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Document History

Revision	Date	Author	Revision Comments
0.1	June 16, 2009	P. Allen	Document initiated
0.2	June 18, 2009	P. Allen	Added "Principal Trade" as a required trade type to Tags 829 and 1008. Added to Component block TrdCapRptSideGrp.
0.3	June 24, 2009	P. Allen	Clarified Principal Trade definition.
0.4	July 10, 2009	P. Allen	Finalized for distribution
0.5	September 9, 2009	Ryan Pierce FIX Protocol Limited	Incorporated comments from public review period: Removed InstrumentPartyStatus and instead added SecurityParticipationStatus to the SecurityStatus message.
0.6	September 18, 2009	Ryan Pierce FIX Protocol Limited	Incorporated changes from review on September 17 GTC call: Renamed SecurityParticipationStatus to MarketMakerActivity

1 Introduction

One of the functions of the Investment Industry Regulatory Organization of Canada (IIROC) is to conduct real-time market surveillance to ensure that trading is carried out in accordance with securities trading rules. To facilitate this task, IIROC requires each market to provide real-time market transaction data to its market surveillance system – otherwise referred to as a “market regulation feed”. To help accommodate this requirement, IIROC is in the process of developing a FIX Market Regulation Feed Specification. It is envisioned that the specification will be used by the markets to update and configure their respective FIX engines.

IIROC in consultation with the Canadian Markets and FPL has chosen FIX Version 5.0 for the market regulation feed. In May 2009, Extension Pack EP101 was created and ratified by FPL to accommodate IIROC’s market surveillance feed requirements. Since then a small number of new requirements have been identified necessitating a subsequent Gap Analysis.

2 Business Workflow

Canadian markets are currently feeding a proprietary market surveillance system with data using a messaging protocol other than FIX. IIROC will be rolling out its own surveillance system in 2009 and will eventually require markets to provide their regulation feeds in FIX.

3 Issues and Discussion Points

IIROC has discovered additional requirements for the Market Regulation Feed since the ratification of EP101.

3.1 MGF-Status

The Toronto Stock Exchange recently implemented functionality to manage the status of securities that are Minimum Guaranteed Fill (MGF) eligible. MGF processing can now be enabled and disabled by the exchange on an intraday basis. This information is required by IIROC.

3.2 Market maker participation status

The participation status of a market maker is information that is required by IIROC’s market surveillance staff. Market maker participation status can change numerous times throughout the day. From a workflow perspective, currently:

- Equity specialists convey their market maker status to the Toronto Stock Exchange on an intra-day basis
- The TSX, in turn, broadcasts this information to market participants through a public market data feed
- The TSX also propagates this information to the current market surveillance system in real-time

This information is conveyed by the addition of a MarketMakerActivity field to the Security Status message. Note that this field may have future use in the Market Data-related messages, just like SecurityTradingStatus(326), however this is outside the scope of this proposal.

3.3 Unsolicited order cancellations due to trade price violations and cross interference imbalances

3.3.1 Cancellation due to trade price violation

On entry of a New Order, a Special Terms order that crosses over to the boardlot book, or when an OnStop order is triggered, a stock may freeze if the resulting trade price exceeds given parameters. Markets can exercise the option to cancel orders that will create invalid trade prices. This is achieved by sending an unsolicited cancellation (150=D, 378=15). (Note: In the current specification the ExecRestatementReason (378) = 8 “Market Option” is currently being used for this purpose. However, a more detailed explanation is required.)

3.3.2 Cancellation due to cross imbalance caused by cross interference

Cross orders can interfere with orders already booked on a market. In this event, the interfered trade executes first followed by the non-interfered portion. The side of the Cross order with remaining unfilled volume is cancelled. This is achieved by sending an unsolicited cancellation (150=D, 378=16). (Note: In the current specification the ExecRestatementReason (378) = 8 "Market Option" is currently being used to for this purpose. However, a more detailed explanation is required.)

3.4 Flagging opening trades

3.4.1 Opening Trades

During the opening and throughout the continuous trading session, markets are required to flag trades that are considered "Opening Trades". An opening trade is:

- A trade that occurred at the opening; or
- The first trade of the day for a security

4 FIX message tables

4.1 Security Status

Security Status

Tag	FieldName	Req'd	Comments	Action	Mapping Usage and Comments
StandardHeader		Y	MsgType = f (lowercase)		
component block <ApplicationSequenceControl>		N			
324	SecurityStatusReqID	N			
component block <Instrument>		Y	Insert here the set of "Instrument" (symbology) fields defined in "Common Components of Application Messages"		
component block <InstrumentExtension>		N	Insert here the set of "InstrumentExtension" fields defined in "Common Components of Application Messages"		
component block <UndInstrmtGrp>		N	Number of underlyings		
component block <InstrmtLegGrp>		N	Required for multileg quotes		
15	Currency	N			
1301	MarketID	N			
1300	MarketSegmentID	N			
336	TradingSessionID	N			
625	TradingSessionSubID	N			
325	UnsolicitedIndicator	N	Set to 'Y' if message is sent as a result of a subscription request not a snapshot request		
326	SecurityTradingStatus	N	Identifies the trading status applicable to the transaction.		
1655	MarketMakerActivity	N		New field	
1174	SecurityTradingEvent	N	Identifies an event related to the trading status		

291	FinancialStatus	N			
292	CorporateAction	N			
327	HaltReason	N	Denotes the reason for the Opening Delay or Trading Halt.		
328	InViewOfCommon	N			
329	DueToRelated	N			
1021	MDBookType	N	Used to relay changes in the book type		
264	MarketDepth	N	Used to relay changes in Market Depth.		
330	BuyVolume	N			
331	SellVolume	N			
332	HighPx	N			
333	LowPx	N			
31	LastPx	N	Represents the last price for that security either on a Consolidated or an individual participant basis at the time it is disseminated.		
60	TransactTime	N	Trade Dissemination Time		
334	Adjustment	N			
1025	FirstPx	N	Represents the price of the first fill of the trading session.		
58	Text	N	Comment, instructions, or other identifying information.		
354	EncodedTextLen	N	Must be set if EncodedText field is specified and must immediately precede it.		
355	EncodedText	N	Encoded (non-ASCII characters) representation of the Text field in the encoded format specified via the MessageEncoding field.		
StandardTrailer		Y			

5 Component Blocks

6 Appendix A - Data Dictionary

Tag	Field Name	Action	Data type	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
378	ExecRestatementReason	Change	Int	<p>Code to identify reason for an ExecutionRpt message sent with ExecType=Restated or used when communicating an unsolicited cancel.</p> <p>Valid values:</p> <p>0 = GT corporate action 1 = GT renewal / restatement (no corporate action) 2 = Verbal change 3 = Repricing of order 4 = Broker option 5 = Partial decline of OrderQty (e.g. exchange initiated partial cancel) 6 = Cancel on Trading Halt 7 = Cancel on System Failure 8 = Market (Exchange) option 9 = Canceled, not best 10 = Warehouse Recap 11 = Peg Refresh 14 = Assign Time Priority 15 = Canceled, Trade Price Violation 16 = Canceled, Cross Imbalance 99 = Other</p>		
828	TrdType	Change	Int	<p>Additional TrdType(828) assigned to a trade by trade match system.</p> <p>Valid Values:</p> <p>0 - Regular Trade 1 - Block Trade 2 - EFP (Exchange for physical) 3 - Transfer 4 - Late Trade 5 - T Trade 6 - Weighted Average Price Trade 7 - Bunched Trade</p>		

<i>Tag</i>	<i>Field Name</i>	<i>Action</i>	<i>Data type</i>	<i>Description</i>	<i>FIXML Abbreviation</i>	<i>Add to / Deprecate from Message type or Component block</i>
				8 - Late Bunched Trade 9 - Prior Reference Price Trade 10 - After Hours Trade 11 - Exchange for Risk (EFR) 12 - Exchange for Swap (EFS) 13 - Exchange of Futures for (in Market) Futures (EFM) (e.g, full sized for mini) 14 - Exchange of Options for Options (EOO) 15 - Trading at Settlement 16 - All or None 17 - Futures Large Order Execution 18 - Exchange of Futures for Futures (external market) (EFF) 19 - Option Interim Trade 20 - Option Cabinet Trade 22 - Privately Negotiated Trades 23 - Substitution of Futures for Forwards 48 - Non-standard settlement 49 - Derivative Related Transaction 50 - Portfolio Trade 51 - Volume Weighted Average Trade 52 - Exchange Granted Trade 53 - Repurchase Agreement 54 - OTC 55 - Exchange Basis Facility (EBF) 56 = Opening Trade MiFID Values 24 - Error trade 25 - Special cum dividend (CD) 26 - Special ex dividend (XD) 27 - Special cum coupon (CC) 28 - Special ex coupon (XC) 29 - Cash settlement (CS) 30 - Special price (usually net- or all-in price) (SP) 31 - Guaranteed delivery (GD) 32 - Special cum rights (CR) 33 - Special ex rights (XR)		

<i>Tag</i>	<i>Field Name</i>	<i>Action</i>	<i>Data type</i>	<i>Description</i>	<i>FIXML Abbreviation</i>	<i>Add to / Deprecate from Message type or Component block</i>
				34 - Special cum capital repayments (CP) 35 - Special ex capital repayments (XP) 36 - Special cum bonus (CB) 37 - Special ex bonus (XB) 38 - Block trade (same as large trade) 39 - Worked principal trade (UK-specific) 40 - Block Trades - after market 41 - Name change 42 - Portfolio transfer 43 - Prorogation buy - Euronext Paris only. Is used to defer settlement under French SRD (deferred settlement system) . Trades must be reported as crosses at zero price 44 - Prorogation sell - see prorogation buy 45 - Option exercise 46 - Delta neutral transaction 47 - Financing transaction (includes repo and stock lending)		
855	SecondaryTrdType	Change	Int	Additional TrdType(828) assigned to a trade by trade match system. Valid Values: 0 - Regular Trade 1 - Block Trade 2 - EFP (Exchange for physical) 3 - Transfer 4 - Late Trade 5 - T Trade 6 - Weighted Average Price Trade 7 - Bunched Trade 8 - Late Bunched Trade 9 - Prior Reference Price Trade 10 - After Hours Trade 11 - Exchange for Risk (EFR) 12 - Exchange for Swap (EFS) 13 - Exchange of Futures for (in Market) Futures (EFM) (e.g, full sized for mini)		

<i>Tag</i>	<i>Field Name</i>	<i>Action</i>	<i>Data type</i>	<i>Description</i>	<i>FIXML Abbreviation</i>	<i>Add to / Deprecate from Message type or Component block</i>
				14 - Exchange of Options for Options (EOO) 15 - Trading at Settlement 16 - All or None 17 - Futures Large Order Execution 18 - Exchange of Futures for Futures (external market) (EFF) 19 - Option Interim Trade 20 - Option Cabinet Trade 22 - Privately Negotiated Trades 23 - Substitution of Futures for Forwards 48 - Non-standard settlement 49 - Derivative Related Transaction 50 - Portfolio Trade 51 - Volume Weighted Average Trade 52 - Exchange Granted Trade 53 - Repurchase Agreement 54 - OTC 55 - Exchange Basis Facility (EBF) 56 = Opening Trade MiFID Values 24 - Error trade 25 - Special cum dividend (CD) 26 - Special ex dividend (XD) 27 - Special cum coupon (CC) 28 - Special ex coupon (XC) 29 - Cash settlement (CS) 30 - Special price (usually net- or all-in price) (SP) 31 - Guaranteed delivery (GD) 32 - Special cum rights (CR) 33 - Special ex rights (XR) 34 - Special cum capital repayments (CP) 35 - Special ex capital repayments (XP) 36 - Special cum bonus (CB) 37 - Special ex bonus (XB) 38 - Block trade (same as large trade) 39 - Worked principal trade (UK-specific) 40 - Block Trades - after market		

<i>Tag</i>	<i>Field Name</i>	<i>Action</i>	<i>Data type</i>	<i>Description</i>	<i>FIXML Abbreviation</i>	<i>Add to / Deprecate from Message type or Component block</i>
				41 - Name change 42 - Portfolio transfer 43 - Prorogation buy - Euronext Paris only. Is used to defer settlement under French SRD (deferred settlement system) . Trades must be reported as crosses at zero price 44 - Prorogation sell - see prorogation buy 45 - Option exercise 46 - Delta neutral transaction 47 - Financing transaction (includes repo and stock lending)		
871	InstrAttribType	Change	Int	Code to represent the type of instrument attribute. Valid values: 1 = Flat (securities pay interest on a current basis but are traded without interest) 2 = Zero coupon 3 = Interest bearing (for Euro commercial paper when not issued at discount) 4 = No periodic payments 5 = Variable rate 6 = Less fee for put 7 = Stepped coupon 8 = Coupon period (if not semi-annual). Supply redemption date in the InstrAttribValue (872) field. 9 = When [and if] issued 10 = Original issue discount 11 = Callable, puttable 12 = Escrowed to Maturity 13 = Escrowed to redemption date - callable. Supply redemption date in the InstrAttribValue (872) field 14 = Pre-refunded 15 = In default		

Tag	Field Name	Action	Data type	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				16 = Unrated 17 = Taxable 18 = Indexed 19 = Subject To Alternative Minimum Tax 20 = Original issue discount price. Supply price in the InstrAttribValue (872) field 21 = Callable below maturity value 22 = Callable without notice by mail to holder unless registered 23 = Price tick rules for security. 24 = Trade type eligibility details for security. 25 = Instrument Denominator 26 = Instrument Numerator 27 = Instrument Price Precision 28 = Instrument Strike Price 29 = Tradeable Indicator 30 = Instrument is eligible to accept anonymous orders 31 = Minimum Guaranteed Fill Volume 32 = Minimum Guaranteed Fill Status 99 = Text. Supply the text of the attribute or disclaimer in the InstrAttribValue (872) field.		
1655	MarketMakerActivity	Add	Int	Indicates market maker participation in security. Valid values: 0 = No participation 1 = Buy participation 2 = Sell participation 3 = Both buy and sell participation	@MktMkrActvty	Add to Security Status message. Note new FIXML abbreviations for Maker and Activity.

7 Appendix B - Glossary Entries

Term	Definition	Field where used
Opening Trade	A trade that occurred at the opening or was the first trade of the day	SecondaryTrdType (855)

Minimum Guaranteed Fill Status	Indicates whether minimum guaranteed fill processing is active or inactive for a security	InstrAttribType (871)
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