The Guide to Canadian Equities and Market Data

How Canada's market structure affects market data and the financial services firms that rely on it

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Overview

Market data is one of the largest expenses for financial services firms, but the complexities of sourcing and pricing it can create uncertainty. The challenges are compounded when moving into a new regional market, with a different market structure and pricing practices.

Despite its similarities to US equities, the equity market in Canada has its own distinct identity, shaped by its history, its financial institutions, and its relationship with global markets.

Those distinctions extend to how market data is collected and used. There are areas in which firms accustomed to operating in the US might find Canadian practices confusing—for example, the system for accessing consolidated data, or the way in which non-display uses are categorized.

This guide will explain some of the basics of Canada's equity market, with a particular emphasis on its market data offerings and how firms can access them. Armed with this knowledge, firms will be empowered to make more informed and strategic market data purchasing decisions in this market.

This data is specific to Canadian exchanges; to access Exegy's Guide to US Equities, click here.

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Table of Contents

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How Canada's Market Structure Affects Market Data

For firms interested in expanding their global equities footprint, Canada is an appealing prospect. A stable first-world economy, ranking high in healthy banks, transparency, and competitiveness, Canada is home to abundant natural resources and major global companies such as corporate aviation leader Bombardier (owner of Learjet) and the e-commerce platform Shopify.

There is also the familiarity of the Canadian equity markets: Business is easily conducted in English, with a dollar currency similar to the USD. Not surprisingly, Canada's markets are deeply intertwined with those of the US; market watchers note that volume is noticeably less on days when American markets are closed for a US national holiday.

One difference between the US and Canadian markets is scale; the market is substantially smaller. Consider a comparison between the New York Stock Exchange and the Canadian exchange group TMX:

Table 1: Comparison of NYSE and TMX Group, 2020 statistics[1]

Exchange	Domestic Market Capitalization[2]	Average Daily Turnover[2]	No. of Trades in Equities Shares
NYSE	26.2 trillion	103.5 billion	3.08 billion
TMX Group	2.1 trillion	3.8 billion	0.33 billion

[1] World Federation of Exchanges
[2] In USD

Both exchange groups are the largest in their respective countries. However, NYSE's domestic market capitalization is about 10 times greater than TMX's; average daily turnover is nearly 30 times greater (This is understandable, since the US population is nearly 10 times as large as Canada's).

Despite this difference in scale, Canada continues to be an attractive market for foreign investment, particularly in sectors including natural resources (wood, energy, and mining companies), finance, and more recently, the cannabis industry (Canada's longer experience with legal marijuana has helped in the establishment of multiple legitimate companies that specialize in its production and distribution).

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The market is dominated by TMX, which grew out of the Toronto Stock Exchange and owns Canada's principal equity and derivatives marketplaces. It also currently operates the country's only information processor to consolidate market data from all open marketplaces. Regardless of their individual strategies, firms operating in Canadian capital markets will be dealing with TMX in some way.

The TMX Group

The **Toronto Stock Exchange** (TSX) is Canada's oldest exchange and its foremost equity marketplace. In the early 2000s, TSX captured nearly 99% of Canadian market share. Even with the development of new marketplaces, TSX continues to hold a commanding lead in trading volume. The TSX's acquisition of other Canadian competitors has created the TMX Group; it is now the third largest exchange in the Americas and among the 10 largest in the world.

In addition to TSX, the TMX Group operates the following marketplaces:

TSX Venture (TSXV)—Formerly the Canadian Venture Exchange, this was created by several regional exchanges (Toronto, Montreal, Alberta, and Vancouver) to provide a listing venue for companies too small to be listed on the TSX. The exchange serves as a public venture capital market for small-cap Canadian companies. TSX Venture originally featured primarily mining and energy companies but has grown to accommodate entries in trend-setting sectors such as marijuana and blockchain. The recent trend in retail investing has helped boost its roster of up-and-coming listings. It's worth noting that some TSXV companies are also available to investors on US exchanges via American Depositary Receipts (ADRs), but often with less liquidity.

TSX Alpha (TSXA)—This exchange began as Alpha Trading Systems, an alternative trading system (ATS). In 2015, TMX changed the venue's model, introducing minimum order sizes for certain types of orders as well as a randomized 1- to 3-millisecond delay (or "speed bump") for orders with the potential for liquidity taking. The goal is to improve execution for retail and institutional investors, particularly those trading large blocks of securities.

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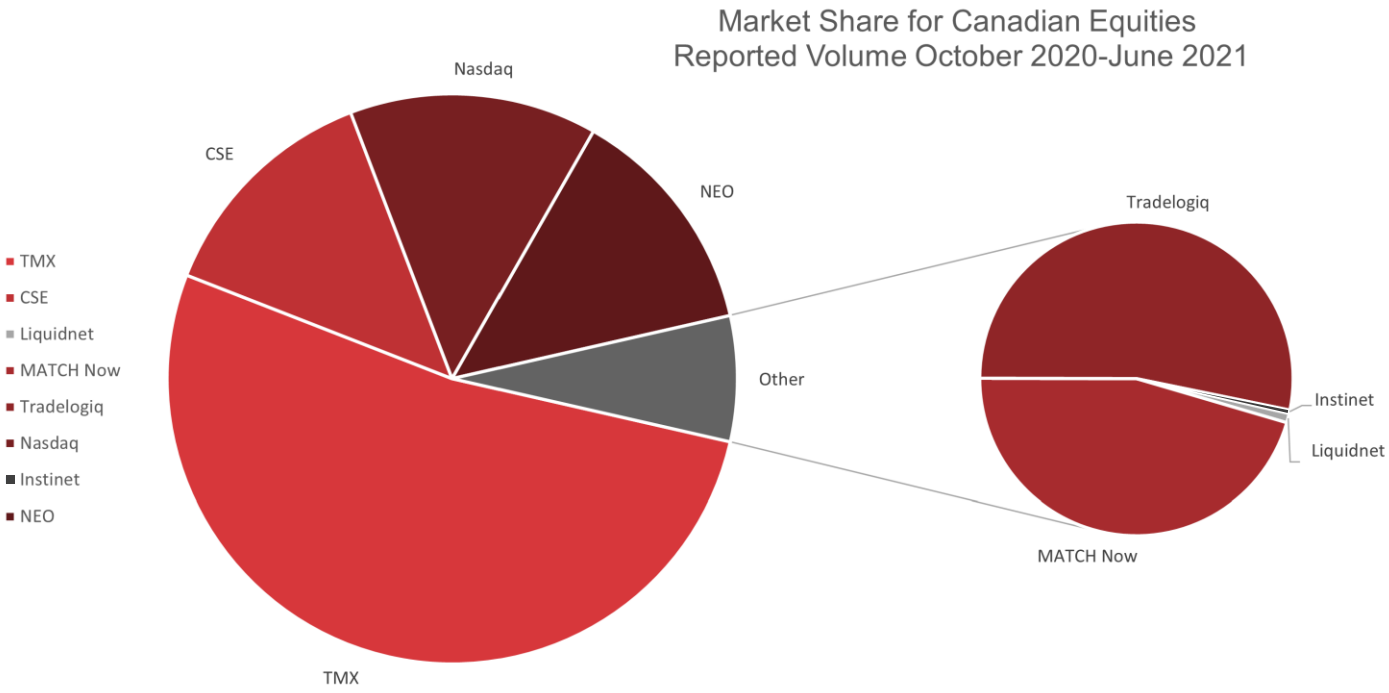
A Growing Field of Competitors

Despite TMX's large share of the market, new players have entered Canadian equities in the past two decades and captured a share of trading. The major marketplace providers include:



Source: Investment Industry Regulatory Organization of Canada

The Canadian Securities Exchange (CSE)—Formerly the Canadian National Stock Exchange), the CSE was built as an affordable alternative for emerging companies that wanted to access public capital but lacked the resources or requirements to list on the TSX or Venture exchange. Like TSXV, it has recently enjoyed significant growth in volume as a result of two trends: The legalized marijuana industry and more recently, a surge in retail interest in the smaller companies it champions.

Nasdaq—The American financial services giant acquired alternative trading venue Chi-X Canada in 2015 and applied to become an exchange. It features three trading venues for TSX-, TSXV- and CSE-listed securities: A main lit book (CXC), a lit book with cost savings features (CX2), and a dark pool (CXD).

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NEO—This exchange was established in 2015, with the goal of leveling the playing field for a wider array of Canadian market participants. The exchange's three marketplaces include a main venue (NEO-L), a market with a randomized 3- to 9-millisecond delay (NEO-N), and a dark marketplace (NEO-D). Together with the Canadian Imperial Bank of Commerce (CIBC), NEO announced in 2021 the creation of the first Canadian Depositary Receipts (CDRs), a means of investing in American companies such as Amazon using Canadian dollars.

MATCHNow—Cboe acquired TriAct Canada, the country's largest dark pool for equity securities, in 2020. As MATCHNow, it provides anonymity for large orders and offers a conditional trading book, a non-displayed source of liquidity at the midpoint.

Tradelogiq—This firm has developed two ATS venues: Omega, a lit marketplace and Lynx, a lower-cost venue with a maker-taker model.

Instinet Canada Cross (ICX) and **Liquidnet**—Two additional dark pool operators.

These marketplaces, along with new derivatives markets, have been lauded for narrowing spreads and spurring technological innovation. However, the proliferation of new venues led financial services firms to raise concerns. Canada's Order Protection Rule—like the one included in the US Regulation National Market System (Reg NMS)—requires that better-priced limit orders be filled before lesser-priced orders, regardless of marketplace. This avoids trade-through or when an order is executed at a worse price than the best price available.

Order protection was relatively easy for market participants to fulfill when the vast majority of trades were conducted on a few venues. But with each new marketplace come the increased costs of connecting to it and accessing its market data. In 2016, regulators addressed this issue by introducing thresholds that a venue must meet to be considered a "protected" marketplace under the Order Protection Rule, meaning that market participants must consider their data in determining best execution.

Canada's Information Processor

For US market data, the major US exchanges have maintained system information processor (SIP) feeds to consolidate and distribute their top-of-book market data. (The US Securities and Exchange Commission is in the process of expanding this system by allowing competing consolidators).

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In the Canadian system, one information processor run by TMX provides consolidated market data for 15 equity marketplaces. TMX IP is in the midst of a second five-year contract to serve in this capacity; the current contract expires in 2022.

Through the information processor, firms may choose to access different types of real-time market data for the various marketplaces in an aggregated format and without the expense of direct connections. While this approach sacrifices some latency, it provides a broad view of the Canadian equity market.

However, firms accustomed to dealing with US SIP feeds should understand the nuances of how the TMX IP works. It provides slightly different information, and its fee structure is substantially different. We discuss the TMX IP in detail later in this guide.

Other Canadian Distinctions

There are other characteristics of the Canadian equity market that may influence how firms (particularly foreign firms) make market data decisions:

Regulatory structure—Canadian securities activity is regulated at the provincial level. Provincial regulators have voluntarily teamed up to form the Canadian Securities Administrators, which is primarily responsible for harmonizing securities regulation across the country. Currently, a group of provincial and territorial governments are working with the Canadian federal government to form a Cooperative Capital Markets Regulatory System that would act as an independent capital markets regulatory authority (CMRA) for all the participating jurisdictions. In addition, a national self-regulatory group, the Investment Industry Regulatory Organization of Canada (IIROC) provides surveillance and enforcement of business and financial conduct for most investment firms and registered individuals in the industry.

Approved brokers—Orders on the Canadian exchanges can only be executed through approved brokers. Due to regulatory requirements, becoming an approved broker is an expensive proposition, involving significant physical location investment. As a result, regardless of their market data provider, most foreign firms seek out trading access through a Canadian broker-dealer. Each marketplace can provide a list of approved broker-dealers.

Retail orders—Canada's order exposure rule requires that dealers immediately expose retail-sized orders to the market unless they can provide meaningful price improvement. Payment for order flow is illegal under IIROC rules.

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Broker preferencing—In order to meet requirements that orders be executed on a marketplace while still enabling internalized brokerage orders, a system called “broker preferencing” has been developed on Canadian marketplaces. A broker may choose to have orders attributed to them (bearing a unique ID number on feeds) or posted anonymously. A marketplace will give preference to attributed orders at a given price from the same broker, regardless of their position in the order book. So, on a US exchange, the priority for order execution is Price, then Time. On a Canadian marketplace, it is Price, then Broker (for internalized, attributed orders), then Time.

In addition to understanding the Canadian marketplace, firms determining their market data needs also must understand the types or levels of market data.

Each level provides useful information; increasing levels of granularity bring more insights—and more costs. With knowledge of what data is available, a firm can match its Canadian equities strategy to the proper level of data, and then move on to find a market data provider who can accommodate its requirements and its budget.

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Determining Market Data Needs

The most basic level of equities market data available is Best Bid and Offer (BBO), also referred to as Level 1 or top-of-book data. A BBO can be calculated for an exchange, region, or country, or a firm can create a user defined BBO using consolidating technology.

For the Canadian market, the CBBO incorporates data from the country's ten lit marketplaces. While this view of the market is sufficient for many use cases, often Level 1 data is too limited. In cases where a greater view of market liquidity and greater depth of data is required, traders need Level 2 data, also called full depth of book.

For display traders, Level 2 commonly describes the subsequent quotes to the best bid and best ask at both ends of a spread. However, there is more distinction to Level 2 and the order book when planning for market data requirements.

What is Level 2 Market Data?

Level 2 is a generalized term for market data that includes the scope of bid and ask prices for a given security. Level 2 includes two sub-levels: price book and order book.

The price book aggregates quotes at the same price, showing all quotes for the same bid or ask price as one line in the book and one aggregate volume. For traders, the price book is an easily referenced view of demand for a security and can underscore where points of support or resistance exist.

The order book provides a more granular view of Level 2 data, listing all quotes at each price level. This depth of book for a security is valuable for discerning the true demand and more accurately forecasting the behavior of price movement. The order book is referenced by some professionals as Level 3 market data to distinguish the detailed view of quotes from the aggregated view of a price book.

Note that order book data is not available for dark marketplaces; they only report completed trades.

For more information about Level 2 market data, including how to read Level 2 price and order books, read this Exegy Insights blog post.

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With an understanding of the nuances of market data available to firms, a broker-dealer or asset manager can better assess their market data needs and communicate those to suppliers and connectivity providers.

Gaining Level 1 and Level 2 Access to Canadian Equities

Consolidated Feed

As we've already discussed, the US and Canada have different systems for delivering consolidated market data via information processors.

In the US, two securities information processors—the Consolidated Tape Association and Unlisted Trading Privileges—consolidate market data from all 15 US exchanges. The SIPs are administered by a group made up of the marketplaces themselves; users pay for the use of the feeds, and those revenues go to the member marketplaces.

In Canada, the government currently authorizes TMX's IP feed as an information processor. Marketplaces must provide market data to the IP in real time. In addition to the CBBO, the TMX IP provides detailed Level 2 data (US SIPs are in the process of expanding their market data to include Level 2).

The IP consolidates this data and disseminates the following real-time data products for Canadian equity securities:

- Two feeds offering consolidated national best bid and offer and aggregate volume: One for participating lit marketplaces (**CBBO**) and one for Protected Only Markets (**CBBOP**). The latter group of seven marketplaces excludes not only dark pools but smaller venues and those that employ "speed bumps" or fraction-of-a-second delays to thwart high-frequency trading.
- Two feeds offering consolidated depth of book, (an order book view): One for all participating lit marketplaces (**CDB**) and one for Protected Only Markets (**CDBP**).
- Consolidated Data Feed (**CDF**), consisting of order and trade information from each of the 15 participating marketplaces (trade data only for dark pools). This provides full depth of book for a particular lit venue.
- Consolidated Last Sale (**CLS**), a real-time trade feed from all 15 participating marketplaces.

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An important point to remember is that unlike US consolidated feeds, TMX IP operates under a pass-through fee model, meaning that in addition to paying a distribution fee to the information processor, firms also are responsible for market data licensing fees to the participating marketplaces.

As we noted earlier, each marketplace can have its own BBO; however, the TMX IP does not provide that data point. Users can access the CDF feed for this purpose but would have to process it to determine individual marketplace BBOs. Firms can employ a feed handler solution such as a hardware or software ticker plant to make these calculations in real time.

The limitations and fee structure of the TMX IP mean that many firms operating in Canada find it more useful to use direct feeds. However, there are use cases for the IP, including as a backup to the exchanges.

Direct Feeds from the Exchanges

Firms relying on ultra-low latency market data will likely require direct market access (DMA)—connecting directly to the exchanges via co-location. Direct feeds are proprietary real-time data streams supplied by exchanges. Exchanges generally offer direct feeds for the order book and top-of-book quotes, with most offering an aggregated price-book feed as well.

The 15 main marketplaces in the Canadian equity market include five dark pools and three lit-but-unprotected marketplaces:

- TMX Group: TSX, TSX Venture, and TSX Alpha **(U)**
- Nasdaq: Nasdaq CXC, Nasdaq CX2, and Nasdaq CXD **(D)**
- Tradelogiq: Omega and Lynx **(U)**
- Canadian Securities Exchange (CSE)
- NEO Exchange: NEO-L, NEO-N **(U)**, and NEO-D **(D)**
- Instinet Canada Cross (ICX) **(D)**
- Cboe MATCHnow **(D)**
- Liquidnet **(D)**

(D) denotes dark marketplace **(U)** denotes unprotected marketplace

Fees often vary greatly based on depth of book needed, so seeking cost-efficient options is important to ensure strategic viability and profitability.

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Market Data Fees

Having covered the basics of Canada's market structure and the levels of market data, it is time to delve into how much market data will cost. Market data is one of the biggest expenses for many Exegy customers, along with the cost of rent and maintaining their staff. However, many firms struggle with understanding exactly how market data fees add up and how they apply to a firm's business model. The lack of clarity around market data fees results in difficulty planning annual budgets, adding complications and stress to strategy and technical teams alike.

Canada's markets offer unique wrinkles to this calculation because of the different ways Canadian marketplaces categorize certain fees and because of the pass-through model used to charge firms for Canada's information processor, TMX IP.

This section outlines the basic market data fee types charged by exchanges, a few notable exchange-specific fee policies, and a break-down of the fees charged by the TMX IP.

Basic Fee Types

Access fee

As the name implies, access fees are the fees your company pays to exchanges simply for access to a given data feed. It is a monthly flat fee unaffected by how many users or subscribers are connected to the data. Access fees are paid for each individual data product, like a particular feed, used by a company. There are two different types of access available: direct and indirect.

Direct access refers to a connection to receive the data directly from an exchange via an extranet connection, co-location, or any other direct data access mechanism. Indirect access refers to a connection via the internet or from a downstream, third-party (i.e., non-marketplace) source. Indirect data is typically aggregated and/or normalized.

Not all exchanges impose access fees. TMX treats its internal distribution fee as a stand-in for an access fee (although it can be charged multiple times based on the number of locations a firm requires). Nasdaq Canada also doesn't have a separate fee

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for access; instead, it bases its distribution fees on whether a firm accesses market data directly or indirectly.

User fee

User fees are for display trading and are charged per-display, or per screen that visualizes the data. These fees are also paid monthly, however the cost of the monthly payments is variable according to the number of displays in use. Fees are further distinguished based on the professional status of the users. A non-professional is classified as any person who receives market data solely for non-business use and who is not a securities professional.

Non-display fees

Non-display fees are paid to an exchange for the use of market data for non-display use, commonly algorithmic trading. This is an area in which US and Canadian marketplaces differ in pricing. US exchanges charge non-display fees based on who uses the feed—whether it's the data-receiving company, a client, or an entity such as a dark pool or ATS.

Canadian marketplaces, however, typically charge non-display fees based on the use itself. Use categories may include:

- The calculation and dissemination of proprietary indices
- Analysis programs or applications
- Programs or applications that generate automated or semi-automated orders
- Derived data—using market data to create original products such as Net Asset Value calculations or machine learning powered algos

Canadian marketplaces charge different fees depending on the use, with trading usually being the most expensive. As with access and user fees, non-display fees are paid as a monthly subscription for as long as you use them.

Redistribution/Distribution fee

The redistribution or distribution fee, allows a firm to move market data, display or non-display, to a system, person, or business other than the original purchaser. Most commonly, redistribution fees are incurred when a firm shows market data to a client or third party. This type of dissemination is typically referred to as "external" redistribution.

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Depending on factors like what exchange the data is from, what data provider you use, and if it is display or non-display data, the cost of redistribution can vary. Redistribution fees are paid whenever market data is redistributed.

Some exchanges also recognize what is called “internal” redistribution, which means transferring data within the organization. This type of transfer is less expensive than external distribution; some exchanges don’t charge a separate fee for this service at all.

Marketplace-specific fee policies

As noted above, there is not complete uniformity among Canadian marketplaces’ market data fee policies. Firms should be alert to nuances in a number of areas:

Fees for foreign investors

There are a range of ways in which Canadian marketplaces deal with foreign firms. Some make no distinction in their pricing; all are assessed the same fees in Canadian dollars (CAD). Some marketplaces charge the same dollar amount in both USD and CAD, but because of the exchange rate between the two currencies (in September 2021, USD 1 = CAD 1.27), those using USD pay more. And others charge different fees entirely to international customers.

Bundling and feed requirements

Some exchanges bundle data or feeds, resulting in additional market data fees or savings. For example, TMX bundles some of the data for its TSX and TSXV feeds, offering both for the same price. At the same time, both TMX and Omega require that a firm pay for access to Level 1 data for a feed in order to subscribe to Level 2 data.

Dark pools

As previously noted, dark pools do not report orders. Five Canadian dark pools contribute trade data to the TMX IP:

- **Nasdaq CXD**—Does not charge market data fees
- **NEO-D**—Any client subscribing to NEO-L or NEO-N is entitled to post-trade information from NEO-D.
- **Instinet Canada Cross (ICX)**—Only offers trade-specific market data through third-party vendors such as the TMX IP.

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- **Cboe MATCHNow**—Charges subscribers and vendors CAD 500 per month for a primary multicast feed. It does not charge vendors' end clients, nor does it charge other user fees or access fees for data provided to the TMX IP. Only Canadian-registered investment dealers can become subscribers.

- **Liquidnet**—Only offers trade-specific market data to members. It contributes to the TMX IP but does not charge users of those consolidated feeds for use of the data.

TMX's Quantum Feed

TMX's main legacy feeds are ASCII-based, but the company also allows firms to upgrade to **QuantumFeed**, a lower-latency, deterministic binary feed, for all its exchanges. It is generally used by proprietary traders and other latency-sensitive firms. TMX charges a $1,000 monthly fee (CAD or USD, depending on customer location) for this upgrade for any or all of its three feeds.

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Tables 2a-2d below show market data fees charged by Canadian marketplaces for access to Level 1 and Level 2 data:

Table 2a. *Minimum monthly market data fees (in CAD) for lit Canadian equity marketplaces for Level 1 market data. Includes market data for all securities traded on that exchange.*

CANADA USERS – LEVEL 1

Exchange and Feed	Access	User-Professional Display Feed (Per 20 devices)	Non-Display (Automated trading use)	Redistribution fees	
				Internal	External
TMX Group					
TSX (Toronto Stock Exchange)	NA	600	2000[1]	1000[1]	3000[1]
TSX Venture	NA	500			
TSX Alpha	NA	201	NA	375	1687.50
Canadian Securities Exchange					
CSE	800	218	unavailable	125	150
Nasdaq Canada					
Nasdaq CXC	NA	341	1000	100/300[2/3]	500/600[2/3]
Nasdaq CX2	NA	154	400	0	0
Tradelogiq					
Omega	450	160	650	0	225
Lynx	0	0	0	0	225
NEO					
NEO-L	225	211	450	0	450[4]
NEO-N	225	244	450	0	450[4]

[1]Feeds are bundled for one fee
[2]Nasdaq Canada assesses this distribution fee for data accessed through a third-party vendor
[3]Nasdaq Canada assesses this distribution fee for data accessed directly through the data center.
[4]Up to 500 external users

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***Table 2b**. Minimum monthly market data fees (in CAD) for lit Canadian equity marketplaces for Level 2 market data. Includes market data for all securities traded on that exchange. Excludes dark pools.*

CANADA USERS – LEVEL 2

Exchange and Feed	Access	User-Professional (Per 20 devices)		Non-Display (automated trading use)	Redistribution	
		Price Book	Order Book		Internal	External
TMX Group						
TSX (Toronto Stock Exchange)	NA	600[5]	1000[5]	3,000[1,5]	1500[1,5]	3500[1,5]
TSX Venture	NA	320[5]	520[5]			
TSX Alpha	NA	468[6]	468[6]	NA	750	3375
Canadian Securities Exchange						
CSE	800	510		unavailable	250	300
Nasdaq Canada						
Nasdaq CXC	NA	791		1800	200/600[2/3]	800/1000[2/3]
Nasdaq CX2	NA	348		800	0	0
Tradelogiq						
Omega	500[5]	350		950[5]	0	225
Lynx	0	0		0	0	225
NEO						
NEO-L	675[6]	494[6]		1125[6]	0	450[4,6]
NEO-N	675[6]	544[6]		1125[6]	0	450[4,6]

[1]Feeds are bundled for one fee
[2]Nasdaq Canada assesses this distribution fee for data accessed through a third-party vendor
[3]Nasdaq Canada assesses this distribution fee for data accessed directly through the data center.
[4]Up to 500 users
[5]Subscribing to a Level 2 feed requires a subscription to the Level 1 feed
[6]Includes Level 1 data

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Table 2c. *Minimum monthly market data fees (in USD, except where noted in blue for CAD) for lit Canadian equity marketplaces for Level 1 market data. Includes market data for all securities traded on that exchange.*

Foreign – Level 1

Exchange and Feed	Access	User-Professional (Per 20 devices)	Non-Display (Automated trading use)	Redistribution	
				Internal	External
TMX Group					
TSX (Toronto Stock Exchange)	NA	1130[1]	2000[1]	1000[1]	3000[1]
TSX Venture	NA				
TSX Alpha	NA	450	NA	375	1875
Canadian Securities Exchange					
CSE	800	218	unavailable	125	150
Nasdaq Canada					
Nasdaq CXC	NA	341	1000	100/300[2/3]	500/600[2/3]
Nasdaq CX2	NA	154	400	0	0
Tradelogiq					
Omega	450	160	650	0	225
Lynx	0	0	0	0	225
NEO					
NEO-L	225	211	450	0	450[4]
NEO-N	225	244	450	0	450[4]

[1]Feeds are bundled for one fee
[2]Nasdaq Canada assesses this distribution fee for data accessed through a third-party vendor
[3]Nasdaq Canada assesses this distribution fee for data accessed directly through the data center.
[4]Up to 500 users
[5]Subscribing to a Level 2 feed requires a subscription to the Level 1 feed

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Table 2d. *Minimum monthly market data fees (in USD, except where noted in blue for CAD) for lit Canadian equity marketplaces for Level 2 market data. Includes all market data traded on that exchange.*

Foreign – Level 2

Exchange and Feed	Access	User-Professional (Per 20 devices)		Non- Display (for 1 category)	Redistribution	
		Price Book	Order Book		Internal	External
TMX Group						
TSX (Toronto Stock Exchange)	NA	600[5]	1000[5]	3000[1,5]	1500[1,5]	3500[1,5]
TSX Venture	NA	320[5]	520[5]			
TSX Alpha	NA	850[6]	1450[6]	NA	750	3750
Canadian Securities Exchange						
CSE	800	510		unavailable	250	300
Nasdaq Canada						
Nasdaq CXC	0	791		1800	200/600[2/3]	800/1000[2/3]
Nasdaq CX2	0	348		800	0	0
Tradelogiq						
Omega	500[5]	350		950[5]	0	225
Lynx	0	0		0	0	225
NEO						
NEO-L	675[6]	494[6]		1125[6]	0	450[4,6]
NEO-N	675[6]	544[6]		1125[6]	0	450[4,6]

[1]Feeds are bundled for one fee
[2]Nasdaq Canada assesses this distribution fee for data accessed through a third-party vendor
[3]Nasdaq Canada assesses this distribution fee for data accessed directly through the data center.
[4]Up to 500 users
[5]Subscribing to a Level 2 feed requires a subscription to the Level 1 feed
[6]Includes Level 1 data

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Fees for TMX Information Processor

As previously noted, the TMX Information Processor (IP) assesses market data fees differently than US SIP feeds do, because of its pass-through structure. The various Canadian equity marketplaces submit data to the IP, but do not operate it, so users must pay both the IP and potentially the individual marketplaces for the data.

Some marketplaces, particularly dark pools such as MATCHNow and Liquidnet, do not charge for this access. Others simply assess a fee based on the level of data required. For example, TMX would charge a firm requesting the CBBO feed the same amount that it would charge for Level 1 market data.

See Table 3 for the processor fees charged by the TMX IP for the various consolidated feed products.

Table 3. *Monthly fees for TMX IP Products (in CAD)*

Feed	Fee
Consolidated Data Feed (CDF)	200[1]
Canadian BBO for Protected-Only Markets (CBBOP)	500[2]
Canadian BBO (CBBO)	500[2]
Consolidated Last Sale (CLS)	500[2]
Consolidated Depth of Book for Protected-Only Markets (CDBP)	750[2]
Consolidated Depth of Book	750[2]

[1]This fee is assessed for each venue requested, up to a maximum of $1000 per source
[2]This fee is assessed for each of two instances: Service A offers TSX-listed securities; Service B offers TSXV-, NEO- and CSE-listed securities.

As important as market data fees are, they are not the only costs you must consider when budgeting for market data—you also must consider what type of market data provider to use.

There are many different providers to buy data from, each offering a slightly different product. Firms also must consider the cost of hardware when storing, transporting, and formatting data, in addition to the marketplaces' data fees. When buying data directly from exchanges, those costs will be incurred entirely by your business. With other options, the provider will handle hardware and backend problems. They will then pass on a cost to you through a fee for their services. This fee will include paying for server rack space, electricity to those servers, and any non-recurring engineering costs.

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Market Data Providers

Accurate, timely, and reliable market data is essential for all financial market participants. However, what is necessary for a global bank might not be ideal for a smaller-scale broker-dealer or hedge fund. Similarly, a firm making its first venture into a new market such as Canada may have different needs than one expanding its footprint. To provide needed clarity, this guide outlines the different types of market data vendors, explains their products, and describes the pros and cons of purchasing market data from each.

Market Data Vendor Options for High Customization

Marketplaces are the primary source of all tick data. They sell the data generated from quotes submitted and trades executed on their respective marketplaces as well as providing data to the IP.

Marketplaces are the most expensive and technically complex provider option. Buying data direct from the marketplace gets you raw data, in whatever format the marketplace chooses. Your company must take on all the costs of maintaining, transporting, and processing the data. These costs include the development and maintenance of the necessary hardware and software as well as the added costs of staffing engineers to aggregate and normalize the data. The high costs involved are prohibitive to most market members, leaving large banks and global financial firms as the most frequent purchasers of market data from marketplaces.

For a firm that can absorb this expense, the benefit of marketplaces is that they give you complete control over your data—from network to hardware to connecting applications—and the greatest opportunities for low-latency optimization. When a firm decides to invest in this type of provider, it's vital to take advantage of the latency gains with high-speed, high-capacity hardware. The Exegy Ticker Plant uses field-programmable gate array technology to provide microsecond latency and customizable BBOs and basket calculations for ETFs.

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Hosting Providers and Ticker Plant Vendors

With a few exceptions, hosting providers and ticker plant vendors provide services that are mutually inclusive of each other—meaning that if you opt for one as a data provider, you will also need the other. Hosting providers host aggregated market data in large data centers and build and maintain their own data distribution networks. Ticker plant vendors provide the hardware you need to connect your applications to your hosting provider's network. Together, they create one cohesive market data solution.

Either type of market data vendor can be chosen as your primary provider. If you first approach a hosting provider, you will need to acquire your own servers or ticker plant—which can be supplied by a ticker plant vendor. On the other hand, if you approach a ticker plant vendor, they can often help you find the right hosting provider to gain access to data networks.

Hosting providers eliminate the backend costs of aggregating the data yourself and of developing your own data storage and network infrastructures. Ticker plant providers allow you to offload the costs of development of your own servers optimized for market data and of feed handlers to normalize the exchange data. Even in your own environment, some ticker plant providers manage and monitor the hardware, further diminishing the burden on your personnel.

An investment in a ticker plant is significant, both in costs to buy the hardware and the installation fees. However, the cost of buying the ticker plant will typically be less than the development and engineering costs to design your own hardware for processing market data from scratch. Likewise, the fees paid to hosting providers, while significant, are a fraction of what it would cost to engineer and maintain your own data distribution networks. Altogether, ticker plant vendors paired with hosting providers offer very customizable market data solutions that can be optimized for low latency.

Market Data Vendor Options for Cost Efficiency

Non-Display Trading: Feed Providers

Unlike hosting providers, exchanges, and ticker plants, feed providers sell *access* to aggregated and normalized market data feeds via a single API. Buying from this type of market data provider simplifies market data access—there are virtually no infrastructure investments into hardware or other backend technical hassles to manage. With a feed provider, your company pays only for the data, making it the most affordable option for those with algorithmic trading needs.

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API feed solutions lack customization for sophisticated algorithms and often struggle to compete in the low-latency realm of hardware solutions. Due to these limitations, API feeds are not suitable for high-frequency trading (HFT) or market making. Those trading circumstances require a higher level of customization and more internal investment into hardware and software. Still, for younger firms, small-scale hedge funds or portfolio management firms, feed providers could offer just the right amount of access at the right price. Exegy offers Canada's most important equity feeds via points of presence in Toronto data centers, including the TMX IP and the ability to upgrade to the lower-latency TMX QuantumFeed.

Display Trading: OMS & EMS Software Providers

Software providers of order management systems (OMS) and execution management systems (EMS) are the ideal vendor for companies that require market data suitable for display trading. These software providers offer some of the most cost-efficient options for financial market data available anywhere. They eliminate the need to develop software or manage the hardware infrastructure required for display trading. The drawback of this type of vendor is that you are confined to the visualizations or charts that are offered by the software provider.

To alleviate this problem, invest in an OMS/EMS provider that includes a suitable level of customization. Understanding how your traders use the software is key to ensuring that an OMS/EMS will address their visualization needs. Obviously, display options are not a solution for those seeking market data for algorithmic trading, as the data will only be available in a visual format.

Overall, exchanges, hosting providers, and ticker plant providers offer high levels of customization and low latency but also higher costs via hardware and engineering investments. Feed providers and OMS/EMS software providers offer simplicity and cost efficiency, but less customization and speeds suited more for small, new, or price-conscious firms.

Non-Canadian firms also should consider the impact of taxes on their purchase of market data. These purchases may be subject to a goods and services / harmonized sales tax (GST/HST), depending upon the firm's physical infrastructure. A firm connecting to market data directly at a Toronto data center would be assessed Ontario's 13% GST/HST; however, if the same firm received data in the US via a vendor located in Canada, the tax generally would not apply*.

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Regardless of vendor type and infrastructure decisions, it's important to invest in quality. Cheaper options always come with a sacrifice, so be aware of what the trade-off is and whether it is acceptable to your company's strategic model and goals.

Because of the importance of market data decisions to your bottom line, it's critical to ensure that you understand the fees and how they apply to your business plans. Exegy has been operating in global markets for more than a decade. Our team is experienced at explaining not just how to obtain market data, but how to match your strategies to the right market data solutions. Thanks to our scalable product line, our solutions can change and grow along with your Canadian strategy. To take the next step in your North American plans, contact us.

**There are some exceptions to this tax policy. International tax laws are complex; consult a qualified tax professional to discuss your firm's unique situation.*

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About Exegy

Exegy is a global leader in low-latency market data, execution technology, trading platforms, and predictive signals. Backed by Marlin Equity Partners, Exegy merged with Vela Trading Systems in May 2021 and serves as a strategic partner to the complete ecosystem of the buy side, sell side, exchanges, and ISV/technology firms around the globe.

At the heart of Exegy solutions are fully managed, high-performance, and scalable solutions powered by purpose-built appliances, hardware-acceleration, artificial intelligence, enterprise software, and service automation technologies derived from our extensive patent portfolio.

Headquartered in St. Louis with regional offices in the US, UK, and Asia Pacific, Exegy has the global footprint to deliver world-class support and managed services to its customer base.

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