STIKEMAN ELLIOTT

ALTERNATIVE TRADING SYSTEMS:
Marketplace Evolution in Canada

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PART 1
Alternative Trading Systems – The Basics

What is an ATS?

An Alternative Trading System (**ATS**) is essentially a "marketplace" that brings together multiple buyers and multiple sellers of securities – a function historically performed by stock exchanges. They can generally be described as electronic trading systems (**ETS**)[1] that provide automated trade matching, and process buy and sell orders using predetermined, non-discretionary trading methods. Traditionally, trades in any given security were primarily executed on the exchange listing the security. As ATSs proliferate, buyers, sellers and their agents have a growing range of options when deciding where and how to execute a trade. ATSs compete with each other and with traditional exchanges by offering, among other things, different operating models, trade types and fee structures.

Technology, innovation, globalization, consolidation and increased investor sophistication are some of the key drivers behind the growing demand for the types of services offered by ATSs. ATSs can provide advantages such as competitive pricing, extended-hours trading, real-time execution, access to a broad range of markets, specialized market data, and new or unique investment strategies and trading options. While responding to demand on one hand, ATSs have themselves increased demand for different services and fee structures, driving innovation and putting downward pressure on trading fees.[2] Another key characteristic of ATSs is that they rely heavily on innovative technologies to provide alternative services while attempting to control transaction costs. This innovative technology assists in a number of ways, including by reducing timing while increasing access, exposure and execution opportunities across diverse marketplaces. Most ATSs have developed niche markets, although one ATS (Alpha ATS) has significant market share and is currently in the process of applying for full exchange status.[3]

1 "Electronic trading system" is the general term used to describe computer systems that automate all or part of the trade process. They may provide order routing between clients, brokers and/or exchanges or may perform the execution matching typically provided by exchanges.

2 In fact, the rise of ATSs in Canada prompted the Toronto Stock Exchange to reduce its trading fees: see J. Greenwood, "Alternative trading systems about to get their day in the sun", *Financial Post* (14 April 2009).

3 Alpha ATS filed its application for recognition as an exchange with the Ontario Securities Commission ("**OSC**") in April, 2011. See Appendix B for detailed market share data.

The competition and innovation that are stimulated by the rise in multiple marketplaces also create complications. Regulators must grapple with how to regulate these electronic alternatives to traditional exchanges; registrants (brokers, dealers and advisers) must grapple with how to fulfill their duties to clients and other regulatory obligations in the face of multiple marketplaces; and investors need to be able to understand the available options and the opportunities or pitfalls that they represent.

Trading Options Offered by ATSs

The range of operational models, services and order types provided by ATSs is broad and continues to evolve. While they were historically characterized as either call or auction markets, ATSs also include matching or market making systems, crossing networks, dark pools or some combination of these, with overlapping services and various enhancements and distinguishing features.

Some of the main operational characteristics of ATSs can be described as follows[4]:

- **Auction markets** allow buyers to enter competitive bids and sellers to enter competitive offers at the same time. A stock is generally traded at the highest price a buyer is willing to pay and the lowest price at which a seller is willing to sell the same number of shares. Typically, matching bids and offers are paired and orders are executed.

- **Call markets** are markets where bid and ask orders are aggregated and all transactions take place together, usually at predetermined time intervals. The marketplace generally determines the market clearing price based on the number of bid and ask orders.

- **Crossing systems or crossing networks** facilitate electronic trades between buyers and sellers who quote their prices on other trading systems. Crossing systems do not discover prices and may allow large orders to be entered and executed at predetermined time intervals throughout the day.

- **Dark pools** are trading systems that accept buy or sell orders without pre-trade **transparency** (disclosure of the details of the trade, specifically price and quantity).

4 These and others can be found in our Glossary of ATS Terminology at Appendix A. Information as to the types of markets operated by Canadian ATSs is included at Appendix B.

- **Market maker systems** are quote-driven trading systems on which providers of liquidity continuously quote binding bid and ask prices. Trades are generally executed as soon as the bid and ask are matched.

Most ATSs have developed niches in the Canadian securities market and offer a myriad of order types, diverse trading environments, and innovative services. Summaries of the different ATSs operational in Canada are included at Appendix B along with the types of services they provide.

Challenges Posed by ATSs

In Canada, prior to the proliferation of ATSs, a security was traded on a centralized exchange and liquidity was located in the exchange's order book or in the "upstairs market" (where block trades were matched by dealers off-exchange and then executed on the exchange, arguably, the original "dark orders"). ATSs now offer a wide range of options for both order entry and execution. While these offer benefits to investors, they also pose unique challenges in terms of market structure and regulation. At the same time, dealers must adjust to the evolving market and regulatory landscape while striving to serve their clients' interests. Critics argue that a multiplicity of marketplaces risks leading to **market fragmentation**, which can, in turn, lead to decreased **price discovery** (the ability to determine a suitable trading price for a given security) and decreased **liquidity** (the ability to easily find a counterparty with whom to trade at a reasonable price). Some of the specific issues most often associated with ATSs are discussed below.

Dark Pools

Dark pools are marketplaces where the price and quantity of orders are hidden, i.e., they provide no pre-trade transparency. While initially developed as electronic **crossing networks** to facilitate institutional block trades, **dark pool**s now allow for various order types permitting anonymity in order to minimize **market impact costs** and provide for better execution. These costs are incurred when the execution of an order moves the price of a security above the target price for a buy order (or below the target price for a sell order). Dark pools help to minimize **information leakage** about a large order before it is executed, whether through broker chatter or otherwise (the forces of supply and demand generally work to move prices down in the face of a large sell order and move them up in the face of a large buy order, so by hiding order size a buyer or seller my get better executions as a result). The benefits associated with dark pools must be weighed against the cost of missed execution on transparent markets. The Canadian Securities Administrators (**CSA**) conducted an extensive review of dark pools (among other market structure issues) which began prior to 2009 and has resulted, most recently, in proposals to amend trading rules discussed in detail under "*Proposed Changes to Regulations Governing ATSs*".[5]

Dark Orders

Like dark pools, dark orders are orders where details are fully or partially hidden. These include fully-hidden or fully-dark orders, where neither size nor price are displayed, as well as **iceberg orders** (also know as **reserve orders**) where the price is generally displayed, but only a portion of the volume is visible. When executed, an additional visible order is automatically generated out of the remaining invisible volume of an iceberg order (as with the Titanic, the invisible or underwater volume may be much bigger than the visible portion). A further variation is known as a **discretionary-reserve order**, which allows a party to specify an alternative price or range of prices at which the hidden portion of the order can be executed. The main benefit of a dark order is that, if it works, it minimizes market impact costs (i.e. price changes) by preventing others from seeing and trading ahead of the order.

Pegged Orders

Some trading venues offer order types known as "pegged orders" or "reference priced orders" that are automatically priced and re-priced based off (or to equal to) the last best bid or best buy. A pegged sell order, for example, automatically adjusts to the lowest available price on any marketplace. If a buy order is entered on the same marketplace listing the pegged sell order, the marketplace may preferentially execute the buy order against the pegged sell order, despite the fact that another sell order preceded the pegged sell order on another marketplace. The pegged sell order thus "jumps

5 See the Joint CSA/ IIROC Consultation Paper 23-404 – *Dark Pools, Dark Orders, and other Developments in Market Structure in Canada*, published on October 2, 2009, (2009) 32 OSCB 7877 **(CSA/IIROC Dark Pool Consultation Paper)**, Joint CSA/ IIROC Staff Notice 23-308 – *Update on Forum to Discuss CSA/IIROC Join Staff Notice 23-404*, published on May 28, 2010, (2010) 33 OSCB 4747, Joint CSA/ IIROC Position Paper 23-405 – *Dark Liquidity in the Canadian Market,* published on November 9, 2010, (2010) 33 OSCB 10764 **(CSA/IIROC Dark Pool Position Paper)**, and Joint CSA/ IIROC Staff Notice 23-311- *Regulatory Approach to Dark Liquidity in the Canadian Market*, published July 29, 2011, (2011) 34 OSCB 8219.

the line" and the dealer posting the original sell order loses a trade that should have been routed to it if all trades occurred on a single marketplace according to the principle of price-time priority (as we will see below, while regulators have sought generally to preserve price priority in the multi-marketplace environment, the time priority principle has been sacrificed). Automation and technology have made pegged and similar order strategies more viable through the use of computerized **algorithms.**[6]

High Frequency Trading and Flash Trading

Another somewhat controversial trading practice closely tied to algorithmic trading is **high-frequency trading** (**HFT**). **High-frequency trading** is the practice, made possible by high-speed computers, of posting and cancelling hundreds or thousands of orders per minute in the hopes of beating competitors' price quotes and executing trades. HFT may increase the perception of liquidity and lead to increased opportunity costs for investors who do not engage in HFT and who post what they think are competitive bids. **Co-location** of traders' computers with marketplace computers can assist in this regard.[7] A related practice is known as **flash trading**. Flash trading refers to the practice of posting order prices to one ATS a split second before posting them to other marketplaces or permitting some dealers to view orders ahead of other market participants. Opponents argue it creates an informational advantage that allows the market segment privileged by the ATS seeing the order first to execute the trade ahead of other potential counterparties.

Dealing with Best Price and Best Execution Obligations

While ATSs arguably allow dealers to better serve their client needs through an enhanced ability to tailor trading strategies and order types, they also create unique challenges with respect to fulfilling their "best execution" and "best price" obligations. Best execution is defined as the "most advantageous execution terms reasonably available under the circumstances" and includes elements of price, speed, certainty and overall cost. It is a client-focussed fiduciary agency principle designed to give the client the best result. According to the CSA, these four broad elements encompass more specific

6 Arguably, the TSX rules regarding allocation of trades may raise similar issues given they permit certain orders to execute without interference from other orders where they are, among other things, part of an internal cross or a specified intentional cross entered by a TSX participating organization (TSX Rule Book, Rule 4-802 *Allocation of Trades*).

7 See also BMO Capital Markets, *The Impact of High-Frequency Trading on the Canadian Market* (22 July 2009) and R. Dodd, "Opaque Trades," Finance & Development (IMF), March 2010, Vl. 47, No. 1.

considerations such as order size, reliability of quotes, liquidity, market impact and opportunity costs.[8] ATS availability arguably makes best execution more challenging: dealers now have a choice of venues on which they can execute trades, with each venue providing a unique combination of price, speed, certainty of execution and overall cost. Instead of being able to achieve best execution by simply identifying the best-priced order on a single marketplace, dealers must be able to access multiple marketplaces to find the trade that best achieves their clients' particular priorities. The CSA have said that while dealers should consider information from all appropriate marketplaces, this does not equate to having access to real-time data feeds from each marketplace. However, it does require them to develop and apply a process for taking into account order or trade information from various marketplaces and reviewing whether the steps taken to access the data are appropriate. Steps taken to access data may include making arrangements with other dealers who participate in a particular marketplace or routing orders to a particular marketplace.[9]

In some countries, best execution is the primary principle. That is not the case in Canada. In Canada, regulators have subordinated best execution to the "best price" obligation, which requires a dealer who is selling shares to sell for the highest available price (or a dealer buying shares to buy for the lowest price) even if the dealer's client might prefer not to.

The best price obligation is related to the concept of **trade-throughs** – trades that do not take place at the best price available are seen to have "traded through" that best price.[10] Trade-throughs occur when an order posted to one marketplace is preferentially matched to an inferior-priced order on the same marketplace rather than being matched to an order on another marketplace that displays the best price available. To avoid trade-throughs and ensure that they are complying with their best execution obligations, brokers must generally be able to access all marketplaces that trade a security in an efficient and timely manner. Many ATSs enable dealers to

8 NI 23-101 CP, s. 1.1.1.

9 NI 23-101 CP, s. 4.1(5).

10 NI 23-101 defines a "trade-through" as the execution of an order that is, for a purchase, higher than any protected offer, or for a sale, higher than any protected bid. A protect offer or protected bid refers to an order that is displayed on a marketplace providing automated functionality which is required to be reported to an information processor under NI 23-101. As discussed below, indications of interest or "IOIs" are not required to be reported to information processors thus trade-through requirements do not apply to them. IOIs may avoid transparency and other requirements as they are not considered to be "orders."

comply with their best execution and best price obligations by using smart order routers (**SORs**) that automatically send orders to the marketplace offering the best available price.[11] In Canada, marketplaces are now required to establish policies and procedures reasonably designed to prevent trade-throughs, subject to certain prescribed exceptions (which was historically a dealer rather than marketplace obligation).[12] Dealers are also subject to best execution obligations under both the securities rules and the Universal Market Integrity Rules (**UMIR**).[13]

While ATSs may present more challenges for regulators, they are a capital market reality and will likely continue to grow and innovate. As discussed in the next section, Canadian securities regulators have attempted to create a customized regulatory framework under the ATS Rules to address the reality of multiple marketplaces and continue to examine these and other issues raised by ATS proliferation.

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11 If a large block order is being matched, the SOR may match the order in parts, such that the first part of the order is executed at the best available price for the quantity available, and subsequent parts of the order are matched to the next-best available price, until the entire order is filled.

12 NI 23-101, s. 6.2, discussed in detailed below under "National Instrument 23-101 - *Trading Rules*".

13 NI 23-101, s. 4.3 specifically provides that to satisfy its best execution obligations a dealer or adviser shall make reasonable efforts to use facilities providing information regarding orders and trades. These obligations do not, however, apply to a dealer carrying on business as an ATS in compliance with s. 6.1 of NI 21-101. Regulatory scrutiny has increased over the past few years, as reflected not only by regulatory developments but also increased enforcement. See B. Erman, "Regulators Crack Down on Trade-throughs," Globe and Mail, (20 August 2010).

PART 2
Regulation of ATSs

The challenge for regulators in dealing with ATSs is to attempt to minimize the risks while retaining the benefits that flow from competition and choice. The CSA have characterized this balance in light of their duty to preserve an efficient and effective market characterized by market liquidity, visibility/transparency, price discovery, fairness and market integrity.[14]

Regulation of ATSs in the United States

In the 1970s, the United States Congress authorized the Securities and Exchange Commission (the **SEC**) to facilitate a national market system that would improve price discovery on multiple marketplaces. The objective of the national market system was to provide for "equally regulated, individual markets linked together to make their best price known and accessible."[15] In 1998, the SEC adopted "Regulation ATS", which required ATSs to register with the SEC either as exchanges or as broker-dealers. Under Regulation ATS, ATSs were required to disclose price quotes for all stocks for which they handled an average daily trading volume of 5 per cent or more, and allow other broker-dealers to access their systems and to execute trades for a reasonable fee.

In 2007, rules that had governed the national market system since the 1970s were consolidated by the SEC into "Regulation National Market System" (**REG NMS**).[16] The rules comprising REG NMS address, among other things, the requirement for access to markets, intermarket price priority for displayed and accessible quotations, minimum pricing increments and dissemination of market data. The rules relating to intermarket price priority require trading centres to establish policies and procedures to prevent certain trade-throughs. In the case of REG NMS, this refers to the execution of trades at prices inferior to the protected quotations (requiring, among other things, that the quotation be the best bid or best offer of a national securities exchange or national securities association), subject to certain exceptions.[17]

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14 CSA/IIROC Dark Pool Consultation Paper at p. 7880.

15 Securities and Exchange Commission Release No. 34-40760, *Regulation of Exchanges and Alternative Trading Systems* at p. 8.

16 Securities and Exchange Commission Release No. 34-51808, *Regulation NMS*. Regulation NMS was implemented in stages beginning in 2005 with full implementation completed in 2007.

17 REG NMS, Rule 611. See also Securities and Exchange Commission, *Responses to Frequently Asked Questions Concerning Rule 611 and Rule 610 of Regulation NMS*, as updated on April 4, 2008. In Canada, rather than just protecting the best bid and offer, trade through rules are designed to protect the full depth of orders.

The SEC issued a proposal to regulate dark pools in 2009, although it has yet to be enacted. It attempts to address issues raised by dark pools, by proposing, for example, to (i) amend the Securities and Exchange Act of 1934 quoting requirements so as to apply expressly to actionable "Indications of Interest" (**IOIs**); (ii) revise the order display requirements of Regulation ATS, including a substantial lowering of the trading volume threshold that triggers public display obligations for ATSs; and (iii) amend joint-industry plans for publicly disseminating consolidated trade data to require real-time disclosure of the identity of dark pools and other ATSs on the reports of their executed trades. It is uncertain if or when these proposals will be enacted.[18]

Regulation of ATSs in Europe

In 2004, the European Union issued the "Markets in Financial Instruments Directive" (the **MiFID**) with the intention of increasing competition while preserving consumer protection. Under the MiFID, investment firms are regulated by the laws of the state in which they have their registered office, but are generally allowed to provide services to customers in any European Union state. The MiFID emphasizes transparency and requires that investment firms seek "best execution" of their customers' orders. MiFID's best execution requirement, described by the Committee of European Securities Regulators (the **CESR**) to be of an "overarching nature", requires investment firms to take all reasonable steps to obtain the best possible result for their clients, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to order execution. The CESR further explains that responsibility for assessing the relative importance of these best execution factors lies with the investment firm, taking into consideration characteristics of the client (including the categorisation as retail or professional), the characteristics of the client order, the financial instrument that is the subject of the order and the execution venues or entities to which that order can be directed, and for retail clients, the "total consideration."[19] As in the U.S. to some extent, but unlike Canada, the "best execution" principle is not subordinated to "trade through" or "best price" rules.

18 Securities and Exchange Commission Release No. 34-60997, *Regulation of Non-Public Trading Interest*. Similar proposals by the CSA are also currently under review as discussed under "*Proposed Amendments to NI 21-101 and NI 23-101*."

19 For retail clients, the "total consideration" is comprised of the price of the financial instrument and the costs related to execution, including all expenses incurred by the client which are directly related to the execution of the order such as execution venue fees, clearing and settlement fees, and any other fees paid to third parties involved in the execution of the order. See CESR/07-320, *Best Execution under MiFID, Questions & Answers*, May 2007.

The obligation to the client therefore trumps the obligation "to the market" in Europe (the reverse is true in Canada).

Regulation of ATSs in Canada

In the late 1990s, Canadian securities regulators realized the potential of ATSs to compete with traditional exchanges and developed a regulatory framework to minimize perceived negative impacts. Their model followed the US approach while responding to issues specific to Canadian markets.

In Canada, ATSs are regulated by provincial securities regulators pursuant to provincial securities statutes and national and local rules and policies adopted by one or more members of the Canadian Securities Administrators (the **CSA**). ATSs are also regulated by the Investment Industry Regulatory Organization of Canada (**IIROC**), which is currently the only self-regulatory organization (**SRO**) overseeing investment dealers and equity (and, in theory, debt) trading activity in Canada, primarily through its UMIR and Dealer Member Rules.[20] As discussed below, ATSs may also directly or indirectly be subject to TSX regulation.

The ATS Rules: NI 21-101 and 23-101

ATS are primarily governed by National Instrument 21-101 *Marketplace Operation* (**NI 21-101**) and National Instrument 23-101 *Trading Rules* (**NI 23-101**). These rules generally set out the regulatory and reporting requirements applicable to all marketplaces and were first implemented in 2001 with the main purpose of establishing a regulatory framework within which existing and new market places could operate.[21] In addition to the regulation of marketplaces broadly, these rules also have specific requirements applicable to ATSs (and are collectively referred to as the "**ATS Rules**"). While not discussed in detail here, ATSs are also subject to trade-matching requirements under NI 24-101 *Institutional Trade Matching and Settlement*, which compliments similar requirements prescribing when trades must be settled under IIROC and TSX rules. As would be expected, the ATS Rules continue to evolve in order to keep pace with market developments. The most recent proposals to amend them are discussed later in this publication.

20 As discussed below under "*Regulation by SROs and Exchanges: UMIR and TSX*" the CSA have acknowledged that the IDA (predecessor to IIROC) qualifies as a regulation service provider for marketplaces that trade unlisted debt securities, inter-dealer bond brokers and dealers executing trades of unlisted debt securities outside of a marketplace.

21 These rules have continued to evolve since their implementation in order to keep up with the needs of changing marketplaces. They are currently subject to a further amendment proposal discussed in detail under "*Proposed Amendments to NI 21-101 and NI 23-101*".

National Instrument 21-101 – *Marketplace Operation*

NI 21-101 was adopted in order to create an appropriate regulatory regime for new and emerging marketplaces and to supplement the existing regime for exchanges and quotation and trade reporting systems (**QTRS**, although there are none of these NASDAQ-style creatures operating in Canada at present)[22] in light of these new and emerging marketplaces.[23] Pursuant to NI 21-101, a marketplace includes an exchange or a QTRS, as well as any person or company that is neither an exchange or a QTRS that:

- provides a market or facility for bringing together buyers and sellers of securities, brings together orders for securities of multiple buyers and sellers, and uses established, non-discretionary methods under which the orders interact with each other, and the buyers and sellers entering the orders agree to the terms of a trade; and

- a dealer that executes a trade of an exchange-listed security outside of a market place.

According to the CSA, these last two paragraphs describe ATSs. The CSA also consider that a person or company brings together orders for securities if it displays, or otherwise represents to marketplace participants, trading interests entered on the system, or receives orders centrally for processing and execution (regardless of the level of automation used). Established, non-discretionary methods include any methods that dictate the terms of trading among multiple buyers and sellers entering orders and include providing a trading facility or setting rules governing trading among marketplace participants, such as rules imposing execution, time and price priority. However, the CSA do not consider a system that only permits one seller to sell its securities (such as a system that permits issuers to sell their own securities to investors), one that merely routes orders for execution to another facility, or a system that posts information about trading interests without facilities for execution to be a marketplace.[24]

An "order" is defined in NI 21-101 as a firm indication by a

22 See Notice of Proposed Amendments to NI 21-101 and NI 23-101 (2011) 34 OSCB (Supp-1) dated March 18, 2011 at p.2 where the CSA confirm there are currently no QTRSs recognized in Canada.

23 NI 21-101 CP, s. 1.1.

24 NI 21-101 CP, s. 2.1 and s. 1.2 of NI 21-101. NI 21-101 also states that a person will not be considered to provide a market or facilities for bringing together buyers or sellers of securities solely because they route orders to a marketplace or a dealer for execution.

person acting as principal or agent of a willingness to buy or sell a security. Accordingly, a marketplace that displays good faith non-firm "indications of interests" (**IOI**s), including IOIs to buy or sell without either an associated price or quantity, is not considered to be displaying orders. However, it should be noted that the CSA will consider an IOI to be firm if it can be executed without further discussion between the initiating party and the counterparty, even if subsequent agreement is required, if past conduct or understandings between the parties reflect a prevailing presumption that an order will take place at a certain price.[25]

Definition of an ATS and Registration

An ATS is defined in NI 21-101 as a marketplace that:

(a) is not a recognized QTRS or an exchange, and
(b) does not
  (i) require an issuer to enter into an agreement to have its securities traded on the marketplace,
  (ii) provide, directly, or through one or more subscribers, a guarantee of a two-sided market for a security on a continuous or reasonably continuous basis,
  (iii) set requirements governing the conduct of subscribers, other than conduct in respect of the trading by those subscribers on the marketplace, and
  (iv) discipline subscribers other than by exclusion from participation in the marketplace.[26]

With respect to this definition, an ATS that requires a subscriber to agree to comply with the requirements of a regulation services provider as part of its contract with that subscriber is not considered to be setting "requirements governing the conduct of subscribers" (the role of regulation service providers or "**RSP**s" is discussed below). An ATS is similarly permitted to establish trading algorithms without tripping this restriction. Marketplaces are also not precluded from imposing credit conditions or requiring subscribers to submit financial information.[27] This prohibition on "requirements" is thus a little flexible in practice.

NI 21-101 specifies that an ATS must register as a dealer and become a member of a self-regulatory entity in order to carry on

25 NI 21-101, s. 1.1 and CP s. 5.1.
26 NI 21-101, s. 1.1.
27 NI 21-101 CP, s. 3.1(3) and 3.3.

business in Canada[28] and limits the types of securities that ATSs are permitted to trade in to exchange-traded securities, corporate debt securities, government debt securities and foreign exchange-traded securities.[29]

Reporting and Disclosure Requirements

NI 21-101 imposes very specific reporting requirements upon ATSs' once registered, in order to provide regulators with advance notice of their operations or any significant changes to them, as well as to provide ongoing information regarding their trading activities. An ATS is required to provide an initial report regarding its operations at least 30 days prior to beginning to carry on business, and to report significant changes at least 45 days prior to implementation. Non-significant changes are to be reported within 30 days of the end of the calendar quarter in which the change takes place. ATSs are also required to provide regular reports regarding their operations on prescribed forms, within the same timeframe, and to provide 30-day advance notice if they plan to cease operations.[30] An ATS must provide six-months advance notification if it intends to impose exchange-like requirements upon its subscribers or to carry out exchange-like activities.[31]

The CSA monitor ATS operations through various threshold reporting obligations, requiring notification where minimum trading thresholds are exceeded. Currently, these are triggered if during at least three of the preceding four calendar quarters, an ATS's average daily trading dollar value, trading volume, or number of trades in any type of security meets or exceeds a threshold level of 20 per cent of the average daily dollar value, total trading volume or number of trades in that type of security on all marketplaces in Canada.[32] Upon such notification the regulatory authority will review the ATS's operations to consider whether it should more appropriately be regulated as an exchange.[33]
ATSs must disclose to, and obtain an acknowledgement from its non-dealer subscribers to the effect that, as a marketplace, the ATS

28 NI 21-101, s. 6.1. Currently, IIROC is the only SRO for investment dealers and equity trading.

29 NI 21-101, s. 6.3.

30 NI 21-101 s. 6.4.

31 NI 21-101, s. 6.6. See the four branches of prohibited items in the definition of "alternative trading system" for information on these prohibited activities or requirements.

32 NI 21-101, s. 6.7.

33 NI 21-101 CP, s. 3.4(7). These thresholds are proposed to be decreased to 10% and to require notification if in a particular quarter, any threshold is exceeded for two of the preceding three months, pursuant to proposed amendments to NI 21-101, published March 18, 2011 discussed below under "*Proposed Amendments to NI 21-101 and NI 23-101*".

cannot guarantee best execution.[34] ATSs may not impose on their subscribers any restrictions on trading on other marketplaces (exchanges are subject to a similar obligation),[35] and must not unreasonably prohibit or limit access to their services by any person or company.[36] ATSs must also disclose their trading fee schedules (but are not required to publicly disclose the commission fees they charge for dealer services).[37]

Transparency Requirements

ATSs are subject to information transparency requirements under NI 21-101 in order to provide "accurate and timely" pre-trade and post-trade information regarding displayed orders (but if IOIs are not orders, they would no be subject to this requirement) and executed trades to an information processor.[38] The information processor consolidates the data in real time and feeds it back into the market where it is accessible by all marketplace participants.[39] Currently, the information processor for exchange-traded securities other than options is operated by the Toronto Stock Exchange. Orders are not considered to be "displayed", however, if they are shown only to employees of the marketplace or persons or companies retained to assist in the operation of the marketplace. This exception permits dark pools to operate without pre-trade transparency.[40] ATSs must also report and settle all executed trades through a clearing agency[41] and comply with all reasonable requirements of its information processor.[42]

Technology and Recordkeeping Requirements

Under NI 21-101, ATSs are subject to strict systems requirements regarding their business continuity and disaster recovery plans, IT controls, and capacity and systems testing procedures.

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34 NI 21-101, s. 6.11.

35 NI 21-101, s. 6.12.

36 NI 21-101, s. 6.13. Similar requirements apply to exchanges and QTRSs under s. 5.1 of NI 21-101. Pursuant to proposed amendments to the ATS Rules discussed below under "*Proposed Amendments to NI 21-101 and NI 23-101*" these access requirements are proposed to be consolidated for all marketplaces. Guidance in the Companion Policy to NI 21-101 is also proposed to be amended to clarify that marketplaces that send IOIs to selected SORs should consider the extent to which such information should be sent to other SORs to meet such fair access requirements.

37 NI 21-101, s. 10.1; NI 21-101 CP, s. 12.1.

38 NI 21-101, ss. 7.1, 7.2.

39 NI 21-101, s. 7.5.

40 NI 21-101, s. 7.1(2). See also the CSA/IIROC Dark Pool Position Paper. Similar requirements are imposed under Part 8 of NI 21-101 for marketplaces dealing in unlisted debt securities, inter-dealer bond brokers and dealers.

41 NI 21-101, s. 13.1.

42 NI 21-101, s. 7.6.

ATSs as marketplaces are also subject to record-keeping requirements relating to, among other things, those to whom they grant trading access as well the orders and trades that they process.[43] As a "market participant" for the purposes of Ontario securities laws, an ATS's records are also subject to the record-keeping and compliance review provisions of the *Securities Act* (Ontario) which require, among other things, that marketplace participants keep prescribed records, deliver them as required and submit to compliance reviews.[44]

National Instrument 23-101 *Trading Rules*

National Instrument 23-101 was implemented at the same time as NI 21-101 with the stated purpose of creating a uniform system of rules to govern trading on all marketplaces in order to prevent price manipulation and deceptive trading activity, and to clarify best execution and ethics standards for market participants. Where NI 21-101 imposes primarily operational and administrative requirements, NI 23-101 supplements those with substantive conduct and order-execution related requirements. These are largely similar to those imposed by IIROC on its regulated members, thus the dealer-related obligations generally only apply to those not otherwise regulated by IIROC. These include specific prohibitions against manipulation and fraud, and locked and crossed markets, as well as specific requirements relating to best-execution and order protection.

Best Execution and Locked or Crossed Orders

NI 23-101 requires a dealer or adviser to make reasonable efforts to achieve best execution when acting for a client. As discussed above, best execution refers to the most advantageous execution terms reasonably available, and goes beyond simply price. This requirement does not apply to a dealer that is carrying on business as an ATS in compliance with s. 6.1 of NI 21-101. When dealers or ATSs preferentially "trade through" orders by executing orders on one system without matching them to better orders available on other marketplaces, best execution may (depending on the client's wishes) still be achieved but other market participants can see their better priced orders ignored. This caused concerns for regulators and was addressed through the implementation of the "order protection rule" which requires marketplaces to establish, maintain

43 NI 21-101, Part 11. These records are required to be retained for a minimum period of 7 years, with the first 2 years kept in a readily accessible location.

44 OSA, s.19 and 20. ATSs are designated to be market participants by virtue of OSC Rule 23-501 – *Designation as a Market Participant.*

and ensure compliance with written policies and procedures designed to prevent trade-throughs and to review and monitor the effectiveness of these policies and modify them as required The order protection rule has been in place since February 1, 2011 and includes, as well, a requirement for marketplaces and dealers to indicate whether orders they receive are directed-action orders. Market participants are similarly required to establish, maintain, and comply with written policies and procedures before they may enter a directed-action order.[45]

NI 23-101 prohibits a marketplace participant from intentionally entering a protected order to buy a security at a price that is the same as or higher than the best protected offer or to sell a security at a price that is the same as or lower than the best protected bid.[46] Marketplace participants are thus prohibited from intentionally locking or crossing markets.

Monitoring and Enforcement Requirements

In order to be permitted to execute trades for subscribers, ATSs must execute an agreement with a regulation services provider (**RSP**). The agreements between an ATS and its regulation services provider must specify that the ATS will conduct its trading activities in compliance with NI 23-101.[47] IIROC is currently the only RSP for ATSs. IIROC's jurisdiction over ATSs generally and their subscribers is discussed in further detail below under "*Regulation by SROs and Exchanges: UMIR and TSX*."

45 NI 23-101, s. 3.1, Part 4 and Part 6. See also NI 23-101 CP, s. 6.1(1). A "directed-action order" is defined in NI 23-101 as a limit order for the purchase or sale of an exchange-traded security, other than an option, that: (i) when entered on or routed to a marketplace is to be immediately either executed against a protected order (with any remainder to be booked or cancelled) or placed in an order book; (ii) is marked as a directed-action order; and (iii) is entered or routed at the same time as one or more additional limit orders that are entered on or routed to one or more marketplaces, as necessary, to execute against any protected order with a better price than the order referred to in paragraph (i).

46 NI 23-101, s. 6.5.

47 NI 23-101 CP, s. 7.2; NI 23-101, ss. 8.1-8.4.

Regulation by SROs and Exchanges: UMIR and TSX

IIROC was formed as an independent SRO as a result of the merger of Market Regulation Services Inc. (**RS**) and the Investment Dealers Association of Canada (**IDA**) in 2008. It is recognized as an SRO by all members of the CSA and as a regulation service provider (**RSP**) under the ATS Rules. As an RSP, IIROC regulates registered investment dealers as well as other individuals and companies that participate directly in a Canadian equity marketplace as a member of an exchange, a user of a QTRS or subscriber to an ATS.

IIROC has jurisdiction over an ATS and its subscribers in its capacity as an RSP through various contractual agreements required under NI 23-101. Specifically, NI 23-101 prescribes that an RSP set requirements governing both an ATS and its subscribers, including an obligation that the ATS's subscribers conduct their trading activity in accordance with NI 23-101. An ATS is accordingly required to agree to comply with, and allow the RSP to monitor and enforce, such requirements, and to further enter into an agreements with its subscribers whereby they, in turn, agree to regulation, monitoring and enforcement by the RSP.[48] IIROC therefore has indirect jurisdiction over ATS subscribers through these cascading contractual relationships. While IIROC will have direct jurisdiction over those subscribers that are registered investment dealers, NI 23-101 extends IIROC's jurisdiction beyond those who are required to be IIROC members to those who would not otherwise be regulated by IIROC.

Prior to the enactment of the UMIR by IIROC, each stock exchange was in charge of regulating its own trading practices. IIROC (previously Market Regulation Services Inc., or "**RS**") developed UMIR with the objective of streamlining and universalizing the rules under which marketplaces operate and balancing market efficiency and competitiveness with market integrity and investor protection. The UMIR were originally drafted to deal with the order types and trading facilities of the TSX and the TSXV as they existed in 2002 and have consequently undergone amendments to accommodate multiple marketplaces and keep pace with marketplace evolution.[49]

48 NI 23-101 imposes similar monitoring and enforcement requirements (through contractual arrangements) with an RSP for inter-dealer bond brokers and dealers executing trades of unlisted debt securities outside of a marketplace. The CSA have acknowledged that the IDA (the predecessor to IIROC) qualifies as an RSP for marketplaces that trade in unlisted debt securities, inter-dealer bond brokers and dealers executing trades of unlisted debt securities outside of a marketplace ((2003) 26 OSCB 7147) although it is not clear if the IDA or IIROC have ever established such requirements.

49 A detailed review of the relevant UMIR provisions is beyond the scope of this publication, reference should be made to applicable UMIR provisions and related notices and guidance for more information. See for example MIN No. 2007 – 002, *Provisions Respecting Competitive Marketplaces* dated February 26, 2007 and MIN No. 2006-017, *Guidance – Trading Securities on Multiple Marketplaces* dated September 1, 2006.

The TSX does not directly regulate ATSs unless they are "members" of the exchange.[50] However, the TSX indirectly takes jurisdiction over ATSs that are affiliated with participating organizations (being those granted trading access by the TSX) through provisions of the TSX Rule Book and Policies that require companies that are related to participating organizations to comply with its requirements. For these purposes, a 20% or more ownership interest by the participating organization or any of its partners, directors, officers, employees or shareholders will result in a company being "related". The TSX also requires a participating organization to provide reasonable prior notice of its intent to operate or sponsor a proprietary electronic trading system (also referred to as a "**PETS**") and to provide the TSX with details regarding its opertation and functionality. The operation of such a PETS is subject to the TSX's requirements and must be integrated with the TSX market. It is also limited to trading orders of more than 1,200 units of a listed security other than a debt security and $10,000 in principal amount for a debt security.[51]

Proposed Changes to Regulations Governing ATSs

Proposed Amendments to NI 21-101 and NI 23-101

On March 18, 2011, the CSA published for comment proposed amendments to NI 21-101 and NI 23-101 designed to update and streamline the ATS Rules, and to align, where appropriate, requirements applicable to all marketplaces. In their Notice and Request for Comments the CSA acknowledge that as the market share of ATSs increases, so does their influence on how trading occurs and their role in shaping market structure. The proposals therefore contain a number of amendments aimed at consolidating and streamlining, where applicable, requirements applicable to various marketplaces and increasing transparency regarding their operations, including with respect to the fees charged to users. With respect to dark pools, dark orders and similar issues, the proposals include amendments to establish a minimum size threshold in order to be exempt from pre-trade transparency requirements, impose

50 As discussed above, an ATS that is a member of an exchange is exempt from NI 21-101, conceivably because its "marketplace operations" would then be dictated by the exchange's rules and policies. NI 21-101 defines "member" for a recognized exchange to mean a person or company that holds at least one seat on the exchange (although the TSX no longer has seats) or that has been granted direct trading access rights by the exchange and is subject to its regulatory oversight (NI 21-101, s. 1.1). Section 3.4 of NI 21-101 CP also reiterates that if an ATS is a member of an exchange, the rules, policies and similar instruments of the exchange apply to the ATS.

51 TSX Rule Book and Policies, s. 1-101, 2-104, and 4-104.

restrictions against locking and crossing markets on marketplaces that route or reprice orders, give guidance regarding the definition of an "order" (clarifying when an IOI may be considered an order), and to clarify the CSA's expectations regarding the obligations of marketplaces that send IOIs to selected SORs in terms of their fair access obligations.

With respect to IOIs, the CSA state they would consider an IOI to be actionable where it includes sufficient information to enable it to be executed without further discussion or negotiation, which information may be explicit or implicit. The CSA also acknowledge that while there is to date no evidence that dark liquidity has had a negative impact on capital markets, it is important to establish a regulatory framework that can respond to future market developments.

The proposals also address conflicts of interests that may arise in marketplaces, amend the trading volume and value thresholds at which ATSs are required to notify regulators, and expand requirements to maintain business continuity plans that encompass more than simply systems requirements (to include, for example, the maintenance of a backup location or alternate work locations for employees). They also include a new overarching requirement that a marketplace not engage in activity that interferes with fair and orderly markets. The comment period for these proposals expired on June 16, 2011.[52]

NI 23-103 Electronic Trading and Direct Electronic Access to Marketplaces

On April 8, 2011, the CSA published for comment proposed National Instrument 23-103 *Electronic Trading and Direct Electronic Access to Marketplaces*. This instrument will provide for the first time a consolidated regime to govern the provision of direct electronic access ("**DEA**", more commonly known as direct market access or "**DMA**") by market participants to their clients. The current Canadian rules (which are primarily applied through the TSX's concept of "eligible clients") are very unusual by global standards, where DMA is more

52 See Proposed Amendments to National Instrument 21-101 *Marketplace Operation and National Instrument 23-101 Trading Rules*, published on March 18, 2011 (2011), 34 OSCB 11 (Supp-1). See also related IIROC Notice 11-0225, *Provisions Respecting Dark Liquidity*, dated July 29, 2011 which includes related IIROC proposals for, among other things, price improvement and minimum size. Some of the amendments proposed to NI 21-101 and NI 23-101 codify practices that CSA staff have applied under CSA Staff Notice 21-703 *Transparency of the Operations of Stock Exchanges and Alternative Trading Systems.* This notice attempted to align processes applicable to ATSs and exchanges where appropriate.

accessible, and have caused a number of interpretational difficulties for regulators and market participants. The proposals would make participant dealers primarily responsible for the DEA that they provide to clients, and impose specific oversight and supervisory requirements in that respect. They also include proposals requiring marketplaces to establish and maintain controls, policies and procedures designed to manage risks associated with DEA, have oversight of automated order systems, prevent the execution of orders outside of thresholds set by the RSP (or by a recognized exchange or recognized QTRS) and, somewhat controversially (as they seem to fly in the face of other rules) prohibit the provision of DEA to dealers who are exempt market dealers.[53] The comment period for these proposals expired on July 8, 2011.

IIROC's Proposed New Market Regulation Fee Model

As discussed above, marketplace evolution continues to challenge IIROC as it strives to keep pace with evolving operational and trading models while seeking to ensure that its regulation remains fair and transparent, encourages competitiveness and is cost effective (both to IIROC and those it regulates). Each of these elements is directly connected to what is arguably one of the most powerful means by which IIROC exerts its jurisdiction, being the fees charged to those who access its regulated marketplaces. IIROC published proposals on November 30, 2010 to implement a new market regulation fee model.[54] The most significant element of the proposed model is a move away from allocation of fees primarily based on volume of shares traded to a model that also considers "messages" generally, including orders and order-to-trade ratios. According to IIROC, as new marketplaces launch with highly differentiated trading models, the propriety of "shares traded" as a sole driver to track costs of regulation is questionable.[55] HFTs can have order-to-trade ratios of 100:1 or more, for example. The new model therefore proposes to charge a minimum monthly fee, a fee based on the number of trades (to cover regulation costs) and a fee based on the number of messages processed by IIROC (to cover the IT costs for marketplace

53 See the Notice of Proposed National Instrument 23-103 *Electronic Trading and Direct Electronic Access to Marketplaces*, published on April 8, 2011, (2011) 34 OSCB 4133. In theory, dealers are currently responsible for all sponsored access although there has been very little enforcement to date.

54 See IIROC Notice 10-0316 *New Market Regulation Fee Model*, dated November 30, 2010 which was proposed by IIROC as mandated under its OSC Recognition Order dated May 16, 2008. The order stipulates that IIROC develop an integrated fee model that does not create an unreasonable barrier to entry, operates on a cost-recovery basis and is fair and transparent. This proposal was open for comments until January 29, 2011.

55 IIROC Notice 10-0316 at p. 8.

surveillance). According to IIROC, the number of messages received, processed, analyzed and stored is directly proportionate to the costs of surveillance. The impact of this model means higher fees for those who have a greater share of messages (orders) compared to their share of trades. IIROC estimates this to be approximately 25% of dealer members who trade on its marketplaces.[56] With respect to ATSs and their subscribers, the most significant impact would be on HFT, algorithmic traders and any others whose trading models result in a greater ratio of orders-to-trades generally.

The Road Ahead

The rise of new marketplaces in Canada is still relatively recent. Some have yet to prove their economic viability, while others have already closed their doors. Some, especially Alpha, have proven successful in capturing market share from the TSX, while others continue to have relatively de minimis volumes. It is still a new world and we can expect the rules to evolve, and enforcement actions to be taken, as regulators come to terms with the realities of the new playing field. For dealers and investors, they offer more choice but also more complexity. Companies too, may have more choices, as ATSs continue to grow and offer competitive alternatives to traditional exchanges.

56 IIROC Notice 10-0316 at p. 10 and 14.

Appendix A
Glossary of ATS Terminology[57]

Algorithm: A set of rules for accomplishing a task in a certain number of steps. Trading algorithms outline steps taken to execute orders. Different algorithms may be selected for different orders based on the execution strategy of the user.

Auction Market: A market where buyers enter competitive bids and sellers enter competitive offers at the same time. A stock is generally traded at the highest price a buyer is willing to pay and the lowest price at which a seller is willing to sell the same number of shares. Typically, matching bids and offers are paired and orders are executed.

Bulletin boards are facilities that display bids and offers and that post information about trading volume and prices for over-the-counter equities.

Bypass marker: A marker that when added to an order bypasses hidden liquidity, Special Terms Orders, and other "specialty orders," and executes only against displayed volumes on a marketplace prior to the execution or cancellation of the balance of the order.

Call market: A market in which each transaction takes place at predetermined time intervals and where all of the bid and ask orders are aggregated and transacted at once. The marketplace determines the market clearing price based on the number of bid and ask orders.

Co-location is the practice of third-party hosting of a marketplace's servers in locations that are physically close to exchanges, in order to offer the lowest possible latency and highest possible transaction speeds. The TMX Group offers co-location within the TMX Data Centre through its TMX Datalinx Co-Location Service.

Crossed market: When one participant's bid (offer) on one marketplace is higher (lower) than another participant's offer (bid) on the same or a different marketplace, but they do not execute because they are in different places.

57 Many of these definitions are reproduced from the Joint CSA/ IIROC Consultation Paper 23-404 – *Dark Pools, Dark Orders, and other Developments in Market Structure in Canada*, published on October 2, 2009, (2009) 32 OSCB 7877.

Crossing system or crossing network: Electronic trading systems that facilitate trades between buyers and sellers who quote their prices on other trading systems. Crossing systems do not discover prices and may allow large orders to be entered and executed at predetermined time intervals throughout the day.

Dark Order: See "Fully-Hidden Order."

Dark Pool: A marketplace that provides no pre-trade transparency.

Databasing: A practice where a smart order router keeps records of orders that are sent through it and uses this information in subsequent order routing decisions.

Discretionary-Reserve Orders: A reserve order where the reserve portion of the order can execute at an alternative price, or range of prices specified by the user.

Electronic Liquidity Providers (ELP): Typically high frequency traders who try to profit by capturing the bid ask spread of a security. ELPs may send thousands of orders per second, have holding periods of less a second, and try to end each day with zero market or single stock risk.

Flash trading refers to the practice of posting order prices to one ATS a split second before posting them to other marketplaces or permitting some dealers to view them ahead of other market participants.

Fully-Hidden Orders: Orders about which no information is displayed to an information processor or information vendor.

High-frequency trading ("**HFT**") refers to reliance on high-speed computers to post and cancel hundreds or thousands of orders per minute in order to get the most competitive price and execution.

Indication of Interest (IOI): IOIs include messages sent from a marketplace that contain certain information about resting orders on that marketplace. Information contained in an IOI may include information on one or more of, but not all of; symbol, side, size, or price.

Internalization refers to the practice of keeping orders within a firm and buying from sell orders and selling from buy orders, at the published best bid or an increment higher.[58]

Market Fragmentation: Occurs when a market's liquidity is divided among multiple marketplaces.

Liquidity: Refers to a market's capacity to absorb trades from customers' buy and sell orders at, or near, the last sale price of a particular stock. Characteristics of market liquidity include **market depth, breadth and resiliency**, being the number of orders at different prices in a book, the number of shares that are wanted at a particular price level and the ability of a market to attract offsetting orders quickly when order imbalances occur.

Market Impact Costs: The costs that are incurred when the price of execution is different than the target price. This can occur when the execution of an order moves the price of a security above the target price for a buy order (or below the target price for a sell order). **Information Leakage** about a large order before it is executed can increase these costs significantly.

Market in Financial Instruments Directive (MiFiD): A directive providing a harmonized regulatory regime for investment securities across the member state of the European Economic area. The directive officially took effect on November 1st, 2007.

National Best Bid (NBB): In respect of a particular security, the best bid of a standard trading unit across all transparent marketplaces excluding Special Terms Orders.

National Best Bid Offer (NBBO): In respect of a particular security, the best bid and offer of a standard trading unit across all transparent marketplaces excluding Special Terms Orders.

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58 See for example the opposition taken to Alpha's introduction of its "IntraSpread" facility on the basis that it potentially increases the level of internalization of order flow as broker preferencing is included in its order matching methodology (Alpha ATS LP, Notice of Completion of Staff Review of Proposed Changes – IntraSpread Facility ((2011) 34 OSCB 4331) and related comment letters). As discussed above, arguably, the TSX rules regarding allocation of trades may raise similar issues given they permit certain orders to execute without interference from other orders where they are, among other things, part of an internal cross or a specified intentional cross entered by a TSX participating organization (TSX Rule Book and Policies, Rule 4-802 *Allocation of Trades*).

National Best Offer (NBO): In respect of a particular security, the best offer of a standard trading unit across all transparent marketplaces not inclusive of Special Terms Orders.

Pegged orders are orders that, once posted to a trading platform, automatically adjust their price. They can circumvent price-time priority when they are executed ahead of older, same-priced orders on other platforms.

- **Market Peg Order**: An order that is priced and re-priced as necessary to equal, or to be higher or lower than a reference bid, offer, or mid-point between a bid and offer.

- **Mid-Peg Order**: An order that floats at the mid point in the book and can execute against an opposite midpeg order or incoming market order.

- **Pegged Offset Order**: A reference-priced order where an increment/decrement is added to the national best bid or national best offer. For example, a pegged offset order of Bid+1 would peg to the national best bid plus a penny.

- **Primary Peg Order**: A reference-priced order that is automatically priced, and subsequently re-priced as necessary, to equal either the reference bid, in the case of a buy, or the reference offer, in the case of a sell.

Post-trade Transparency: Refers to the ability of the public to see information about the price and volume of a trade after it has been executed. Information includes the volume, symbol, price and time of the trade.

Pre-trade Transparency: Refers to the ability of the public to see information about orders posted on a marketplace. Information includes the volume, symbol, price and time of the order.

Reserve Order (Iceberg Order): An order that displays only a portion of its total volume at a price that the participant is willing to trade. When the visible portion of the order is executed, an additional visible order is automatically generated by the trading system of the marketplace drawing from the total size and decreasing the amount of the reserve.

Size Discovery: The ability for a market to identify and attract large orders.

Smart Order Router (SOR): A technological tool that scans multiple marketplaces for the best-displayed price and then routes orders to that marketplace for execution. This can potentially help traders achieve better-priced executions, as well as saving time and effort with traders trying to manually locate the most appropriate execution point.

Special Terms Order: An order that is less than a standard trading unit, or is subject to a condition other than price or settlement date unless specified by a marketplace.

Subscriber: A person or company that has entered into a contractual agreement with an ATS to access the ATS in order to trade, or disseminate or display orders of the ATS.

Upstairs market: Where large blocks of shares are either worked by dealers who try to cross them with other client orders on an agency basis, or with inventory orders using their liability capital on a proprietary basis.

Appendix B
ATSs Operating in Canada

To carry on business in Ontario, an ATS must register as a dealer and become a member of a self-regulatory organization. ATSs are, among themselves, distinguished on the basis of their trading rules (i.e. their arrangements for price discovery and liquidity) and generally are subject to less stringent regulation than stock exchanges.

In Canada, there are currently three main types of ATSs: **equity ATSs**, **debt ATSs** and **securities lending ATSs**. In the second quarter of 2011, ATSs enjoyed 34.4% market share based on volume traded (29.5% for the four quarters ending June 30, 2011).[59]

Equity ATSs operating in Canada all offer fully-automated electronic order entry, and, with the exception of Bloomberg TradeBook and Liquidnet Canada, fully-automated order matching and trade execution.[60]

Equity ATSs

Alpha ATS

Alpha ATS was established by nine of Canada's leading financial institutions with the stated purpose of increasing competition in the securities trading market. It began operations in November 2008. Alpha's key operational features include an auction market based on price and time priority, a market-on-close facility for certain securities, an odd-lot facility and a smart order router service capable of routing orders to other protected marketplaces with better-priced orders. It trades all TSX and TSX-V-listed securities excluding NEX Venture securities and US dollar denominated securities and is accessible to registered investment dealers. Alpha ATS had a reported market share of approximately 20.7% in the second quarter of 2011 (19.1% for the four quarters ending June 30, 2011). Alpha ATS applied to become an exchange in April, 2011.

59 Data regarding key features of Canadian ATS's operational models, securities traded and access requirements is based primarily on the Summary Comparison of Equity Marketplaces published by IIROC, current as of July 31, 2011. Other details are taken from publicly accessible information published by the ATSs themselves. Market share is based on volume traded.

60 Both Bloomberg and Liquidnet are available only to institutional investors and operate as order routers. Liquidnet enables buyers and sellers to negotiate orders, as discussed in detail below.

Bloomberg TradeBook Canada

Bloomberg TradeBook Canada, established in 2001, is an ATS targeting institutional investors by routing orders by affiliates for execution to organized regulated markets in various countries and to marketplaces in Canada. Bloomberg Tradebook trades in all TSX-listed securities and various foreign exchange-traded securities and is accessible only to institutional investors.

Chi-X Canada

Chi-X Canada, established in February 2008, is an ATS whose stated purpose is to cater to registered dealers and to provide them with high-efficiency trading capability. Chi-X operates a continuous auction market based on price and time priority and offers a smart order router capable of routing orders to other protected marketplaces with visible better-priced orders. All orders interact in a single consolidated order book and Chi-X offers mid-point pegged orders, as well as an automatic repricing mechanism to protect from trading through, locking and crossing as well as improper short sales. Chi-X trades all TSX listed securities excluding debentures and notes and is accessible only to registered investment dealers. In the second quarter of 2011, Chi-X had a reported market share of approximately 6.4% (5.0% for the four quarters ending June 30, 2011).

Instinet Canada Cross ("ICX")

Instinet Canada Cross is a recently established ATS that began operations on May 25, 2011. According to its website, ICX is a fully dark marketplace offering two trading facilities: "VWAP Cross", for Volume-Weighted Average Price trading, and "BLX Cross", for both continuous matching and point-in-time order matching.[61] Both of ICX's trading facilities offer trading in equity securities that are denominated in Canadian dollars and traded on the TSX or the TSX-V. ICX's market share for the second quarter of 2011 was, understandably, negligible.

Liquidnet Canada Inc

Liquidnet Canada, established in October 2006, is a trading platform where institutional investors can execute block trades of Canadian listed securities with each other directly and anonymously. Once a corresponding buy and sell order is "matched", the systems alerts both subscribers to enable one-to-one electronic negotiation on a

61 For a more detailed explanation of "VWAP Cross" and "BLX Cross", see *Instinet Canada Cross (ICX): Notice of Initial Operations Report and Request for Feedback*, OSC Notice, (2011) 34 OSCB 1986.

fully anonymous basis. Liquidnet allows for order negotiation of Canadian-listed securities in Canadian funds and operates and routes orders for execution to organized regulated markets operated outside of Canada by its affiliates. It trades all TSX and TSXV listed securities for matching and various foreign-exchange traded securities for order routing and is accessible only to institutional investors. Liquidnet had 0.15% market share in the second quarter of 2011 (0.12% for the four quarters ending June 30, 2011).

MATCH Now (operated by TriAct)

MATCH Now, established in 2007, is a trading platform that allows only registered dealers and their eligible clients to place orders. MATCH Now operates a mix of call market and continuous market features involving passive liquidity-providing orders or active liquidity-taking orders. Any portion of a liquidity-taking order that is not filled is routed to other marketplaces.[62] It trades all TSX and TSXV listed securities other than U.S. dollar denominated securities, debentures and those with special settlement terms. Subscribers are limited to registered dealers. MATCH Now had 1.6% market share in the second quarter of 2011 (1.2% for the four quarters ending June 30, 2011).

Omega ATS

Omega ATS, established in December 2007, started as an equity trading platform and expanded into fixed-income securities trading in 2010, targeting mainly retail investors. Omega operates an auction market based on strict price and time priority and trades all TSX and TSXV listed securities (other than U.S. dollar denominated securities, debentures, warrants and rights) and is accessible only to registered dealers. Omega had 2.1% market share in the second quarter of 2011 (1.2% for the four quarters ending June 30, 2011).

Pure Trading

CNSC Markets Inc. – Pure Trading was established in September 2007 by the CNSX markets Inc.[63] Pure Trading operates an auction market based on price and time priority subject to certain exceptions. Orders designated as electronic marketplace trade-

62 Its website describes this as key feature, being smart order routing service that filters a continuous stream of orders on their way to another Canadian market place, matching them on MATCH Now's platform if a price advantage can be obtained, but otherwise sending the orders on to other marketplaces.

63 The Canadian Trading and Quotation Systems Inc. or "CNQ", originally launched as a quotation and trade reporting system in 2003 and migrated to full exchange status. It was renamed CNSX Markets Inc. in 2008.

through protection are reportedly intermediated by CNSX's smart order router facility. It trades TSX and TXSV listed securities. Pure Trading had 3.5% market share in the second quarter of 2011 (2.9% for the four quarters ending June 30, 2011).

Sigma X Canada

Goldman Sachs Canada Inc. announced plans to launch Sigma X Canada in August of 2011, as a non-displayed ATS providing subscribers with the opportunity for price improvement, liquidity enhancement, and faster executions while reducing market impact and footprint. Sigma is to trade TSX listed securities and provide access to registered investment dealers.[64]

TMX Select

TMX Select commenced trading securities on July 11, 2011 using a phased-in approach. It operates an auction market based on price and time priority and offers order protection features to protect from trade-throughs, locking and crossing other markets. TMX Select trades all TSX and TSXV listed securities and is accessible only to registered dealers.[65]

Debt ATSs

CanDeal

CanDeal provides Canadian institutional investors and investment dealers with access to the liquidity of the major leading primary dealers of debt securities. In addition, it provides access to 15 debt and derivative markets in the US and Europe.

CBID Markets Inc.

CBID Markets Inc. is a live, executable multi-dealer marketplace providing access to fixed income trading to large retail networks, investment counsellors and portfolio managers. Approved in 2002, it operates two marketplaces: one for retail investors and the other for institutional investors.

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64 At the time of printing information related to Sigma-X was not included in IIROC's Summary Comparison of Equity Marketplaces, which was current as of July 31, 2011. This summary is based on information published by The Goldman Sachs Group, Inc.

65 At the time of printing information regarding TMX Select was not included in IIROC's Summary Comparison of Equity Marketplaces, which was current as of July 31, 2011.

MarketAxess

MarketAxess offers Canadian fixed income securities investors with a trading platform for foreign fixed income securities. It is operated by MarketAxess Corporation, a US alternative trading system. Subscribers to MarketAxess can simultaneously request bids and offers respecting debt securities from foreign dealers.

Securities Lending ATSs

EquiLend Canada Corp.

EquiLend was formed in 2002 by a group of 10 global financial institutions to create a standardized, centralized and automated platform for processing equity and fixed income securities transactions on a global basis. EquiLend Canada Corp. is its Canadian subsidiary.