Client FIX specification

Version 3.0

Contents

Revision history

Version	Description	Last Update
1.0	First version of document.	
2.0	* New tags can be added to outgoing messages without additional notification. * Order session sequence numbers are reset daily on trading session start. * Support for band quotes only. * Support for tag 265 “MDUpdateType” in Market data request message. * Tag 110 “MinQty” added in Market data snapshot message (35=W). * Updated description of tag 271 “MDEntrySize” in Market data snapshot message (35=W). * Support for Market Data Incremental Refresh message (35=X). * Support for new TimeInForce (59=4, FOK) in New order single message (35=D). * Updated possible values of tag 150 “ExecType” in Execution report message (35=8). * Order cancel replace message (35=G) is no longer supported. * Updated possible values of tag 434 “CxlRejResponseTo” in Order cancel reject message (35 = 9). * Conformance testing process was updated.	17-10-2016
2.0.1	Limited the symbol set allowed for ClOrdID(11) in New order single and Order cancel request messages	04-07-2017
2.0.2	ClientID (109) added in New order single, Order cancel request, Execution report and Order cancel reject messages.	29-08-2017
2.0.3	NTProNeedQuoteTime (10010) added to Market Data Request.NTProQuoteTime (10011) added to Market Data Snapshot and Market Data Incremental Refresh messages.	21-09-2017
2.0.4	Tags OrderQty (38) in New order single and OrderQty (38), CumQty (14), LastQty (32), LeavesQty (151) in Execution report can contain fractional values. Currency (15) added to New order single and Execution report messages. CalculatedCcyLastQty (1056) added to Execution report message.	20-11-2017
2.0.4	Added support for order quotes (for technical clients only).NTProQuotesType (10012) added to Market data request.	01-03-2018
2.0.5	Password (554) added in Logon message.	
2.0.5	Updated description for fields LastQty(32), LastPx(31), OrderID(37), CalculatedCcyLastQty(1056), TransactTime(60), SettlDate(64)	29-01-2019
2.0.5	Updated description for Market Data Incremental Refresh message.	07-02-2019

Version	Description	Last Update
3.0	Added support for fx swaps. MDEntryPx2 (10035) added to Market Data Snapshot and Market Data Incremental Refresh messages. Price2 (640) added to New Order single. Price2 (640), SettlDate2 (193), LastPx2 (6160), LastQty2 (6808), CalculatedCcyLastQty2 (10056) added to Execution report message. Updated description for LastPx(31), OrderQty(38), OrdType(40), Price(44), Side(54), TimeInForce(59), SettlDate(64), MDEntryPx (270), CalculatedCcyLastQty(1056).	28-03-2019

Introduction

This document describes FIX specification. To take liquidity fromNTPro, the messages with “Client side” label are to be implemented. To provide prices to NTPro please implement “Server side” messages. Please feel free to contact our support team on any questions it.support@ntprog.com

New tags can be added to outgoing messages without additional notification.

Session parameters

Parameter	Value	Description
IP, Ports, SenderCompID, TargetCompID.		Ask your NTPro contact.
Heartbeat interval.	30 sec	
Trading session start time.	21:05 UTC	Trading sessions start every day except Friday and Saturday.
Trading session end time.	20:55 UTC	
Sequence numbers reset parameters.		For Market session sequence numbers are reset on each logon. For Order session sequence numbers are reset daily on trading session start.

Common messages

Message header

Tag name	Tag	Req	Description	
BeginString	8	Y	Should be “FIX.4.4”.	
BodyLength	9	Y		
MsgType	35	Y		
MsgSeqNum	34	Y		
SenderCompID	49	Y		31
TargetCompID	56	Y		31

Tag name	Tag	Req	Description	
SendingTime	52	Y	UTC time “YYYYMMDD-HH:MM:SS.mmm”.	

Message trailer

Tag name	Tag	Req	Description	Max tag length
CheckSum	10	Y		

Standard messages

Protocol supports standard FIX 4.4 messages.

- Logon (35=A)
- Heartbeat (35 = 0)
- Test request (35 = 1)
- Resend request (35 = 2)
- Session reject (35 = 3)
- Sequence reset (35 = 4)
- Logout (35 = 5)
- Trading session status (35 = h)
- Business reject (35 = j)

Logon message (35 = A)

Client should send this message to start session.

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be “A”	
EncryptMethod	98	Y	Should be «0».	
HeartBtInt	108	Y	Should be «30».	
Password	554	C	The tag is required if the password for fix client specified on the server side. Used only in client’s Logon.	32
ResetSeqNumFlag	141	N	If tag presents it should be «Y» (for market session only).	

Example:

```
8=FIX.4.4|9=66|35=A|49=Client__OM|56=NTPRO|34=1|52=20161010-05:11:14|98=0|108=30|10=119|
```

Trading session status (35 = h)

Do not send any business level messages until you receive trading session status.

Tag name	Tag	Req	Description	Max tag length
TradingSessionID	336	Y	“Market Data” or “Trade Data”.	31
TradSesStatus	340	Y	2.	

Tag name	Tag	Req	Description	Max tag length
Text	58	Y	Protocol version.	63

Example:

```
8=FIX.4.4|9=0094|35=h|49=NTPRO|56=Client__OM|34=2|52=20161010-05:11:13.652|
336=TradeData|340=2|58=version 3.0|10=125|
```

Market messages

To receive prices client should send subscription. Server can reject subscription. To stop price flow client should send unsubscription. Client can subscribe on full snapshot or incremental refresh. To provide liquidity to NTPro the only type band quotes are accepted. Order quotes liquidity style is available only for internal FixGate logins while using the specific sources.

Market data request (35 = V, Client side)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be “V”.	
MDReqID	262	Y	Unique text identifier of subscription request.	63
SubscriptionRequestType	263	Y	1 - snapshot 2 - unsubscribe.	
MarketDepth	264	Y	Should be “0” - full book.	
MDUpdateType	265	Y	0 - full refresh 1 - incremental refresh	
NoRelatedSym	146	Y	Should be “1”.	
Symbol	55	Y	Instrument symbol. Ask your NTPro contact about all supported symbols.	31
NoMDEntryTypes	267	Y	Should be “2”.	
MDEntryType	269	Y	0 - bid 1 - ask.	
NTProNeedQuoteTime	10010	N	“Y” - receive NTProQuoteTime in Market data snapshot and Market Data Incremental Refresh messages. “N” - do not receive NTProQuoteTime.	
NTProQuotesType	10012	N	1 - order quotes 2 - band quotes (by default)	

Example:

```
8=FIX.4.4|9=124|35=V|49=Client__MD|56=NTPRO|34=33|52=20161013-10:44:16|
262=CHFJPY_FULL|263=1|264=0|265=1|146=1|55=CHF/JPY|267=2|269=0|269=1|10=240|
```

Market data request reject (35 = Y, Server side)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Value is “Y”.	
MDReqID	262	Y	Id of rejected request.	63
MDReqRejReason	281	Y	Always “c” - unknown.	
Text	58	N	Reject reason text.	63

Example:

```
8=FIX.4.4|9=0101|35=Y|49=NTPRO|56=Client__MD|34=40|52=20161010-06:01:1 9.571|
262=reqDKKRUB|281=c|58=Unknown instrument|10=247|
```

Market data snapshot (35 = W, Server side)

Client receives this message after subscription and on every quote change for full refresh subscription.

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Value is “W”.	
MDReqID	262	Y	Id of subscription request.	63
Symbol	55	Y	Instrument symbol. The same as you send in request.	31
SettlDate	64	N	Instrument value date YYYYMMDD.	31
NTProQuoteTime	10011	N	Quote time in UTC YYYYMMDD-HH:MM:SS.sssssssss Tag exists if NTProNeedQuoteTime = “Y”.	
NoMDEntries	268	Y	Count of MD entries in message.	
* MDEntryType	269	Y	0 - bid, 1 - ask.	
* MDEntryPx	270	Y	Price of the order or the price of the near leg of a swap. Is used as identifier for incremental update action of order quotes (change or delete).	
* MDEntryPx2	10035	C	Far leg price (for swaps only)	
* MDEntrySize	271	Y	Max quote amount. Is used as identifier for incremental update action of band quotes (change or delete).	
* QuoteEntryID	299	C	Entry id. Required for band quotes. Not present for order quotes.	63
* MinQty	110	C	Min quote amount. Required for band quotes. Not present for order quotes.	

Example:

```
8=FIX.4.4|9=0260|35=W|49=NTPRO|56=Client__MD|34=34|52=20161013-10:44:1
7.366|262=CHFJPY_FULL|55=CHF/JPY|268=4|269=0|270=105.08|271=100000|299=0|110=0|269=0|270=105.08|
271=200000|299=1|110=100000|269=1|270=105.4|271
=100000|299=2|110=0|269=1|270=105.4|271=200000|299=3|110=100000|10=163|
```

Example (swap):

```
8=FIX.4.4|9=0202|35=W|49=NTPRO|56=Client__MD|34=3|52=20190402-
07:07:50.898|262=GBP/JPY_ON_FULL|55=GBP/JPY_ON|268=2|269=0|270=115.005|10035=115.0014|271=5000
00|299=1|110=0|269=1|270=110.008|10035=110.0052|271=500000|299=2|110=0|10=091|
```

Market data incremental refresh (35 = X, Server side)

Client receives this message on every quote change for incremental refresh subscription. When subscribing to incremental refresh, the first message received is of type Market Data Snapshot (35=W) and represents the current snapshot of the market. You can potentially receive Market Data Snapshot messages along with Market Data Incremental Refresh message.

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Value is “X”.	
MDReqID	262	Y	Id of subscription request.	63
SettlDate	64	N	Instrument value date YYYYMMDD.	31
NTProQuoteTime	10011	N	Quote time in UTC YYYYMMDD-HH:MM:SS.sssssssss Tag exists if NTProNeedQuoteTime = “Y”.	
NoMDEntries	268	Y	Count of MD entries in message.	
*MDUpdateAction	279	Y	0 - new 1 - change 2 - delete	
*MDEntryType	269	Y	Side 1 - buy (or sell/buy for swap) 2 - sell (or buy/sell for swap.)	
*MDEntryPx	270	Y	Quote price or near leg price of a swap. Is used as identifier for incremental update action of order quotes.	
*MDEntryPx2	10035	C	Far leg price (for swap)	
*MDEntrySize	271	Y	Max quote amount. Is used as identifier for incremental update action of band quotes.	
*Symbol	55	Y	Instrument symbol. The same as you send in request.	31
*MinQty	110	C	Min quote amount. Required for band quotes. Not present for order quotes.	

Example:

```
8=FIX.4.4|9=0306|35=X|49=NTPRO|56=Client__MD|34=67|52=20161013-10:57:1 8.222|
262=CHFJPY_INC|268=4|279=0|269=0|270=104.98|271=800000|55=CHF/JPY |
110=300000|279=1|269=0|270=104.98|271=1000000|55=CHF/JPY|110=800000|279 =0|
269=1|270=110.895|271=800000|55=CHF/JPY|110=300000|279=1|269=1|270=11 2.7|
271=1000000|55=CHF/JPY|110=800000|10=242|
```

Example (swap):

```
8=FIX.4.4|9=0147|35=X|49=NTPRO|56=Client__MD|34=12|52=20190402-07:10:07.956|262=GBP/JPY_ON|268=1|279=1|269=0|270=115.025|10035=115.0214|271=500000|55=GBP/JPY_ON|110=0|10=126|
```

Trading messages

All orders are executed on market price for band. On FIX session disconnect system cancel all orders which were placed in this session.

Supported order types

- **Market IOC order** - IOC order without price.
- **Market FOK order** - FOK order without price.
- **Limit IOC order** - IOC order with price.
- **Limit GTC order** - GTC order with price.
- **Limit FOK order** - FOK order with price.
- **Cancel order** - this order can cancel existing Limit GTC order.

All orders except FOK can be partially filled. For GTC orders you can take several trades. Replace orders are not supported. The only order type supported for swaps is Limit FOK.

New order single (35 = D, Client side)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be “D”.	
ClOrdID	11	Y	Unique order id. Should contain characters with ASCII code in range [33;126] (graphical characters).	63
ClientID	109	N	External client identifier. Should contain characters with ASCII code in range [33;126] (graphical characters).	63
TransactTime	60	Y	UTC time of order placing YYYYMMDD-HH:MM:SS.mmm	
Symbol	55	Y	Instrument symbol.	31
Side	54	Y	Order side. Relates to CCY1. 1 - buy or sell/buy for swap 2 - sell or buy/sell for swap.	
OrderQty	38	Y	Order amount. Can contain both integer and fractional values.	
Price	44	Y	Price of the order or the near leg price of a swap. Price is always in CCY1/CCY2 terms. For market order this field is also required but its value is ignored.	
Price2	640	C	Far leg price (for swap)	
OrdType	40	Y	1 - market(not supported for swap), 2 - limit.	
Currency	15	N	Currency of OrderQty. Can be CCY1 or CCY2. Default value is CCY1.	5
TimeInForce	59	Y	1 - GTC (good till cancel). Not supported for a swap 3 - IOC (immediately or cancel). Not supported for a swap 4 - FOK (fill or kill).	

Tag name	Tag	Req	Description	Max tag length

Example:

```
8=FIX.4.4|9=131|35=D|49=Client__OM|56=NTPRO|34=48|52=20161010-06:09:08|
11=1432714250|60=20161010-06:09:08|55=CHF/JPY|54=2|38=50000|44=50|40=2| 59=1|10=066|
```

Example (swap):

```
8=FIX.4.4|9=177|35=D|49=Client__OM|56=NTPRO|34=33|52=20190401-
13:54:46|11=910686774|55=GBP/JPY_ON|54=2|40=2|38=100000|59=4|44=105.005|15=GBP|60=20190401-
13:54:46|640=115.0014|10=039|
```

Execution report (35 = 8, Server side)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be “8”.	
AvgPx	6	Y	Average execution price.	
ClOrdID	11	Y	Client id of order.	63
OrigClOrdID	41	N	OrigClOrdID from Order cancel request.	63
ClientID	109	N	ClientID from New Order Single if it was specified.	63
CumQty	14	Y	Filled order amount in CCY from the Currency(15). Can contain fractional values.	
ExecID	17	Y	Unique id generated by system.	63
LastQty	32	C	Amount of last trade or amount of the near leg for a swap in CCY from the Currency(15). Can contain fractional values. Required for 150=F (Filled).	
LastQty2	6808	C	Amount of the far leg for a swap in CCY from the Currency(15).Can contain fractional values. Required for 150=F (Filled)	
LastPx	31	C	Price of last executed trade or rate of the near leg of a swap. Required for 150=F (Filled).Price of last executed trade. Required for 150=F (Filled).	
LastPx2	6160	C	Price of last executed trade of the far leg. Required for a swap and 150=F (Filled).	

Tag name	Tag	Req	Description	Max tag length
OrderID	37	C	Unique order id generated by system. Required if order was accepted by platform.	63
OrderQty	38	Y	Amount of the order or the near leg of a swap in CCY from the Currency(15). Can contain fractional values	
CalculatedCcyLastQty	1056	C	Amount of the last trade or the near leg of a swap in CCY opposite to the Currency(15). Calculated from LastQty, LastPx and Currency. Can contain fractional values. Required for 150=F (Filled).	
CalculatedCcyLastQty	10056	C	Amount of the last trade of the far leg in CCY opposite to the Currency(15). Calculated from LastQty2, LastPx2 and Currency. Can contain fractional values. Required for a swap and 150=F (Filled)	
OrdStatus	39	Y	Order status: 0 - new, 1 - partially filled, 2 - fill, 4 - canceled, 8 - rejected.	
OrdType	40	Y	1 - market 2 -limit	
Price	44	Y	Price of the order or the near leg of a swap	
Price	640	Y	Price of the order for the far leg of a swap	
Side	54	Y	Order side. Relates to CCY1. 1 - buy or sell/buy for swap 2 - sell or buy/sell for swap.	
Symbol	55	Y	Instrument symbol.	31
Currency	15	Y	Currency of OrderQty.	3
Text	58	N	Comment	63
TimeInForce	59	Y	1 - GTC (good till cancel) 3 - IOC (immediately or cancel) 4 - FOK (fill or kill).	
TransactTime	60	C	Order execution UTC time YYYYMMDD-HH:MM:SS.mmm Required for 150=F (Filled).	
SettlDate	64	C	Value date YYYYMMDD of an instrument or the near leg of a swap.Required for 150=F (Filled).	31
SettlDate2	193	C	Value date YYYYMMDD of the far leg of a swap. Required for 150=F (Filled).	31
OrdRejReason	103	N	Reject reason.	

Tag name	Tag	Req	Description	Max tag length
ExecType	150	Y	Execution type: 0 - new F - trade 4 - canceled 8 - rejected	
LeavesQty	151	Y	Leaves order amount in CCY from the Currency(15). Can contain fractional values. A value of '0' (zero) indicates that the order has been completed.	

Example:

```
8=FIX.4.4|9=0297|35=8|49=NTPRO|56=Client_OM|34=264|52=20171120-14:18:48.241|
6=1.17727024|11=744209969|14=12345.88|17=1116595|32=12345.88|31=1.17727| 37=cc9275ef-a791-419c-
8d28-eacae3efc27f|38=12345.88|1056=10486.87|39=2|
40=2|44=1.1799|54=1|55=EUR/USD|15=USD|59=3|60=20171120-14:18:48.241|
64=20171122|150=F|151=0|10=XXX|
```

Example (swap):

```
8=FIX.4.4|9=0374|35=8|49=NTPRO|56=Client_OM|34=80|52=20190401-
13:54:44.049|6=105.005|11=910686774|14=100000|17=3509530|32=100000|6808=100000|31=105.005|6160=115
.0014|37=65ce7599-a7a3-405e-a89a-
ddfd839c7760|38=100000|1056=10500500|10056=11500140|39=2|40=2|44=105.005|640=115.0014|54=2|55=GB
P/JPY_ON|15=GBP|59=4|60=20190401-13:54:44.048|64=20190401|193=20190402|150=F|151=0|10=057|
```

Order cancel request (35 = F, Client side)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be "F".	
ClOrdID	11	Y	Unique request id. Should contain characters with ASCII code in range [33;126] (graphical characters).	63
OrigClOrdID	41	Y	Id of order which you want to cancel.	63
ClientID	109	N	External client identifier. Should contain characters with ASCII code in range [33;126] (graphical characters).	63
Symbol	55	Y	Instrument symbol.	31
Side	54	Y	Order side: 1 - bid 2 - ask	
TransactTime	60	Y	Transact time YYYYMMDD-HH:MM:SS.mmm.	

Example:

```
8=FIX.4.4|9=120|35=F|49=Client__OM|56=NTPRO|34=52|52=20161010-06:10:46|
11=1432714251|41=1432714250|55=CHF/JPY|54=1|60=20161010-06:10:46|10=119
```

Order cancel reject (35 = 9)

Tag name	Tag	Req	Description	Max tag length
MsgType	35	Y	Should be “9”.	
OrderID	37	Y	System id, can be “NONE”.	63
ClOrdID	11	Y	Client id of rejected order.	63
OrigClOrdID	41	Y	Id of order which you ask to cancel.	63
OrdStatus	39	Y	Order status: 0 - new 1 - partially filled 2 - fill 4 - canceled 8 - rejected.	
ClientID	109	N	ClientID from Order cancel request if it was specified.	63
CxlRejResponseTo	434	Y	Type of rejected request 1 - Order cancel request	
Text	58	N	Comment	63

Example:

```
8=FIX.4.4|9=0127|35=9|49=NTPRO|56=Client__OM|34=54|52=20161010-06:11:05.465|
37=NONE|11=1432714252|41=1432714250|39=8|434=1|58=no original order|10=246|
```

Conformance testing for Client side.

Please pass through the following acceptance tests to connectNTPro trading system. If your system does not support one or more cases just skip it and inform accordingly.

1. Session level
   i. Establish market and trading sessions.
   ii. Disconnect and connect again. Check that sequence numbers are not reset for order session.
   iii. Establish order session with seqnum higher than expected. Check the Resend request procedure.
2. Market session
   i. Subscribe for several instruments.
   ii. Unsubscribe for several instruments.
   iii. Receive prices for any instrument.
   iv. Subscribe for swap instrument.
   v. Receive prices for swap instrument.
3. Order session
   i. Orders
      a. Place market IOC order.
      b. Place market FOK order.
      c. Place limit IOC order.

d. Place limit FOK order.
e. Place limit FOK order (swap instrument).
f. Place any order which will be rejected.
g. Place limit GTC order.
h. Cancel limit GTC order.

ii. Trades
a. Make trade with quantity in CCY1.
b. Make trade with quantity in CCY2.
c. Make swap trade in CCY1.
d. Make swap trade in CCY2.
e. Make trade with fractional quantity.
f. Make trade with partial filled of limit IOC order (please contact Support service to learn how).

If you are going to provide liquidity intoNTPro, the prior conformance scenario is performed byNTPro Support service.