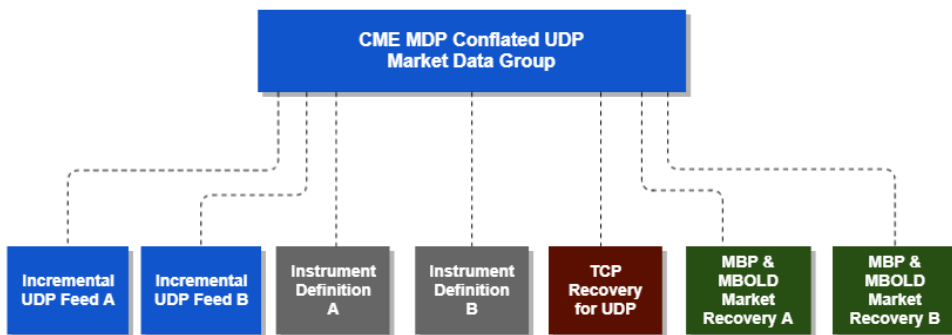
### CME MDP Premium (Futures and Options, BrokerTec)

CME MDP Premium is a real-time market data group that supports Market By Order Full Depth (MBOFD) and Market By Price (MBP) over User Datagram Protocol (UDP) multicast in Simple Binary Encoding (SBE).



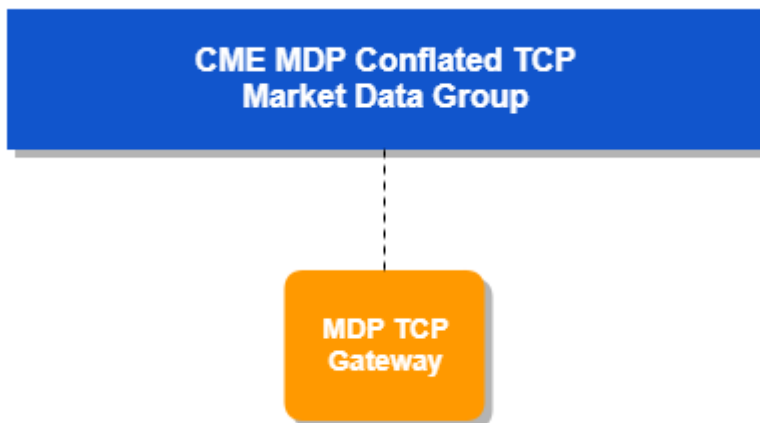
### CME MDP Conflated User Datagram Protocol (UDP) (BrokerTec)

The CME MDP Conflated Multicast UDP market data group supports 50-millisecond conflated UDP feed processing over UDP multicast in Simple Binary Encoding (SBE).



### CME MDP Conflated Transmission Control Protocol (TCP) (BrokerTec)

CME MDP Conflated TCP market data group supports 50-millisecond conflated over TCP unicast in Simple Binary Encoding (SBE). Each Conflated TCP channel market data group has separate I/P and ports; therefore, session activity will only apply to their respective channels.



## CME MDP Component Overview


This section provides an overview of MDP components.

### UDP Incremental Feed

Feed A and Feed B disseminate UDP CME Group incremental market data using encoded packets containing the following FIX market data message types:

- Security Definition (tag 35-MsgType=d)
- Market Data Security Status (tag 35-MsgType=f)
- Market Data Incremental Refresh (tag 35-MsgType=X)
- Request for Quote (tag 35-MsgType=R)
- Snapshot Refresh (tag 35-MsgType=W) - for Market By Order Limited Orders

All packets are sent through both UDP Feed A and UDP Feed B applicable market data groups. This redundancy minimizes the chance of message loss due to UDP.

 UDP Feed A and UDP Feed B should be used for arbitration.


### UDP Market Recovery Feeds

Market Recovery is a UDP feed used to disseminate CME Group market data snapshots for all books having activity since the beginning of the week. Market Recovery Feed B functions as a backup in the event that Feed A becomes inoperative. The following new Market Recovery Feeds are supported for BrokerTec on CME Globex:

- MBOFD Market Recovery - for market data groups that support Recovery of Market By Order Full Depth (MBOFD)
- MBP & MBOLD Market Recovery - for market data groups that support Market By Price (MBP) and Market By Order Limited Depth (MBOLD)

Each packet on these feeds can contain more than one Snapshot message; each message represents a market state snapshot of a given instrument. Snapshots are replayed at a constant flow of configurable packets per second.

Expired instruments will be removed from the Market Recovery feed after a configurable timeout period.

 CME Group strongly recommends that the Market Recovery feeds be used for recovery purposes only. Once client systems have retrieved recovery data, client systems should stop listening to the Market Recovery feeds.

### UDP Instrument Definition Feed

Instrument Definition (UDP) Feeds replay CME Group instrument definitions for late joiners and mid-week recovery.


Each packet on this feed can contain more than one Security Definition (35=d) message, with each message representing a definition of a given instrument. Instrument definitions are replayed at a constant, configurable rate (in packets per second).

Expired instruments are removed from the Instrument Definition feeds after a configurable time period. Instrument Definition (UDP) Feed B functions as a backup in the event that Feed A becomes inoperative.

### TCP Message Recovery

The [TCP historical replay component](#) allows client systems to request a replay a set of packets already published on the UDP Incremental Market Data Channel. The request identifies the start and end packet sequence numbers to be replayed. The request uses the Market Data - Request (tag 35-MsgType=V) message.

This type of request is sent through a new TCP connection established by the client. The responses are sent by CME Group through this same connection and the connection is then closed by CME Group once the resend is complete. Replay is limited to a maximum of 2000 packets. Data can be requested within the last 24 hours.

 TCP message recovery is only recommended for small scale recovery.

## TCP MDP Gateway


TCP MDP Gateway disseminates CME Group market data using TCP encoded packets. The TCP MDP gateway will support conflated MBP & MBOLD book management.

## Incremental Feed

UDP Feed A and UDP Feed B are used to disseminate CME Group incremental market data using encoded packets containing the following FIX market data message types:

- Security Definition (tag 35-MsgType=d)
- Market Data Security Status (tag 35-MsgType=f)
- Market Data Incremental Refresh (tag 35-MsgType=X)
- Request for Quote (tag 35-MsgType=R)

All packets are sent through both UDP Feed A and UDP Feed B applicable market data groups. This redundancy minimizes the chance of message loss due to UDP.


 UDP Feed A and UDP Feed B should be used for arbitration.

## Market Recovery Feed

The Market by Price (MBP) and Market by Order (MBO) Market Recovery (UDP) Feed A is used to disseminate CME Group market data snapshots for all books having activity since the beginning of the week. Market Recovery (UDP) Feed B functions as a backup in the event that Feed A becomes inoperable.

Each packet on this feed can contain more than one Snapshot message; each message represents a market state snapshot of a given instrument. Snapshots are replayed at a constant flow of configurable packets per second.

Expired instruments will be removed from the Market Recovery feed after a configurable timeout period.

 CME strongly recommends that the Market Recovery feeds be used for recovery purposes only. Once client systems have retrieved recovery data, client systems should stop listening to the Market Recovery feeds.


## Instrument Definition Feed

Instrument Definition (UDP) Feeds replay CME Group instrument definitions for late joiners and mid-week recovery.

Each packet on this feed can contain more than one Security Definition (35=d) message, with each message representing a definition of a given instrument. Instrument definitions are replayed at a constant, configurable rate (in packets per second).

See [Market Recovery and Instrument Definition Rates](#) for additional information.

Expired instruments are removed from the Instrument Definition feeds after a configurable time period.

 Instrument Definition (UDP) Feed B functions as a backup in the event that Feed A becomes inoperable.

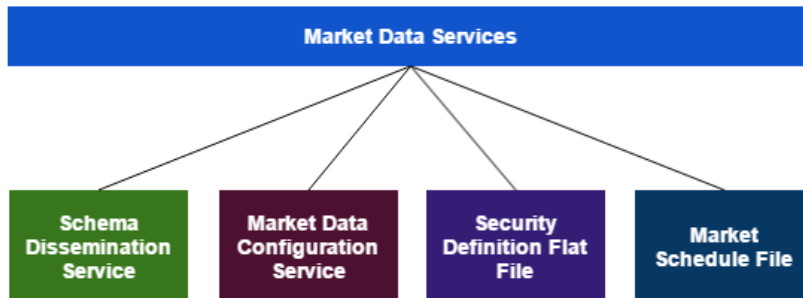
## TCP Replay

The TCP historical replay component allows you to request a replay of a set of packets already published on the UDP Incremental Market Data Channel. The request identifies the start and end packet sequence numbers to be replayed. The request uses the Market Data - Request (tag 35-MsgType=V) message.

This type of request is sent through a new TCP connection established by the customer. The responses are sent by CME Group through this same connection and the connection is then closed by CME Group once the resend is complete. Replay is limited to a maximum of 2000 packets.

## Market Data Services

Market data services provide the external data required to process CME Group market data.



- Schema Dissemination - method for client systems to receive all active CME Group templates
- Market Data Configuration - allows client systems to receive list of all market data channel configurations
- Security Definition Flat File - contains all Security Definition (tag 35-MessageType=d) messages for CME Globex instruments
- Market Schedule File - contains all Security Groups with state changes scheduled for each Trading Date of the current week
- CME Reference Data API - Additional product and instrument referential data via [CME Reference Data API](#)

See also:

- [MDP 3.0 - System Startup](#)
- [MDP 3.0 - Support Services](#)
- [MDP 3.0 - Incremental Feed Arbitration](#)
- [MDP 3.0 - FTP and SFTP Site Information](#)