Knight Equity Markets
International Limited
Guildhall House
81-87 Gresham Street, Fourth Floor
London EC2V 7NQ
United Kingdom
Tel +44.20.7997.2200
Fax +44.20.7997.2220
www.knight.com

Knight Equity Markets, L.P.
Knight Capital Markets LLC
FIX Specification

Version1.00 — November 12, 2008

Any questions regarding this document may be sent to the Electronic Services Group:

Electronic Services
Knight Equity Markets, LP.
545 Washington Blvd
4th Floor
Jersey City, New Jersey 07310

Phone: 888.302.9197
FAX: 201.356.2254
Email: esg@knight.com
http://www.knight.com/ourFirm/connectivity.asp

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1 OVERVIEW

Knight Equity Markets, L.P. and Knight Capital Markets LLC ("KEM" and "KCM" respectively) apply Knight's cash traders market intelligence and experience to provide high-quality trade executions. Cash traders handle sell-side orders that benefit from specialized expertise that can't be replicated by an automation-only model, such as oversized orders, specialized order types and stocks impacted by breaking news or events.

Knight's Broker-Dealer Electronic Trading is responsible for one of Wall Street's most successful and innovative automated electronic trading systems. Our team of quantitative strategists and developers has built a unique electronic trading engine designed to automatically handle Knight's broker dealer order flow. These models allow us to provide among the highest execution quality in the industry.

1.1 Purpose and Scope

The purpose of this document is to define the FIX specification for clients to send orders electronically to KEM or KCM—with the goal of facilitating connectivity between trading firms as efficiently as possible. The document is intended as a means to outline the order types available via KEM and/or KCM.

1.2 References

Document	Website
FIX 4.2 Protocol Specification	http://www.fixprotocol.org/specifications/
FIX 4.0 Protocol Specification	http://www.fixprotocol.org/specifications/

1.3 Document Revision Notes

Version	Date	Name	Description

2 MESSAGE SPECIFICATION

This section details the service supported for electronic trading of orders via FIX, including a definition of each order type as well as specific information of what is supported. Customization for specific client requests is also available.

2.1 General Service Features

FieldName	Comments
Session Hours Supported:	21:30 UTC – 21:50 UTC (S-F) 21:45 UTC – 22:00 UTC (S-F) 21:00 UTC – 21:45 UTC (S-F) 06:00 UTC – 22:30 UTC (S-F)
Regions Supported:	NAM, EMEA, APAC
Time In Force	DAY, GTC and GTD orders are supported.
Order Cancels:	Supported for open and partially filled orders.
Order Cancel/Replace:	Supported for regular FIX fields as specified in the FIX 4.2/4.0 spec
Order Rejects:	Session level and business level rejects are supported.

2.2 FIX messages

The tables below exhibit the FIX tags supported by KEM and/or KCM. Within each section, the appropriate FIX tags are listed. The "Req'd" column uses the following symbols to denote which fields are optional vs. mandatory:

- 'Y' – specifies the tag is required,
- 'N' – specifies the tag is not required,
- 'N*' – specifies the tag is conditionally required

2.2.1 Order Single

TAG	FieldName	Format	Req'd	Comments
115	onBehalfOfCompID	String	N*	Identification of a service bureau client
100	exDestination	string	Y	
11	ClOrdID	String	Y	Uniqueness must be guaranteed within a single trading day.
21	HandlInst	Char	Y	1=Automate execution order, private, no Broker intervention 2= Automate execution order, public, Broker intervention OK 3=Manual order, best execution
18	ExecInst	MultipleValue String	Y	1=Not Held 5 = Held E = Do not increase - DNI F = Do not reduce - DNR G = All or none - AON
55	Symbol	String	Y	Identifies instrument to trade
65	SymbolSfx	String	N	Additional information about the security (e.g. preferred, warrants, etc.).
48	SecurityID	String	N	Security identifier, stated in tag 22
22	IDSource	String	N	1=CUSIP 2=SEDOL 4=ISIN 5=RIC
54	Side	Char	Y	1=Buy 2=Sell 5=Sell Short
114	LocateReqd	char	N*	Y=Indicates Knight must locate the stock (not accepted) N=Indicated Knight Match customer has located the stock
5700	LocateSource	String	N*	Entity that has provided the locate of security in the short sell transaction
60	TransactTime	UTCTimestamp	Y	Time the order request was initiated/released by the trader or trading system.
38	OrderQty	Int	Y	Number of shares in the order
40	OrdType	Char	Y	1=Market 2=Limit 3 = Stop 4 = Stop limit
44	Price	Price	Y	
15	Currency	String	N	Identifies the price currency
57	targetSubID	String	N	
59	TimeInForce	Char	Y	0=Day 1=Good Till Cancel 3=Immediate or Cancel 4=Fill or Kill (FOK) 6=Good till Date
126	ExpireTime	UTCTimestamp	N	Time/Date order expiration
58	Text	String	N	Free format text string

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2.2.2 Order Cancel Replace Request

The order cancel/replace request is used to change the parameters of an existing order.
Only a limited number of fields can be changed via the cancel/replace request message, these fields are in **blue** text.
NOTE When modifying ExecInst <18> fields in a replacement order, it is necessary to re-declare all ExecInst <18> in the replacement order. ExecInst <18>'s will not be carried forward from the original order to the replacement unless re-declared.

TAG	FieldName	Format	Req'd	Comments
115	onBehalfOfCompID	String	N*	Identification of a service bureau client
37	OrderID		N	Unique identifier of most recent order as assigned by Knight
41	OrigClOrdID		Y	ClOrdID <11> of the previous order (NOT the initial order of the day) when canceling or replacing an order.
11	ClOrdID	String	Y	Unique identifier of replacement order as assigned by institution. Note that this identifier will be used in ClOrdID <11> field of the Cancel Reject <3> message if the replacement request is rejected.
18	ExecInst	MultipleValue String	Y	1=Not Held 5 = Held E = Do not increase - DNI F = Do not reduce - DNR G = All or none - AON
55	Symbol	String	Y	Identifies instrument to trade
65	SymbolSfx	String	N	Additional information about the security (e.g. preferred, warrants, etc.).
48	SecurityID	String	N	Security identifier, stated in tag 22
22	IDSource	String	N	1=CUSIP 2=SEDOL 4=ISIN 5=RIC
54	Side	Char	Y	1=Buy 2=Sell 5=Sell Short
60	TransactTime	UTCTimestamp	Y	Time order request was initiated/released by the trader or trading system.
38	OrderQty	Int	Y	Number of shares in the order
40	OrdType	Char	Y	1=Market 2=Limit 3 = Stop 4 = Stop limit
44	Price	Price	Y	
15	Currency	String	N	Identifies the price currency
59	TimeInForce	Char	Y	0=Day 1=Good Till Cancel 3=Immediate or Cancel 6=Good till Date
126	ExpireTime	UTCTimestamp	N	Time/Date of order expiration
114	LocateReqd	char	N*	Y=Indicates Knight must locate the stock (not accepted) N=Indicated Knight Match customer has located the stock
5700	LocateSource	String	N*	Entity that has provided the locate of security in the short sell transaction
58	Text	String	N	Free format text string

2.2.3 Order Cancel Request

TAG	FieldName	Format	Req'd	Comments
115	onBehalfOfCompID	String	N*	Identification of a service bureau client
37	OrderID		N	Unique identifier of most recent order as assigned by Knight
41	OrigClOrdID		Y	ClOrdID <11> of the previous order (NOT the initial order of the day) when canceling or replacing an order.
11	ClOrdID	String	Y	Unique identifier of replacement order as assigned by institution. Note that this identifier will be used in ClOrdID <11> field of the Cancel Reject <3> message if the replacement request is rejected.
55	Symbol	String	Y	Identifies instrument to trade
65	SymbolSfx	String	N	Additional information about the security (e.g. preferred, warrants, etc.).
48	SecurityID	String	N	Security identifier, stated in tag 22
22	IDSource	String	N	1=CUSIP 2=SEDOL 4=ISIN 5=RIC
54	Side	Char	Y	1=Buy 2=Sell 5=Sell Short
60	TransactTime	UTCTimestamp	Y	Time this order request was initiated/released by the trader or trading system.
38	OrderQty	Int	N	Number of shares in the order
58	Text	String	N	Identifies the price currency

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2.2.4 Execution Report

The Execution Report <8> message is used to:

1. Confirm the receipt of an order
2. Confirm changes to an existing order (i.e. accept cancel and replace requests)
3. Relay fill information on working orders
4. Reject orders

TAG	FieldName	Format	Req'd	Comments
115	onBehalfOfCompID	String	N*	Identification of a service bureau client
37	OrderID		N	Unique identifier of most recent order as assigned by Knight
41	OrigClOrdID		Y	ClOrdID <11> of the previous order (NOT the initial order of the day) when canceling or replacing an order.
11	ClOrdID	String	Y	Unique identifier of replacement order as assigned by institution. Note that this identifier will be used in ClOrdID <11> field of the Cancel Reject <3> message if the replacement request is rejected.
17	ExecID	String	Y	Unique identifier of execution message as assigned by Knight
20	ExecTransType	Char	Y	0=New 1=Cancel 2=Correct
19	ExecRefID	String	N	
150	ExecType	Char	Y	0=New 1=Partial Fill 2=Fill 3=Done for Day 4=Cancelled 5=Replace 6=Pending Cancel 8=Rejected E=Pending Replace
39	OrdStatus	Char	Y	0=New 1=Partially Filled 2=Filled 3=Done for Day 4=Cancelled 5=Replaced 6=Pending Cancel 8=Rejected E=Pending Replace
55	Symbol	String	Y	Identifies instrument to trade
65	SymbolSfx	String	N	Additional information about the security (e.g. preferred, warrants, etc.).
48	SecurityID	String	N	Security identifier, stated in tag 22
22	IDSource	String	N	1=CUSIP 2=SEDOL 4=ISIN 5=RIC
54	Side	Char	Y	1=Buy 2=Sell 5=Sell Short
38	OrderQty	Qty	Y	Number of shares in the order
40	OrdType	Char	Y	1=Market 2=Limit 3 = Stop 4 = Stop limit
44	Price	Price	Y	
15	Currency	String	N	Identifies the price currency
59	TimeInForce	Char	Y	0=Day 1=Good Till Cancel 3=Immediate or Cancel 6=Good till Date
126	ExpireTime	UTCTimestamp	N	Time/Date of order expiration
18	ExecInst	MultipleValueString	Y	1=Not Held 5 = Held E = Do not increase - DNI F = Do not reduce - DNR G = All or none - AON

32	LastShares	Qty	Y	Qty executed
31	LastPx	Price	Y	Price of execution
151	LeavesQty	Qty	N	Amount of shares open for further execution
14	CumQty	Qty	Y	0
6	AveragePx	Price	Y	0.000000
75	TradeDate	LocalMkt Date	Y	YYYYMMDD
60	TransactTime	UTCTime stamp	Y	Time of execution/order creation
58	Text	String	Y	

2.2.5 Standard Header

TAG	FieldName	Format	Req'd	Comments
8	BeginString	string	Y	Protocol Version FIX.4.2
9	BodyLength	int	Y	Length of Message Body
35	MsgType	string	Y	0 = HeartBeat 1 = TestRequest 2 = ResendRequest 3 = Reject 4 = SequenceReset 5 = Logout 8 = ExecutionReport A = Logon D = NewOrderSingle
34	MsgSeqNum	int	Y	Message Sequence Number (Resets to 1 at the start of each trading day)
49	SenderCompID	string	Y	Identification of the message originator
56	TargetCompID	string	Y	NITE (Identification of the message recipient)
43*	PossDupFlag	Boolean	N	Indicates possible retransmission of this seq num
97*	PossResend	Boolean	N	Indicates possible retransmission of msg under a New sequence number
52	SendingTime	UTC Timestamp	Y	GMT Date/Time Message was sent

2.2.6 Standard Trailer

TAG	FieldName	Format	Req'd	Comments
10	CheckSum	string	Y	Integer byte count of message length without the CheckSum field.

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3 APPENDIX

3.1 FIX Tag Dictionary

TAG	FieldName	Format	Req'd	Comments
1	Account	String	N	
6	AvgPx	Price	Y	Average price of execution
7	BeginSeqNo	int	Y	
8	BeginString	string	Y	Protocol Version FIX.4.2
9	BodyLength	int	Y	Length of Message Body
10	CheckSum	string	Y	Integer byte count of message length without the CheckSum field
11	ClOrdID	String	Y	Must be unique for each order throughout the trading day, across all stocks and sides from the same FIX Session ID. Due to OATS reporting requirements, please note that the ClordID (OATS RoutedOrderID), must be limited to 20 characters in length and unique for a given day. If a client sends a ClOrdID greater than 20 characters, that value will be will truncated.
14	CumQty	Qty	Y	Total number of shares executed
16	EndSeqNo	int	Y	0 means +infinity
18	ExecInst	char	N	ignored
20	ExecTransType	char	Y	Valid values: 0=New 1=Cancel 2=Correct Note: In the event of a busted execution (20=1), the busted qty may be reopened for trading. See tag 14 (cumqty), tag 84 (cxl qty), and tag 151 (leaves qty). In the event of a corrected execution (20=2) AFTER a cancel replace, a combination of a bust on the original clordid, plus a new execution on the current clordid, will be used.
21	HandlInst	char	Y	Valid value: 1=Automated execution order, private, No Broker intervention
22	IDSource	String	N	1=CUSIP 2=SEDOL 4=ISIN 5=RIC
31	LastPx	Price	N	Price of this fill This tag is required for fills.
32	LastShares	Qty	N	Shares executed on this fill This tag is required for fills.
34	MsgSeqNum	int	Y	Message Sequence Number (Resets to 1 at the start of each trading day)
35	MsgType	string	Y	0 = HeartBeat D = New Order 1 = TestRequest 8 = Execution 2 = ResendRequest F = Cancel 3 = Reject G = Cancel/Replace 4 = SequenceReset 9 = Order Cancel Reject 5 = Logout A = Logon
36	NewSeqNo	int	Y	Next expected Sequence Number
38	OrderQty	Qty	Y	Number of shares to trade

TAG	FieldName	Format	Req'd	Comments
39	OrdStatus	char	Y	Valid values: 0=New 1=Partially filled 2=Filled 3=Done for day 4=Canceled 5=Replaced 6=Pending Cancel 8=Rejected 9=Suspended A=Pending New C=Expired E=Pending Replace
40	OrdType	char	Y	Valid values: 1= Market 2= Limit
43	PossDupFlag	Boolean	N*	Indicates possible retransmission of this seq num
44	Price	Price	N*	This tag is required if OrdType = '2' (Limit). If OrdType='1' (Market), this tag will be ignored.
45	RefSeqNum	int	Y	MsgSeqNo of Rejected Message
47	Rule80a	String	Y	The customer is responsible for filling in this field with Program Order and Index Arbitrage information correctly. DTI will forward the order restriction information, but change the order capacity to "Agency".
48	SecurityID	String	N	Security identifier, stated in tag 22
49	SenderCompID	string	Y	Identification of the message originator
50	senderSubID	String	N	Value used to identify specific message originator
52	SendingTime	UTC Timestamp	Y	GMT Date/Time Message was sent
54	Side	char	Y	Valid values: 1= Buy 2= Sell 5= Sell short
55	Symbol	String	Y	Note: DTI supports either a fully qualified symbol name in tag 55, with suffix delimited by a period (e.g. RIO.PRA), or a combination of symbol and suffix (e.g. 55=RIO, 65=PRA), but NOT both (e.g. 55=RIO.A 65=PR).
56	TargetCompID	string	Y	NITE (Identification of the message recipient)
57	TargetSubID	String	N	Value used to identify specific individual or unit intended to receive message. 'ADMIN' reserved for administrative messages not intended for a specific user.
58	Text	String	N	May be used for special purposes by prior arrangement, or as a passive memo field ignored by EdgeTrade. See alternative specification
59	TimeInForce	char	N	Valid values: 0= Day (default) 3= Immediate or Cancel
65	SymbolSfx	String	N	See Tag 55 notes
76	ExecBroker	String	N	Identifies the source venue of the execution.
97	PossResend	Boolean	N*	Indicates possible retransmission of msg under a New sequence number
98	EncryptMethod	int	Y	0=None / Other
108	HeartBtInt	int	Y	The Heartbeat Interval is 60 seconds. Clients should use a 60 second Heartbeat Interval.
112	TestReqID	string	N	Auto-Generated Request ID
114	Locate Reqd	Boolean	N*	Is broker to locate stock? Required if side=5 Valid value: 'N' = false
115	OnBehalfOfCompID	String	N	Value used to identify firm originating message if the message was delivered by a third party

TAG	FieldName	Format	Req'd	Comments
116	OnBehalfOfSubID	String	N	Value used to identify specific message originator (i.e. trader) if the message was delivered by a third party
123	GapFillFlag	Boolean	N*	The use of 'Y' is required for common resequencing. 'N' is not recommended, and should only be used in emergencies that require manual intervention. 'N' causes the SeqNo of the SequenceReset message to be ignored, creating a high possibility of message loss.
126	ExpireTime	UTC Time stamp	N	Start time of algorithmic order.
128	DeliverToCompID	String	N	Value used to identify the firm targeted to receive the message if the message is delivered by a third party
129	DeliverToSubID	String	N	Value used to identify specific message recipient (i.e. trader) if the message is delivered by a third party
150	ExecType	char	Y	Valid values: 0= New 1= Partial fill 2= Fill 3= Done for day 4= Canceled 5= Replaced 6= Pending Cancel 8= Rejected 9= Suspended A= Pending New C= Expired E= Pending Replace
151	LeavesQty	Qty	N	Amount of shares open for further execution
5700	LocateSource	String	N*	Entity that has provided the locate of security in the short sell transaction