

Ouch 3.0 US Treasury Specification for Firm LP

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1 Introduction

1.1 Purpose

This document presents the OUCH protocol subset used by the Currenex Orders service.

With the number of messages sent expected to at least double yearly, high-performance processing and networking are imperative to timely order messages delivery.

The Currenex OUCH service is delivered over reliable high-speed physical networks such as LAN cross connects or metro area direct circuits. It is not supported on Internet or other lower performance connections.

The following OUCH features

- No Compression:
 - Less processing time
 - Reduced latency
- Fixed Field Sizes:
 - Faster message parsing
 - Reduced memory management
- Integers Values
 - Where possible to suit faster message parsing
 - Enable end-to-end maximized scale performance for customers co-located in the Currenex datacenter.

2 Product Offering

OUCH supports following order types:

- Limit
- Iceberg

3 Protocol

OUCH uses the TCP protocol to process Market Participant (MP) submitted orders.

4 Message Data

An individual block is never larger than 1,000 bytes, but blocks can be sent out in groups exceeding 1,000 bytes in size.

4.1 Message Data Delimiters

The start and end of a message block are indicated by the one (1) byte ASCII character code decimal equivalents for “SOH” (1) and “ETX” (3):

- SOH (1) – indicates message block start
- ETX (3) – indicates message block end

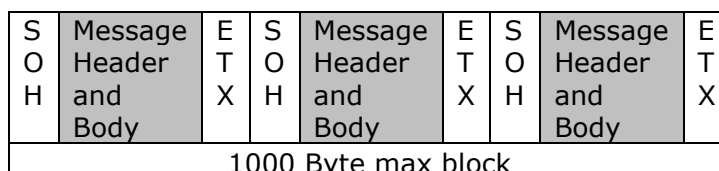


Figure 1: Sample Message Block Layout

4.2 Message Data

4.2.1 Integer, Long, Short

All integer, long and short fields are signed big-endian binary encoded numbers transmitted in network byte order.

4.2.2 Amount

Amount uses Long as a transfer data type, meaning it is an 8 bytes (64-bit) signed number with a minimum value of -9,223,372,036,854,775,808 and a maximum value of 9,223,372,036,854,775,807, inclusive.

Zero (0) is a valid value for some amount related fields; e.g., MinAmt. Amount values less than zero (0) are not valid.

Amounts associated with Itch US Treasury rates are always the notional amount of the instrument.

To account for values to the right of the decimal place, the amount value is a two (2) decimal place scaled value.

A decimal amount of 1,000,000.00 (1M) in notional amount would be represented as 0x5F5E100.

4.2.2.1 Outright Instruments

Amounts associated with Outright US Treasury instrument rates are always the notional amount of the instrument.

To account for values to the right of the decimal place, the amount value is a two (2) decimal place scaled value.

A decimal amount of 1,000,000.00 (1M) in notional amount would be represented as 0x5F5E100.

4.2.2.2 Spread Instruments

Amounts associated with Spread US Treasury instrument rates are always expressed in the integer number of contracts of that spread instrument.

Users should consult the Instrument Info message for the Spread Instrument to obtain the notional amount for each underlying leg that would be bought or sold for each one unit of the spread instrument purchased.

4.2.3 Rate

Rate fields are delivered as hexadecimal numbers. They are scaled to nine (9) places to the right of the decimal point into Long fields by multiplying 10^9 . E.g., 99.001953125 is represented as 0x170CF9EB65 or 99001953125 in decimal format. The maximum rate value allowed is 0x8000000000000000 or 9223372036854775807 in decimal, which represents a very high rate of 9223372036.854775807.

For a US Treasury instrument, bid and offer prices are quoted as a price as a percentage of par.

Information on the US Treasury instrument can be extracted from the “Instrument Info” message’s InstrumentID field.

4.2.4 Date / Time

Dates and times are handled as longs and counted in milliseconds from January 1, 1970 midnight coordinated universal time (UTC), more commonly known as Greenwich Mean Time (GMT).

There are three (3) types of date and timestamp reporting:

1. Message Header Timestamp: Is the number of milliseconds past midnight GMT on the current day.
2. Trade Message SettleDate/IssueDate/MaturityDate: those dates measured as the number of milliseconds from Jan 1, 1970 GMT.
3. Trade Message TradeDate: Trade date measured as milliseconds since Jan 1, 1970 GMT.

Note: Value date changes are applied at 5:30 PM ET

4.2.5 Text

The “Text” field can vary in size, contains alphanumeric characters and is left justified padded with spaces on the right.

5 Session

5.1 Open Session

A session is created after a MP submits a Logon message to Currenex and receives a Logon message in response from Currenex.

5.1.1 Incoming Sequence Number

A Logon message to Currenex must always be sent with sequence number set to one (1) on every session. The sequence number should increment by one (1) on every next incoming message.

NOTE: In the event an unexpected sequence number is detected in the message flow, the session will be closed and Logout message will be sent with error code = A10.

5.2 Terminate Session

Currenex or a MP can terminate a session by sending a Logout message. The recipient of a Logout message should respond with its own Logout message.

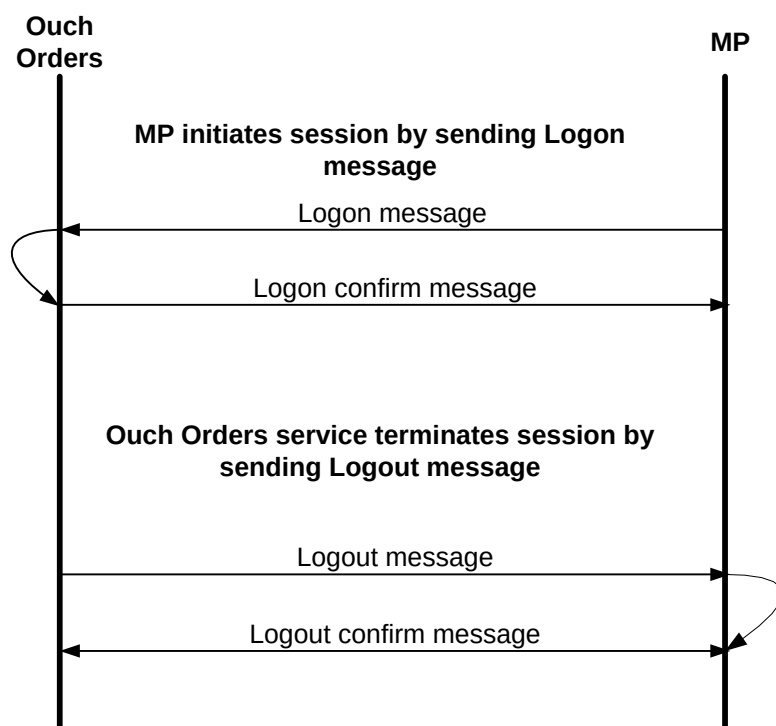


Figure 2: Initiate and Terminate Session

5.3 Heartbeat Messages

To ensure OUCH session integrity, Currenex sends a HeartBeat (HB) message every three (3) seconds. Upon receipt, a user must respond with its own HB message. Currenex will wait three (3) seconds for this response. If none is received, it will send another HB, again waiting three (3) seconds for a response. If again no HB response is received, the session will be treated as inactive and explicitly closed by Currenex.

In effect, if two (2) consecutive HB message responses from a client are missed, Currenex will treat the session as inactive and close it.

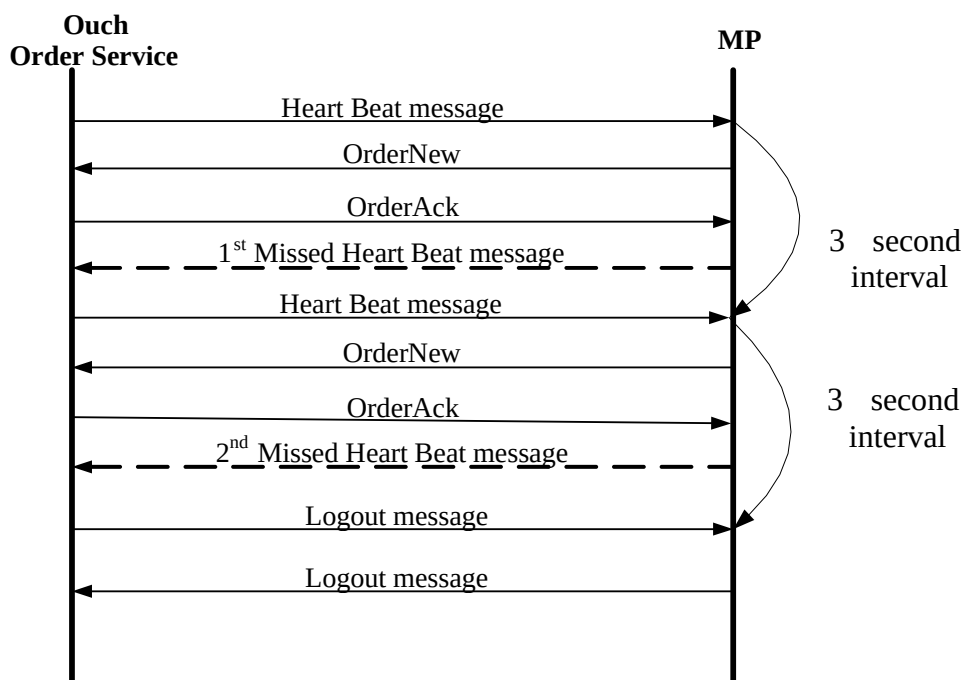


Figure 3: Missed Heartbeat Messages

5.4 Handling Invalid Messages

Currenex will respond with a Reject message to incorrectly formatted messages; messages with invalid headers will be dropped.

5.5 Persistence

Ouch persistence provides a means to receive missed order events if the connection to Currenex is lost or disconnects. An Ouch session, once created at the beginning of the trading week, will exist across multiple sequential physical connections. The outbound (from Currenex to client) sequence numbers of a new physical connection will continue from the current position of the persistent session. On reconnect the client can use the logon confirmation message sequence number to detect a gap since the last received message and send a resend request to obtain missed messages.

Please contact your Currenex account manager or Currenex Customer Support, support@currenex.com, to be configured for persistence.

5.5.1 Description

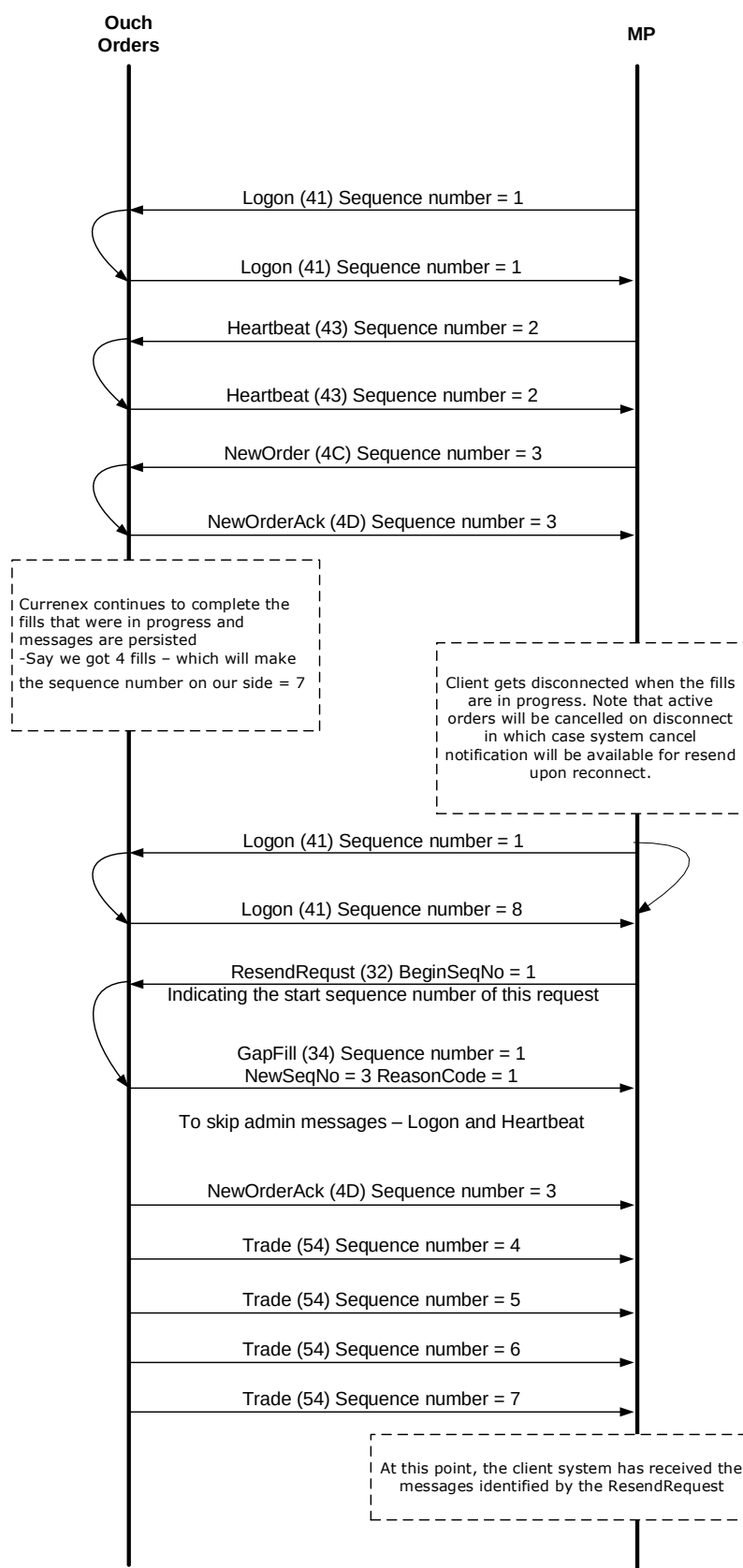
If on reconnection the client detects a gap in the sequence number, the client application can request all messages it missed using the message ResendRequest. The Currenex system then will retransmit persisted messages based on the request. The amount of messages retained is configurable.

All available requested messages will be resent exactly as they were originally sent (or enqueued) with the original sequence number and send timestamp, with the exception of Logon, Logout, and Heartbeat. A GapFill message with ReasonCode = NOT_RESENDABLE will be sent in lieu of these administrative messages. A GapFill message with ReasonCode = NOT_AVAILABLE will be sent in lieu of messages that are no longer available because they either fell outside of the configured retention window or were lost due to some serious system failure. Client should avoid submitting subsequent ResendRequest messages. This will simply replace the prior ResendRequest resulting in a delay of normal processing. Currenex will never send ResendRequest to a client.

5.5.2 Persistence and Performance

Persistence will have no adverse impact on the performance of an OUCH session. While a replay is underway, the incoming messages will be handled as normal; however, the outgoing notifications for new events will be queued until the replay is complete. The client might experience a delay depending on the duration of retransmission requested.

5.5.3 ResendRequest Message Flow



6 Instrument Information

After a successful Logon, a MP must send an “Instrument Info Request” message to which Currenex will respond with a series of “Instrument Info” messages. Instrument Info messages are sent for outright instruments using message type “D”. Instrument Info messages are sent for Spread Instruments using message type “e”. Each of these messages will detail the supported instruments and contain a field called “InstrumentInfoID” to uniquely identify a combination of Instrument, Side and Order Stream Reference. This unique identifier present in InstrumentInfoID must be used as a pointer in all subsequent order related messages.

Note: The ‘InstrumentInfoID’ returned in the ‘Instrument Info’ message is static for the scope of the session, only. The same value is not guaranteed to be used for a currency pair from session to session or across Ouch and ITCH services.

7 Order Stream Reference

The StreamReferenceID field in the InstrumentInfo message is used to provide the identification of the stream that has this instrument related information configured. Presently, Currenex supports assignment of a session to a single order stream only.

8 Liquidity Management User Identifier (LMUID)

Enabled Firm LPs can receive a Liquidity Management User Identifier (LMUID) in trade execution confirm messages. Revealed in confirmed trade messages, only, the LMUID lets a Firm LP configure its liquidity at a more granular level.

9 Orders

9.1 Order Types

OUCH provides support for following order types:

- Limit
- Iceberg

9.2 Orders Message Flow

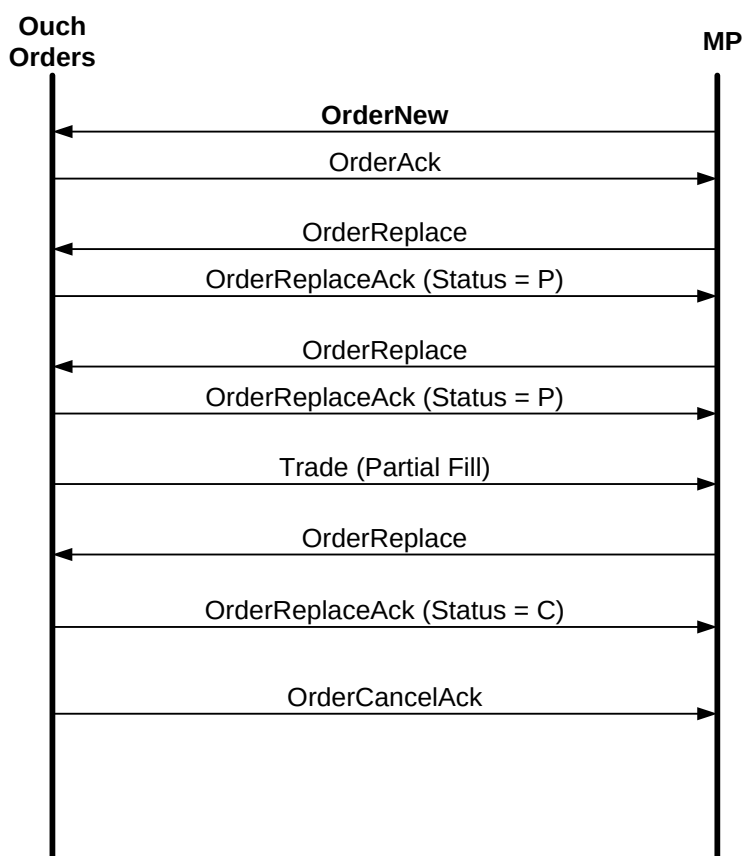


Figure 4: Basic Order Flow Example

9.3 Replace or Cancel Orders

OUCH provides support for cancel or replace order requests. Requests to cancel or replace orders no longer active will be rejected. If a replace request is made using the ReplaceOrCancel message ("P") on an order that has already been partially filled, the outstanding amount on that order will be cancelled. To replace the unfilled portion of a partially filled order, the ReplaceEvenIfPartiallyFilled message ("S") must be used.

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The following fields can be modified on an order replace:

- Amount
- Rate

Both the Amount and Rate must be specified in a replace request, even if one of the values is unchanged.

9.3.1 Cancel Replace Acknowledgement Status

If in response to an Order ReplaceorCancel message an OrderReplaceAck message is received with Status = "C", it indicates the order is already in process. The outstanding order can be filled in its entirety, cancelled in its entirety, or partially filled with the remainder cancelled, but a successful replace can no longer occur.

A separate confirmation report is always sent, so if the order had been cancelled a separate cancel message will be sent. If it is filled, a Trade report will be sent out.

9.4 Order Replace Even if Partially Filled

OUCH provides support for replacing orders regardless of whether the order has been partially filled. If the order has been partially filled, only the unfilled portion of the order will be replaced. This is done using the ReplaceEvenIfPartiallyFilled message ("S").

The following fields can be modified on an order replace:

- Amount
- Rate

When an order is replaced, the replace amount represents the entire order amount, including the portion that has already been partially filled. Thus, the replace amount must be greater than the amount already filled.

An OrderReplaceAck message with Status = "P" is returned in response to a ReplaceEvenIfPartiallyFilled message when the replace has been successful.

An OrderReplaceAck message with Status = "C" indicates the order is in process and is expected to be completely filled. It will be followed by a CancelOrderReject message indicating the replace was not successful.

An OrderReplaceAck message with Status = "R" indicates the request has been rejected due to the target order not being active.

9.5 Pending Fill and Cancel Workflow

The receipt of pending fill and resulting messages is an optional workflow. If not enabled, users receive only trade message (message type T for trades on outright instruments and message type F for trades on Spread Instruments) upon completion of trade. When pending fill workflow is enabled, users will receive pending fill message (message type U), followed by trade (message type t for trades on outright instruments or message type f for trades on spread instruments) after completion of trade.

9.5.1 Trade Pending Fill followed by Trade Confirm

The Pending Fill (U x55) will be sent to the client when the order is matched within Currenex matching engine. It will be ahead of the actual trade message (message type t for trades on outright instruments or message type f for trades on spread instruments) serving as an indication that the order is matched. The Pending Fill and Trade messages (message type t or f) can be linked with TradeLinkID. Note that the TradeLinkID is only unique within the scope of the order.

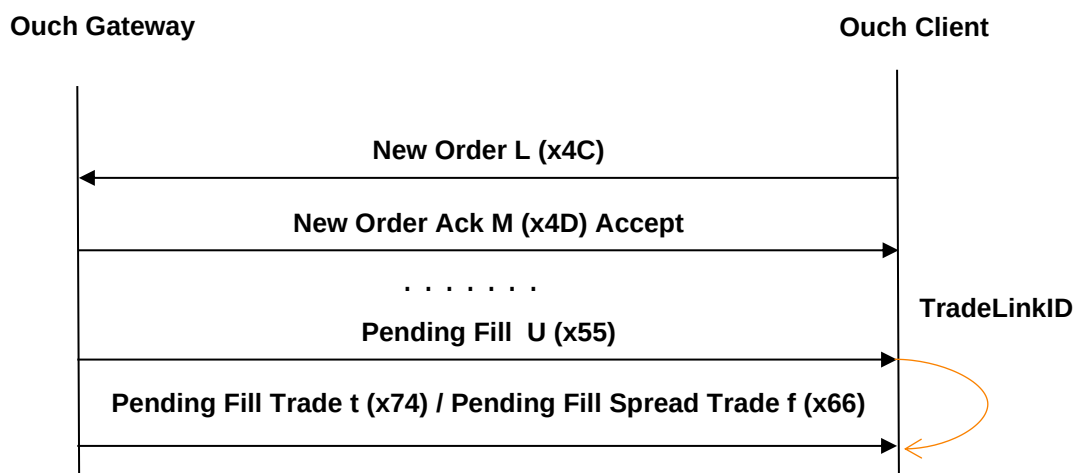


Figure 5: Pending Fill Followed by Trade Confirm

9.5.2 Trade Pending Fill followed by Pending Fill Cancel

After an order is matched, due to any reason if the matching engine could not complete the fill process, a Pending Fill Cancel (V x56) will be sent to the client. The order could be matched again. The Pending Fill and Fill Cancel can be linked with TradeLinkID.

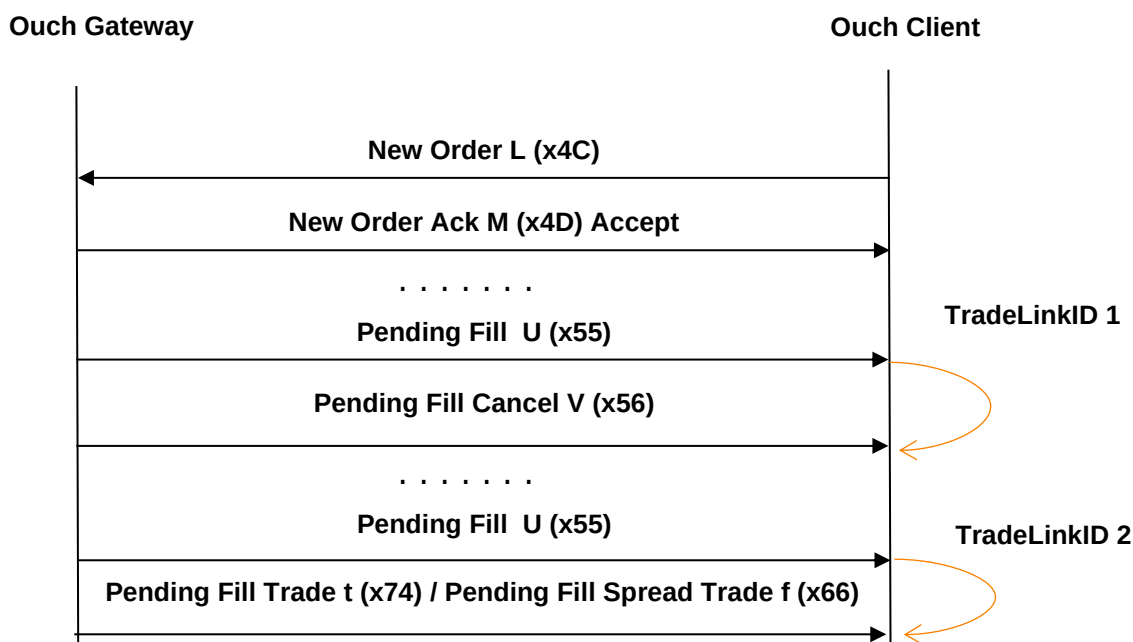


Figure 6: Pending Fill Followed by Cancel

9.6 Residual Amounts

If after a series of partial fills an order is left with an outstanding residual amount for less than one minimum order size, this amount will automatically be canceled by the system. Currenex will send an Order Canceled Message, Message Type R (x52), with "Type" set to 2 = "Below minimum cancel" to indicate the residual amount has been canceled.

9.7 Session Logouts and Disconnects

Currenex configures all OUCH ids with the "Cancel Orders upon Disconnect" feature enabled so that all active orders are canceled in the event of a logout or unplanned session termination. If a client prefers to maintain outstanding orders past a session's termination, this feature can be turned off upon request.

NOTE: an order that has been matched on a price just prior to a session's logoff or termination can still be filled even if the "Cancel Orders upon Disconnect" feature is on. To ensure accounting for all trades, Currenex recommends that its FIX Straight-through-Processing (STP) service, a separate guaranteed completed trade delivery service, be used.

10 Message Header

Field Name	Offset	Length	Type	Description	Example
Sequence number	0	4	Integer	Directional session based sequence number.	BC614E _{hex} (12345678 _{dec})
Timestamp	4	4	Integer	Number of milliseconds past midnight.	7BF7C5 _{hex} (8124357 _{dec} -milliseconds or 2hr 15min 24secs and 357millis)
Message Type	8	1	Alpha	Type of the message following this header	41 _{hex} A _{char}

11 Messages

11.1 Logon (61)

Field Name	Offset	Length	Type	Description	Example
UserID	9	20	Alpha	User session login id	4162635573657202020202020202020202020202020 _{hex} (AbcUser _{char})
Password	29	20	Alpha	User password	313233707377642020202020202020202020202020 _{hex} (123pswd _{char})
SessionID	49	4	Integer	Unique session ID provided by Currenex. NOTE: This field is only used by Currenex in response to Logon requests.	0000051b _{hex} (1307 _{dec})
Version	53	2	Short	Specifies the version of the service being requested. Supported version: 300 – Exclusively for Firm LP users	012C _{hex} (300 _{short})

11.2 Logout (42)

Message Type B (x42) - Logout					
Field Name	Offset	Length	Type	Description	Example
UserID	9	20	Alpha	User session login id	41626355736572020202020 2020202020202020 hex (AbcUser_{char})
SessionID	29	4	Integer	Unique session ID provided by Currenex.	0000051b _{hex} (1307 _{dec})
Reason	33	3	Alpha	For full list of Logout Message Error Codes, refer to Appendix B.	

11.3 Heartbeat (43)

Message Type C (x43) - Heart Beat					
Field Name	Offset	Length	Type	Description	Example
SessionID	9	4	Integer	Unique session ID provided by Currenex.	0000051b _{hex} (1307 _{dec})

11.4 InstrumentInfoRequest (45)

Message Type E (x45)- Instrument Info Request					
Field Name	Offset	Length	Type	Description	Example
SessionID	9	4	Integer	Unique session ID provided by Currenex.	0000051b _{hex} (1307 _{dec})

11.5 Outright InstrumentInfo (44)

Message Type D (x44) - Instrument Info					
Field Name	Offset	Length	Type	Description	Example
SessionID	9	4	Integer	Unique session ID provided by Currenex.	0000051b _{hex} (1307 _{dec})
InstrumentInfoID	13	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
InstrumentIndex	17	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex} (5 _{dec})
InstrumentType	19	1	Alpha	Instrument Type: 31 _{hex} (1 _{char})- Foreign Exchange 32 _{hex} (2 _{char})- Cash Metals 33 _{hex} (3 _{char})- Treasury	33 _{hex} (3 _{char})
InstrumentID	20	20	Alpha	Free form instrument definition string.	4f54522d325952 _{hex} (OTR-2YR _{char})
InstrumentState	40	10	Alpha	Instrument State Supported values: 5749 _{hex} (W1 _{char}) – when-issued 4f5452 _{hex} (OTR _{char}) – On-the-Run contracts 4f4c44 _{hex} (OLD _{char}) – first Off-the-Run contracts 4f4c44 _{hex} (n) (OLD(n) _{char}) – other Off-the-Run contracts where n is from 1 to 60	4f4c44202020202020 _{hex} (OLD _{char})
InstrumentTenor	50	10	Alpha	Instrument Tenor	32591f _{hex} (2Y _{char})
SecurityID	60	9	Alpha	CUSIP	393132373935354732 _{hex} (9127955G2 _{char})
SecurityType	69	1	Alpha	31 _{hex} (49 _{dec}) = TBill 32 _{hex} (50 _{dec}) = TNote 33 _{hex} (51 _{dec}) = TBond	31 _{hex} (49 _{dec})
Coupon Rate	70	8	Long	Coupon Rate NOTE: in case of coupon rate being absent. 0 will be set as the value.	1CBBF2F34E _{hex} (123.412345678 _{dec})
Price Type	78	1	Alpha	Supported Values: 31 _{hex} (1 _{char})=Price (percent of par) 32 _{hex} (2 _{char})=Discount 33 _{hex} (3 _{char})=Yield	31 _{hex} (1 _{char})
Tick Size	79	8	Long	Acceptable price increment for instrument. Specified in terms of either Price, Discount Rate or Yield based on the value in Price Type	
SettlementDate	87	8	Long	Settlement date in milliseconds since Jan 1, 1970 GMT	00000139061b0e00 _{hex} (20120808-12:00:00,000 _{dec})

Information Classification: Confidential

Message Type D (x44) - Instrument Info					
Field Name	Offset	Length	Type	Description	Example
MaturityDate	95	8	Long	Date of Maturity in in milliseconds since Jan 1, 1970 GMT NOTE: in case of maturity date being absent. 0 will be set as the value.	0000013c00483e00 _{hex} (20130103-12:00:00,000 _{dec})
IssueDate	103	8	Long	Date on which offering is issued in milliseconds since Jan 1, 1970 GMT NOTE: in case of issue date being absent. 0 will be set as the value.	3c00483e00000001 _{hex} (1370093420514-09:34:08,000 _{dec})
Side	111	1	Byte	31 _{hex} (1 _{char}) – Bid 32 _{hex} (2 _{char}) – Offer	32 _{hex} (2 _{char})
StreamReferenceID	112	20	Alpha	Order Stream Reference ID	505330312020 202020202020 202020202020 2020 _{hex} (PS01 _{char})

11.6 Spread InstrumentInfo (65)

Message Type e (x65) – Spread Instrument Info					
Field Name	Offset	Length	Type	Description	Example
SessionID	9	4	Integer	Unique session ID provided by Currenex.	0000051b _{hex} (1307 _{dec})
InstrumentInfoID	13	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
InstrumentIndex	17	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex} (5 _{dec})
InstrumentType	19	1	Alpha	Instrument Type: 31 _{hex} (1 _{char}) – MLEG	31 _{hex} (1 _{char})
InstrumentID	20	20	Alpha	Free form instrument definition string.	4f54522f4f54522f412d3259 522f335952 _{hex}
InstrumentState	40	15	Alpha	Instrument State	4f5452 2f4f54522f41 _{hex} (OTR/OTR/A _{char})
InstrumentTenor	55	10	Alpha	Instrument Tenor	32592f3359 _{hex} (2Y/3Y _{char})
InstrumentTickSize	65	8	Rate	Tick Size on the Spread Instrument. Values set as follows: • WI Rolls = 0.125	2FAF080 _{hex} (0.05 _{dec})

Information Classification: Confidential

Message Type e (x65) – Spread Instrument Info					
Field Name	Offset	Length	Type	Description	Example
				All others = 0.05	
AnchorLegInstrumentIndex	73	2	Short	Numeric identifier for underlying Anchor Leg instrument identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0201 _{hex}
AnchorLegInstrumentID	75	10	Alpha	Free form instrument definition string.	4f54522d3259 _{hex} (OTR-2Y _{char})
AnchorLegInstrumentState	85	10	Alpha	Underlying Anchor Leg Instrument State	4f545220202020202020 _{hex} (OTR _{char})
AnchorLegInstrumentTenor	95	5	Alpha	Underlying Anchor Leg Instrument Tenor	32591f _{hex} (2Y _{char})
AnchorLegSecurityID	100	9	Alpha	CUSIP of the Anchor leg	393132373935354732 _{hex} (9127955G2 _{char})
AnchorLegRatio	109	8	Amount	Quantity of Underlying Anchor leg for each 1 unit of Spread Instrument	0000000000f4240 _{hex} (1000000 _{dec})
AnchorLegSide	117	1	Alpha	Direction of interest on underlying anchor leg for a buy of the spread instrument B _{char} (42 _{hex}) = Buy S _{char} (53 _{hex}) = Sell	42 _{hex} (B _{char})
AnchorLegMaturityDate	118	8	Long	Maturity Date of Anchor Leg	Anchor Leg Maturity Date
AnchorLegIssueDate	126	8	Long	Issue Date of Anchor Leg	Anchor Leg Issue Date
AnchorLegCouponRate	134	8	Long	Coupon Rate of Anchor Leg	Anchor Leg Coupon Rate
CalculatedLegInstrumentIndex	142	2	Short	Numeric identifier for underlying Calculated Leg instrument identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	01f9 _{hex}
CalculatedLegInstrumentID	144	10	Alpha	Free form instrument definition string.	4f54522d3359 _{hex} (OTR-3Y _{char})
CalculatedLegInstrumentState	154	10	Alpha	Underlying Calculated Leg Instrument State	4f545220202020202020 _{hex} (OTR _{char})
CalculatedLegInstrumentTenor	164	5	Alpha	Underlying Calculated Leg Instrument Tenor	33591f _{hex} (3Y _{char})
CalculatedLegSecurityID	169	9	Alpha	CUSIP of the Calculated leg	393132373935354732 _{hex} (9127955G2 _{char})
CalculatedLegRatio	178	8	Amount	Quantity of Underlying Calculated leg for each 1 unit of Spread Instrument	0000000000f4240 _{hex} (1000000 _{dec})
CalculatedLegSide	186	1	Alpha	Direction of interest on underlying calculated leg for a buy of the spread instrument B _{char} (42 _{hex}) = Buy S _{char} (53 _{hex}) = Sell	S _{char} (53 _{hex})

Information Classification: Confidential

Message Type e (x65) – Spread Instrument Info					
Field Name	Offset	Length	Type	Description	Example
CalculatedLeg MaturityDate	187	8	Long	Maturity Date of Calculated Leg	
CalculatedLeg IssueDate	195	8	Long	Issue Date of Calculated Leg	
CalculatedLeg CouponRate	203	8	Long	Coupon Rate of Calculated Leg	
Side	211	1	Byte	31 _{hex} (1 _{char}) – Bid 32 _{hex} (2 _{char}) – Offer	32 _{hex} (2 _{char})
StreamReferenceID	212	20	Alpha	Order Stream Reference ID	505330312020 202020202020 202020202020 2020 _{hex} (PS01 _{char})

11.7 NewOrder (4C)

Message Type L (x4C) - NewOrderRequest					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned order id.	1bc4e9ef _{hex} (465889775 _{dec})
OrderType	13	1	Alpha	Order type, values: F _{char} (46 _{hex}) - Limit Order Z _{char} (5a _{hex}) - Iceberg	46 _{hex} (F _{char})
InstrumentInfoID	14	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
OrderAmt	18	8	Long	Order amount in notional amount scaled to two (2) places	0000000003d0b27 _{hex} (40,005.51 _{dec})
MinAmt	26	8	Long	Minimum quantity for which order can be executed.	0000000003d0900 _{hex} (40000.00 _{dec})
Price	34	8	Rate	Order rate. Divide decimal equivalent by 10 ⁹ to get the actual rate.	000000170CF9EB65 _{hex} (99.001953125 _{dec})
ShowAmt	42	8	Long	On Iceberg orders, the amount of the order that will be displayed to the market. Valid values are MinAmt <= ShowAmt <= OrderAmt, or if set to 0, the order becomes hidden; i.e. is not shown in the market. For Limit orders, all values are ignored.	000000007ffffff _{hex} (21,474,836.47 _{dec})
ExpireType	50	1	Alpha	Expiration type, values: G _{char} (47 _{hex}) - Good Till Cancel (GTC) I _{char} (49 _{hex}) - Immediate Or Cancel (IOC) sweeps book once, if no match is found the order is canceled. Partial fills are permitted.	47 _{hex} (G _{char})

11.8 NewOrderAck (4D)

Message Type M (x4D) – NewOrderAck					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned order id.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order. Note: set to "-1" in case of reject.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
Status	21	1	Alpha	New Order acknowledge type, values: R _{char} (52 _{hex}) - rejected C _{char} (43 _{hex}) - confirmed	43 _{hex} (C _{char})
ErrorCode	22	2	Short	Error Code from 1 to 99 in case of reject. 0 for Status set to "confirm." Refer to Appendix A for a complete error code listing.	0000 _{hex} (0 _{dec})

11.9 CancelOrder (4E)

Message Type N (x4E) - OrderCancelRequest					
Field Name	Offset	Length	Type	Description	Example
NewClOrderID	9	4	Integer	Client assigned id for the cancel action.	1bc4ed5d _{hex} (465890653 _{dec})
PrevClOrderID	13	4	Integer	Client assigned id for the order to be cancelled.	1bc4ed57 _{hex} (465890647 _{dec})
InstrumentInfoID	17	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})

11.10 OrderCancelReject (4F)

Message Type O (x4F)- OrderCancelReject					
Field Name	Offset	Length	Type	Description	Example
NewClOrderID	9	4	Integer	Client assigned order id.	1bc4ed5d _{hex} (465890653 _{dec})
PrevClOrderID	13	4	Integer	Client assigned id for the order to be cancelled.	1bc4ed57 _{hex} (465890647 _{dec})
ErrorCode	17	2	Short	Error Code from 1 to 99 in case of reject. Refer to Appendix A for a complete error code listing.	0001 _{hex} (1 _{dec})

11.11 Order Replace Request Alternatives

11.11.1 OrderReplaceorCancel (50)

Message Type P (x50) - OrderReplaceOrCancelRequest					
Field Name	Offset	Length	Type	Description	Example
NewCLOrderID	9	4	Integer	Client assigned id for the replace or cancel action.	282c2db1 _{hex} (673983921 _{dec})
OrigCLOrderID	13	4	Integer	Client assigned id for the order to be replaced or cancelled.	1d2c2db1 _{hex} (489434545 _{dec})
OrderAmt	17	8	Long	New order amount	0000000003d0b27 _{hex} (40,005.51 _{dec})
Price	25	8	Rate	New order rate Multiply rate as a decimal value by 10 ⁹ then convert to hexadecimal.	000000170CF9EB65 _{hex} (99.001953125 _{dec})
InstrumentInfoID	33	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})

11.11.2 OrderReplaceEvenIfPartiallyFilled (53)

Message Type S (x53) - OrderReplaceEvenIfPartiallyFilled					
Field Name	Offset	Length	Type	Description	Example
NewCLOrderID	9	4	Integer	Client assigned id for the replace action.	282c2db1 _{hex} (673983921 _{dec})
OrigCLOrderID	13	4	Integer	Client assigned id for the order to be replaced.	1d2c2db1 _{hex} (489434545 _{dec})
OrderAmt	17	8	Long	New order amount	0000000003d0b27 _{hex} (40,005.51 _{dec})
Price	25	8	Rate	New order rate Multiply rate as a decimal value by 10 ⁹ then convert to hexadecimal.	000000170CF9EB65 _{hex} (99.001953125 _{dec})
InstrumentInfoID	33	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})

11.12 OrderReplaceAck (51)

Message Type Q (x51) – OrderReplaceAck					
Field Name	Offset	Length	Type	Description	Example
NewCLOrderD	9	4	Integer	Client assigned id for the replace action.	282c2db1 _{hex} (673983921 _{dec})
PrevCLOrderID	13	4	Integer	Client assigned id for the order to be replaced.	1d2c2db1 _{hex} (489434545 _{dec})
Status	17	1	Alpha	Cancel order acknowledge type, values: C _{char} (43 _{hex}) - cancel R _{char} (52 _{hex}) - rejected P _{char} (50 _{hex}) - replaced	50 _{hex} (P _{char})
ErrorCode	18	2	Short	Error Code from 1 to 99 in case of reject. 0 for Status set to "confirm". Refer to Appendix A for a complete error code listing.	0000 _{hex} (0 _{dec})

11.13 OrderCancelledorExpired (52)

Message Type R (x52) – Unsolicited Cancel					
Field Name	Offset	Length	Type	Description	Example
CLOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
Status	21	1	Alpha	Cancel order acknowledge type, values: E _{char} (45 _{hex}) - expired C _{char} (43 _{hex}) - cancelled	43 _{hex} (C _{char})
Type	22	2	Short	0 _{dec} (0 _{hex}) – User cancel 1 _{dec} (1 _{hex}) – System cancel 2 _{dec} (2 _{hex}) – Below minimum cancel	0 _{hex} (0 _{dec})

11.14 Pending Fill Workflow Messages

11.14.1 PendingFillMessage (55)

Message Type U (x55) – Pending Fill					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
TradeLinkID	21	4	Integer	TradeLinkID that provides linkage between pending fill, fill cancel and trade messages NOTE: unique only in the scope of the order	15 _{hex} (21 _{dec})
FillAmt	25	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	33	8	Long	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
AggressorFlag	41	1	Alpha	1 _{char} (31 _{hex}) - client is aggressor (aggressor) 2 _{char} (32 _{hex}) –client is not the aggressor (aggresed) Indicates whether the maker's price was resting in the book or came into the book at the time of the match.	32 _{hex} (2 _{char})
ExecBroker	42	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})

11.14.2 PendingFillCancel (56)

Message Type V (x56) – Pending Fill Cancel					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
TradeLinkID	21	4	Integer	TradeLinkID that provides linkage between pending fill, fill cancel and trade messages NOTE: unique only in the scope of the order	15 _{hex} (21 _{dec})

Message Type V (x56) – Pending Fill Cancel					
FillAmt	25	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	33	8	Long	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
AggressorFlag	41	1	Alpha	1 _{char} (31 _{hex}) - client is aggressor (aggressor) 2 _{char} (32 _{hex}) – client is not the aggressor (aggresed) Indicates whether the maker's price was resting in the book or came into the book at the time of the match.	32 _{hex} (2 _{char})
ExecBroker	42	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})

11.14.3 Outright PendingFillTrade (74)

Message Type t (x74) – Pending Fill Trade					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
TradeLinkID	21	4	Integer	TradeLinkID that provides linkage between pending fill, fill cancel and trade messages NOTE: unique only in the scope of the order	15 _{hex} (21 _{dec})
InstrumentInfolD	25	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
FillAmt	30	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	38	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
ExecBroker	46	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})
ExecutionID	50	20	Alphan umeric	Trade ID.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})
ExecType	70	1	Alpha	Execution Type, values: 1 _{char} (31 _{hex}) – new trade	31 _{hex} (1 _{char})

Information Classification: Confidential

Message Type t (x74) – Pending Fill Trade					
Field Name	Offset	Length	Type	Description	Example
SettleDate	71	8	Long	Settlement date. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
TradeDate	79	8	Long	Trade date, trades completed after trade roll over time will show next business date. Time is in millis from Jan 1, 1970 GMT.	0000013900f4b200 _{hex} (20120807-12:00:00,000)
TransactTime	87	8	Long	Match transaction date time in millis from Jan 1, 1970 GMT.	000001390086e6a0 _{hex} (20120707-10:00:04,512)
LeavesAmt	95	8	Long	Order amount opened for further execution. NOTE: set to 0 if ExecType is not set to 1 (new trade).	0000000002FAF080 _{hex} (500,000.00 _{dec})
AggressorFlag	137	1	Alpha	Aggressor flag: 1 _{char} (31 _{hex}) - client is aggressor 2 _{char} (32 _{hex}) – client is not aggressor	32 _{hex} (2 _{char})
LMUID	139	20	Alpha	Liquidity Management assigned user identifier	00000454 _{hex} (1108 _{dec})

11.14.4 Spread PendingFillTrade (66)

Message Type f (x66) – Pending Fill Spread Trade					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
TradeLinkID	21	4	Integer	TradeLinkID that provides linkage between pending fill, fill cancel and trade messages NOTE: unique only in the scope of the order	15 _{hex} (21 _{dec})
InstrumentInfolD	25	4	Integer	Id unique by InstrumentIndex, Side and StreamReferenceID used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
FillAmt	30	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	38	8	Rate	Done trade rate. Divide decimal equivalent by 10^9 to get the actual rate	2FAF080 _{hex} (0.05 _{dec})
ExecBroker	46	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})
ExecutionID	50	20	Alphan umeric	Trade ID.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})
ExecType	70	1	Alpha	Execution Type, values: 1 _{char} (31 _{hex}) – new trade	31 _{hex} (1 _{char})

Message Type f (x66) – Pending Fill Spread Trade					
Field Name	Offset	Length	Type	Description	Example
TradeDate	71	8	Long	Trade date, trades completed after trade roll over time will show next business date. Time is in millis from Jan 1, 1970 GMT.	0000013900f4b200 _{hex} (20120807-12:00:00,000)
TransactTime	79	8	Long	Match transaction date time in millis from Jan 1, 1970 GMT.	000001390086e6a0 _{hex} (20120707-10:00:04,512)
LeavesAmt	87	8	Long	Order amount opened for further execution. NOTE: set to 0 if ExecType is not set to 1 (new trade).	0000000002FAF080 _{hex} (500,000.00 _{dec})
PriceType	95	1	Alpha	4 _{char} (34 _{hex}) – Rate Differential (Quoted in Basis Points difference)	4 _{char} (34 _{hex})
AggressorFlag	96	1	Alpha	Aggressor flag: 1 _{char} (31 _{hex}) - client is aggressor 2 _{char} (32 _{hex}) – client is not aggressor	32 _{hex} (2 _{char})
AnchorLegInstrumentIndex	97	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex}
AnchorLegFillRate	133	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
AnchorLegFillAmt	141	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
AnchorLegYield	149	8	Rate	Yield to Maturity for trade on underlying Anchor Leg	000000000d71ae7d _{hex} (2.25554045 _{dec})
AnchorLegSettlementDate	158	8	Date	Settlement date for Underlying Anchor Leg. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
AnchorLegExecutionID	166	20	Alphanumeric	Trade ID for underlying anchor leg.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})
CalculatedLegInstrumentIndex	186	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex}
CalculatedLegFillRate	222	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
CalculatedLegFillAmt	230	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
CalculatedLegYield	238	8	Rate	Yield to Maturity for trade on underlying Calculated Leg	0000000013678f7c _{hex} (3.25554044 _{dec})
CalculatedLegSettlementDate	247	8	Date	Settlement date for Underlying Calculated Leg. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
CalculatedLegExecutionID	255	20	Alphanumeric	Trade ID for underlying calculated leg.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})

Information Classification: Confidential

Message Type f (x66) – Pending Fill Spread Trade					
Field Name	Offset	Length	Type	Description	Example
LMUID	275	20	Alpha	Liquidity Management assigned user identifier	00000454hex (1108dec)

11.15 Non-Pending Fill Workflow Messages

11.15.1 OutrightTrade (54)

Message Type T (x54) - Trade					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
InstrumentInfoID	21	4	Integer	Id unique by Instrument, StreamReferenceID and Side used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
FillAmt	25	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	33	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
ExecBroker	41	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})
ExecutionID	45	20	Alphanumeric	Trade ID.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})
ExecType	65	1	Alpha	Execution Type, values: 1 _{char} (31 _{hex}) – new trade	31 _{hex} (1 _{char})
SettleDate	66	8	Long	Settlement date. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
TradeDate	74	8	Long	Trade date, trades completed after trade roll over time will show next business date. Time is in millis from Jan 1, 1970 GMT.	0000013900f4b200 _{hex} (20120807-12:00:00,000)
TransactTime	82	8	Long	Match transaction date time in millis from Jan 1, 1970 GMT.	000001390086e6a0 _{hex} (20120707-10:00:04,512)
LeavesAmt	90	8	Long	Order amount opened for further execution. NOTE: set to 0 if ExecType is not set to 1 (new trade).	0000000002FAF080 _{hex} (500,000.00 _{dec})
AggressorFlag	98	1	Alpha	Aggressor flag: 1 _{char} (31 _{hex}) - client is aggressor 2 _{char} (32 _{hex}) – client is not aggressor	32 _{hex} (2 _{char})
LMUID	99	20	Alpha	Liquidity Management assigned user identifier	00000454hex (1108dec)

11.15.2 SpreadTrade (46)

Message Type F (x46) – Spread Trade					
Field Name	Offset	Length	Type	Description	Example
ClOrderID	9	4	Integer	Client assigned id for the order.	1bc4e9ef _{hex} (465889775 _{dec})
OrderID	13	8	Long	Currenex assigned id for the order.	000000026c8dfbb4 _{hex} (10411178932 _{dec})
InstrumentInfoID	21	4	Integer	Id unique by Instrument, StreamReferenceID and Side used to distinguish the currency pair, side and the order stream selected on subsequent messages. This identifier is unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	3ADE68B1 _{hex} (987654321 _{dec})
FillAmt	25	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
FillRate	33	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	2FAF080 _{hex} (0.05 _{dec})
ExecBroker	41	4	Alpha	Execution broker's code, or NA	4e412020 _{hex} (NA _{char})
ExecutionID	45	20	Alphanumeric	Trade ID.	4132303132323230303634 4a4230302020202020 _{hex} (A2012220064JB00 _{char})
ExecType	65	1	Alpha	Execution Type, values: 1 _{char} (31 _{hex}) – new trade	31 _{hex} (1 _{char})
TradeDate	66	8	Long	Trade date, trades completed after trade roll over time will show next business date. Time is in millis from Jan 1, 1970 GMT.	0000013900f4b200 _{hex} (20120807-12:00:00,000)
TransactTime	74	8	Long	Match transaction date time in millis from Jan 1, 1970 GMT.	000001390086e6a0 _{hex} (20120707-10:00:04,512)
LeavesAmt	82	8	Long	Order amount opened for further execution. NOTE: set to 0 if ExecType is not set to 1 (new trade).	0000000002FAF080 _{hex} (500,000.00 _{dec})
PriceType	90	1	Alpha	4 _{char} (34 _{hex}) – Rate Differential (Quoted in Basis Points difference)	4 _{char} (34 _{hex})
AggressorFlag	91	1	Alpha	Aggressor flag: 1 _{char} (31 _{hex}) - client is aggressor 2 _{char} (32 _{hex}) – client is not aggressor	32 _{hex} (2 _{char})
AnchorLegInstrumentIndex	92	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex}
AnchorLegFillRate	94	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
AnchorLegFillAmt	102	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
AnchorLegYield	110	8	Rate	Yield to Maturity for trade on underlying Anchor Leg	000000000d71ae7d _{hex} (2.25554045 _{dec})

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Message Type F (x46) – Spread Trade					
Field Name	Offset	Length	Type	Description	Example
AnchorLegSettlementDate	118	8	Date	Settlement date for Underlying Anchor Leg. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
AnchorLegExecutionID	126	20	Alphanumeric	Trade ID for underlying anchor leg.	4132303132323230303634 4a42303020202020 _{hex} (A2012220064JB00 _{char})
CalculatedLegInstrumentIndex	146	2	Short	Numeric identifier for currency pair identified by the InstrumentID; unique for the session scope, only. Not guaranteed to be the same from session to session or across Ouch and Itch services.	0005 _{hex}
CalculatedLegFillRate	148	8	Rate	Done trade rate. Divide decimal equivalent by 10 ⁹ to get the actual rate	000000170CF9EB65 _{hex} (99.001953125 _{dec})
CalculatedLegFillAmt	156	8	Long	Trade amount	00000000017d7840 _{hex} (250,000.00 _{dec})
CalculatedLegYield	164	8	Rate	Yield to Maturity for trade on underlying Calculated Leg	0000000013678f7C _{hex} (3.25554044 _{dec})
CalculatedLegSettlementDate	172	8	Date	Settlement date for Underlying Calculated Leg. Time is in millis from Jan 1, 1970 GMT.	000001390b416a00 _{hex} (20120809-12:00:00,000)
CalculatedLegExecutionID	180	20	Alphanumeric	Trade ID for underlying calculated leg.	4132303132323230303634 4a42303020202020 _{hex} (A2012220064JB00 _{char})
LMUID	200	20	Alpha	Liquidity Management assigned user identifier	00000454 _{hex} (1108 _{dec})

11.16 ResendRequest (32)

Message Type 2 (32 _{hex}) – ResendRequest					
Field Name	Offset	Length	Type	Description	Example
BeginSeqNo	9	4	Integer	Message sequence number of first message in the range to be resent.	00016842hex (92226dec)

11.17 GapFill (34)

Message Type 4 (34 _{hex}) – GapFill					
Field Name	Offset	Length	Type	Description	Example
NewSeqNo	9	4	Integer	The sequence number of the next message to be transmitted	075BCD15hex (123456789dec)
ReasonCode	13	1	Alpha	1char(31hex) = NOT_RESENDABLE 2char(32hex) = NOT_AVAILABLE	1char(31hex)

Appendix

Appendix A : Error Codes

Reason Codes _{hex}	Description
0000	No Error
0001	Invalid Instrument
0002	Invalid Side
0003	Invalid Price
0004	Invalid Expiry
0005	Invalid Amount
0006	Invalid Show Amount
0007	Invalid Permission
0008	Invalid Order
0009	Invalid Order Type
000a	Invalid Client Order Id
000b	Invalid Credit
000c	Maximum Permitted Operations Exceeded
000d	Invalid New Client Order – returned when an order to be replaced has already been filled.
000e	Order not Active
000f	Invalid Specified Amount
0010	Maximum Number of Active Orders Exceeded
0011	Rate precision error
0012	Invalid Settlement Date
0013	Cannot Replace Inactive Order
0014	Order Min Greater Than System Min Max
0015	Invalid Limit Rate Error
0016	SEF Validation Failed
0017	Cannot Replace Already Filled
0018	Cannot Replace Order Is In Process
0019	Cannot Cancel Already Filled
001A	Absolute Trading Limit Exceeded
001B	Application Not Available
001C	Trading Disabled Off Hours
001D	No Execution Relationship set up
001E	Invalid Routing User Permission
0063	Invalid Error

Appendix B : Logout Message Reason Codes

Logout Message Reason Codes	
Reason Codes	Description
A1	Replaced by New Session
A2	Session Timed Out
A3	Invalid Session Id
A4	Internal Session Error
A5	Authentication Failure
A6	User Logout
A7	Failed Message Delivery
A8	Internal Session Closed
A9	Second Missed Heartbeat
A10	Invalid First Sequence Number
A11	Invalid version

Revision History

Revision Number	Revision Date	Page Number	Update
1	19 April 2024	*	Ouch support for Firm LP document created