**TMX Information Processor:  CDF Guidelines**

**Addendum to the CDF Functional Specifications**

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# Overview

**Background- TMX Information Processor Services**

The Canadian Capital Markets is multi-market environment comprising of Exchanges and Alternative Trading Systems (ATS's).

Each Canadian marketplace operates with in the framework of National Instrument 21-101 which mandates that the marketplace shall provide timely and accurate information regarding to orders and trades for exchange-traded securities displayed and executed on the marketplace to an Information Processor or information vendor. The importance of this requirement is magnified the obligation of market participants to meet Universal Market Integrity Rules (UMIR) Trade-through rules which relies on timely access to market data from all protected and non-protected marketplaces. As of July 2009, TSX is operating as the Information Processor (TMX IP) for the Canadian markets utilizing its Consolidated Data Feed platform to provide the TMX IP Services as required in its undertakings with the CSA.

The CDF provides low latency access to pre- and post-trade data from the contributing marketplaces. As a multicast feed where each marketplace is a permissionable data stream, the CDF allows participants to acquire market data from one or more contributing marketplace.

In addition to the CDF, TMX IP Services also include Canadian Best Bid and Offer (CBBO), Consolidated Last Sale (CLS) and the Consolidated Depth of Book (CDB).

# 1. Consolidated Data Feed ("CDF")

This document describes the Consolidated Data Feed (CDF™), a data feed provided by TMX IP. The CDF provides access to consolidated pre- and post-trade market data from participating Canadian exchanges and ATSs with central limit order books ("Lit Market") and post-trade market data for dark markets through existing telecommunications links TSX. The CDF is comprised of:

- o symbol and market status,
- o trades, and
- o orders and confirmations.

The TMX IP consumes the market data from the contributing marketplaces and normalized the content to the standardized TSX TL2 data format using the STAMP protocol syntax. STAMP, the Securities Trading Access Message Protocol, is the messaging protocol developed by TSX. It is important to note that not all message types or fields or values in the CDF feed will be provide if it is not originally provided by the contributing marketplace. For example a CDF feed for a dark market will not have order/cancellation confirmation messages or an OrderNumber in a Trade Report. Similarly, depending on the attributes of the lit markets contributing to the CDF, not all field values in the business messages will use the same convention or be the same length (i.e. OrderNumber). This document is intended to be a guide only.

### i. CDF Marketplaces

At present the following marketplaces contribute to the CDF.

| Marketplace | Exchange Identifier | ExchangeId | Market Type |
|---|---|---|---|
| Alpha  ATS | "A" | "ALP" | Lit Market |
| Chi-X Canada | "C" | "CHI" | Lit Market |
| CNSX | "N" | "CNQ" | Lit Market |
| Instinet Canada Cross | "I" | "ICX" | Dark Market |
| Liquidnet Canada | "L" | "LIQ" | Dark Market |
| Omega ATS | "O" | "OMG" | Lit Market |
| Pure Trading | "P" | "PUR" | Lit Market |
| TMX Select | "S" | "SEL" | Lit Market |
| TriAct Match Now | "M" | "TCM" | Dark Market |
| TSX Inc. | "T" | "TSE" | Lit Market |
| TSX Venture Exchange | "V" | "CDX" | Lit Market |

### ii. Trading Hours for the CDF

The following table provides the Regular Session and Last Sale or Extended Trading Sessions of the contributing marketplaces.

| Exchange | Regular Trading Session (EST) | | | Extended Trading Session (EST) | | |
|---|---|---|---|---|---|---|
| | Pre-Open | Open | Close | Pre-Open | Open | Close |
| Alpha Group | 07 :00 | 09 :30 | 16 :00 | N/A | 16 :15 | 17 :00 |
| Chi-X Canada | 07 :00 | 08 :30 | 17 :00 | N/A | N/A | N/A |
| CX2 | 07 :00 | 08 :30 | 17 :00 | N/A | N/A | N/A |
| CNSX | 07 :00 | 09 :30 | 17 :00 | N/A | N/A | N/A |
| Instinet Canada Cross | N/A | 09 :30 | 16 :00 | N/A | N/A | N/A |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Liquidnet | N/A | 06 :00 | 17 :00 | N/A | N/A | N/A |
| Omega ATS | 08:30 | 09 :00 | 16 :00 | N/A | 16 :00 | 17 :00 |
| Pure Trading | 07 :00 | 08 :00 | 17 :00 | N/A | N/A | N/A |
| TMX Select | N/A | 08 :00 | 17 :00 | N/A | N/A | N/A |
| TriAct Match Now | 08 :00 | 09 :30 | 16 :00 | N/A | N/A | N/A |
| TSX | 07 :00 | 09 :30 | 16 :00 | N/A | 16 :15 | 17 :00 |
| TSX Venture Exchange | 07 :00 | 09 :30 | 16:00 | N/A | N/A | N/A |

All times are in Eastern Standard Time

### iii.    Transmission times for Contributing Marketplaces

Clients can listen to the CDF ports at any time during the trading day.  The CDF feeds will distribute market data beginning at a time that corresponds with each contributing marketplaces start of day until the corresponding marketplace's end of day.

### iv.    Start of Day messages by marketplaces

Prior to the contributing lit marketplace's regular Pre-Open or Open Market State a marketplace may send "start of day" messages that will define the valid security symbols eligible for trading on that marketplace. Some markets contributing to the CDF may also provide order messages at start of day that define the open orders to be carried over to the current day's order book for that specific marketplace.

The following table provides each CDF lit marketplace's transmission times as well as the expected time of start of day messages if applicable.

| Exchange | Transmission Times | | Approx time of Start of Day  Messages |
|---|---|---|---|
| | Start | End | |
| Alpha | 03 :00 | 17 :00 | 03 :05 |
| Chi-X | 00 :15 | 17 :00 | 00 :15 |
| CX2 | 00 :15 | 17 :00 | 00 :15 |
| CNSX | 04 :30 | 18 :00 | 04 :30 |
| Omega | 05 :00 | 17 :00 | 05 :00 |
| Pure | 05 :00 | 17 :00 | 05 :00 |
| TSX | 03 :00 | 17 :00 | 03 :05 |
| TSX Venture | 03 :00 | 17 :00 | 03 :05 |
| TMX Select | 03 :00 | 17 :00 | 03 :05 |

All times are in Eastern Standard Time

**Symbol List**

| Marketplace | Message Type | Description |
|---|---|---|
| TSX<br>TSX Venture<br>TMX Select<br>Pure<br>Alpha<br>CNSX | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| CHI-X<br>Omega | StockStatusMessage | This message indicates the current trading status of a stock (i.e. Authorized, Halted). At the start of day, the stock status message will be sent out for each of the symbols trading on the marketplace for the current trading day and its current stock state.<br><br>**Please Note: Subsequently, stock status messages for <u>all marketplaces</u> will be sent when a stock is halted or is released for trading.** |

**Open Orders**

| Marketplace | Message Type | Description |
|---|---|---|
| Alpha<br>TSX<br>TSX Venture<br>Pure<br>CNSX | OrderBook | OrderBook message provides the public information for <u>all</u> open orders in the market for a market centre. The information is as of the end of the previous business day. |
| CHI-X<br>Omega | order/cancel confirmation ConfirmationType=booked | An order/cancel confirmation report message provides the public information for booked orders in the market for a market centre.<br><br>**Please Note: subsequent order/cancel confirmation messages will be sent in response to <u>a new order, modified order, CFO'd order or order cancel being entered into any of the CDF marketplace's trading systems.</u>** |

     **v.    Market State Message**

A market state change message is sent by some marketplaces whenever a notice of a market state change or a trading session change has been received from a marketplace.   The current eligible market states are:

Pre-open
Opening
Open
Closed
Extended Hours Open
Extended Hours Close
Extended Hours CXLs

MOC Imbalance
CCP Determination
PriceMovementExtension
Closing

# 2. Establishing the Regular Book for the CDF Marketplaces

The three messages are required to build a CDF Book: Order/Cancel Confirmation Report, MBX Message and Trade Report. Market and Stock Status messages are not required to build the order book.

Only orders with a disclosed volume of one standard trading unit or more (board lot orders) and orders that do not have Special Terms should be used to build the regular order book. Board lot, odd lot, and Special Terms orders need to be handled differently for the CDF Book. In order to create an accurate regular order book, these orders must be separated and only board lot orders are to be included in the regular order book.

### i. Board lot Orders

Orders for one standard trading unit or multiples of the standard trading unit (also referred to as board lots) participate in the regular order book.

**Standard Trading Units**

| Price | Trading Unit |
|-------|--------------|
| Under $0.10 | 1,000 shares |
| $0.10 to $0.99 | 500 shares |
| **$1.00 and over** | **100 shares** |

### ii. Odd lot Orders

Orders for less than one standard trading unit (also referred to as odd lot orders) do not participate in the regular order book and can be ignored. Note: there is no specific message indicating whether an order is a board lot or and odd lot.

Only the board lot portion of a mixed lot order should be booked the regular order book. Note that both will have the same order number.

### iii. Special Terms Orders

Special Terms orders should be separated based on the following constraints:

| Special Terms type | Value to Look for |
|--------------------|-------------------|
| Non-Resident | "Y" |
| Settlement Terms | Any valid value as per the CDF specification. |

### iv. Eligible Orders

Each order message corresponds to ONE order in the order book, containing all the relevant information for that order. In order to properly update an order book for a CDF marketplace, the messages from eligible marketplaces must be processed in sequence.

The OrderNumber is generally the unique identifier of an order; however, some marketplaces require a combination of the Symbol/BrokerNumber/OrderNumber to uniquely identify the order.

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| Field | Field Value |
|---|---|
| BrokerNumber | Broker who entered the order (maybe "0" or "001" if not provided or anonymous) |
| MarketSide | Buy or Sell |
| OrderNumber | Unique number of the order assigned by the marketplace |
| PublicPrice | Price of the order |
| Symbol | Trading symbol |
| CFOdOrderNumber | This value is provided by some marketplaces that support CFO orders. The CFOdOrderNumber is the original order number of the order that was CFO'd |
| TradingSysTimeStamp | Time that the event occurred on the Marketplace's trading engine |
| PriorityTimeStamp | This value is provided by some marketplaces to indicate current time sequence of an order. This field is used to determine the sequence in which orders for the same symbol and same price are booked. |
| Volume | Current remaining volume of the order. |
| NonResident | Optional field to indicate a "NonResident" order. |
| SettlementTerms | Optional field to indicate if the order has any "SettlementTerms". |

## 3. Order/Cancel Confirmation Report

There are generally four (4) different types of Order/Cancel Confirmation Reports that can be received from a marketplace: "Booked", "Cancelled", "PriceAssigned", and "AssignTimePriority". The following identifies the actions that need to be taken for each case.

### i. ConfirmationType = "Booked"

This report identifies a new order that is entered by the marketplace. To update the order book, add this order.

**Modified Booked Orders**
Order/Cancel Confirmation Reports with ConfirmationType=Booked can be received from a marketplace to modified the volume of an existing Order in the order book when the Order/Cancel Confirmation Reports has the same OrderNumber as the booked order.

Order/Cancel Confirmation Reports with ConfirmationType=Booked can be received from a marketplace to modified the PublicPrice of an existing Order in the order book when the Order/Cancel Confirmation Reports has the same OrderNumber as the booked order.

**Change Former Booked Order (CFO)**
Order/Cancel Confirmation Reports with ConfirmationType=Booked can be received from a marketplace to change the attributes of an existing Order in the order book when the Order/Cancel Confirmation Reports has the same CFOdOrderNumber as the OrderNumber of the booked order. This Order/Cancel Confirmation Report replaces the former order and a new OrderNumber is given.

### ii. ConfirmationType = "PriceAssigned"

This report indicates that the price of an order in the order book has changed (assigned by the marketplaces' trading engine). The object is an existing order in the order book. This order should be found and updated with the new price.

**iii. ConfirmationType = "AssignTimePriority"**

This report indicates that the priority of an order in the order book has been changed by the marketplace. The object is an existing order in the order book. This order should be found and updated with the new Priority Time Stamp.

**iv. ConfirmationType = "Cancelled"**

This report identifies when an existing order is cancelled or modified. The order should be 1) removed from the order book or 2) updated in the order book when a portion of the orders volume has been cancelled.

# 4. MBX Message

MBX is the generic name for a "market by order" and a "market by price" order type. One or more eligible marketplaces contributing to the CDF may permit MBX orders. There are two types of MBX Messages: "AssignCOP" and "AssignLimit". The MBX Message will affect one or more existing orders in the order book. When more than one of the existing orders are affected, it uses the standard field to list out all the OrderNumbers.

**i. BusinessAction = "AssignCOP"**

The price of all affected orders participating in the Opening has been changed to the Calculated Opening Price.

**ii. BusinessAction = "AssignLimit"**

Better priced limit orders are adjusted to their true limits.

# 5. Trade Report

There are generally only three types of Trade Reports from each marketplace: BusinessAction="Trade", Business Action="Cancelled" and a Trade Correction. A Trade Report can contain one or two OrderNumbers that identify the orders on the Buy and Sell sides depending on the marketplace – some marketplaces only provide an OrderNumber to the order that was "Booked" at the time of the Trade. Generally the corresponding BrokerNumber for each side is also provided but may not be the case for all marketplaces. Some marketplaces but not all require Trade Reports for the purpose of keeping an order book. For updating the order book a trade report where the buy and sell order is not the order book can be ignored.

A trade report should be divided into two sides: Buy and Sell. The following table deals with one of the two sides only. Note that the handling of either side is exactly the same.

| Field | Field Value |
|-------|-------------|
| BrokerNumber | Broker who participated in the Trade (maybe "0" or "001" if not provided or anonymous) |
| MarketSide | Buy or Sell |
| OrderNumber | Unique number of the order assigned by the marketplace |
| Price | Price of the Trade |
| Symbol | Trading symbol |
| TradeNumber | Unique identifier assigned to each Trade |

| TradingSysTimeStamp | Time that the event occurred on the Marketplace's trading engine |
|---|---|
| DisplayVolume | This value is provided by some marketplaces and is the remaining current volume of the order in the order book after the trade. |
| PriorityTimeStamp | This value is provided by some marketplaces to indicate current time sequence of an order. This field is used to determine the sequence in which orders for the same symbol and same price are booked. |
| CFOdOrderNumber | This value is provided by some marketplaces to indicate an order in the order book has been CFO'd resulting in a trade. |
| TradeCorrection | Indicates if the trade is a result of a trade correction or normal fill. |
| OrigTradeId | This value is used with trade corrections to reference a previously reported Trade Report and side initiating the cancel/correction. |
| TradeTimeStamp | The time in which the trade occurred, manually set when a trade is inserted by a marketplace (Trade Correction). |

### i.  BusinessAction = "Trade"

Order has partially or fully traded

A general rule of thumb – if provided by the marketplace, always use the DisplayVolume Tag (150) as a cross reference for the order book.  The DisplayVolume will be updated with a replenished iceberg order.

### ii.  BusinessAction = "Cancelled"

A BusinessAction of "Cancelled" will appear in the TradeReport when the marketplace cancels a trade after it has been transacted.

### iii.  Trade Corrections

A trade correction will be sent when a trade is manually entered by a marketplace. No action is required for updating the order book.

# 6. Order and Trade Messages by Marketplace

### i. CDF- DARK MARKETS

CDF feeds for contributing dark markets will only consist of administrative and trade messages.

| Market | Expected Messages Types | Notes: |
|---|---|---|
| TriAct | Trade Report | - TriAct Match Now does not support trade numbers, in consequence any trade corrections or cancellation will not reference prior trade reports. |
| Instinet | Trade Report | |
| Liquidnet | Trade Report | - Expected length of the TradeID field is 16 digits |

### ii. CDF- LIT MARKETS

#### a) CDF – ALPHA

| Object | Message Type | Description |
|---|---|---|
| Symbol List | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| Open Orders | OrderBook | OrderBook message provides the public information for all open orders in the market for a market centre. The information is as of the end of the previous business day. |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. **A combination of Symbol, BrokerID and OrderNumber is used to uniquely identify the order.** |
| CFO Order | order/cancel confirmation ConfirmationType=booked | CFOdOrderNumber is same as existing OrderNumber in the order book<br><br>Replace the order in the order book together with all values of the supplied fields. |
| Update order Price | order/cancel confirmation ConfirmationType=PriceAssigned | The price of an order has been changed by the marketplace.<br><br>Find the order in the order book and set the price equal to the PublicPrice field in the message. |
| Change Order Time Priority | order/cancel confirmation ConfirmationType=AssignTimePriorty | The priority of an order has been changed by the marketplace<br><br>Find the order in the order book and set the PriorityTimeStamp of the order equal to the PriorityTimeStamp field in the message. |
| Cancel Order | order/cancel confirmation ConfirmationType=Cancelled | Remove order from the order book. |
| Assign Calculated Opening Price | MBX Message BusinessAction=AssignCop | 1*OrderKey will identify all orders to be affected.<br><br>Find all the affected orders in the order book and set their |

| | | price equal to the CalculatedOpeningPrice field in the message. |
|---|---|---|
| Assign Limit Price | MBX Message BusinessAction=AssignLimit | 1*OrderKey will identify all orders to be affected.<br><br>1*Price will contain the corresponding price for each of the affected orders.<br><br>Find all the affected orders in the order book and set their price equal to the corresponding Price |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | If the Display Volume is greater than 0, this would indicate that this order has been partially filled.<br><br>Find the order identified by OrderNumber<br><br>Replace the quantity by the VOLUME amount in the DisplayVolume |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

### b) CDF - CHI-X & CDF-CX2

| Object | Message Type | Description |
|---|---|---|
| Symbol List | StockStatusMessage | This message indicates the current trading status of a stock (i.e. Authorized, Halted). At the start of day, the stock status message will be sent out for each of the symbols trading on the marketplace for the current trading day and its current stock state.<br><br>**Note: Subsequently, stock status messages for all marketplaces will be sent when a stock is halted or is released for trading.** |
| Open Orders | order/cancel confirmation ConfirmationType=booked | Prior to the regular trading session these order/cancel confirmation messages provides the public information for booked orders in the market for a market centre.<br><br>**Note: subsequent order/cancel confirmation messages will be sent in response to a new order, modified order, CFO'd order or order cancel being entered into any of the CDF marketplace's trading systems.** |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. |
| Modify Order Price<br><br>(order is cancelled and replaced) | order/cancel confirmation ConfirmationType=Cancelled<br><br>order/cancel confirmation ConfirmationType=booked | Cancel Order in the order book.<br><br>Add the order to the order book together with all values of the supplied fields. |
| Cancel Order (partial or fully cancelled) | order/cancel confirmation ConfirmationType=Cancelled | The order volume in then replaced in quantity by the VOLUME amount in the order/cancel confirmation message. If the volume reaches "0" order is removed. |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | Find the order identified by OrderNumber<br><br>Reduce the volume of the order in the order book by the Volume of the Trade Report<br><br>If the volume of the order in the order book is now zero, remove order from the order book |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

c) **CDF- CNSX**

| Object | Message Type | Description |
|---|---|---|
| Symbol List | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| Open Orders | OrderBook | OrderBook message provides the public information for <u>all</u> open orders in the market for a market centre. The information is as of the end of the previous business day. |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. **A combination of Symbol, BrokerID and OrderNumber is used to uniquely identify the order.** |
| CFO Order | order/cancel confirmation ConfirmationType=booked | CFOdOrderNumber is same as existing OrderNumber in the order book<br><br>Replace the order in the order book together with all values of the supplied fields. |
| Update order Price | order/cancel confirmation ConfirmationType=PriceAssigned | The price of an order has been changed by the marketplace.<br><br>Find the order in the order book and set the price equal to the PublicPrice field in the message. |
| Change Order Time Priority | order/cancel confirmation ConfirmationType=AssignTimePriorty | The priority of an order has been changed by the marketplace<br><br>Find the order in the order book and set the PriorityTimeStamp of the order equal to the PriorityTimeStamp field in the message |
| Cancel Order | order/cancel confirmation ConfirmationType=Cancelled | Remove order from the order book |
| Assign Calculated Opening Price | MBX Message BusinessAction=AssignCop | 1*OrderKey will identify all orders to be affected.<br><br>Find all the affected orders in the order book and set their price equal to the CalculatedOpeningPrice field in the message. |
| Assign Limit Price | MBX Message BusinessAction=AssignLimit | 1*OrderKey will identify all orders to be affected.<br><br>1*Price will contain the corresponding price for each of the affected orders.<br><br>Find all the affected orders in the order book and set their price equal to the corresponding Price field in the message. |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | If the Display Volume is greater than 0, this would indicate that this order has been partially filled.<br><br>Find the order identified by OrderNumber<br><br>Replace the quantity by the VOLUME amount in the DisplayVolume |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

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### d) CDF - Omega

| Object | Message Type | Description |
|---|---|---|
| Symbol List | StockStatusMessage | This message indicates the current trading status of a stock (i.e. Authorized, Halted). At the start of day, the stock status message will be sent out for each of the symbols trading on the marketplace for the current trading day and its current stock state.<br><br>**Note: Subsequently, stock status messages for all marketplaces will be sent when a stock is halted or is released for trading.** |
| Open Orders | order/cancel confirmation<br>ConfirmationType=booked | Prior to the regular trading session these order/cancel confirmation messages provides the public information for booked orders in the market for a market centre.<br><br>**Note: subsequent order/cancel confirmation messages will be sent in response to a new order, modified order, CFO'd order or order cancel being entered into any of the CDF marketplace's trading systems.** |
| New Order | order/cancel confirmation<br>ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. |
| Modify Order | order/cancel confirmation<br>ConfirmationType=booked | OrderNumber exist in the order book.<br><br>The order volume in then decreased in quantity by the VOLUME amount in the order/cancel confirmation message. If the displayed volume of the order in the order book reaches "0" order is removed. |
| Cancel Order (partial or fully cancelled) | order/cancel confirmation<br>ConfirmationType=Cancelled | The order volume is decreased in quantity by the VOLUME amount. If the displayed volume of the order in the order book reaches "0" order is removed.<br><br>If the VOLUME in the message is "0", order is removed. |
| Order has partially or fully traded | TradeReport<br>BusinessAction=Trade | Find the order identified by OrderNumber<br><br>Reduce the volume of the order in the order book by the Volume of the Trade Report<br><br>If the volume of the order in the order book is now zero, remove order from the order book |
| Trade Cancellation | TradeReport<br>BusinessAction=Cancelled | No action is required for updating the order book. |

e) **CDF- Pure**

| Object | Message Type | Description |
|---|---|---|
| Symbol List | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| Open Orders | OrderBook | OrderBook message provides the public information for <u>all</u> open orders in the market for a market centre. The information is as of the end of the previous business day. |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. **A combination of Symbol, BrokerID and OrderNumber is used to uniquely identify the order.** |
| CFO Order | order/cancel confirmation ConfirmationType=booked | CFOdOrderNumber is same as existing OrderNumber in the order book<br><br>Replace the order in the order book together with all values of the supplied fields. |
| Update order Price | order/cancel confirmation ConfirmationType=PriceAssigned | The price of an order has been changed by the marketplace.<br><br>Find the order in the order book and set the price equal to the PublicPrice field in the message. |
| Change Order Time Priority | order/cancel confirmation ConfirmationType=AssignTimePriorty | The priority of an order has been changed by the marketplace<br><br>Find the order in the order book and set the PriorityTimeStamp of the order equal to the PriorityTimeStamp field in the message |
| Cancel Order | order/cancel confirmation ConfirmationType=Cancelled | Remove order from the order book |
| Assign Calculated Opening Price | MBX Message BusinessAction=AssignCop | 1*OrderKey will identify all orders to be affected.<br><br>Find all the affected orders in the order book and set their price equal to the CalculatedOpeningPrice field in the message. |
| Assign Limit Price | MBX Message BusinessAction=AssignLimit | 1*OrderKey will identify all orders to be affected.<br><br>1*Price will contain the corresponding price for each of the affected orders.<br><br>Find all the affected orders in the order book and set their price equal to the corresponding Price field in the message. |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | If the Display Volume is greater than 0, this would indicate that this order has been partially filled.<br><br>Find the order identified by OrderNumber<br><br>Replace the quantity by the VOLUME amount in the DisplayVolume |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

### f) CDF-TSX & TSXV

| Object | Message Type | Description |
|---|---|---|
| Symbol List | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| Open Orders | OrderBook | OrderBook message provides the public information for <u>all</u> open orders in the market for a market centre. The information is as of the end of the previous business day. |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. **A combination of Symbol, BrokerID and OrderNumber is used to uniquely identify the order.** |
| CFO Order | order/cancel confirmation ConfirmationType=booked | CFOdOrderNumber is same as existing OrderNumber in the order book

Replace the order in the order book together with all values of the supplied fields. |
| Update order Price | order/cancel confirmation ConfirmationType=PriceAssigned | The price of an order has been changed by the marketplace.

Find the order in the order book and set the price equal to the PublicPrice field in the message. |
| Change Order Time Priority | order/cancel confirmation ConfirmationType=AssignTimePriorty | The priority of an order has been changed by the marketplace

Find the order in the order book and set the PriorityTimeStamp of the order equal to the PriorityTimeStamp field in the message. |
| Cancel Order | order/cancel confirmation ConfirmationType=Cancelled | Remove order from the order book. |
| Assign Calculated Opening Price | MBX Message BusinessAction=AssignCop | 1*OrderKey will identify all orders to be affected.

Find all the affected orders in the order book and set their price equal to the CalculatedOpeningPrice field in the message. |
| Assign Limit Price | MBX Message BusinessAction=AssignLimit | 1*OrderKey will identify all orders to be affected.

1*Price will contain the corresponding price for each of the affected orders.

Find all the affected orders in the order book and set their price equal to the corresponding Price |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | If the Display Volume is greater than 0, this would indicate that this order has been partially filled.

Find the order identified by OrderNumber

Replace the quantity by the VOLUME amount in the DisplayVolume |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

### g) CDF – TMX Select

| Object | Message Type | Description |
|---|---|---|
| Symbol List | SymbolStatusMessage | This message provides information for equity, debenture or trading instruments for the current trading day. |
| New Order | order/cancel confirmation ConfirmationType=booked | Add the order to the order book together with all values of the supplied fields. **A combination of Symbol, BrokerID and OrderNumber is used to uniquely identify the order.** |
| CFO Order | order/cancel confirmation ConfirmationType=booked | CFOdOrderNumber is same as existing OrderNumber in the order book<br><br>Replace the order in the order book together with all values of the supplied fields. |
| Update order Price | order/cancel confirmation ConfirmationType=PriceAssigned | The price of an order has been changed by the marketplace.<br><br>Find the order in the order book and set the price equal to the PublicPrice field in the message. |
| Change Order Time Priority | order/cancel confirmation ConfirmationType=AssignTimePriorty | The priority of an order has been changed by the marketplace<br><br>Find the order in the order book and set the PriorityTimeStamp of the order equal to the PriorityTimeStamp field in the message. |
| Cancel Order | order/cancel confirmation ConfirmationType=Cancelled | Remove order from the order book. |
| Order has partially or fully traded | TradeReport BusinessAction=Trade | If the Display Volume is greater than 0, this would indicate that this order has been partially filled.<br><br>Find the order identified by OrderNumber<br><br>Replace the quantity by the VOLUME amount in the DisplayVolume |
| Trade Cancellation | TradeReport BusinessAction=Cancelled | No action is required for updating the order book. |

## iii.    Definitions

| Term | Definition |
|------|-----------|
| NI 21-101 | National Instrument 21-101 Marketplace Operation |
| UMIR | Universal Market Integrity Rules adopted by Investment Industry Regulatory Organization of Canada. |
| Marketplace | exchange, quotation and trade reporting system, and alternative trading system |
| Protected Marketplace | A marketplace that disseminates **order and trade data** in real-time and electronically to the information processor or one or more information vendor.  Also referred to Central Limit Order Book (CLOB) markets |
| Non Protected Marketplace | A marketplace that disseminates **only trade data** in real-time and electronically to the information processor or one or more information vendor.  Also referred to opaque and dark pool markets. |
| Contributing Marketplace | Canadian marketplaces which have entered  into an arrangement with Datalinx to contribute their pre- and post trade data for the CDF and CDF products |
| Information Processor | Any person or company that receives and provides information under NI 21-101. |
| Last Sale Price | The price of the last sale of at least one standard trading unit of a particular exchange traded security but does not include a trade resulting from a Basis order, Call Market order, Closing Price Order, special terms order not executed against an order(s) other than a special terms order and a volume-weighted average price order. |
| TSX Vendor Services | Provides frontline support for TMX IP clients |
| Security | Each valid trading symbol on the TSX or TSXV is refered to as either a TSX listed security or a TSXV listed security |
| ExchangeId | Identifies the marketplace where the message originated |

## iv.    Revision History

| Version | Date | Changes |
|---------|------|---------|
| 1.0 | August 30, 2010 | Initial release |
| 1.1 | May 18, 2011 | Add TSXV & TMX Select<br>Updated section 3 and 6 to include Alpha modifying messages for price change<br>Updated section 6 for TSXV and TMX Select.<br>Removed reference to Dark Markets. |
| 1.2 | July 13, 2011 | Correction in chart under iv. ConfirmationType = "Cancelled", for CHIX changed "decrease" to "replace" |
| 1.3 | October 31, 2011 | Removed charts in Order/Cancel Confirmation Report, MBX message, & Trade Report (this information is under "Order and Trade Messages By Marketplace".)<br>Updated guide for Omega<br>Add CNSX |
| 1.4 | November 28, 2011 | Updated Omega  guidelines |
| 1.5 | October 30, 2012 | General clean up.<br>More clarity on expected dark pool messages. |
| 1.6 | April 3, 2013 | Updates for the move to Alpha on Quantum<br>Addition of book building guide for CDF-CX2 |
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