



OPERATING OMEGA ATS AND LYNX ATS

Reallocation Binary Specification
For ITCH 5.00 (Market Data)

v. 1.06

Effective Date:
10 February 2020

Revision History

Date	Revision	Description
13 December 2017	1.01	First Draft
19 December 2017	1.02	General edits and formatting changes
03 May 2018	1.03	Removed "Packet Length" field from all tables. Adjusted all offset values for removal of "Packet Length" field on all tables. Corrected Sequence Length from 20 to 10.
07 May 2018	1.04	Added Terminating Linefeed field for all packet tables.
26 July 2018	1.05	The addition of Symbol Spin sessions in section 4. a Login Request Packet.
10 February 2020	1.06	Corrected Sequence length from 10 to 20 for all packet types (Login Request, Accepted). Removed the Terminating Linefeed on all packet types and re-introduced the Packet Length field. All offsets on all packet types incremented by value of 2 accordingly for the addition of the Packet Length field. Also adjusted the following: Login Request Packet Table Comments Section update. Production "with symbol spin" session will be implemented soon. Currently only available in our GTE environment.

Overview

Omega participants may use Multicast QTP to acquire real-time depth of book quotations and execution information directly from Omega. There are two multicasting ITCH servers: A and B. Channel A is the main channel and Channel B is primarily used for recovering dropped messages.

Omega Multicast ITCH real-time events are delivered by using a published range of multicast addresses divided by market and symbol range. Dropped messages can be requested using a UDP/Unicast connection to the Retransmission server with replayed messages being delivered to the request source directly. Intraday, a spin of all open orders may be requested from a Reallocation Server. This capability allows a client to become current without requesting a gap for all messages up to that point in the day.

Reallocation Server

Omega Reallocation Server allows Participants to connect via TCP and receive a spin of all currently open orders. By using reallocation, a Participant gets the current Omega book quickly any time during trading session without requesting a gap for all messages up to that point in the day. The Reallocation Server listens on the well-known address/port for client requests and produces a snapshot of all currently open orders per particular session.

The Participant requests the spin for the orders up to the sequence number using a Login Request with Request Sequence Number specified.

Upon successful login from the client the Reallocation Server establishes the connection and sends Login Accepted Message with the sequence number which indicates the most recent message applied to the book. This sequence number is typically equal or greater than the sequence number received in Login Request message. The Server then proceeds with the dissemination that consists of Start-Of-Messages event, Add Order message and End-Of-Messages event. The Reallocation Server will disconnect immediately after sending End-Of-Messages event.

Only open orders are sent in the spin. Spin will not contain any message for an order which is no longer in the book. While receiving a spin the Participant must buffer any messages received with sequence number greater than the number specified in the Login Accepted message on the ITCH 5.00 multicast feed.

The Reallocation Server uses SoupTCP Binary protocol to communicate with its clients.

Assumptions and Terms

The document assumes that the reader is familiar with Omega SoupTCP Binary specification, Omega QTP Multicast Specification as well as Omega ITCH 5.0 specification and should refer to those documents for the details of corresponding protocols.

SoupTCP Binary Packets

Login Request Packet

The Reallocation client must send a Login Request Packet immediately upon establishing a new TCP/IP socket connection to the server.

The server can terminate an incoming TCP/IP socket if it does not receive a Login Request Packet within a reasonable period of time (typically 30 seconds).

If the Requested Session is unknown, the Reallocation Server will send a Login Reject Message.

Name	Offset	Length	Value	Comments
Packet Length	0	2	Integer	Number of bytes after this field until the next packet.
Packet Type	2	1	'L'	Login Request Packet
Username	3	6	Alphanumeric	Not used
Password	9	10	Alphanumeric	Not used
Requested Session	19	10	Alphanumeric	Specifies session to log onto. For Symbol Spin use sessions: Note: For Production "with symbol spin" session will be implemented in the future. Prod Omega (without symbol spin) = OMEGASSNAA Omega (with symbol spin) = OMEGASSALL Lynx (without symbol spin) = LYNXATSNBB Lynx (with symbol spin) = LYNXATSALL GTE Omega (without symbol spin) = OMGATESSNO Omega (with symbol spin) = OMGATESALL Lynx (without symbol spin) = LYNXTESSNI Lynx (with symbol spin) = LYNXTESALL