



MATCH NowSM

Access Vendor Guide February 2012

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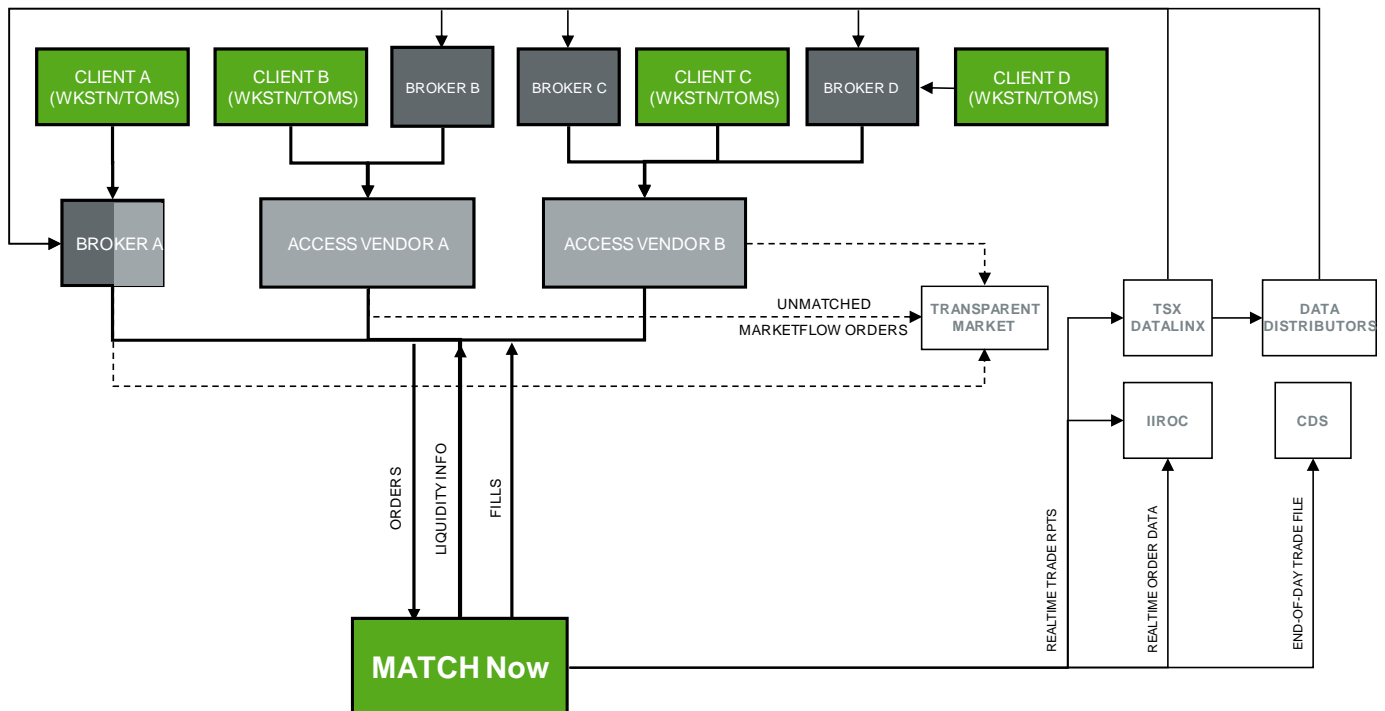
MATCH Now Overview

MATCH NowSM is a Canadian Alternative Trading System (ATS) operated by TriAct Canada Marketplace LP (TriAct) for all TSX-listed and TSX-venture securities (currently excluding debentures, stocks with special settlement terms and those that trade in U.S. dollars) that combines frequent call matches and continuous execution opportunities in a fully confidential trading book. *MATCH Now is represented by two FIX-based destinations accessible through existing trading applications.*

Third party networks and registered dealers that maintain their own proprietary market connections (collectively, Access Vendors) connect to MATCH Now for the purpose of transmitting orders submitted by Subscribers and Direct Access Clients. MATCH Now acts strictly as a broker-neutral matching facility; it does not participate on an agency or proprietary basis in any trade.

The MATCH Now system uses real-time quotes for all transparent Canadian markets (e.g. TSX, TSX Venture, Pure Trading, Chi-X, Alpha, Omega and TMX Select). All orders matched within MATCH Now are executed at a price inside the national best bid and offer (NBBO) at the time of the match, to a maximum of 3 decimal places. MATCH Now matches board lot, DAY orders only, for regular and short settlement, and is available from 8:00am daily, operating during normal market hours, 9:30am to 4:00pm.

MATCH Now Data Flow



Two Unique Destinations

From existing trading applications, users can choose one of two new market destinations – MATCH Now Liquidity (LP) or best market / smart routing. When sending an order to the LP destination, the order routes directly to MATCH Now to trade in the confidential book. When sending an order to the best market / smart routing destination, the order checks MATCH Now for a potential match on its way to another Canadian marketplace.

MATCH Now Liquidity Destination

By choosing the MATCH Now Liquidity destination, market participants send orders directly to MATCH Now. These orders will remain in the MATCH Now book as day orders unless they are cancelled or expire. LP orders are matched with one another throughout the day, automatically executing in 5-second (randomized) intervals.

MATCH Now Marketflow Destination

Access Vendors should “smart-route” to the MATCH Now MF destination *before sending those orders to the displayed markets*. Each order “glances” into the MATCH Now Liquidity Pool. If a potential match exists within MATCH Now, the order will route to MATCH Now Marketflow, and will match immediately to the extent possible. Any unfilled balances of Marketflow orders will be returned to the initiating Access Vendor for on-routing to another (displayed) marketplace.

Connectivity

Access Vendors will have the option of internet connectivity or installing a direct link in order to access the MATCH Now network. The MATCH Now infrastructure is hosted by ITG Canada Corp. Access Vendors that already have connectivity to ITG Canada Corp. may be able to leverage existing lines.

TNS is one of TriAct’s standard networking provider. The TNS network uses secure Points of Presence (POPs), complete with back-up. Security and privacy is assured by establishing Logical Virtual Connections (LVCs) to exchange transactions only when the parties have mutually agreed to do so. For FIX connectivity via TNS, LVC’s will be provisioned between MATCH Now and the Access Vendor.

TriAct also supports connectivity from Atrium and will consider other network providers that are willing to connect to our data center. Please contact TCM_Network@triactcanada.com (416) 874-0888 for details and to see if a particular network provider is approved or can be added.

TriAct can also provide cross connections from local Toronto data centers for \$500/month/cross connect with a \$500 one time set-up fee. See Appendix A for a list of current data centers.

For FIX connectivity over the internet, the vendor must provide TriAct personnel with the public IP address of its server. The vendor must open its firewall to allow internal servers to connect to TriAct’s internet proxy servers on a specified port.

Access Vendors are responsible for the costs associated with connecting to the MATCH Now system.

Messaging Protocol

The MATCH Now system recommends FIX 4.2 protocol but can support FIX 4.0.. TriAct will test and certify all connections prior to production release.

The MATCH Now Liquidity destination will receive new orders via one of two FIX interfaces: one FIX single-order based, and the other FIX list-order based. If the MATCH Now Liquidity interface is dropped, order and report messages will be replayed.

MATCH Now Marketflow orders will be received over a separate FIX interface and should always be FIX single-order based. If the MATCH Now Marketflow interface is dropped, order and report messages will be replayed.

Liquidity information (see below for details) will be delivered to Access Vendors on the MATCH Now Marketflow interface. If the MATCH Now Marketflow interface is dropped, messages will be sent for *current* liquidity information only and not replayed.

Order Filtering

To minimize order processing latency, various methods of filtering for Access Vendors that can be applied to Marketflow orders, based on liquidity existing within the MATCH Now order book. The goal is to determine as rapidly as possible whether a potential match exists within MATCH Now for each Marketflow order, so as to minimize turnaround latency on orders that are not able to match and should therefore be routed to another trading venue.

1. MATCH Now can provide Access Vendors with a streaming feed of liquidity information, referred to as the “**LIP (Liquidity Information Protocol) Feed**”. Limited information (symbol and side only) regarding the liquidity available in MATCH Now is disseminated to Access Vendors in real time via FIX email, for purposes of determining whether there is a potential match for Marketflow orders. Access Vendors may not distribute or use this confidential liquidity information for any other purpose. No details regarding individual orders sent to or residing within MATCH Now will be publicized to MATCH Now participants or any person other than authorized TriAct representatives. There are three options for the LIP Feed depending on what version of FIX the Access Vendor is using and the bandwidth capacity of their connectivity (see below). An access vendor needs to select the most appropriate option based on message traffic limitations.

Vendor Situation (Smart Order Router needs LIP feed)	LIP Feed Solution	comments
FIX 4.0	LIP 1 – Add messages only	suppressing delete messages so that only an add message is communicated.
FIX 4.0 that accepts infinity But has low capacity for network traffic	LIP 2 – Throttled for delete messages so that if multiple adds and deletes are received it only updates when liquidity has not been available for a time period	Receives adds and deletes but the LIP throttles delete messages (a periodic evaluation for deletes messages set at 3-10 seconds) while still providing adds messages immediately

FIX 4.0 that accepts infinity high capacity for network traffic	LIP 3 send add and delete messages for every update of the liquidity information,	No filtering which means this can be very high in volatile markets.
FIX 4.2 But has low capacity for network traffic	LIP 3 send add and delete messages for every update of the liquidity information,	Receives adds and deletes but the LIP throttles delete messages (a periodic evaluation for deletes messages set at 3-10 seconds) while still providing adds messages immediately
FIX 4.2 that accepts infinity high capacity for network traffic	LIP 3 send add and delete messages for every update of the liquidity information,	No filtering which means this can be very high in volatile markets.

- For Access Vendors that send a high volume of Marketflow orders and that do not receive a LIP feed, MATCH Now can configure an internal filtering process called “**FIXNOW**”. The FIXNOW performs a rapid, memory-resident, smart filtering of the orders, taking into consideration certain specific attributes of the orders in the MATCH Now liquidity pool, and rapidly rejecting those Marketflow orders that will not be able to find a match.

Subscribers may also instruct MATCH Now to exclude a trader ID from being included in the LIP feeds. The consequence of excluding a trader ID means that Liquidity may then be bypassed by smart routed flow. This liquidity will otherwise continue to interact normally with any marketflow routed to MATCH Now by vendors that do not use a LIP feed or if other liquidity for the same symbol and side has been included by any other Trader ID by that or another subscriber. Instructions to exclude a Trader ID must be provided to TriAct by e-mail and any such changes may take 2-4 business days.

How to Use the LIP Feed

Access Vendors will need to process the LIP feed and store the liquidity information for use in processing MATCH Now *Marketflow orders only*. Orders with the potential for a match should be sent to the MF destination. An order is deemed to have a potential match if the LIP feed contains the same symbol and same side of the order entered.

For efficient routing, it is recommended that vendors perform price checks on limit orders. Only limit buy orders that are higher than the best bid, and limit sell orders that are lower than the best offer will have potential to participate in a MATCH Now match, as the execution price will always be inside the NBBO.

For comprehensive information on the LIP feed, please see the *MATCH Now FIX Specification & Developer’s Guide*.

Order Attributes

The MATCH Now marketplace supports both market and limit orders. MATCH Now accepts board lot and mixed lot DAY orders for regular settlement, but will trade in board lots only. (When mixed lot orders

are sent to the MATCH Now MF destination, the odd lot portion will be forwarded on to the primary market – via the Access Vendor – upon successful completion of the board lot portion. When mixed lot orders are sent to the MATCH Now Liquidity destination, only the board lot portion will fill and it is the responsibility of the user to cancel the remaining odd lot portion.)

The following selected attributes are supported for *all MF orders and LP (single and list) orders*:

- **Short Sales:** LP short sales may trade below the last sale. MF shorts that cannot trade at / above the last sale will be routed back to the Access Vendor for forwarding on to the chosen marketplace.
- **Short-exempt Sales:** These will be treated like sell orders – i.e. they may trade on a down-tick.
- **Anonymous:** Trades for unattributed (anonymous) orders will be publicly reported with broker # 001. If the order is not marked “anonymous”, the trade will be attributed to the executing broker’s (TSX) broker number.
- **Jitney:** Jitney orders will be matched according to the executing broker.
- **Price Protection:** By specifying a limit price, users can establish a cap/floor above/below which their orders will not trade.
- **Minimum Fill Volume:** Users can set the minimum number of shares per fill to be executed in MATCH Now.
- **Expiration Time:** Specifies how long an LP order remains in the system. Open orders in the MATCH Now can also be cancelled at any time. (Marketflow orders with an expired time that has passed will be rejected.)

MATCH Now will check incoming order designations and reject to the Access Vendor any orders that are not supported. Where an order has been accepted by MATCH Now, designations that are not required for purposes of MATCH Now matching will be reported to the Investment Industry Regulatory Organization of Canada Inc. (IIROC) in accordance with the Universal Market Integrity Rules (UMIR).

Please see the *MATCH Now FIX Specification & Developer’s Guide* for comprehensive details on MATCH Now messaging, including accepted and rejected order tags.

Parameters for Liquidity Providers

In addition to standard FIX messaging, MATCH Now combines a number of unique features that enable users to control trade execution, minimize risk, and achieve overall trading goals.

Only *LP single and list orders* can be sent with the following optional settings:

- **Midpoint Eligibility:** midpoint-eligible LP orders will match with other LP orders; non-midpoint-eligible LP orders will match only with Marketflow orders.
- **Locked Market Exclusion:** with this setting, LP orders will not trade if there is a locked market – i.e. if the NBBO bid is equal to the offer.

LP *lists* can also be sent with the following optional settings:

- **Buy/Sell Imbalance:** maximum dollar value by which portfolio buys can exceed sells / vice-versa.

Cancel Time, Minimum Shares, Midpoint Eligibility & Locked Market Exclusion: can be set for the entire list and will apply to each order in the list. If comparable parameters are included for any single order in the list, these order-level parameters will take precedence over the list parameters.

These parameters can be configured by TriAct with specific user defaults. Additionally, from an Access Vendor trading application or via the MATCH Now web portal, users can override these defaults by establishing order- / list-specific parameters.

All attributes and parameters are applied in the following order of precedence: (1) orders; (2) lists; (3) user defaults; (4) system settings.

Vendor Application Changes

The primary application change for Access Vendors is the addition of two new trading destinations.

MATCH Now Liquidity Destination

Vendors who wish to provide clients with MATCH Now-specific functionality may require changes to their front-end trading application to allow for the setting of parameters for LP orders.

MATCH Now Marketflow Destination

Aside from the routing changes referenced earlier in this document, no application-level changes are required for the Marketflow destination. Consistent with current practices for TSX-bound orders, MF orders submitted by Direct Access Clients should be visible and accessible to responsible dealers for purposes of canceling, changing or rejecting orders and trades.

Firm Book Display

Access Vendors may create a firm book display of their Subscribers' live LP orders.

User Configuration

To configure users, TriAct requires each individual's TSX trading ID and executing broker number. Both the MATCH Now Liquidity and Marketflow destinations will validate users through the SenderSubId tag containing the user information.

Order & Trade Reporting

The system will return a FIX Execution Report for each trade to the originating Access Vendor immediately following each match.

Public trade reports are disseminated in real time via TSX Datalinx in standard format (similar to TL1) and the TMX Information Processor. All matches are printed as having been completed in MATCH Now, with broker numbers, or with broker 001 for orders that were marked anonymous, in accordance with UMIR requirements.

Private (encrypted) and public order and trade information is also distributed in real time, in standard format (similar to TBF) via TSX Datalinx, and is accessible to Subscribers through decryption keys provided by TriAct personnel.

Data distributors that receive MATCH Now trade reports are encouraged to integrate MATCH Now trades with TSX and other markets' trades of the same security in their "time and sales" displays.

Daily MATCH Now trade reports are sent to CDS; it is the Subscribers' responsibility to clear and settle accordingly.

Legal Agreements

Access Vendors must execute the TriAct Network Connectivity Agreement and the Client Connection Options (appendix A) , which includes, among other things, confidentiality provisions restricting the use of MATCH Now liquidity information, and must provide MATCH Now with a satisfactory written description of how their systems and/or policies will ensure compliance with these provisions.

Appendix A, Client Connection Options

Company: _____

Date: _____

Triact Canada Marketplace LP (TCM) **Client Connection Options**

TCM clients have the following options to connect to TCM. Please return the completed form to Triact Canada Marketplace (TCM) via Fax: (416) 861-8768 or email: CAN-TriactSupport@triactcanada.com.

Please contact the TCM network team, if you have any questions related to connectivity options.
Email Contact: TCM_Network@triactcanada.com
Phone Support: (416) 874-0888

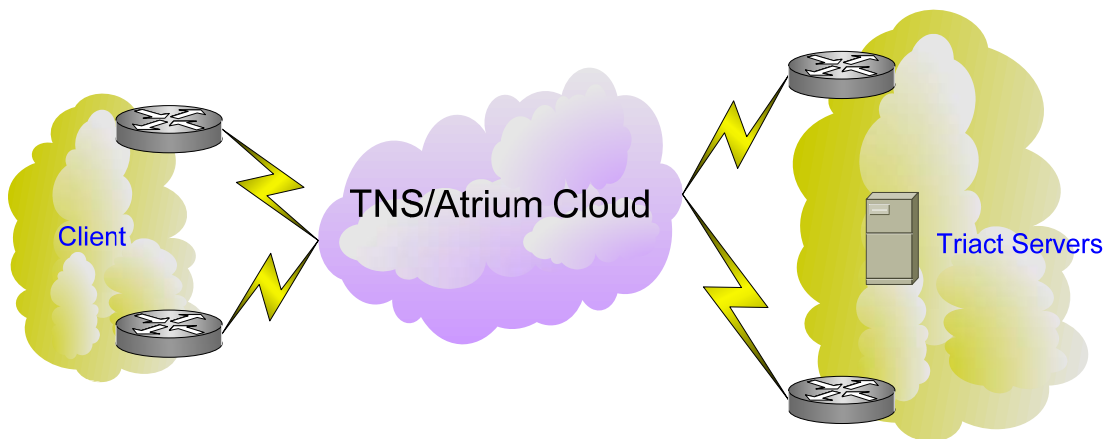
Option 1: Connection via Service Provider

Client Responsibilities:

- Routing up to TNS/Atrium router at client site.
- Obtain quotes, and bandwidth requirements must be coordinated with the Service Provider

TNS/Atrium Responsibilities:

- Coordinate primary and backup circuit installs with the carrier
- Provide, configure and manage router at client site
- Configure and manage the connectivity from Client site TNS/Atrium router to TCM router
- 24/7 support and monitoring
- Bandwidth management



Option 2: Direct Ethernet Connection – TCM Router

Client Responsibilities:

- Dedicated primary and backup circuit including cross connects (carrier coordination, maintenance and support). NOTE: Cross connects at the TCM's datacenter/co-lo sites with 1G/100 Mb RJ45 handoff

TCM Datacenter/co-lo sites:

- QTI - 145 King Street West
- Equinix - 151 Front street west
- Q9 – 100 Wellington
- TMX – 3500 Steeles

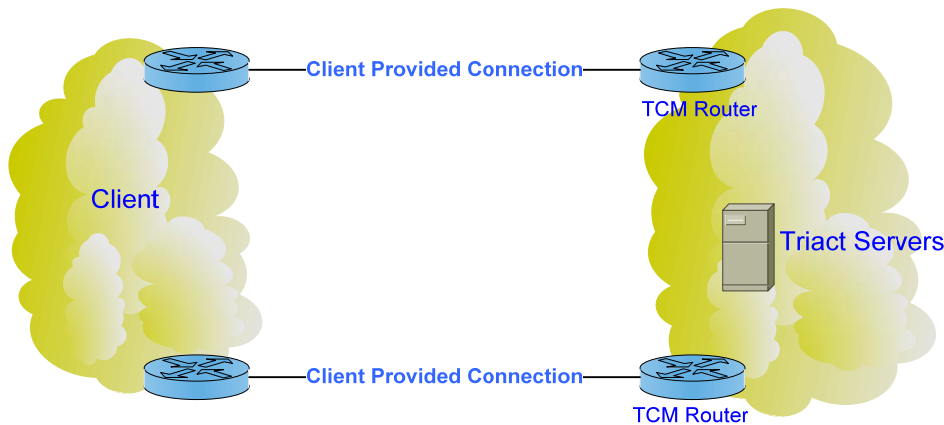
- Routing up to router at client site

TCM Responsibilities:

- Maintenance and support on TCM router
- Bandwidth monitoring and management
- TCM will NAT all traffic

Description	Non-Recurring Fee	Monthly Recurring Fee
Router Setup and maintenance	\$500	\$500

The non-recurring fee includes two (2) hours of support and configuration work. Any additional hours will be billed at the hourly rate as per On-Site Support below.



On-Site Support:

- Support will include configuration changes and troubleshooting

Description	Fee
Business Hours – Mon- Fri (8 am – 6 pm) EST	\$100/Hr
Off Business Hours (Incl. weekends and holidays)	\$200/Hr

Please choose one the options:

- For Option 1 please check which Service Provider
- For Option 2 please check which Datacenter/Co-lo Site

Option 1: ____

- Atrium ____ TNS ____

Option 2: ____

- QTI (145 King St.) ____ Equinix (151 Front St.) ____ Q9 (100 Wellington) ____ TMX (3500 Steeles) ____

Signature: _____

Name: _____

Title: _____

Email: _____ Phone: _____