

Cboe Market Close Overview

As part of Cboe’s commitment to providing innovative, value-added services to our Members, Cboe introduced Cboe Market Close (CMC), a closing match process for non-Cboe Listed securities. CMC is a new, competitively-priced alternative to participating in the primary listing market’s closing auctions. Members can submit buy and sell Market-On-Close orders designated for participation in CMC and obtain the official closing price for any matched shares. Any remaining shares are cancelled back to Members to allow routing to the primary listing market auctions if so desired. CMC is currently available on Cboe BZX Equities Exchange (BZX).

Cboe Market Close Functionality Summary	
Exchange to Offer CMC	Cboe BZX Exchange
Accepted Order Types	Market-On-Close (MOC)
Supported Securities	All Non-Cboe Listed NMS Securities
Order Entry Time	6:00 a.m. ET – 3:49 p.m. ET (CMC Cutoff Time)
Available Market Data	Cboe Auction feed and Multicast PITCH feed provide the total size of all buy and sell orders matched via CMC.
Transaction Fee	Competitively priced compared to the primary listing market closing auction rates.

Time Period	CMC Workflow
6:00 a.m. ET	<ul style="list-style-type: none"> Members can enter New orders to participate in CMC. Members can submit Cancel/Replace or Cancel requests.
3:49 p.m. ET (CMC Cutoff Time)	<ul style="list-style-type: none"> All New orders, Cancel/Replace and Cancel Requests are rejected. Buy and Sell CMC Market orders are matched based on time priority. Execution reports are sent to Members to indicate number of shares matched. Final execution price is provided through a restatement when the official closing price becomes available. Remaining unmatched shares are cancelled back to Members. Total size of all buy and sell orders matched via CMC is published through the Cboe Auction feed and the Multicast PITCH feed.
4:00 p.m. – 8:00 p.m. ET	<ul style="list-style-type: none"> As the official closing price is published by the primary listing market, execution reports for previously matched shares is sent to Members to reflect the official closing price as the execution price. Trade reports are submitted to the SIP as reference trades with a “P” sale condition. Any update to the official closing price by the primary listing market also triggers execution reports to be restated with the updated official closing price for affected trades.
8:00 p.m. ET	<ul style="list-style-type: none"> If a closing price is not received from the primary listing exchange, then all impacted CMC matched shares are cancelled.

Frequently Asked Questions

1. What is the rationale behind CMC?

CMC is Cboe's response to industry participants' significant and persistent interest in an alternative to the primary listing market closing auctions. While there are exchanges offering closing auction functionality for non-listed securities, CMC is the first to deliver the official closing price for any matched share.

Over the past 5 years, volume executed in the primary listing market's closing auctions has increased over 70% from 200 million shares per day in 2012 to almost 350 million shares in 2016, which was close to 5% of the total executed volume in 2016.

With both costs and closing auction volume increasing, the industry has expressed a need for an alternative. CMC is a possible solution that challenges the current model by introducing an alternative to the primary listing market closing auctions. Participants have a choice to route their Market-On-Close (MOC) orders to CMC and obtain the official closing price if matched. MOC orders matched in CMC will lower the overall costs of participating at the close.

2. Instead of using the official closing price from the primary listing market, why doesn't Cboe introduce its own price-forming auction process as an alternative to the primary listing market's auction?

There are exchanges today that offer price-forming auctions for non-listed securities. For example, Nasdaq has already attempted to compete with the NYSE in its primary listing auctions, with discouraging results, both in terms of activity levels and the auction prices themselves. An auction that competes with a primary listing market, while offering price formation, also can provide harmful price formation, both because it siphons limit order flow from the primary market that affects the auction price, and at the same time can produce bad auction prices on the non-primary market itself. In contrast, the CMC design matches the official closing price of the primary market, avoids siphoning limit orders from it by only accepting Market-on-Close orders, and thus provides transaction price relief to Members without distorting auction price formation.

Fragmentation that draws Limit orders away from a primary listing market is undesirable, and CMC is designed to avoid doing so.

3. A) Would CMC fragment the liquidity and inhibit price discovery at the primary listing market closing auction, and therefore interfere with a core responsibility of the primary listing market? B) Why does CMC only accept Market-On-Close orders?

CMC is designed to avoid fragmentation of liquidity at the primary listing market by only accepting Market-On-Close (MOC) orders. Limit orders are the basis from which price formation occurs. Market orders are recipients of that price formation, but do not contribute to the price level.

Success of CMC may lead to a reduction in the number of MOC orders pooled together at the primary listing markets, but the number of matched market order shares will be published in advance of the primary market's cutoff time for

MOC orders. In this way, Cboe provides a transparent tally to reflect the added auction depth from the MOC orders for which it is responsible.

While participants could opt to convert Limit-On-Close orders to Market-On-Close orders in an effort to participate in CMC and reduce their transaction costs, such a decision involves risk and would be unlikely to ever be deployed except in stable securities with little price risk.

4. There are already solutions offered by brokers to match MOC orders at the official closing price. Why does Cboe want to offer this functionality as a national securities exchange?

Broker functionality to match MOC orders at the official closing price has been around for some time and has served as an alternative to the primary listing market's closing auction. Cboe is responding to industry pressure to offer an on-exchange solution given disproportional growth in primary listing market closing auction volume. CMC has a unique value proposition as an on-exchange offering, specifically on anonymity and trade transparency.

5. What are the fees for CMC executions?

Cboe prices CMC executions aggressively as a discount to the primary market auction fees. Our pricing acts as a strong incentive to encourage competition.

6. How are Short Sale orders handled?

CMC rejects all Short Sale (SS) orders upon order entry to avoid potential violation of Rule 201 of Regulation SHO. CMC only accepts Buy, Sell, and Short Sale Exempt orders.

Short Sale Price Test restrictions can be triggered at any time during regular trading hours, including after the CMC cutoff time of 3:49 p.m. ET. Listing markets handle SS MOC orders subject to Short Sale Price Test restrictions differently from regular MOC orders to ensure compliance with Regulation SHO. For example, NYSE treats such MOC orders effectively as LOC orders with a limit price set to 1 MPV above the NBB at the time of the close. If the closing price is below this effective limit price, these SS MOC orders would not be filled. To avoid potentially matching SS MOC orders at a non-compliant price, CMC would not accept any SS orders.

7. How are halts handled?

If a security is halted for regulatory reasons other than the LULD pause as of 3:49 p.m. ET, CMC will cancel all orders in that security at that time without matching. Members can choose to route the unmatched MOC orders to the respective listing market closing auction if desired.

If a security is halted for regulatory reasons other than the LULD pause as of 4:00 p.m. ET, all matched CMC shares in that security would be cancelled at that time as trading would not be permissible.

8. What is CMC’s contingency plan in case of unexpected circumstances?

Scenario	CMC Behavior
Primary listing market is impaired and designates a backup exchange to conduct the closing auction for its listings	CMC would use the official closing price published by the backup exchange as the execution price for any matched share.
Primary listing market is impaired and invokes its Closing Contingency Procedure to determine the official closing price	CMC would use the official closing price published by the primary listing market for any matched share (same as regular behavior).
Listing market updates the official closing price after the initial publication	CMC would systematically monitor for changes until 8:00 p.m. ET. Any update would trigger execution reports to be restated with the updated official closing price for affected trades.
BZX becomes impaired and recovers within 5 minutes before CMC Cutoff Time	All open orders are cancelled or preserved based on the Member’s port parameter for Cancel on Matching Engine (ME) Disconnect.
BZX becomes impaired and takes more than 5 minutes to recover before CMC Cutoff Time	All CMC orders would be cancelled regardless of the Cancel on ME Disconnect setting.
BZX becomes impaired and recovers after CMC Cutoff Time	All CMC orders except those already matched (if ME crashes after 3:49 p.m. ET) would be cancelled. If the CMC match process has been completed in a security, all matched CMC orders would be preserved.
BZX becomes impaired after CMC Cutoff Time	CMC matched shares would be honored. As soon as the system is back up, Cboe would resume processing SIP messages and send execution reports for any matched share with the appropriate official closing price as the execution price.

9. Does CMC honor Match Trade Prevention (MTP)?

At the time of the CMC pairing, the system will ignore MTP.

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