



MATCHNow
Platform Change
Matrix

Version 1.1.0

June 22, 2021

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The following list of planned key platform changes, categorized by interest, provide Subscribers with an overview of key platform-specific features to be added, retained, modified, or removed from MATCHNow upon migration to the Cboe technology platform. Please refer to the relevant specifications on the [MATCHNow Integration Microsite](#) for more details and note that all material platform updates are *subject to regulatory approval*.

Matrix Legend

E = Existing Feature Planned to Be Maintained As-Is

M = Modification to Existing Feature

A = Addition of New Feature

D = Deletion of Feature

Time Zone and Trading Sessions	
Time Zone will be Eastern Time	E
Regular Trading Hours (“RTH”)	E

The MATCHNow Liquidity, Odd-Lot Liquidity, and Conditionals Books will continue to open at 8:00 a.m. ET for order entry only. Regular trading hours are from 9:30 a.m. to 4:00 p.m. ET. Pre- and Post-Market trading sessions will not be supported.

Order Entry and Drop Copy	
FIX	M
Product Symbology	E
FIX DROP (“DROP”)	M
Order by Order DROP (“ODROP”)	A

The existing Cboe technology FIX, DROP, and ODROP protocols will replace MATCHNow’s current FIX and DROP protocols. The FIX, DROP, and ODROP technical details will be located in the MATCHNow FIX Specification and the implementation will be quite similar to the Cboe EU and U.S. markets with some regional and platform-based nuances. As such, Subscribers are expected to thoroughly review the updated FIX Specification. All Subscribers will be required to complete a certification process prior to being allowed to input orders on the new production system.

On the new platform, Subscribers will no longer require distinct FIX connections for accessing MATCHNow’s four trading destinations (Liquidity, Market Flow, Odd-Lot, and Conditionals). These four existing liquidity destinations will be combined and accessible via a single FIX connection.

Order entry and market data output will utilize standard Canadian Symbology.

Order Types and Handling	
Liquidity Provider (“LP”) Orders	E
Odd Lot Liquidity Provider (“OLLP”) Orders	M¹

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Market Flow (“MF”) Orders	E
Pro-rata Allocation	M²
Call Auction Process	E
List Orders	D
Jitney Orders	E
Conditional Orders	M³

¹Odd Lot Liquidity Provider (“OLLP”) Orders

OLLP market makers are restricted to 10 Trader IDs per broker today on MATCHNow. Upon migration to Cboe technology this restriction will be systematically enforced and there will be a configured list of OLLP Trader IDs for each broker.

²Pro-Rata Allocation

As part of the platform migration, there will be slight changes to the pro-rata allocation logic. The changes will affect the allocation process as follows:

- Randomization will be removed in the rare edge-cases where it applies, and it will be replaced with arrival-time priority for allocation

After an initial round of pro-rata allocation, the residuals after rounding will be allocated to those orders that were negatively affected by any rounding down that occurred in the first round

³Conditional Orders

As part of our technology migration on February 1, 2022, MATCHNow will be enhancing our Conditionals Book with BIDS Trading technology, the six main changes to our Conditionals offering are listed here:

1. The New “Sponsored Access Model”

MATCHNow will expand Conditionals to allow eligible institutional investors (often referred to as “buy-side firms”) that have taken the appropriate steps to be granted “direct electronic access” (“DEA”) by a MATCHNow Subscriber (each referred to as a “sell-side firm”) to send Conditionals to the MATCHNow ATS, using the Participating Organization number of the Subscriber that they have designated as their sponsor for such purposes.

MATCHNow will offer both Subscribers and eligible institutional investors a new BIDS front-end interface (in the case of Subscribers, the “Subscriber Interface,” known commercially as the “BIDS Client Admin,” and, in the case of Sponsored Users, the “Sponsored User Interface,” known commercially as “BIDS Trader”), which will allow each Sponsored User to enter and, where contra liquidity is found, firm up Conditionals through a direct FIX connection to MATCHNow.

Each sponsoring MATCHNow Subscriber will need to execute the new “Sponsored Access Addendum” to the MATCHNow Subscriber Agreement. The Addendum includes several new contractual obligations for each Subscriber that signs it, including:

- an obligation, in connection with each trade that originates as a Conditional, to represent (and be responsible for) the resulting trade.

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- an obligation to ensure that the Subscriber has entered into all requisite agreements with its prospective Sponsored User (DEA Client), has in place all required policies and procedures to establish proper relationships, accounts, and risk controls with or for each such prospective Sponsored User.
- an obligation to make proper use of the Subscriber Interface to set up the appropriate pre-trade, automated risk controls for each Sponsored User and to take reasonable measures to monitor those risk controls

2. Invitation Sequencing, Time Limits, and Minimum Size

MATCHNow will offer three types of Conditional interactions:

Subscriber-to-Subscriber (which currently exists);

Subscriber-to-Sponsored User/Sponsored User-to-Subscriber (which is new); and

Sponsored User-to-Sponsored User (which is also new).

With respect to Subscriber-to-Sponsored User (and vice-versa) interactions, the Sponsored User's trading will normally be conducted by a human trader; in that circumstance, the system is designed to send the invitation to firm up to the Sponsored User first—i.e., before the invitation to firm up is sent to the Subscriber (which is always an electronic user). In such cases, the Sponsored User (human trader) will have up to 30 seconds to firm up the invitation.

With respect to Subscriber-to-Subscriber (i.e., algorithm-to-algorithm) interactions, the process will be synchronous and the time limit for firming up will be one second.

As for Sponsored User-to-Sponsored User interactions (where the interaction is human-to-human), the process will be synchronous and the time limit for firming up will be 30 seconds.

All three scenarios will be subject to the same minimums that apply to existing Conditionals (which parallel the requirements set out in UMIR 6.6, i.e., greater than 50 standard trading units and greater than \$30,000 in nominal value or greater than \$100,000 in nominal value).

3. Pro-Rata Allocation Replaced by Price/Broker/Size/Time Priority

MATCHNow will replace the existing one-to-many matching process for its Conditionals with a primarily one-to-one matching process for all Conditionals in the New Conditionals Offering. As a result, allocations will no longer follow pro-rata logic, but instead, will be done based on priority of firmed-up orders, using the following criteria, in this order:

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Price;
Broker;
Size; and
Time.

4. Execution Anywhere At or Within the Protected National Best Bid or Offer

As part of the New Conditionals Offering, MATCHNow will replace its existing mid-point-only executions for firm-up Conditionals with a new feature that will allow executions at a price that is anywhere at or within the range of prices created by the current Protected National Best Bid or Offer (the “PNBBO”). This will be achieved through a new optional pegged order functionality. Subscribers will have the ability to enter Conditionals with an optional pegged price, with or without an “offset”. This pegged functionality would work as follows:

A peg is designed to maintain a purchase or sale price relative to the PNBBO. There are 3 types of supported peg types as part of our New Conditionals Offering:

- Peg mid;
- Near-side Peg (Peg to Bid when buying or the Offer when selling); and
- Far-side Peg (Peg to the Offer when buying or to the Bid when selling)

5. Conditionals Compliance Mechanism Will Evolve

MATCHNow will replace the existing full trading suspension for the duration of the trading day that applies today whenever a Subscriber crosses below the 70% threshold of firms-up for the day (provided that at least 20 invitations have been received) with a more targeted symbol-by-symbol suspension. Specifically, in the New Conditionals Offering, Subscribers that receive 20 or more invitations to firm up a Conditional for a given security will need to avoid crossing below the 70% threshold of firm-ups for that security, failing which the Subscriber will be suspended from entering any new Conditionals for that security for the rest of that trading day.

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6. Improved Reporting for Subscribers

The New Conditionals Offering will include improved reporting functionality, which will be an important enhancement for Subscribers. BIDS technology-based reporting is already well-regarded in the United States and Europe, and it will be highly informative and beneficial to the Canadian market as well.

Port Attributes	
Self-Trade Prevention / Wash Trade Suppression Restricted Trader Lists	M¹
Opt-in for LP Orders Interacting with Conditional Orders	E*
Trade Cancel/Correct	M²

*Anticipating MATCHNow receives approval for and implements this feature prior to the platform migration.

Port Attributes from current MATCHNow FIX sessions will not be automatically configured on new FIX sessions on Cboe technology. Upon migration, port owners will be permitted/required to configure needed attributes at a port level. Configuration updates to port settings may be requested via the [Customer Web Portal](#).

While the above table highlights certain attributes that are different from similar functionality currently available at MATCHNow, Subscribers should carefully review all default settings on the new platform. The full set of port attributes are described in the new FIX specification.

¹Self Trade Prevention / Wash Trade Suppression / Restricted Trader Lists

These settings must be updated through the MATCHNow Trade Desk. They cannot be updated directly by the Subscriber.

Self Trade Prevention (“STP”) will be modified to bring it in line with Canadian industry standards. Two new FIX tags will be introduced in support of STP, one with an order key, the other with an instruction. When two keys match under the same Broker ID, the STP behavior will kick in based on the Subscriber’s previously sent instructions. Refer to the FIX specification for complete details.

Under the modified STP, restricted trader lists are no longer necessary.

²Trade Cancel/Correct

If this port attribute is enabled, broken trades and trades that were subject to a post-execution price correction will be communicated back to the Subscribers via FIX and DROP (FIX Tag 35:MsgType = “UCC”). This replaces existing behavior where a bust is identified with 35=8, 20=1 and a correction is identified with 35=8, 20=2.

Data Feeds	
Multicast (ITCH) Market Data Feed	D
Multicast PITCH ¹	A¹
Data Retransmission Service (Gap Request Proxy)	M²

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Symbol Spin	A³
Trading Status Messages	A⁴

¹Multicast PITCH

MATCHNow’s current data feed, a binary ITCH protocol over Multicast IP, will be replaced by Cboe’s Multicast PITCH feed protocol. While MATCHNow currently employs a sequencer/aggregator which allows for dissemination of a single-sequenced multicast data channel, market data from PITCH will be segregated into distinct underlying-based channels (one channel per Matching Unit) for distribution.

An A and B feed will be disseminated out of the primary data center, and a C feed will be disseminated from the secondary data center. All three feeds will be hot and can be used to arbitrate data to recover lost multicast data.

All Multicast PITCH output will be presented using the existing standard Canadian symbology. Additional details for the Multicast PITCH data feed can be found in the updated technical specifications on the [MATCHNow Integration Microsite](#).

²Data Retransmission Service

Dropped messages can be requested using a TCP/IP connection to a Gap Request Proxy (“GRP”) server, similar to the existing Retransmission Session service. However, on the new platform, the requested messages will be delivered on a separate set of multicast ranges reserved for packet retransmission. Subscribers should refer to the Multicast PITCH technical specification for a list of restrictions related to daily GRP limits and retransmission allowances.

³Symbol Spin

Prior to the start of trading, MATCHNow will spin out a list of all symbols on Multicast PITCH that will be available for trading on the current trading day.

⁴Trading Status Messages

A Trading Status message will be introduced via Multicast PITCH and will be used to indicate the current trading status of a security. A Trading Status message will be distributed when a security’s trading status changes.

Billing and Billing Reporting	
Monthly Invoices	M¹
Daily Trade Files	M¹
Daily/Monthly Billing Reports (Daily Diary, Fill-By-Fill)	M¹
Fee Marker Values / Fee Codes	M²
Currency	M³

¹Monthly invoices and daily trade data files will be available to Subscribers through the [Customer Web Portal](#) and may be automated via WGET solution. SFTP and email delivery of daily trade files and invoices will not be available. Monthly Trade Detail files will also be available within the [Customer Web Portal](#).

²Fee Marker Code (FIX Tag 9001) will be replaced by FeeCode (FIX Tag 9882) on FIX Execution Reports.

³Some clients are currently billed in US Dollars. Upon migration, all invoices will be billed in Canadian Dollars.

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Other	
Data Centers	M¹
Physical Connectivity / Latency Equalization	M²
Customer Web Portal	A³
Public Web Site	M⁴
Network Connectivity Agreement	A
Secure Web API	A⁵

¹Data Centers

As part of the platform migration, the primary data center for MATCHNow will be relocated from the TMX facility in Markham to the Equinix TR2 data center in Toronto. The secondary data center will be relocated from the Q9 data center in Toronto to 350 Cermak, in Chicago, IL (USA), offering improved geographic diversity for disaster recovery.

²Physical Connectivity

Both 1Gb and 10Gb connections will be available to connect to MATCHNow in both the primary and secondary data center. All connections within the primary data center will be latency equalized. To equalize the latency across all Subscriber connections, an estimated 8 to 10 microseconds of round trip latency will be incurred for all connections; this will ensure proximity to the MATCHNow trading systems will not provide an advantage for any Subscriber versus another.

³Customer Web Portal

Subscribers will have access to various trading session management functions and information through the Customer Web Portal including:

- Certification Tool
- Invoices and Files
- Latency Stats
- Logical Port Request Tool
- Logical Ports Dashboard
- Multicast Subscriptions
- Order Lookup
- Physical Connection Request Tool
- Trade Data Files
- Trade Error Submission Form
- Trader ID Management
- User Management

Each Subscriber will be required to have designated Firm Administrators within the Cboe Customer Web Portal who will have exclusive authority to manage accounts and access to tools available within the portal for their firm. Starting in August 2021, Subscribers are encouraged to reach out to Cboe's

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Membership Services team via email to membershipservices@cboe.com to establish the names and contact information for the individuals who will be initially designated as Firm Administrators. Every 6 months Firm Administrators will receive an email with a link to a page that will allow them to attest that the list of Firm Administrators assigned to their firm is valid. In the event this attestation does not take place in the allotted time, Firm Administrator accounts will be disabled and the Subscriber will need to re-establish a new set of Firm Administrators working with the Cboe Membership Services team in order to regain administrative access for their firm within the portal.

Refer to the [Customer Web Portal specification](#) for more information regarding the tools available within the Cboe Customer Web Portal.

4Public Web Site

Later in 2021, Cboe intends to develop new “North American Equities” and “Canadian Equities” landing pages on www.cboe.com MATCHNow specific content will be migrated to the “Canadian Equities” page. More information related to the timing of these updates will be made available in a future notice.

5Secure Web API

The Secure Web API will allow Subscribers to make automated requests against the Customer Web Portal. Upon migration, the service that will be offered through the Secure Web API is the Ports Information Service, which will provide Subscribers with the ability to automatically pull current connection information and port attributes.

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Revision History

Document Version	Date	Description
1.0.0	05/11/21	Initial version.
1.0.1	05/13/21	Minor formatting update.
1.1.0	06/22/21	Added Conditionals Orders Section.