



ISE Stock Exchange

FIX Order Entry Specification for Equities

Issue 3.0

Issue date: October 2008

Produced by:
International Securities Exchange, Inc.
60 Broad Street, New York NY 10004
www.ise.com

Table of contents

Chapter 1	About this document	5
	Users of this document	5
	Related documents	5
	Summary of changes	5
	Acronyms	6
Chapter 2.	ISE Stock Exchange Introduction	7
Chapter 3.	Connectivity	8
3.1	Existing ISE Options Network	8
3.2.	Managed Network Service Providers	8
3.3.	IPSec VPN into the test environment	8
3.4.	IP addresses for ISE Stock Exchange FIX environments	8
Chapter 4.	ISE Stock Exchange Order Types	9
4.1	MPM Orders	9
4.1.1	MidPoint Match Order (MPM):	9
4.1.2	Minimum Execution Quantity (MEQ) for MPM Orders	9
4.1.3	Solicitation of Interest Order (SOI):	9
4.2	Displayed Market Orders	10
4.2.1.	Regular Order	10
4.2.2	Reserve Order	10
4.2.3	Discretionary Order	10
4.2.4	Pegged Order	10
4.2.5	Pegged Discretionary Order	11
4.2.6	Stop Order	11
4.2.7	Intermarket Sweep Order (ISO)	12
4.2.8	Day ISO	12
4.2.9	Re-Price Orders	12
Chapter 5	Pre-Market and Post-Market Trading	13
5.1	Order Entry	13
5.1.1	Pre-Market Order Entry	13
5.1.2	Post Market Order Entry	14
5.2	Pre-Market and Post-Market Quotes and Trades	14
5.3	Entering Orders between 8:00 and 9:30	14
5.4	Entering Orders between 9:30 and the MidPoint Opening	15
5.5	After the ISE MidPoint Opening	15
5.6	ISE Daily Timeline	16
Chapter 6	Submitting Orders to ISE Stock	17
6.1	MidPoint Match Order (MPM)	17
6.1.1	MPM Order Attributes	17
6.2	Solicitation Of Interest (SOI) Order	18
6.2.1	SOI Order Attributes	18
6.2.2	Receiving the SOI Broadcast	19
6.3	Regular Order	19
	Regular Order Attributes	19
6.4	Reserve Order	19
	Reserve Order Attributes	20
6.5	Discretionary Order	20
	Discretionary Order Attributes	21
6.6	Pegged Orders	21
	Pegged Order Attributes	22
6.7	Pegged Discretionary Order	22

Pegged Discretionary Order Attributes	23
Market Pegged Orders with Discretion	23
Comparison of Pegged Order Tags	24
6.8 Stop Order	24
Stop Order Attributes	25
6.9 Intermarket Sweep Orders (ISO)	25
ISO Order Attributes	25
6.10 Not Routable/Re-Price and Post Only/Re-Price Orders	26
How to Enter Orders to be Re-Priced	26
Understanding Order Behavior	26
6.11 Routing Instructions	27
7 Preparing to Trade on the ISE Stock Exchange	28
7.1 Conformance Testing	28
7.2 ISE Production Trading Sessions	28
Chapter 8.0 Supported FIX Message Formats	30
8.1 Standard header	30
8.2 Standard Trailer	31
8.3 Using the SenderSubId field to Route Orders	31
8.4 Custom Configurations	31
8.5 FIX Messages Supported by ISE Stock Exchange	32
8.6 New Order Single	32
8.7 Order Cancel Request	34
8.8 Order Status Request	34
8.9 Order Cancel/Replace Request	35
8.10 Execution Report	36
8.10.1 Route-out indication	38
8.10.2 MPM Liquidity Indicators	38
8.10.3 Trade Bust Message Handling	38
8.11 Order Acknowledgment	38
8.12 Reject Order	39
8.13 Accept/Process a Cancel	40
8.14 Order Cancel Reject	40
8.15 Send Order Status	41
8.16 Drop Copy Trade Report	42
8.17 Indication of Interest	43
Appendix	44
OATS Reporting	44
Liquidity Indicators	44
Clearance and Settlement	44
Viewing ISE Quotes and Trades	45
Reg NMS Compliant Route Out Services	45
Other Questions	45

Chapter 1 About this document

This document provides guidelines for accessing the ISE Stock Exchange. It contains information regarding FIX connectivity and provides formats for connecting to the ISE Stock Exchange and for submitting MidPoint Match (MPM) and Displayed Market (DM) Orders.

Users of this document

This document should be used by ISE Stock Exchange members, clearing firms and service bureaus providing access for our members.

Related documents

The ISE has created an API Specification for members who are looking for an alternative to FIX Order Entry.

This document should be read in conjunction with:

Document	Description	Location
Financial Information Exchange Protocol v4.2	Describes the industry standard for broker – institution communication.	www.fixprotocol.org/specifications/
ISE Stock Exchange	Provides exchange information for members.	www.ise.com
ISE Stock Exchange Rules	Rules for the ISE Stock Exchange	

Summary of changes

A history of significant changes to this template is described in the table below.

Issue	Date	Change
3.0	Sept 2008	Pre-Post Market changes: Market Pegs added
2.4	Mar 2008	SOI Enhancements <ul style="list-style-type: none">• SOI Timeout reduced from 5 seconds to 1 second• SOI minimum size reduced from 2000 to 500 shares
2.3	Jan 2008	New Pre-Market Trading Session – Displayed Market Only Send PreMarketEligible(9206) = Y Cancel On Disconnect feature available Suppression of Pending Cancel & Pending Cancel / Replace Suppression of Trade Bust messages
2.2	Oct 2007	Added Drop Copy Trade Report format Removed support for Sell Short Exempt - Side(54) = 6
2.0	Apr 2007	3 New Order Types: Re-Price to Post Orders DAY ISO order type Min Qty (MPM Orders Only)

Acronyms

Acronym	Description
BBO	Best Bid and Offer
CUSIP	Committee on Uniform Security Identification Procedures (CUSIP)
DM	Displayed Market
EAM	Electronic Access Member
FIX	Financial Information Exchange
FOK	Fill Or Kill order
IOC	Immediate Or Cancel order
ISE	International Securities Exchange
ISO	Intermarket Sweep Order
MEQ	Minimum Execution Quantity
MPM	MidPoint Match Order
OL	Odd Lot
PRL	Partial Round Lot
RL	Round Lot
SOI	Solicitation of Interest Order
SS	Sell Short

Chapter 2. ISE Stock Exchange Introduction

Changes in Reg NMS have created opportunities for new entrants to the equities trading arena. The ISE has chosen to respond to this unique opportunity by initiating equity trading on the ISE Stock Exchange. The equity offering will be introduced in two phases.

In the first phase, ISE released the Midpoint Match System for continuous execution of non-displayed orders at the midpoint of the published National Best Bid and Best Offer (NBBO). In the second phase, to be well positioned for Reg NMS, the ISE Stock Exchange launched its Displayed Market in 2006 and began to publish automated ISE BBO quotes through the National Market Systems CQS and UQDF.

The ISE Stock Exchange is an order-driven market. All orders entered into the ISE market are displayed anonymously and anonymity is preserved through the entire clearance and settlement process.

Participation in the ISE Stock Exchange is restricted to ISE members. Existing members do not need to apply for a separate membership in order to start trading. However, the following documents must be signed and returned to ISE:

- **Addendum to the Access Agreement.** This is to be signed by the member. It amends the Access Agreement to cover equities trading.
- **Letter of Clearing Authorization.** This is to be signed by the member's equities clearing member. It guarantees the member's equity trading. It is only required if the member is not a self-clearing DTCC member.
- **Depository Trust & Clearing Corporation (DTCC) Participant Letter.** This is to be signed by the member if the member is a self-clearing DTCC member; otherwise, signed by the member's equities clearing member.
- **Routing Agreement.** This authorizes the ISE to route orders to better-priced Market Centers, as required, in compliance with Reg NMS.

To become a new member, applicants must meet the following criteria:

- Applicant must be a registered U.S. broker-dealer
- Applicant must be a member of at least one other Self-Regulatory Organization ("SRO")
- Applicant must either be a DTCC member or submit a clearing guarantee from an ISE clearing firm that is also a DTCC member

Those interested in membership on the ISE Stock Exchange are directed to www.ise.com.

Chapter 3. Connectivity

The ISE Stock Exchange FIX Order Entry complex is designed to provide order entry, order management, and trade reporting functions.

New order routing connections must pass ISE Software Quality Management (SQM) certification testing before they are permitted to enter the production marketplace.

3.1 Existing ISE Options Network

ISE Member firms and Service Bureaus may use their existing ISE Options network connectivity to access the ISE Stock Exchange. It will be necessary to initiate a new FIX session for ISE Stock Exchange.

3.2. Managed Network Service Providers

The ISE is an execution point on the following managed networks:

- Radianz
- RCN
- Savvis
- SFTI / Sector
- TNS
- Verizon
- Yipes (Requires that a router be installed at member's site)

Following is the link to the list of Managed Service Network Providers:

- <http://www.ise.com/connect>

3.3. IPSec VPN into the test environment

The ISE offers a “site-to-site” Cisco-based internet IPSec VPN solution to allow access to our Test & Production systems.

3.4. IP addresses for ISE Stock Exchange FIX environments

System	Public IP Address	Radianz NAT	Port Range
Test	209.140.121.81	206.190.99.78	23005 and up, last digit = 5
Production	209.140.121.173	206.190.99.47	23000 and up, last digit = 0

Chapter 4. ISE Stock Exchange Order Types

The Mid-Point Match System is a dark pool of orders; its presence will not be visible in the market. In contrast, those orders entered into the Displayed Market will become visible when represented in the ISE BBO disseminated through the National Market Systems CQS or UQDF.

Orders entered to access the Displayed Market are automatically eligible for matching against MidPoint Match orders.

4.1 MPM Orders

4.1.1 MidPoint Match Order (MPM):

This is the standard order type for the MidPoint Match System. Orders can be Market or limit-priced with a Time in Force value of IOC, FOK or Day. If not immediately executed, Day Market orders will reside on the Orderbook and will remain alive until contra-side interest is available or until the end of the current trading day. As all orders are executed at the midpoint of the NBBO, the limit price provides a boundary price above or below which the order cannot be executed. MidPoint Match orders also support the AON qualifier. This order remains dark at all times.

4.1.2 Minimum Execution Quantity (MEQ) for MPM Orders

MEQ is an enhancement to the MPM Order Type, which allows for the optional addition of Minimum Execution Quantity (MEQ) ensuring that a large order will not be executed in small lots and that the order will remain hidden until there is sufficient interest to satisfy the minimum required size. This change is limited to the MPM market and specifically to the MPM order type.

Optional FIX tag MinQty (110) is defined as the minimum quantity of the order to be executed. An additional custom tag MinQtyInstruction (9500) allows a member to determine if the Minimum Size should be applied repeatedly (Repeat Minimum Size) or only it is to be applied on the first execution (Apply Minimum one time only).

4.1.3 Solicitation of Interest Order (SOI):

Unlike the standard MPM order that silently enters the MPM orderbook, an SOI order is a MidPoint Match order that broadcasts its arrival through the dissemination of an IOI message. Only the trading symbol is conveyed to market participants through the IOI; side and size are not revealed. The willingness to expose the order remains in the control of the entering firm; the IOI will only be sent when the firm enters an SOI order.

An SOI order may be designated IOC or Day. It must be for a minimum of 500 shares and must be eligible for execution at the time of arrival. For its willingness to “go out loud”, an SOI Day order enjoys execution priority for 10 seconds. At the end of the 10-second exposure period, an SOI Day order that is not executed will be converted to a standard MidPoint Match Order retaining its original timestamp. An IOC SOI order will be automatically canceled after 1 second, but retains execution priority during its lifetime. AON is not an acceptable execution instruction on the SOI order.

4.2 Displayed Market Orders

Odd lot orders are not accepted. Partial Round Lots or Mixed Lots will be accepted but the odd lot portion of the order will be returned unexecuted. AON is not a valid execution instruction on any Displayed Market order.

4.1.1. Regular Order

This is the standard Displayed Market order. The quantity must be at least one round lot. The side is marked as buy, sell or sell short. Time in Force may be IOC, FOK or Day.

4.2.2 Reserve Order

This order is characterized by a visible quantity and a hidden reserve quantity from which the display quantity is replenished when the displayed size is fully executed. The system will either replenish the display quantity with a fixed quantity or random quantity depending upon instructions provided on the order. The replenished order will receive a new timestamp and execution priority.

4.2.3 Discretionary Order

This order is entered with both a display price and a hidden, discretionary price. The order will be posted to the Orderbook at the display price but remains eligible to execute within its discretionary range against MPM and incoming Displayed Market orders.

4.2.4 Pegged Order

Members may enter orders pegged to the NBBO price. These orders will be re-priced and will be assigned a new execution priority with every change in the NBBO. There are two flavors of pegged orders.

4.3.4.1 Primary Pegs

Primary Pegged Orders are pegged to the same side of the market; that is, a buy order is pegged to the NBBO bid and a sell order is pegged to the NBBO offer. Display prices may be adjusted by the inclusion of a peg offset. Orders may optionally include a cap price; the cap defines the highest bid price or lowest offer price to display this order.

4.3.4.2 Market Pegs

Market Pegged Orders are pegged to the opposite side of the market; that is, a buy order is pegged to the NBBO offer and a sell order is pegged to the NBBO bid. To avoid intentionally locking the market, a peg offset is required. The minimum offset for securities trading over \$1.00 is one cent. Orders may optionally include a cap price; the cap defines the highest bid price or lowest offer price to display this order.

4.2.5 Pegged Discretionary Order

This order will have characteristics of both a pegged order and a discretionary order. The display price will move with the NBBO but the order possesses an inherent willingness to execute within the non-displayed, discretionary range should a contra-side order be entered that is not executable at the display price.

Pegged Discretionary orders may have an optional cap. The cap price represents the highest amount the order can be displayed. Pegged Discretionary orders can be executed above the peg cap price in the discretionary range up to the amount of the Discretionary Offset.

Pegged Discretionary Orders with Absolute Limits

This is an alternative to the Pegged Discretionary order discussed above. If the member submits Tag 9800 (AbsoluteLimit) = Y on the order, the system treats the Peg Cap as the Absolute Limit price of this order. The discretionary range diminishes as the price approaches the Peg Cap.

The following compares the representation of the Fix tags for each type of Pegged Order.

Standard Pegged Discretionary	Pegged Discretionary with Absolute Limit
Tag 40 (OrdType) = P	Tag 40 (OrdType) = P
Tag 18 (ExecInst) = R	Tag 18 (ExecInst) = R
Tag 211 (PegDifference) = Optional: + or - for buy order + or - for sell order (minus sign must be included for negative offsets)	Tag 211 (PegDifference) = Mandatory: + or - for buy order + or - for sell order (minus sign must be included for negative offsets)
Tag 840 (PegScope) = 2 (NBBO)	Tag 840 (PegScope) = 2 (NBBO)
Tag 44 (Price) = Optional Cap Price	Tag 44 (Price) = Optional Cap Price
Tag 388 (DiscretionInst) = 0	Tag 388 (DiscretionInst) = 0
Tag 389 (DiscretionOffset) = Required: + for buy order - for sell order (minus sign must be included for negative offsets)	Tag 389 (DiscretionOffset) = Required: + for buy order - for sell order (minus sign must be included for negative offsets)
	Tag 9800 (AbsoluteLimit) = Y

4.2.6 Stop Order

Orders may be entered with a stop price. A stop order is elected based upon consolidated trade information. When the stop price is triggered, the order will be activated and sent into

the market as either a Market order or a Limit order depending upon the conditions provided on the order.

4.2.7 Intermarket Sweep Order (ISO)

The ISE will accept ISO orders. This order type will be executed without regard to better-priced quotations displayed at other Market Centers. It is the member's responsibility to ensure compliance with Reg NMS when sending ISO orders.

4.2.8 Day ISO

Intermarket Sweep Orders (ISO) with a Time in Force of Day will execute against any interest on the ISE order book on entry. The balance of the order will be posted and displayed on the ISE order book without regard to locking or crossing protected quotations displayed at other market centers. By sending a DAY ISO order, the member assumes full responsibility for clearing better priced quotations at away market centers and compliance with the Order Protection Rule of Reg NMS.

4.2.9 Re-Price Orders

An order bearing this instruction will automatically be re-priced to either one penny above the bid (for a sell order) or one penny below the offer (for a buy order) if any unexecuted balance of the order would lock or cross a protected quotation when posted on the orderbook. Re-price orders will only be re-priced once-at the time of entry. They will not be continuously re-priced up to the order's actual limit price.

Chapter 5 Pre-Market and Post-Market Trading

ISE introduced a Pre-Market trading session to its Displayed Market. This allows members to post orders and to execute trades beginning at 8:00 AM. During the Pre-Market session, ISE disseminates quotes to CQS (NYSE and AMEX) and UQDF (NASDAQ). These quotes will remain visible through the traditional 9:30 opening.

This change does not affect either MidPoint MatchSM orders or Displayed Market orders that are not marked to participate in the Pre-Market session, both of which may be entered beginning at 7:00 am. For these orders, the ISE will continue to perform the first trade at the mid-point of the published NBBO received after the primary market opens and ISE opening conditions have been met. As a reminder, NASDAQ issues open upon the first NBBO quote update after 9:30. NYSE and AMEX securities require both a trade from the Primary Market and an NBBO quote update after 9:30 before performing the midpoint opening cross.

Starting at 9:30 am, the ISE will protect its displayed quotes from trade-throughs by allowing inbound ISO (Intermarket Sweep Order) and IOC (Immediate or Cancel) orders to execute against orders on the book. This will occur:

1. Whether or not the ISO or IOC orders are marked to participate in the Pre-Market session.
2. Whether or not the ISE's opening conditions have been met.

The ISE will also introduce a Post-Market trading session in the fall of 2008. Post Market Trading will begin at the conclusion of the Regular Trading Session (4:00 PM or 4:15 PM) and will end at 5:00 PM for all securities. Trading behavior will be identical to that of the Pre-Market session. That is, there will be no route out and no protection of away market quotes.

The information provided below will allow members that want to participate in the Pre- and Post-Market Sessions to program to the specifications.

5.1 Order Entry

Members interested in participating in the Pre-Market trading session and/or the Post-Market trading session must affirmatively mark their orders to participate.

Tag 9206 Values

Y	Pre-Market Eligible
A	Post Market Eligible
B	Pre-and Post-Market Eligible

5.1.1 Pre-Market Order Entry

FIX Tag PreMarketEligibile (9206) = Y indicates that an order is eligible to participate in the Pre-Market trading session. B will denote willingness to participate in both the Pre-Market and Post-Market trading sessions.

Orders marked eligible for the Pre-Market session are automatically eligible to participate in the Regular Trading session if they are not executed or cancelled in Pre-Market.

Pre-Market Orders will be automatically cancelled at the close of the Regular Trading Session.

5.1.2 Post Market Order Entry

FIX Tag PreMarket Eligible (9206) = A will be used to convey a member's willingness to participate in the Post-Market. B will denote willingness to participate in both the Pre-Market and Post-Market trading sessions.

If an order is received during the Regular Trading session that is marked Post-Market eligible, it will participate in the Regular Trading session and will automatically be carried over into the Post-Market Trading session. It will be continuously represented in the ISE quote.

If an order is received during the Pre-Market Trading session that is marked Pre-and Post-Market eligible, it will participate in all three trading sessions until executed or cancelled.

An order with the Post-Market eligible flag may also be entered after the Regular Trading Session ends.

5.2 Pre-Market and Post-Market Quotes and Trades

The Pre-Market session begins at 8:00 am and concludes with the NBBO Mid-Point cross after 9:30 when the Primary Market opens and ISE opening conditions have been met.

Pre-Market eligible orders may be entered beginning at 8:00 am. Upon entry, Pre-Market quotes will be disseminated. There will be no unique quote conditions to convey that they are Pre-Market quotes.

Pre-Market orders are not subject to away market price protection prior to 9:30 nor are Post Market orders afforded that protection during the Post-Market trading session. As a result, executions during these sessions may result in a trade through of an away market

Trades that occur in the Pre-Market Trading Session and during the Post-Market Trading Session will be identified with sales condition "T" on both CTS and UTDF to indicate that they occurred outside of normal trading hours. "T" trades are not included in the opening, high, low or last statistics.

ISE will continue to disseminate quotes to CQS and UQDF in the Post-Market Trading Session. There will be no unique quote conditions to convey that they are Post-Market quotes.

5.3 Entering Orders between 8:00 and 9:30

- Only limit orders are eligible to participate in the Pre-Market Session.
- Market Orders and Stop Orders will be rejected until the mid-point cross occurs whether or not they are marked for the Pre-Market Session.
- Orders received with the Pre-Market flag will participate in the Pre-Market Session.

- Orders received without the Pre-Market flag will not participate in the Pre-Market Session. If accepted, they will be held and entered into the mid-point cross.
- IOCs and ISOs flagged for Pre-Market and received prior to 9:30 may be executed.
- IOCs and ISOs without the Pre-Market flag received prior to 9:30 will be rejected.
- Day orders flagged for Pre-Market will be eligible for the Pre-Market Session.
- Day orders without the Pre-Market flag will not be eligible for the Pre-Market Session but will be eligible for the midpoint cross.
- Pre-Market orders will not be routed out prior to 9:30 am.

5.4 Entering Orders between 9:30 and the MidPoint Opening

Under Reg NMS, orders must be protected beginning at 9:30 am. As explained above, this may be prior to the ISE MidPoint opening.

To intentionally execute against Displayed Market quotes, members may enter limit IOC or limit ISO orders. These orders will interact with visible liquidity prior to the midpoint opening whether or not they are marked for the Pre-Market Session.

Incoming IOC orders will be protected from trading through protected quotations on other exchanges. ISO orders will trade without validating away market prices.

Orders with a Time in Force = Day received during this time without the pre-opening flag will participate in the mid-point opening cross.

Orders marked Pre-Market will be accepted and immediately posted, executed or routed out.

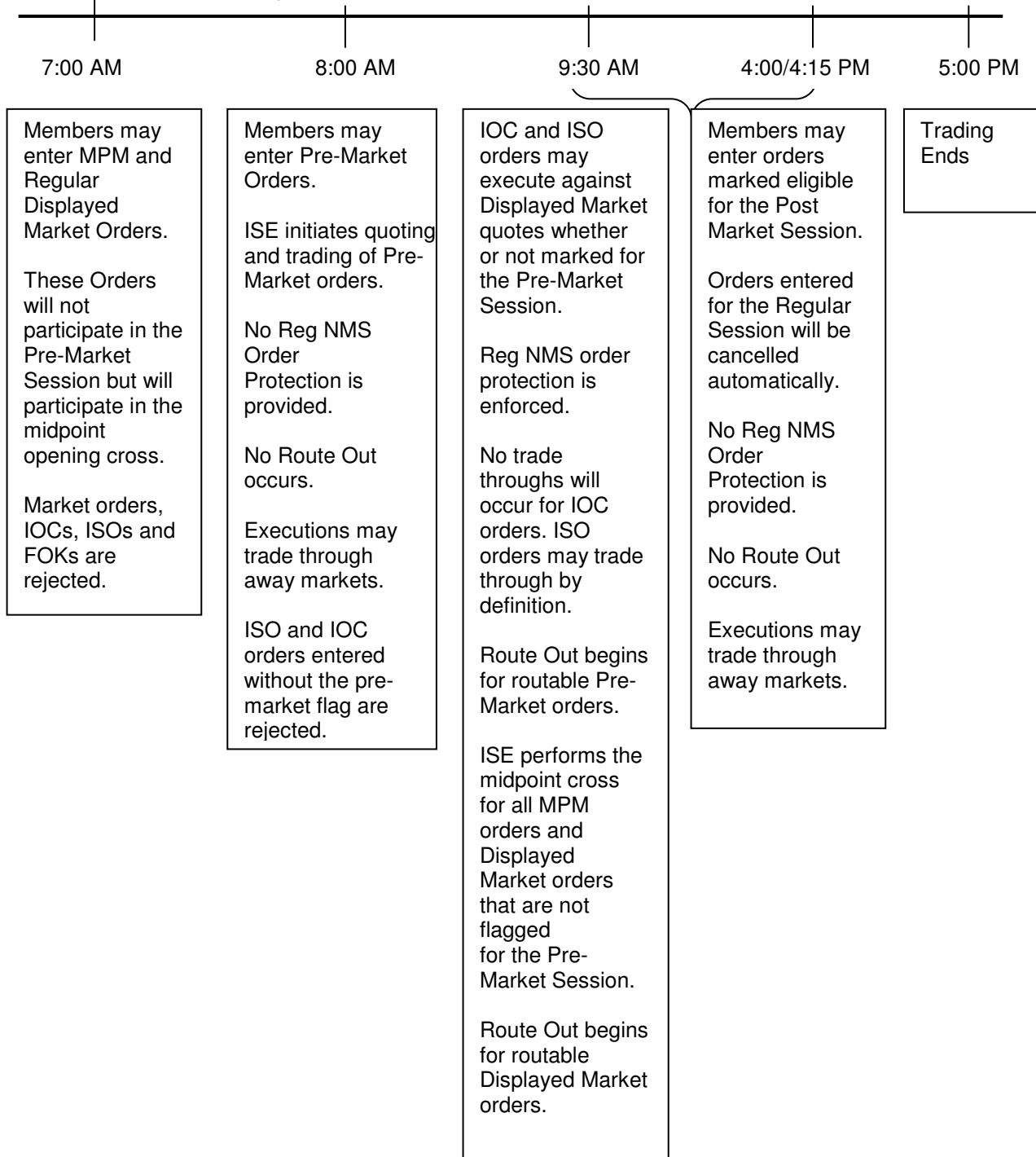
In summary,

- ISOs and IOCs entered after 9:30 am may be executed whether or not they are marked for the Pre-Market Session. They are not routable.
- Day Orders with the Pre-Market flag will be eligible for route out beginning at 9:30.
- Day orders without the Pre-Market flag will be eligible for the mid-point opening.
- Day orders without the Pre-Market flag set will be eligible for route out after the mid-point opening cross.
- Resting Day orders without the Pre-Market flag set will be cancelled automatically by the system at the conclusion of the Regular Trading Session.

5.5 After the ISE MidPoint Opening

- Orders with the Pre-Market flag received after the midpoint opening will be accepted for execution in the regular trading session. The flag will be ignored.

5.6 ISE Daily Timeline



Chapter 6 Submitting Orders to ISE Stock

The following provides clarifying information that will enable members to successfully enter orders on the ISE Stock Exchange. Each order type discussed includes a section entitled Order Attributes to highlight the primary characteristics for order entry. This is not meant to be an exhaustive list of all FIX tags that accompany that order type but an effort to identify the key required tags.

All Displayed Market Orders are eligible to interact with MPM orders unless marked Post Only.

All order types may be entered as sell short but orders marked sell short exempt will be rejected.

6.1 MidPoint Match Order (MPM)

MPM orders are the standard MidPoint Match order. They may be for any size greater than or equal to one round lot. Odd lots will never be executed.

MPM orders always match at the midpoint of the published NBBO provided the limit price is not exceeded.

Market Orders, with TimeInForce = Day, if not executable upon arrival, will reside on the Orderbook until the end of the trading session.

MidPoint Match Orders may be cancelled immediately. The Displayed Market will also support partial cancel or full cancel and replace of MPM and Displayed Market orders.

Day and DAY AON MidPoint Match Orders may be entered in pre-open, regular and halted market states. IOC and FOK MidPoint Match Orders may not be entered in pre-open or halted market states.

The unexecuted quantity of an IOC order or an FOK MidPoint Match Order that cannot be executed in full is cancelled. Day orders are placed on the Orderbook.

6.1.1 MPM Order Attributes

FIX Tag	Description	Supported Values
18	Execlnst	G = All or None
38	OrderQty	Total Order Quantity
40	OrdType	1 = Market 2 = Limit
44	Price	Boundary Price: Not to be exceeded when executing at the NBBO midpoint.
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day(Default) 3 = IOC 4 = FOK
110	MinQty	Minimum Execution Quantity
528	OrderCapacity	A = Agency (default) P = Principal

		R = Riskless Principal
9202	SpecialOrderType	M = MPM Order
9500	MinQtyInstruction - with MinQty(110)	E = Each Execution F = First Execution Only (Default)

6.2 Solicitation Of Interest (SOI) Order

Unlike the MidPoint Match Order, which is entered silently, the SOI order causes a broadcast to be sent to all participants prepared to receive it. The broadcast provides the symbol but does not reveal the side or size. The response to the SOI order broadcast is an order entered into the system; there are no specific SOI responses supported.

- SOI orders must be for a minimum of 500 shares.
- SOI orders must be executable upon entry.
- SOI Orders have execution priority over MidPoint Match Orders for a limited period of time, identified as the SOI Life Time.
 - The SOI Life Time = 10 seconds
- At the expiration of the SOI Life Time interval, an SOI DAY order will be converted into a MidPoint Match Order, losing its SOI execution priority. It will retain its original order number and timestamp. There will be no message sent to members alerting them to the order conversion.
- SOI orders cannot be immediately cancelled. They must remain in the system for a pre-determined period of time known as the “SOI No Cancellation Interval”.
 - The SOI No Cancellation Interval = 1 second
- At the end of the No Cancellation Interval, unexecuted IOC SOI orders will be automatically cancelled.
 - Day SOI orders may be cancelled by the member
- SOI TimeInForce is limited to DAY or IOC. FOK is not allowed.
- AON is not a valid execution instruction for SOI orders.
- SOIs may only be entered when the stock is open. They are not allowed in pre-open or halted states.

6.2.1 SOI Order Attributes

FIX Tag	Description	Supported Values
38	OrderQty	Total Order Quantity Must be at least 500 shares
40	OrdType	2 = Limit
44	Price	Boundary price. This is not to be exceeded when executing at the NBBO midpoint price.
54	Side	1 = Buy 2 = Sell
59	TimeInForce	0 = Day(Default) 3 = IOC

528	OrderCapacity	A = Agency P = Principal R = Riskless Principal
9202	SpecialOrderType	S = SOI Order

6.2.2 Receiving the SOI Broadcast

Members should program to the IOI (Indication of Interest) message format to receive the SOI broadcast.

6.3 Regular Order

This is the standard order type for the ISE's Displayed Market.

- Orders may be limit-priced or Market orders.

Regular Order Attributes

FIX Tag	Description	Supported Values
38	OrderQty	Total Order Quantity
40	OrdType	1 = Market 2 = Limit
44	Price	Required if tag 40 =2
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimelnForce	0 = Day(Default) 3 = IOC 4 = FOK
528	OrderCapacity	A = Agency P = Principal R = Riskless Principal
9303	RoutingInst	Y = Routable (Default if not specified) P = Post Only: not routable. N = Not Routable T = Reprice U = Post Only Reprice

6.4 Reserve Order

Reserve orders are orders having both a displayed quantity and a non-visible, reserve quantity that is replenished when the displayed quantity is fully executed. The display quantity must be at least one round lot.

- The incoming order will provide both the Total Order Quantity (OrderQty) and the Display Quantity (MaxFloor).
- When the Displayed Order Quantity is fully executed, it will be replenished from the Reserve Quantity until that, too, is fully executed.
- Users may specify the precise amount of the order to be replenished once the displayed size is fully executed. Alternatively, they may elect a Random Replenishment option by supplying Display Range on the order. Random Replenishment establishes a range of possible values for the shares that are to be displayed. The replenished order will receive a new timestamp and execution priority.

For example, if the Displayed Qty = 2000 and the Display Range = 200, the Display Quantity will be selected randomly from any of the following values: 1800, 1900, 2000, 2100 and 2200. The original Display Quantity will be included in the valid range. Any values that are greater than the remaining quantity will be excluded from the range.

Reserve Order Attributes

FIX Tag	Description	Supported Values
38	OrderQty	Total Order Quantity
40	OrdType	2 = Limit
44	Price	
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day (Default)
111	MaxFloor	Display Quantity
528	OrderCapacity	A = Agency P =Principal R = Riskless Principal
8020	DisplayRange	Required for Random Reserve Orders. This is the Random Replenishment amount in round lots.
9303	RoutingInst	Y = Routable (Default if not specified) P = Post Only N = Not Routable

6.5 Discretionary Order

Discretionary Orders are orders that have both a display price and a hidden (discretionary) price. The discretionary order provides a range of prices at which the owner is willing to trade should an opportunity present itself. The display price determines the order's ranking within the orderbook.

- Discretionary orders are eligible for route out upon entry at their display price.
- For buy orders, the discretionary offset must increase the limit price of the buy order.

- For buy orders, the offset must be positive.
- This value will be added to the limit price of the buy order.
- For sell orders, the discretionary offset must decrease the limit price of the sell order.
 - For sell orders, the offset must be negative.
 - This value will be subtracted from the limit price of the sell order.
- The Discretionary Offset range is from -.99 to .99.
- The Discretionary Offset must be expressed in full penny increments.
- Discretionary Orders may not be marked Post Only. Post Only is applied to orders that are only to provide liquidity. As Discretionary Orders cannot always be guaranteed to be liquidity providers, this term cannot be applied to Discretionary orders.
- Discretionary Orders may be entered with prices that are pegged rather than constant. These are known as Pegged Discretionary orders (see the section on Pegged Discretionary Order below)
- Discretionary prices may not be applied to Stop or Stop Limit orders.

Discretionary Order Attributes

FIX Tag	Description	Supported Values
38	OrderQty	Total Order Quantity
40	OrdType	2 = Limit
44	Price	This is the display price.
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day(Default)
388	DiscretionInst	0 = Related to displayed price This is the ISE default. It identifies the price a DiscretionOffset is related to and should be mathematically added to.
389	DiscretionOffset	Amount (signed) added to the "related to" price specified via DiscretionInst. Valid Values: -0.99 thru 0.99.
528	OrderCapacity	A = Agency P =Principal R = Riskless Principal
9303	RoutingInst	Y = Routable (Default if not specified) N = Not Routable

6.6 Pegged Orders

There are two types of Pegged Orders: Regular Peg and Market Peg.

A Regular Pegged Order is an order whose price tracks the same side of the NBBO (i.e. buy orders track the bid). As the price of the “Peg” moves, the price of the order floats with it.

- Offsets may be used to specify a display price that is greater than or less than the peg price. They may be positive or negative.
- A Cap can also be included on a pegged order. When the cap price is reached, the system will treat the order like a Limit order at the cap price. If the price peg moves in favor of the order, the order will once again float with the peg.
- Pegged orders will be removed from the ISE BBO if there is no displayed quote/order to which its price can be pegged. They will be non-displayed pending a new NBBO price to establish its limit price.

A Market Pegged Order is pegged to the opposite side of the market of the NBBO. (i.e. buy orders track the offer).

- Offsets are required to adjust the display price such that the ISE bid (offer) does not lock with the NBBO offer (bid).
- The offset must be at least one penny for securities trading over \$1.00.
- Offset values must be negative for buy orders and positive for sell orders.

Pegged Order Attributes

FIX Tag	Description	Supported Values
18	ExecInst	R = Regular Peg, Pegged to NBBO M = Market Peg
38	OrderQty	Total Order Quantity
40	OrdType	P = Pegged
44	Price	Optional Cap Price
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day(Default)
211	PegDifference	Offset value Valid Values: -0.99 thru 0.99:
528	OrderCapacity	A = Agency P = Principal R = Riskless Principal
840	PegScope	2 = National
9303	RoutingInst	Y = Routable (Default if not specified) P = Post Only N = Not Routable

6.7 Pegged Discretionary Order

A Pegged Discretionary order is an order whose price is pegged to the NBBO price. It also has a discretionary price component.

- The display price is the “Peg” price. The discretionary price is the hidden price.

- A Cap price may be included. If the Cap is reached, the order will be treated like a regular Discretionary Order. The Cap price will become the display price with the discretionary price based on the offset value. When the peg price again moves in favor of the order, the order can once again float with the peg.
- The time stamp on a pegged order is updated each time the price is adjusted.
- Regular Pegged orders will be removed from the ISE BBO if there is no displayed quote/order to which its price can be pegged. They will be held pending a new NBBO price to establish its limit price.

Pegged Discretionary Order Attributes

FIX Tag	Description	Supported Values
18	ExecInst	R= Regular Peg, pegged to NBBO M = Market Peg
38	OrderQty	Total Order Quantity
40	OrdType	P = Pegged
44	Price	This is the optional Cap price.
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day(Default)
211	PegDifference	Optional. This is an adjustment to the Peg Price. Valid Values: -0.99-thru 0.99
388	DiscretionInst	0 = Related to displayed price. Identifies the price a DiscretionOffset is related to and should be mathematically added to.
389	DiscretionOffset	Amount (signed) added to the "related to" price specified via DiscretionInst. Valid Values: -0.99 thru 0.99:
528	OrderCapacity	A = Agency P = Principal R = Riskless Principal
840	PegScope	2 = National
9303	RoutingInst	Y = Routable (Default if not specified) N = Not Routable (MPM eligible)
9800	AbsoluteLimit	Y

Market Pegged Orders with Discretion

While priced off the opposite side of the market, Market Pegged Orders with Discretion bear an inherent willingness to trade at any price between the offset-adjusted price up to and including the NBBO offer for buy orders and between the offset-adjusted price down to and including the NBBO bid price for sell orders.

The discretionary range is implicit; it cannot be further specified by the user.

Peg caps may be included on this order. A Peg Cap defines the limit price above or below which the order will not be displayed. When the cap price is reached, the

system treats the order like a limit order at the cap price. If the price peg moves in favor of the order, the order will once again float with the peg.

Market Pegs that execute at the displayed price will be makers of liquidity. Market Pegs that execute within the discretionary range will be takers of liquidity for billing purposes.

Comparison of Pegged Order Tags

Primary Peg	Market Peg	Market Peg with Discretion
Tag 40 (OrdType) = P	Tag 40 (OrdType) = P	Tag 40 (OrdType) = P
Tag 18 (ExecInst) = R	Tag 18 (ExecInst) = P	Tag 18 (ExecInst) = P
Tag 211 (PegDifference) = Optional: + or - for buy order + or - for sell order (minus sign must be included for negative offsets)	Tag 211 (PegDifference) = Mandatory: - for buy order + for sell order (minus sign must be included for negative offsets)	Tag 211 (PegDifference) = Mandatory: - for buy order + for sell order (minus sign must be included for negative offsets)
Tag 840 (PegScope) = 2 (NBBO)	Tag 840 (PegScope) = 2 (NBBO)	Tag 840 (PegScope) = 2 (NBBO)
Tag 44 (Price) = Optional Cap Price	Tag 44 (Price) = Optional Cap Price	Tag 44 (Price) = Optional Cap Price
		Tag 388 (DiscretionInst) = 1
		Tag 389 (DiscretionOffset) = 0 Note. This <u>must</u> be zero.

6.8 Stop Order

Stop: A Stop order is an order that will be held away from the Orderbook until its specified trigger price (stop price) is reached. Once the trigger price is reached, the order will be elected (activated). Election results in a Market order sent to the book.

Stop Limit: A Stop Limit order is an order with both a specified limit price and a trigger price. This order is also held outside of the orderbook until the stop price is reached. Once the trigger price is reached, it will be elected. The activated order is sent to the Orderbook as a limit order at the specified limit price.

- Only Regular Orders can bear the Stop condition. That is, Stop Orders cannot be combined with any other special order types (i.e. Pegs, Reserves, Discretionary).
- Stop and Stop Limit orders are not executable until elected.
- Stop orders are elected based upon consolidated trades (trades from all exchanges).
- Stop orders cannot be entered with Sell Short instructions.
- Once elected, orders will be subjected to away market price checks. If the away market price is better, the resulting market or limit order may be routed out.
- Stop orders must be eligible for route out.
- Only stop limit orders may be marked Post Only.

Stop Order Attributes

FIX Tag	Description	Supported Values
38	OrderQty	Must be at least one round lot.
40	OrdType	3 = Stop Market 4 = Stop Limit
99	StopPx	Trigger Price
44	Price	Must be present if tag 40 = 4
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	0 = Day (Default)
528	OrderCapacity	A = Agency P =Principal R = Riskless Principal
9303	RoutingInst	Stop Orders Y = Routable (Default if not specified) Stop Limit Orders Y = Routable (Default if not specified) P = Post Only (not routable or MPM eligible) N = Not Routable

6.9 Intermarket Sweep Orders (ISO)

An Intermarket Sweep Order is an order type introduced in conjunction with Reg NMS. This order type allows the receiving exchange to immediately execute an order against any resting orders without checking other Market Centers for better prices. It conveys that the broker has taken responsibility for sending orders directly to Market Centers to access their better-priced, posted quotes.

ISO orders must be limit-priced and must be Immediate or Cancel Orders. As such, ISOs will never be routed out to an away Market Center.

ISO Order Attributes

FIX Tag	Description	Supported Values
18	ExecInst	F (lower case F)
38	OrderQty	Total Order Quantity
40	OrdType	2 = Limit
44	Price	
54	Side	1 = Buy 2 = Sell 5 = Sell Short
59	TimeInForce	3 = IOC
528	OrderCapacity	A = Agency P =Principal R = Riskless Principal

9303	RoutingInstructions	N = Not Routable
------	---------------------	------------------

6.10 Re-Price and Post Only/Re-Price Orders

Under Reg NMS, exchanges must avoid posting orders that intentionally lock or cross other market center quotes. To comply with this provision of the rule, the ISE will:

- Route an order to access the better-priced quote on the away market.
- Cancel non-routable orders that would create a locked or crossed market if displayed on the ISE.
- Ship and Post

The ISE is introducing new functionality that, at the member's direction, will re-price an order to one valid price increment away from the NBBO before posting it on our book. The price will be adjusted only once, upon order arrival, and the adjusted price will be returned to the member in the order acknowledgement.

How to Enter Orders to be Re-Priced

This functionality will only be available for DAY Limit orders. It will not be available for Reserve or Discretionary orders. Members wishing to use this re-pricing function must provide instructions on each order that is to be price-adjusted.

Members delivering orders through the FIX interface will apply one of the following values to Tag 9303 - Routing Instructions:

- T = Re-Price
- U = Post Only/Re-Price

Understanding Order Behavior

Orders marked with the qualifiers "Re-Price" or "Post Only/Re-Price" are not subject to routing.

- Orders marked "Re-Price" may interact with MidPoint Match before being posted at the adjusted price.
- Orders marked "Post Only/Re-Price" will be immediately posted to the Displayed Market at the adjusted price, bypassing any MidPoint Match interest.
- The order will only be re-priced at the time of order entry.
- Orders will be Re-priced to one cent away from the NBBO.
 - Buy orders will be priced one trading increment less than the NBBO offer.
 - Sell orders will be priced one trading increment higher than the NBBO bid.
- Orders marked Post Only will always be liquidity makers.

6.11 Routing Instructions

With the exception of orders entered into MidPoint Match, IOCs, ISOs and unelected Stop orders, orders entered on the ISE Stock Exchange will be eligible for routing to better-priced markets unless they bear instructions preventing such routing.

Routing Instructions, entered in Tag 9303, also define an order's eligibility for matching against MPM orders. The absence of Tag 9303 RoutingInst will cause an order to be treated as "routable". Available routing instructions are:

Routable: All orders will be routable by default, except for unelected stop orders, IOCs and ISO orders. Orders are executable against MPM orders as well.

Not Routable: This instruction implies that the order cannot be routed to an away market. It can be entered into the ISE Displayed Market or matched against a MidPoint Match order.

If entered into the Displayed Market, it is displayed if it does not result in a lock or cross with an automated quote. If placement on the book will result in a locked or crossed market, the order will be canceled back to its owner.

Post Only: Post Only is an instruction that requires the order to be a provider of liquidity on the Displayed Market Orderbook. Orders with this instruction can never be takers of liquidity. Because of these conditions, orders with this instruction can never be executed in MPM nor can they be routed out to an away market center.

This order instruction cannot be used with Discretionary Orders or on orders with a time in force of IOC or FOK. If this order is executable upon arrival or its entry on the Orderbook would result in a locked or crossed market, it is cancelled.

Re-Price: This instruction causes the system to adjust the price of an order that would lock or cross the away market. The price adjustment is applied only once-upon arrival allowing the order to be posted on the book. This may be combined with a Post Only qualifier.

Routing Instruction Summary

Tag 9303 Routing Instruction	Routable/Not Routable	MPM Eligible/Not Eligible
Y	Routable	Eligible to match against MPM and Displayed Market Orders.
N	Not Routable	Eligible to match against MPM and Displayed Market orders.
P	Not Routable (Post Only)	Not MPM eligible; must be maker only.
T	Not Routable /Re-Price	This order is not routable. It will be re-priced to place on the Orderbook if its limit price would lock or cross an away market. It is eligible to execute against an MPM order.
U	Post Only /Re-Price	This order is not routable. It will be re-priced to place on the Orderbook if its limit price would lock or cross an away market. This order is not eligible to execute against an MPM order.

Chapter 7 Preparing to Trade on the ISE Stock Exchange

7.1 Conformance Testing

Conformance testing can be arranged with ISE Technology Member Services. Please contact tms@ise.com or (800) 518-1564.

The ISE will support industry standard test symbols in production. Please contact connect@ise.com or (800) 518-1564 with requests for specific test symbols.

Symbol	Exchange	CUSIP
TESTA	NYSE	99000A927
ZZZT	NASD	868990524

List of symbols available in [test](#) environment for trading:

IBM, ISE, GOOG, MSFT, AAPL, JPM, YHOO, VZ, EQ

7.2 ISE Production Trading Sessions

The sessions and times for regular day trading at ISE Stock Exchange are listed in Table 1.

Table 1. ISE trading sessions for FIX orders

Time (EST)	Session	FIX status	Activity
07:00 – Primary Market Open	Order Aggregation for MidPoint Opening	Available	<ul style="list-style-type: none"> • Displayed Market Orders for the regular trading session. • Day and AON DAY MidPoint Match Orders are allowed. • IOC & FOK MidPoint Match Orders are not allowed. • SOI orders are not allowed.
08:00 – Primary Market Open	Pre-Market Trading	Available	<ul style="list-style-type: none"> • Orders entered with the Pre-Market flag are eligible to trade in the Pre-Market session. If not executed or cancelled, the order will remain eligible for the Regular Trading Session. • Trades will be reported as “T” Extended Hours Trades • Route Out will not be available. • Away market quotes will not be protected.
Primary Market Open–16:00 (16:15)	Regular Trading Session	Available	<ul style="list-style-type: none"> • The market is open. • Reserve and SOI Orders are accepted. • Day orders not marked for Post Market trading will be cancelled back to members at the close of the Regular Trading Session.
16:00 (16:15) - 17:00	Post Market Trading	Available	<ul style="list-style-type: none"> • Orders marked Post Open are eligible to quote and trade. • Trades will be reported as “T” Extended Hours Trades. • ISE will continue to disseminate quotes via CQS and UQDF. • Route out will be disabled. • Away market quotes will not be protected
17:00 –17:59	Closed	Available	<ul style="list-style-type: none"> • The market is closed. • Firms cannot send new orders; they will be rejected. • Firms can receive order status and cancel orders. • ISE Market Control can adjust trades.
18:00 –06:59	Closed	Unavailable	<ul style="list-style-type: none"> • The server is unavailable and does not accept messages.

Chapter 8.0 Supported FIX Message Formats

Each FIX message will be preceded by the standard header and followed by the standard trailer.

8.1 Standard header

A standard header precedes each message.

The header identifies the:

- Message type
- Length
- Destination
- Sequence number
- Point of origin and time

Note: The fields that are not included in the table are ignored by ISE.

Tag	Field name	Required	Description
8	BeginString	Y	Supports FIX 4.2 Always set to FIX 4. <i>n</i> , where <i>n</i> is the FIX version that you are using. This must be the first field in the message. The version of the incoming FIX message, such as v4.1, is validated against the configured FIX version. If the versions differ, a FIX logout message is sent to the user and the FIX session is terminated. Errors are normally detected during the FIX logon. Error messages contain the received and expected versions of FIX, for example: #~ field 58 [ver [4.1] expect [4.2]; refuse session]
9	BodyLength	Y	Must be the second field in the message.
35	MsgType	Y	Must be the third field in the message. Refer to each message section for the MsgType value.
49	SenderCompID	Y	Four character code assigned by ISE. – to be mutually agreed upon
56	TargetCompID	Y	Always set to ISEQ.
34	MsgSeqNum	Y	
50	SenderSubID	N	
57	TargetSubID	N	
43	PossDupFlag	N	Conditional field. This field is required for resend messages.
52	SendingTime	Y	
122	OrigSendingTime	N	Conditional field. This field is required for resend messages. If the data is not available, set the field to the same value as SendingTime.

8.2 Standard Trailer

A standard trailer terminates each message.

There is only one trailer field that is required by ISE, as shown in Table 2.

Note: The fields that are not included in the table are ignored by ISE.

Table 2. ISE trailer fields for FIX messages

Tag	Field name	Required	Comments
10	Checksum	Y	Three-digit character.

8.3 Using the SenderSubId field to Route Orders

It is possible to route orders to ISE on behalf of multiple EAMs over a single FIX connection using the SenderSubId field (tag 50).

This feature is useful for service bureaus which are not ISE members, but can route orders on behalf of ISE members.

For a service bureau to route an order, the:

1. ISE assigns a SenderSubId value to the service bureau.
The value is based on the ISE acronym for the EAM.
2. The service bureau opens one connection to the ISE FIX engine.
3. The FIX engine uses the SenderSubId value to log on to the ISE central trading system as the EAM.
4. Standard clearing instructions for the ISE EAM, stored at the ISE, are appended to each order.

For example:

- Service bureau sets tag 50 to **ABCD** to send orders as EAM **ABCD**, which are cleared by **Firm 0123**.
- Service bureau sets tag 50 to **WXYZ** to send orders as EAM **WXYZ**, which are cleared by **Firm 0456**.

8.4 Custom Configurations

Mass Cancel On Disconnect feature is available

Suppression of Pending Cancel & Pending Cancel / Replace messages

Suppression of Trade Bust messages

Please contact ISE FIX support for information, 212.897.0244, fixsupport@ise.com

8.5 FIX Messages Supported by ISE Stock Exchange

All administrative messages (e.g. heartbeat, test request etc.) are expected to be supported by the FIX engine. For administrative message requirements, references should be made to the FIX committee documents. FIX 4.2 is the standard.

The following application messages are supported by the ISE Stock Exchange

TYPE	MESSAGE NAME	MESSAGE PURPOSE	INBOUND/ OUTBOUND
6	Indication of Interest	MPM SOI Broadcast to member firms	Outbound
8	Execution Report	Order Acknowledgement, Reject orders, Accept/ Process a cancel, Execution/ Trade Reports, Send Order status information	Outbound
9	Order Cancel Reject	Reject a cancel request.	Outbound
D	Order – Single	Submission of a new Reserve or SOI Order.	Inbound
F	Order Cancel Request	To cancel the remaining quantity of an existing Order	Inbound
G	Order Modification Request	Aka Order Cancel/Replace Request	Inbound
H	Order Status Request	To request the status of an Order.	Inbound

8.6 New Order Single

	Standard Header	Y	MsgType = D
11	ClOrdID	Y	Unique identifier of the order assigned by the originator.
18	ExecInst	N	Valid Values: f = ISO G=AON (valid for MPM order only) R = Peg to NBBO (Primary Peg) M =Market Peg
21	HandlInst	Y	Required by FIX protocol, but ignored by ISE Stock Exchange
22	SecurityIDSource	N	Class or source of SecurityID (tag 48). Required if SecurityID is specified.
38	OrderQty	Y	Number of shares in the order. Must be less than 9,999,999. SOI Minimum Size = 500 shares
40	OrdType	Y	1 = Market 2 = Limit 3 = Stop 4 = Stop Limit P = Pegged (Requires ExecInst (18) value of R (Peg to NBBO) or M (Market Peg)
44	Price	N	Price per share. Required for limit orders (tag 40 = 2). For Market orders, the price field shall be ignored.

			Optional Cap price for Pegged Orders
48	SecurityID	N	Security identifier. (CUSIP)
54	Side	Y	1 = Buy 2 = Sell 5 = Sell Short
55	Symbol	N	Ticker Symbol. Security identifier. If SecurityID (tag 48) is not provided, Symbol is a required field.
58	Text	N	Free Format Text String
59	TimeInForce	N	0 = Day (Default) 3 = IOC 4 = FOK
60	TransactTime	Y	The time order was sent.
65	SymbolSfx	N	Stock Suffix Suffixes are added without delimiters. Allowable Suffixes: Letter (e.g., A, B, C, V etc.) = Class of Stock PR = Preferred PR followed by Letter (e.g., PRA) = Preferred Class RI = Rights U = Units WI = When Issued WD = When Distributed WS = Warrants WS followed by Letter (e.g., WSB) = Warrant Class
99	StopPX	N	Required if OrdType (tag 40) is equal to 3 or 4.
110	MinQty	N	MPM only – Minimum Execution Quantity
111	MaxFloor	N	Displayed order quantity on a Reserve Order
211	PegDifference	N	Valid values: -0.99 thru 0.99
388	DiscretionInst	N	Code to identify the price a Discretion Offset is related to and should be mathematically added to. Valid value is: 0 = Related to displayed price
389	DiscretionOffset	N	Amount (signed) added to the “related to” price specified via DiscretionInst (tag 388) Valid values: -.99 through .99
528	OrderCapacity	Y	A = Agency P = Principal R = Riskless Principal
840	PegScope	N	2 = National
8020	DisplayRange	N	Used for Reserve Orders when replenishment is random
9202	SpecialOrdType	N	Required for MPM & SOI orders. S = SOI M = MPM
9206	PreMarketEligible	N	Required for Pre-Market Eligible Displayed Market Orders, otherwise not required for Displayed Market Orders. Y = Pre-Market Eligible A = Post Market Eligible B = Eligible for both Pre-Market and Post-Market
9303	RoutingInst	N	Y = Routable (Default if not specified)

			N = Not Routable P = Post Only T = Re-price U = Post Only/Re-price
9500	MinQtyInstruction	N	MPM Order only, in conjunction with with MinQty(110) E = Each Execution F = First Execution Only (Default)
9800	AbsoluteLimit	N	Y
	Standard Trailer	Y	

8.7 Order Cancel Request

The following fields shall be supported in an order cancel request message:

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = F
11	ClOrdID	Y	Unique identifier of the cancel request assigned by the originator.
41	OrigClOrdID	Y	ClOrdID of the order to be cancelled
54	Side	Y	Must be same as the original order.
55	Symbol	Y	Must be same as the original order.
58	Text	N	Free Format Text String
60	TransactTime	N	The time request was sent.
65	SymbolSfx	N	Stock Suffix
	Standard Trailer	Y	

8.8 Order Status Request

The following fields shall be supported in an order status request message:

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = H
11	ClOrdID	Y	ClOrdID of the order whose status is being requested.
54	Side	Y	Must be same as the original order.
55	Symbol	Y	Must be same as the original order.
65	SymbolSfx	N	Stock Suffix
	Standard Trailer	Y	

8.9 Order Cancel/Replace Request

The ISE supports FIX Cancel and Replace orders limiting changes to the following FIX fields:

Tag	Field Name	Comments/ Valid values
38	Quantity	May be increased or decreased. Increased quantities result in lost Orderbook priority
44	Price	Price may be increased or decreased. All price changes result in lost Orderbook priority
40	OrderType	An order may be converted from a limit order to a market order or a market order to a limit order.
99	Stop Price	The price that will trigger an order election may be changed.
389	Discretionary Offset	The discretionary offset may be changed. This does not impact the displayed price of an order. As such, it has no impact on Orderbook priority.

Do not use this message to cancel the remaining quantity of an outstanding order, use the Cancel Request message for this purpose.

An ExecutionRpt with ExecType=Pending Replace will be sent unless the Order Modification Request can be immediately accepted (ExecutionRpt with ExecType=Replaced) or rejected (Order Cancel Reject message).

The Cancel/Replace request will only be accepted if the original order can be successfully removed. Requests which cannot be processed will be rejected using the Cancel Reject message. The Cancel Reject message will provide the ClOrdID and OrigClOrdID values which were specified on the Cancel/Replace Request message for identification.

ISE checks the following fields to make sure that they match the original order - if they do not, ISE will reject the Order Modification Request: Symbol, Side, ExecInst, TimeInForce.

Tag 9202 is required for MPM order modification.

	Standard Header	Y	MsgType = G
11	ClOrdID	Y	Unique identifier of this order modification request assigned by the Broker. Note that this identifier will be used in ClOrdID field of the Cancel Reject message if the modification request is rejected.
41	OrigClOrdID	Y	ClOrdID of the order to be modified This is not the original order of the day
18	ExecInst	N	Must be same as the original order.
21	HandlInst	Y	
22	IdSource	N	
37	OrderId	N	As previously supplied by ISE on the Order Acknowledgment of the Order to be modified
38	OrderQty	Y	Should be the "Total Intended Order Quantity" (including the amount already executed for this order chain)
40	OrdType	Y	Must be same as the original order.
44	Price	N	Must be same as the original order.

48	SecurityId	N	
54	Side	Y	Must be same as the original order.
55	Symbol	Y	Must be same as the original order.
58	Text	N	Free Format Text String
59	TimeInForce	N	Must be same as the original order.
60	TransactTime	Y	The time request was sent.
65	SymbolSfx	N	Stock Suffix
528	OrderCapacity	Y	A = Agency P = Principal R = Riskless Principal
99	StopPx	N	
389	DiscretionaryOffset	N	
9202	SpecialOrdType	N	Required for MPM & SOI orders: S = SOI M = MPM
9206	PreMarketEligible	N	Required for Pre- and Post-Market Eligible Displayed Market Orders, otherwise not required for Displayed Market Orders. Y = Pre-Market Eligible A = Post Market Eligible B = Eligible for both Pre-Market and Post-Market
	Standard Trailer	Y	

8.10 Execution Report

	Standard Header	Y	MsgType = 8
6	AvgPx	Y	Average Price
11	ClOrdID	Y	ClOrdID of the original order
14	CumQty	Y	Currently executed quantity for the order.
17	ExecID	Y	Unique Identifier of the execution report message generated by ISE Stock Exchange.
18	ExecInst	N	Same as original order
20	ExecTransType	Y	Identifies Transaction Type. Valid values are: 0 = New 1 = Cancel (Busted Trade) 2 = Correct (Adjusted Trade) 3 = Status
22	SecurityIDSource	N	Same as original order
31	LastPx	Y	Price of shares executed in this (last) fill.
32	LastShares	Y	Number of shares executed in this (last) fill.
37	OrderID	Y	ISE Stock Exchange assigned order id.
38	OrderQty	Y	The original size of the order.
39	OrdStatus	Y	Current status of the order. Valid values are: 0 = New 1 = Partially Filled

			2 = Filled 4 = Canceled 6 = Pending Cancel
40	OrdTyp	N	Same as original order
44	Price	N	Same as original order
48	SecurityID	N	Same as original order
54	Side	Y	Same as original order
55	Symbol	Y	Same as original order
58	Text	N	Free Format Text String
59	TimeInForce	N	Same as original order
60	TransactTime	Y	Time of execution.
65	SymbolSfx	N	Stock Suffix
76	ExecBroker	N	MPID from the ISE Stock Exchange Database
150	ExecType	Y	Valid Values: 0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 5 = Replace 6 = Pending Cancel D = Restated E = Pending Replace
151	LeavesQty	Y	Quantity remaining open for further execution. If the OrdStatus (39) is Canceled or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty (38) – CumQty (14).
528	OrderCapacity	Y	Same as original order
9202	SpecialOrdType	N	Same as original order
9730	TradeLiquidityIndicator	Y	A = Added Liquidity R = Removed Liquidity X = Routed (over \$1 securities) O = Participated in Opening Transaction N = Not billable U = Added Liquidity (under \$1.00) P = Removed Liquidity (under \$1.00) Y = Routed (under \$1.00) For Market Data Revenue Sharing purposes only: L = MPM Maker M = MPM Taker S = MPM Shared
	Standard Trailer	Y	

8.10.1 Route-out indication

ISE does not display the name of the Market Center where the order was executed in any tag on the execution report. However, to inform the entering firm that the order was routed out, we provide the following values in TradeLiquidityIndicator (9730):

- X = Routed (over \$1)
- Y = Routed (under \$1)

8.10.2 MPM Liquidity Indicators

The Liquidity Indicators that we apply to MPM orders are for Market Data Revenue sharing purposes only. The ISE will always give Trade Print Credits to the Liquidity Provider on a transaction.

- M = MPM Taker - No Trade Print Revenues were earned on this transaction.
- L = MPM Maker - This Trade earned the Trade Print credits.
- S = MPM Shared - Both the Buyer and Seller will share the Trade Print credits. This can only occur when two MPM orders are on the book and the Midpoint moves into a range where they can be executed. Since both were officially resting on the book before being executed they will share the credits.

For MPM orders these indicators have no effect on transaction charges. MPM orders are always charged the same rate regardless of whether they are a Maker or a Taker.

8.10.3 Trade Bust Message Handling

When ISE Market Operation busts a trade, a correction execution report can be sent outbound to the customer via FIX. This is a per session configurable option. These messages will be defined in FIX with ExecTransType (20) =1(Cancel) or 2(Correct).

ISE does not reinstate busted quantity back into the original order.

8.11 Order Acknowledgment

Message type 8 (Execution Report) is used for the order acknowledgement. The following table defines the tag values used in the order acknowledgement message.

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 8
11	ClOrdID	Y	ClOrdID of the original order.
14	CumQty	Y	Currently executed quantity for the order. For order acknowledgement valid value is 0.
17	ExecID	Y	Unique Identifier of the acknowledgement message generated by ISE Stock Exchange.
18	ExecInst	N	Same as original order
20	ExecTransType	Y	Identified Transaction Type. Valid value for acknowledgement = 0 New.
37	OrderID	Y	ISE Stock Exchange assigned Order ID.
38	OrderQty	Y	The original size of the order.
39	OrdStatus	Y	Current status of the order. For order acknowledgement, the valid value is 0=New.
40	OrdTyp	N	Same as original order

44	Price	N	Same as original order
54	Side	Y	Same as original order
55	Symbol	Y	Same as original order
58	Text	N	Free Format Text String
59	TimeInForce	N	Same as original order
65	SymbolSfx	N	Stock Suffix (when applicable)
150	ExecType	Y	Valid Value: 0 = New
151	LeavesQty	Y	For order acknowledgement, it's equal to OrderQty.
528	OrderCapacity	N	Same as original order
9202	SpecialOrdType	N	Same as original order
	Standard Trailer	Y	

8.12 Reject Order

Message type 8 (Execution Report) is used for the order reject. The following table defines the tag values used in the reject order message.

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	Valid value for reject order = 0.
11	ClOrdID	Y	ClOrdID of the original order.
14	CumQty	Y	For reject order CumQty = 0.
17	ExecID	Y	Unique Identifier of the message generated by ISE Stock Exchange.
18	ExecInst	N	Same as original order.
20	ExecTransType	Y	Identified Transaction Type. Valid value for reject order = 0 New.
37	OrderID	Y	ISE Stock Exchange assigned Order ID.
38	OrderQty	Y	The original size of the order.
39	OrdStatus	Y	Current status of the order. For reject order, the valid value is 8=Rejected.
40	OrdTyp	N	Same as original order
44	Price	N	Same as original order
54	Side	Y	Same as original order
55	Symbol	Y	Same as original order
58	Text	N	Rejection Reason
59	TimeInForce	N	Same as original order
65	SymbolSfx	N	Stock Suffix (when applicable)
103	OrdRejReason	N	Code to identify reason for order rejection. Valid values: 0 = Broker / Exchange option 1 = Unknown symbol 2 = Exchange closed 3 = Order exceeds limit 4 = Too late to enter 5 = Unknown Order 6 = Duplicate Order (e.g. dupe ClOrdID (11)) 8 = Stale Order

			11 = Unsupported order characteristic 13 = Incorrect quantity 99 = Other
150	ExecType	Y	Valid Value: 8 = Rejected
151	LeavesQty	Y	0 (zero) for Rejected Order
528	OrderCapacity	N	Same as original order
9202	SpecialOrdType	N	Same as original order
	Standard Trailer	Y	

8.13 Accept/Process a Cancel

The following table defines the tag values used in the accepted/ processed cancel message.

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	Calculated average price of all fills or partial fills on this order. 0 if no fills have occurred.
11	ClOrdID	Y	Unique identifier of the cancel request assigned by the originator.
14	CumQty	Y	Currently executed quantity for the order.
17	ExecID	Y	Unique Identifier of this message generated by ISE Stock Exchange.
18	ExecInst	N	Same as original order
20	ExecTransType	Y	Identified Transaction Type. Valid value for execution report = 0 New.
37	OrderID	Y	Unique identifier for the order. Represents the originating/initial order in an order chain.
38	OrderQty	Y	The original size of the order.
39	OrdStatus	Y	Valid Value: 4 = Cancelled
40	OrdTyp	N	Same as original order
41	OrigClOrdID	Y	ClOrdID of the original order to be cancelled.
44	Price	N	Same as original order
54	Side	Y	Same as original order
55	Symbol	Y	Same as original order
58	Text	N	Free Format Text String
59	TimeInForce	N	Same as original order
65	SymbolSfx	N	Stock Suffix (when applicable)
150	ExecType	Y	Valid Values: 4 = Cancelled.
151	LeavesQty	Y	0
528	OrderCapacity	N	Same as original order
9202	SpecialOrdType	N	Same as original order
	Standard Trailer	Y	

8.14 Order Cancel Reject

The following fields shall be supported in an order cancel reject message:

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 9
11	ClOrdID	Y	Unique identifier of the cancel reject message.
37	OrderID	Y	Unique identifier for the order. Represents the originating/initial order in an order chain.
39	OrdStatus	Y	Order Status after Cancel Reject.
41	OrigClOrdID	Y	ClOrdID of the order that cannot be cancelled.
58	Text	N	Reason for rejecting the request.
102	CxlRejReason	N	Reason for rejection. Valid values are: 0 = Too late to cancel 1 = Unknown order 3 = Order already in Pending Cancel status
434	CxlRejResponseTo	Y	1 = This reject is in response to Cancel Request
	Standard Trailer	Y	

8.15 Send Order Status

The Execution Report (Message type "8") is sent in response to an Order Status Request (Message Type "H")

The following table defines the tag values used in the order status message.

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	Calculated average price of all fills or partial fills on this order.
11	ClOrdID	Y	ClOrdID of the original order.
14	CumQty	Y	Currently executed quantity for the order.
17	ExecID	Y	0 for order status message.
18	ExecInst	N	Same as original order
20	ExecTransType	Y	Identified Transaction Type. Valid value for order status = 3 Status
37	OrderID	Y	ISE Stock Exchange assigned order id.
38	OrderQty	Y	The original size of the order.
39	OrdStatus	Y	Identifies current status of order. Valid values: 0 = New 1 = Partially filled 2 = Filled 4 = Canceled 6 = Pending Cancel (e.g. result of Order Cancel Request) 8 = Rejected
40	OrdTyp	N	Same as original order
44	Price	N	Same as original order
54	Side	Y	Same as original order
55	Symbol	Y	Same as original order
58	Text	N	Free Format Text String
59	TimInForce	N	Same as original order
65	SymbolSfx	N	Stock Suffix (when applicable)
150	ExecType	Y	Valid values:

			I = Order Status (formerly an ExecTransType)
151	LeavesQty	Y	Quantity open for further execution. If the OrdStatus (39) is Canceled, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty (38) – CumQty (14).
528	OrderCapacity	Y	Same as original order
9202	SpecialOrdType	N	Same as original order
	Standard Trailer	Y	

8.16 Drop Copy Trade Report

Tag	Field Name	Comments / Valid Values
	Standard Header	MsgType = 8
6	AvgPx	0
11	ClOrdID	Same as original order
14	CumQty	0
17	ExecID	Unique Identifier of the execution report message generated by ISE Stock Exchange.
20	ExecTransType	0 = NEW
21	HandlInst	1 = AUTOMATED EXECUTION
31	LastPx	Price of shares executed in this (last) fill.
32	LastShares	Number of shares executed in this (last) fill.
37	OrderID	ISE Stock Exchange assigned order id.
38	OrderQty	0
39	OrdStatus	2 = FILLED
40	OrdType	1 = Market 2 = Limit
54	Side	1 = Buy 2 = Sell 5 = Sell Short
55	Symbol	Same as original order
58	Text	Free Format Text String – from original order
76	ExecBroker	“MPID” from ISE Reference Database
150	ExecType	0 = NEW
151	LeavesQty	0
439	ClearingFirm	DTCC number from ISE Reference Database
528	OrderCapacity	A = Agency P = Principal R = Riskless Principal
9730	LiquidityIndicator	A = Added Liquidity R = Removed Liquidity X = Routed (over \$1 securities) O = Participated in Opening Transaction N = Not billable U = Added Liquidity (under \$1.00)

		P = Removed Liquidity (under \$1.00) Y = Routed (under \$1.00) L = MPM Maker M = MPM Taker S = MPM Shared
	Standard Trailer	

8.17 Indication of Interest

The following table identifies the tag values that will be used in the Indication of Interest message that will be used to announce an SOI delivered to the MidPoint Match System. This has been restricted to the announcement of symbol only.

Tag	Field Name	Req'd	Comments/ Valid values
	Standard Header	Y	MsgType = 6
23	IOIid	Y	Unique Identifier of IOI message
27	IOIShares	Y	SOI Number of shares. Valid values: 0
28	IOITransType	Y	IOI Message type. Valid Value: N=New
54	Side	Y	SOI Side. Valid Value: 7 = Undisclosed 1 = Buy – not supported 2 = Sell – not supported
55	Symbol	Y	Ticker Symbol.
58	Text	N	Free Format Text Field
65	SymbolSfx	N	Stock Suffix
	Standard Trailer	Y	

Appendix

OATS Reporting

A number of ISE members have called asking questions regarding OATS reporting. We have pursued this with the NASD and concluded that OATS reporting is an NASD member responsibility; therefore, the reporting obligation rests with ISE members to provide input to OATS.

To assist ISE members with their OATS reporting responsibilities, the ISE offers the following suggestions:

- For orders routed to the ISE, brokers are reminded that the ISE is an Exchange. Report as you would orders routed to any other exchange.
- Whether using the Route Report or the Combined Order/Route Report, the "Send to Firm MPID" will be blank and the "Destination Code" will be XI.
- The OATS Helpdesk has proven to be an invaluable resource center for the ISE. The OATS Helpdesk can be reached directly at (800) 321-NASD if you have further questions.

Message Format	Send to Firm MPID Value	Destination Code *
Route Report	Blank	XI
Combined Order/Route Report	Blank	XI

Liquidity Indicators

The Liquidity Indicators that we apply to MPM orders are for Market Data Revenue sharing purposes only. The ISE will always give Trade Print Credits to the Liquidity Provider on a transaction.

M = MPM Taker – No Trade Print Revenues were earned on this transaction.

L = MPM Maker – This Trade earned the Trade Print credits.

S = Both the Buyer and Seller will share the Trade Print credits. This can only occur when two MPM orders are on the book and the Midpoint moves into a range where they can be executed. Since both were officially resting on the book before being executed they will share the credits.

For MPM orders these indicators have no effect on transaction charges. MPM orders are always charged the same rate regardless of whether they are a Maker or a Taker.

Clearance and Settlement

The ISE will submit execution data to DTCC on behalf of the parties involved in each trade. Those trades will be output to you on the Regional Interface Operation Blotters (RIO) you are already receiving with the Originating Market/Trade Source = XISE.

To ensure anonymity through the entire trade and settlement process, the identity of the contra-party to each trade will be suppressed on the output reports you receive. In place of the true contra party, the following information will be delivered:

Contra Executing Broker (MPID)	ANON
Contra Clearing Firm	8602

Viewing ISE Quotes and Trades

The ISE, as an exchange, reports all quote and trade information as a Participant directly to the Consolidated Trade Authority (CQS for NYSE- and AMEX-listed quotes, CTS for listed trades) and to NASDAQ (UQDF for NASDAQ-Listed quotes and UTRF for NASDAQ trades.)

Quotes and Trades are represented on these feeds with Market Center Identifier "I". Individual Market Data vendors may reflect these quotes on their own systems with other identifiers.

ISE quotes are not represented on NASDAQ Level II feeds.

Reg NMS Compliant Route Out Services

ISE will offer route out services for members when better prices are posted on other Market Centers. Orders executed on other exchanges will be identified as having been routed; the Liquidity Indicator on the execution report = X will convey this. The destination exchange is not provided. The member will receive an execution report from the ISE and for clearance purposes, trades with the ISE.

Members wishing to use their own smart routers may mark an order as Non-Routable. When so marked, orders that would be eligible for route out will be cancelled.

Other Questions

Questions will always arise. The following matrix should make it easier to find answers to those questions. When in doubt, contact Market Operations and they can direct your call appropriately.

Department	Email Address	Phone
Market Operations	market@ise.com	(800) 518-7654
Technology Member Services	techsupport@ise.com	(800) 518-7657
Membership	membership@ise.com	(800) 518-7360
FIX and Connectivity Support	connect@ise.com	(800) 518-1564
Member Billing	billing@ise.com	(800) 518-7360
Surveillance	Surveillance@ise.com	(800) 518-7360