Strategy Studio: EZXExecutionHandler (Execution Handler)

EZXExecutionHandler is Strategy Studio's FIX interface to EZX. Strategy Studio currently supports EZX's TPA order interface (Version 1.0), which allows the submission of orders to the NYSE Third Party Algorithm gateway. With TPA, there are three orders involved: seed orders ("A" orders), orders tapped through the hand-held ("B" orders), and child orders ("C" orders).

This execution handler may be selected by including the following line to the server's main configuration file:

- **EXECUTION_HANDLER_MODE=EZXExecutionHandler**

Session Level Settings

Many of the session-level settings are specified in the file execution_handler-conf/ezx_fix.config. Each Strategy Studio account will be associated with three sessions (A, B, and C). Notable settings include:

- **StartTime=*HH:MM:SS***
- **EndTime=*HH:MM:SS***
  - Required. Sets the window of time that the execution handler will attempt a connection, in UTC.
- **SocketConnectHost=*host***
  - Required. Specifies the IP of the iServer for this session.
- **SocketConnectHost[n]=*host***
  - Optional. Allows additional hosts to be specified for failover purposes. After connection failure, the next host is tried in a round-robin fashion.
- **ReconnectInterval=*seconds***
  - Sets the wait period before a disconnected session attempts a reconnect.
- **SenderCompID=*senderCompID***
  - Required. Provided by EZX.
- **SessionTypeCode=*sessionType***
  - Required. Must be either A, B, or C.
- **StrategyStudioAccount=a*ccountName***
  - Required. Sets the Strategy Studio account that will be associated with this session.
- **StrategyStudioFirm=*firm***
  - Required in session C. Sets the firm this session will be associated with for auto-marking purposes.
- **AutoMarkSide=*true/false***
  - Optional. Determines whether new sell orders will automatically have their side marked based on the firm's position. The default value is false.

Order Submission

Seed orders ("A" orders) are sent to the NYSE floor broker's hand-held and establish a reserve quantity and will not fill on their own. Fills are reported against seed orders as child orders fill.

"B" orders are simply acks corresponding to the seed orders, and communicate an ID that child orders must reference in the ClientOrdLinkID (tag 583). This "B" order ack is communicated to the strategy via an ExternalOrderEventMsg with msg.source() == ExternalOrderEventMsg::EXTERNAL_ORDER_SOURCE_FIX and msg.topic() == "EZX_SESSIONB". The msg.closure() is set to the seed order's OrderID, and the ClientOrdLinkID to be used on child orders may be retrieved using msg.GetTag(37).

Child orders ("C" orders) are sent against the quantity reserved in the seed orders and can result in fills. They must contain the previously referenced ClientOrdLinkID field. The presence of this field identifies the order as a child order and causes it to be routed over the "C" session.

Executions are reported on both the "A" and "C" sessions, which will result in duplicate fill reports and inflated positions. This can be avoided by setting OrderParams::parent_order_id to a non-zero value on the child order; this causes the system to skip fill processing so that the position and trade statistics are not modified.

Custom Order Parameters

Common order properties are set using OrderParams's fields, but there are a number of order properties that must be set via OrderParams's custom_params member, which is a std::vector<boost::any>. The custom params are expected to be of type std::pair<int, std::string>, with the first specifying the FIX tag number and the second specifying the string value for the FIX field. A full description of supported FIX tags is available in the EZX document "FIX for TPA Client Integration Guide".

There are several fields marked as *Required* in the FIX guide that must be set via custom params, including DeliverToCompID, OnBehalfOfCompID, ClearingFirm, and ClientOrdLinkID. It is best to check with EZX about the expected values for these fields and whether they are required on every order. The E-Quote and D-Quote specific fields must also be set using custom_params.