

---

# **MatchPoint System**

## **FIX Specification**

**August 18, 2008**  
**Version 1.3**

---

## ***Preface***

### **Document Control**

<b><i>Date</i></b>	<b><i>Revision</i></b>	<b><i>Change Made by:</i></b>	<b><i>Synopsis of Change</i></b>
April 14, 2007	1.0	James Ross	Original Document
October 28, 2007	1.1	James Ross	Added Cash Constraint Details
February 14, 2008	1.2	Marc Abend	Added Cancel Message Format and Rule 80a (Tag 47) Information
August 18, 2008	1.3	Marc Abend	Updated MatchPoint Trading sessions (Intraday Match sessions)

---

## **1.1 MatchPoint Overview**

MatchPoint is an electronic equity trading facility that matches aggregated orders at predetermined fixed times, at prices that are derived from the primary market for securities (NYSE, AMEX, NYSE Arca and NASDAQ). MatchPoint is designed to lower transaction costs by providing a passive, point-in-time trading environment where portfolio-based liquidity and block-sized orderflow can interact on an anonymous and non-displayed basis. Participants are also provided full anonymity throughout the order entry and trade execution process.

MatchPoint provides its participants a greater ability to execute single, block and portfolio (i.e., basket, list, etc.) orders efficiently and reduce the trading risks and costs associated with market volatility and information leakage. MatchPoint customers who enter single orders, block orders and portfolio orders will reap the benefits of this centralized, neutral matching environment. Additionally, customers that rely on index-based or model-driven trading and investment strategies will find MatchPoint to be a very effective trading tool.

Accessing NYSE MatchPoint is fast and easy. Users can submit single orders or upload multiple portfolios of orders through FIX or the NYSE MatchPoint web-based front end. Orders are transmitted from member firm desks, member firm Direct Market Access (DMA) and Execution Management System (EMS) platforms, member firm algorithm services or member firm sponsored linkages. Sponsored Participants of NYSE MatchPoint that have direct access can connect through the same linkages

MatchPoint's first matching session is the after-hours matching session at 4:45 p.m. ET using primary market closing or official last sale prices. MatchPoint will, in due course, roll out intraday matching sessions at 9:45 a.m. ET and then every hour on the hour prior to the close.

Please access the NYSE MatchPoint website for updates and more detailed facility information. ([www.nyse.com.MatchPoint](http://www.nyse.com.MatchPoint))

## **1.2 MatchPoint Order Entry**

NYSE clients can enter orders into the MatchPoint system using FIX connections to the NYSE Arca FIX gateway. Clients may choose to use the same session that they use to send equity, derivative, and fixed income orders to NYSE Arca. The DeliverToCompID=MP will ensure that the orders will be directed to the MatchPoint system.

## **1.3 Net Cash Constraints (Tags 957 – 960 are used for cash constraints)**

Net cash constraints stop users from buying and selling shares at a pre-designated dollar amount. When calculating a user's net cash constraint position, the matching algorithm takes into account the eligible portfolio order shares in a specific security, the MatchPoint reference price of the security and the customer's net cash constraint. Cash constraints can be applied to one order or thousands; are customizable to each portfolio; and can be assigned to portfolios with only buy orders, only sell orders or to portfolios with both buy and sell orders.

### **Net Cash Constraints.**

A net cash constraint is optional to MatchPoint users and provides valuable risk and cash management tools for portfolio users. To execute a net cash constraint, a user must enter a specific net buy dollar amount and a specific net sell dollar amount for a portfolio. A net cash

constraint is active only for a single matching session. A user may resubmit a new net cash constraint when resubmitting an order for a different matching session. MatchPoint users may utilize such net cash constraints as the primary vehicle for controlling how much a user may spend or raise in an individual portfolio. This functionality enables users to keep their purchases and sales in line with each other and to fund additional purchases.

The example below demonstrates how portfolio orders with net cash constraints can execute in the MatchPoint system.

User A has a portfolio to buy 30 orders of S&P 500 stocks worth \$20 million and sell 25 orders of S&P 500 stocks worth \$25 million. In the matching session, User A's portfolio cannot sell (raise) \$1 million more than it buys (spends) and it cannot buy (spend) \$1 million than it sells (raises). User A would input \$1 million for a buy constraint and \$1 million for a sell constraint. The MatchPoint algorithm will not permit trading that would violate these constraints.

Depending on the available liquidity, User A's portfolio can have the following possible outcomes(among many):

	<b>Spent</b>	<b>Raised</b>	<b>Net Cash</b>
Scenario 1	\$20 million	\$21 million	\$1 million
Scenario 2	\$1 million	\$0	(\$1 million)
Scenario 3	\$10 million	\$9,250,000	(\$750,000)

MatchPoint Net Cash Constraint FIX Tags.

Tags 957 – 960 are used for submitting net constraints to MatchPoint. Net cash constraint data must be submitted with the first order in the specific portfolio that is to have a net cash constraint and it must contain correct data in the four fields (tags 957-960) for a one-sided net cash constraint (buy constraint only, sell constraint only) or in seven fields (tags 957-960 and then repeating Tags 958-960) for a two-sided net cash constraint (buy and sell net cash constraint). The net cash constraint must begin with Tag 957 and continue through to Tag 960 and then (for a two-sided net cash constraint) proceed with Tag 958 through to Tag 960. No more than one buy net cash constraint and one sell net cash constraint may be placed on a specific portfolio for a specific matching session.

**NOTE: Net cash constraint inputs that are not contained in the first order of a portfolio and/or are not properly formatted could result in a reject of the entire portfolio of orders or execution of a portfolio without the intended net cash constraint inputs applied to the portfolio. If a user submits portfolio orders without net cash constraints, the portfolio orders will trade to the fullest extent possible based on available eligible liquidity.**

Please see net cash constraint FIX detail information below.

## **1.4 MatchPoint Support**

For MatchPoint test and production support, please call the Connectivity hotline at 888-689-7739 Option 1 or email the Connectivity group at [connectivity@nyx.com](mailto:connectivity@nyx.com).

## 1.5 Session Level and cancel

For NYSE Arca FIX Gateway session level and cancel logic please refer to the NYSE Arca FIX specification. You can find it at:

[http://www.nyse.com/pdfs/FIX\\_Specification\\_and\\_API.pdf](http://www.nyse.com/pdfs/FIX_Specification_and_API.pdf)

**\* Please note that we do not accept Cancel/Replaces on the MatchPoint system. Instead, orders must be cancelled and new order submitted.**

### MatchPoint New Order – Single

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a MatchPoint New Order – Single message. Any other fields specified in the message are ignored.

\* Please note that tags 957 – 960 that are used to indicate constraints must be on the first order message in a basket. Note that future releases may support actual FIX New Order List messages in which case constraints would be at the list level.

Tag	Field	Description	Required	Values
115	OnBehalfOfCompID	NYSE Firm mnemonic	Y	NYSE-Assigned Firm mnemonic
1	Account	Not used by MatchPoint, but will be returned on execution reports if provided on the order	N	Customer defined, up to 10 characters
50	SenderSubID	This field, if present, will be copied into the TargetSubID field of all outgoing messages referring to the order.	N	Customer defined.
57	TargetSubID	This field is required. The value must be "ARCA" for production. All Execution messages will have the SenderSubID set to this value.	Y	ARCA
128	DeliverToCompID	Used to route orders to MP platform	Y	MP
97	PossResend	If an order comes to us with 97=Y and we already received the order we will ignore the duplicate order.	N	Y

Tag	Field	Description	Required	Values	
52	SendingTime		Y	Time in UTC format. YYYYMMDD-HH:MM:SS	
11	ClOrdID	This field contains the ID assigned to the order by the firm. This value must be <= 30 characters. It is critical that this ID is unique for all orders sent today.	Y	Customer Defined <= 30 characters	
583	ClOrdLinkId	When sending baskets of MatchPoint orders use this tag to uniquely identify the basket. Each order containing the ClOrdLinkId will be considered part of the same basket.	Y (required for baskets only)	Customer defined <= 5 Characters	
957	NoStrategyParameters	Indicates number of strategy parameters	Y If using constraints	The count of strategy parameters to follow (1 if only a buy or sell constraint is specified, 2 if both a buy and a sell constraint are specified)	
->	958	StrategyParameterName	Name of parameter	Y If using constraints	BuyConstraint SellConstraint
->	959	StrategyParameterType	Datatype of the parameter. Refer to Appendix-A for a list of valid values.	Y If using constraints	8 (price data type)
->	960	StrategyParameterValue	Value of the parameter	Y If using constraints	Dollar amount for constraint
55	Symbol	This field must contain a symbol in upper case lettering	Y	Valid Symbol	

Tag	Field	Description	Required	Values
65	SymbolSfx	This field must contain a valid symbol in upper case lettering.	N	Valid Suffix value
54	Side	Only Buy, Sell, and Sell Short	Y	1= Buy 2= Sell 5= Sell Short
38	OrderQty	Indicates share quantity on order	Y	1-999,999
40	OrdType	Indicates order type of order	Y	1=Market 2=Limit
44	Price	Indicates price on order in decimals. For Bonds indicates percentage of par.	Y	.01-99999.99
59	TimeInForce	If a value is not present in this field, the default is Day.	N	0=Day
110	MinQty	Minimum quantity of the order that can be executed	N	Default to 100 shares
386	NoTradingSessions	The number of instances of TradingSessionID values following	N	1
336	TradingSessionID (this is a repeating group)	These trading sessions are specific to NYSE MatchPoint Only.	N	<i>Session 2 (9:45am EST) 336 = P1 Session 3 (10:00am EST) 336 = P2 Session 4 (11:00am EST) 336 = P3 Session 5 (12:00pm EST) 336 = P4</i>

Tag	Field	Description	Required	Values
				<i>Session 6 (1:00pm EST) 336 = P5</i> <i>Session 7 (2:00pm EST) 336 = P6</i> <i>Session 8 (3:00pm EST) 336 = P7</i> <b>Session 10 (4:45pm EST) 336 = P10</b>  <b>Bold: Currently Available</b>  <i>Italic: Currently not available</i>

### **MatchPoint Execution Report**

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a MatchPoint New Order – Single message. Any other fields specified in the message are ignored.

Tag	Field Name	Description	Required	Values
128	DeliverToCompID	NYSE firm mnemonic	Y	Value specified on the order
50	SenderSubID	Client will receive value specified in TargetSubID on order.	Y	ARCA
57	TargetSubID	Client will receive value specified in SenderSubID on order.	Y (if specified by client on order)	User Specified up to 10 characters
52	SendingTime	Time sent by FIX Gateway	Y	Time specified in UTC time. Yyyymmdd-HH-MM-SS
11	ClOrdID	ClOrdID of the order	Y	Customer defined specified up to 30 characters
41	OrigClOrdID	ClOrdID of the order	Y (on	Customer

Tag	Field Name	Description	Required	Values
		being cancelled	responses to cancel requests)	defined, up to 30 characters
30	LastMkt	Designates system of execution	Y	MP – MatchPoint
37	OrderID	OrderID assigned by MatchPoint	Y	Numerical up to 10 characters
17	ExecID	ExecID assigned by MatchPoint	Y	Numerical up to 10 characters
39	OrdStatus	Indicates status of order (Fix 4.0) or Indicates status or message (Fix 4.1 and 4.2)		0=New 1=Partially Filled 2=Filled 3=Done For Day 4=Cancelled 6=Pending 8=Rejected
150	ExecType	Indicates status of order(Fix 4.1 and 4.2 only)	Y	0=New 1=Partially Filled 2=Filled 3=Done For Day 4=Cancelled 6=Pending 8=Rejected
20	ExecTransType	Identifies transaction type, required by FIX	Y	0=New
1	Account	If this field is present, we copy the information into execution messages referring to this order.	N	User specified up to 10 characters
55	Symbol		Y	
65	SymbolSfx		N	
54	Side	Side of order	Y	Same values supported for order
38	OrderQty	Indicates share quantity on order	Y	Same values supported for order
40	OrdType	Indicates order type of order	Y	Same values supported for order

Tag	Field Name	Description	Required	Values
44	Price	Indicates price on order in decimals	Y(on limit order only)	Same values supported for order
59	TimeInForce	If a value is not present in this field, the default is Day.	N	Same values supported for order
31	LastPx	Indicates price of fill	Y	.001-999999999.9999
32	LastShares	Indicates quantity of fill	Y	Same quantity range as order
14	CumQty	Indicates total quantity of fills on open order	Y	Same quantity range as order
6	AvgPx	Indicates Average Price of fills on order	Y	001-999999999.9999
151	LeavesQty	Indicates open shares remaining on order	Y	Same quantity range as order
60	TransactTime	Indicates time of transaction on ack or fill	Y	Time specified in UTC time. YYYYMMDD -HH:MM:SS
58	Text	Additional description of message	Y	

### **MatchPoint Cancel Request**

In addition to requirements for the standard FIX message header, only the following fields are used by the application layer for a MatchPoint Order Cancel message. Any other fields specified in the message are ignored.

Tag	Field	Description	Required	Values
115	OnBehalfOfCompID	Must match value of the original order	Y	NYSE-Assigned Firm mnemonic
50	SenderSubID	Must match value of the original order	N	Customer defined.
57	TargetSubID	Must match value of the original order	Y	ARCA
128	DeliverToCompID	Must match value of the original order	Y	MP

Tag	Field	Description	Required	Values
52	SendingTime		Y	Time in UTC format. YYYYMMDD-HH:MM:SS
11	CIOrdID	This field contains the ID assigned to the order by the firm and must not match the CIOrdID of the original order or any CIOrdID of any order or cancel that day.	Y	Customer Defined <= 30 characters
41	OrigCIOrdID	This value must match the CIOrdID of the original order	Y	User specified up to 30 characters
583	CIOrdLinkID	Must match value of the original order  Even if one is not sent on the original order, this will be returned on the Cancelled message with the Auto created MP Portfolio Reference Value.	Y (required for baskets only)	Customer defined <= 5 Characters
55	Symbol	Must match value of the original order	Y	Valid Symbol
65	SymbolSfx	Must match value of the original order	N	Valid Suffix value
54	Side	Must match value of the original order	Y	1= Buy 2= Sell 5= Sell Short
38	OrderQty	Must match value of the original order	Y	1-999,999
40	OrdType	Must match value of the original order	Y	1=Market 2=Limit
44	Price	Must match value of the original order	Y	.01-99999.99

Tag	Field	Description	Required	Values
59	TimeInForce	Must match value of the original order	N	0=Day
110	MinQty	Must match value of the original order	N	Default to 100 shares
386	NoTradingSessions	Must match value of the original order	N	1
336	TradingSessionID (this is a repeating group)	These trading sessions are specific to NYSE MatchPoint Only.	N	<i>Session 2 (9:45am EST) 336 = P1</i> <i>Session 3 (10:00am EST) 336 = P2</i> <i>Session 4 (11:00am EST) 336 = P3</i> <i>Session 5 (12:00pm EST) 336 = P4</i> <i>Session 6 (1:00pm EST) 336 = P5</i> <i>Session 7 (2:00pm EST) 336 = P6</i> <i>Session 8 (3:00pm EST) 336 = P7</i> <b>Session 10 (4:45pm EST) 336 = P10</b>  <b>Bold: Currently Available</b>  <i>Italic: Currently not available</i>

## **FIX and Web Interface Trader Capacity Account Codes**

### **Description**

Member firms submitting orders to MatchPoint must provide the Trader Capacity value within FIX Tag 47 for each order. If Tag 47 is empty or incorrect, the order will be rejected. There are a total of 16 valid values for Tag 47 (see table below).

<b>TAG 47 Values and Definitions</b>	
<b>Value</b>	<b>Definition</b>
A	Agency single order
C	Proprietary, Non-Algorithmic Program Trade (non-index arbitrage)
D	Program Order, index arb, for Member firm/org
I	Individual Investor, single order
J	Proprietary, Algorithmic Program Trading (non-index arbitrage)
K	Agency, Algorithmic Program Trading (non-index arbitrage)
M	Program Order, index arb, agent for other member
N	Agent for other Member, Non-Algorithmic Program Trade (non-index arbitrage)
O	Proprietary transactions for competing market-maker that is affiliated with the clearing member
P	Principal
R	Transactions for the account of a non-member competing market maker
S	Specialist trades
T	Transactions for the account of an unaffiliated member's competing market
U	Agency, Index Arbitrage
W	All other orders as agent for other member
Y	Agency, Non-Algorithmic Program Trade (non-index arbitrage)

The MatchPoint web interface may only be utilized for Agency order flow. Therefore, all orders entered via the web interface will have 'A' (Agency) as the default Trader Capacity value.

MatchPoint FIX Test and Production Support +1 888 689 7739, Option 1  
 E-Mail: [Connectivity@nyx.com](mailto:Connectivity@nyx.com)

MatchPoint Trading and Operational Support +1 866 699 9464