

# Notice to Participating Organizations, Members and Subscribers

February 1, 2012

2012-007

## TMX Quantum XA™ Introduction of next generation equity trading technology

As part of TMX Group's continuing efforts to provide our customers with world class trading technology and performance, TMX is pleased to announce plans for the launch of its next generation equity trading technology, **TMX Quantum XA**, beginning in Q1 2013 on TMX Select. TMX Quantum XA will provide TMX Group equity trading customers with dramatically enhanced speed and capacity as well as more efficient order processing.

TMX Quantum XA is expected to provide a twenty-fold reduction in median latency over the current system, to sub-100 microseconds on order executions by using hardware acceleration. Hardware acceleration is a general term that refers to the off-loading of processing work from server CPUs onto specialized hardware. To augment these new capabilities, 10 Gb communication access will be made available to Toronto Stock Exchange (TSX), TSX Venture Exchange (TSX Venture) and TMX Select customers.

TMX Quantum XA offers many benefits to participants and the Canadian capital markets, including:

- Improved trading performance in the form of lower latency, less latency variability, and enhanced network capabilities
- Reduced trading risk through quicker response times and less variability in order processing (i.e. less 'jitter')
- Reduced data feed latency
- Improved market quality and efficiency
- Reduced costs due to a potential reduction in the number of necessary order entry session bundles
- Strengthening Canada's competitiveness on the global stage, to attract additional investment, trading, and liquidity to Canada
- Increasing Canada's profile as a technology leader in the global trading community
- Being responsive to growing industry demand for high performance marketplace technology

### **Implementation Timeframe**

TMX Quantum XA is expected to be implemented on TMX Select in Q1 2013, followed by TSX and TSX Venture beginning at the end of 2013. Key milestones for the TMX Select implementation of TMX Quantum XA are expected as follows:

1. Q1 2012 - Publication of updated order entry specifications
2. September / October 2012 - Availability in test environment (GTE) and publication of certification kits
3. December 2012 - Production availability for connectivity testing
4. Q1 2013 - Symbol migration begins
5. Q2 2013 - Symbol migration completed

Specific dates and details related to these milestones will be published in subsequent notices as they are confirmed.

### **Customers Impacted**

Anyone with a direct connection to TSX, TSX Venture, or TMX Select with a certified order entry application will be impacted by the TMX Quantum XA upgrade. This includes, but is not limited to:

- Service Bureau vendors
- Participating Organizations, Members, or Subscribers with in-house proprietary systems
- Software providers
- DMA customers supporting direct connections

Customers that access TSX, TSX Venture, or TMX Select through a service bureau vendor will not be required to make changes for the TMX Quantum XA upgrade.

TMX representatives will be contacting all customers with a direct connection to further discuss the Quantum XA implementation.

### **Changes Required for TMX Select**

The changes required to trade on the new TMX Quantum XA platform for the TMX Select implementation are summarized as follows:

**Stage 1:** During TMX Select Symbol Migration impacted customers will be required to:

- Complete a certification process on TMX Quantum XA.
- Send orders using FIX 4.3 protocol for customers currently using FIX. Orders for symbols that have migrated to TMX Quantum XA will need to be routed via FIX 4.3 protocol, while orders for symbols that have not migrated are to be routed via the existing FIX 4.2 protocol
- Continue using STAMP 6.1 to route orders to TMX Quantum XA for customers currently using STAMP.
- Ensure orders can be routed to TMX Select by symbol and IP address. Orders for symbols migrated to TMX Quantum XA must be sent to a different destination IP address than orders for symbols that have yet to migrate.
- Utilize new session bundle(s) to trade the TMX Select symbols migrated to TMX Quantum XA that will run in parallel with existing connections to trade TMX Select symbols that have yet to migrate.
- Continue sending orders to TSX and TSX Venture via existing protocols with existing sessions.

**Stage 2:** Once all symbols have been migrated to TMX Select Quantum XA, customers will be required to:

- Support new session bundles to access TMX Select Quantum XA that will run in parallel with existing connections to TSX and TSX Venture.
- Continue to route orders to TSX and TSX Venture via FIX 4.2 or STAMP 6.1 protocols. TMX Select orders are to be routed via FIX 4.3 or STAMP 6.1 protocols.

Further details regarding the TSX/TSX Venture implementation will be provided after the initial release on TMX Select.

The purpose of this notice is to provide industry participants notice of the implementation plan well in advance of the TMX Quantum XA launch date, to ensure participants have the necessary information to begin to assess and plan for any required work and changes, and to facilitate further discussions with customers about TMX Quantum XA. Frequent communications will be provided throughout 2012 in order to keep participants updated with the most current information related to TMX Quantum XA.

Please contact your TMX Account Manager with any questions related to TMX Quantum XA.

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### **About TMX Group (TSX-X)**

TMX Group's key subsidiaries operate cash and derivative markets for multiple asset classes including equities, fixed income and energy. Toronto Stock Exchange, TSX Venture Exchange, TMX Select, Montreal Exchange, Canadian Derivatives Clearing Corporation, Natural Gas Exchange, Boston Options Exchange (BOX), Shorcan, Shorcan Energy Brokers, Equicom and other TMX Group companies provide listing markets, trading markets, clearing facilities, data products and other services to the global financial community. TMX Group is headquartered in Toronto and operates offices across Canada (Montreal, Calgary and Vancouver), in key U.S. markets (Houston, Boston and Chicago) as well as in London and Beijing. For more information about TMX Group, visit our website at [www.tmx.com](http://www.tmx.com). Follow TMX Group on Twitter at <http://twitter.com/tmxgroup>.

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