Strategy Studio: LimeAdapter (Market Data)

LimeAdapter is Strategy Studio's market data adapter for data available from LIme Brokerage's Citrius normalized market data feedhandler. Feeds available include US consolidated equity feeds, depth of book and BBO equity data feeds, and depth of book options feeds. Full feed descriptions are available at:

http://resources.limebrokerage.com/client/quoteSourceDescriptions.php

Unless otherwise specified in the server's main configuration file, this is the default market data adapter for Live Simulation and Production versions of Strategy Studio.

The following variables may be added to the server's main configuration file to customize the behavior of the LimeAdapter:

- **LIME_ADAPTER_ENABLE_AUTO_FAILOVER=true/false**
  - If set to true, upon a Citrius source disconnect Strategy Studio will attempt to connect to that source's next Citrius server group. Defaults to false.
- **LIME_ADAPTER_WITHDRAW_FROM_AGGR_OB_ON_MULTICAST_LOSS=true/false**
  - If set to true, when there is a multicast loss detected on an order book feed, Strategy Studio will automatically withdraw that exchange's order book from participating in the aggregate order book. This helps prevent bad order book data from affecting top_quote, pnl calculations, and simulated fill prices. Note the exchange's data will continue to flow through to OnDepth (and OnQuote), and the individual exchange's order_book will still be available. Defaults to false if not supplied.
- **LIME_ADAPTER_NORMALIZE_SYMBOLOGY=true/false**
  - If set to true, equity instruments with special symbologies (e.g. preferred, class, and warrant) will be normalized to the appropriate symbology of each quote source. In this way, a single symbol subscription can be used to get data from multiple quote sources that may have different symbologies.

LimeAdapter can be configured to connect to data sources using either a CSV file named lime_source_config.txt or an XML file named lime_source_config.xml. The server uses the XML version if both are present. An example of each are located in the docs/adapters directory of the SDK. *The XML version allows for multiple Citrius Server Groups to be specified and must be used to access the adapter's hot failover feature*.

The format for lime_source_config.txt is:
#HOST:PORT,SOURCE_ID,USER,PASSWORD[,TOP_OF_BOOK=false,TRADES_ONLY=false,IS_EXPRESS=false]

The example lime_source_config.xml outlines the hierarchy. Each active <quotesource> should have one <servergroup> with isprimary='true'; this is the server group Strategy Studio will use at startup.

Citrius is a hosted feedhandling product, and Lime generally offers several alternate servers groups for each data source. In the event one of the source servers becomes impaired, the LimeAdapter supports hot failover to an alternate server group.

Failover is available via the server command line instruction *citrius_failover <citrius_source>,<new_server_group>*. If the citrius_source or new_server_group are not present in lime_source_config.xml, the command is ignored.

Upon failover, active connections for the specified citrius_source will disconnect, triggering a reset of the orderbook for depth of book sources. Connections to the new_server_group's sources will then be established, and *is_initializing* will return true for the MarketCenter's OrderBook   and the Aggregate Order Book objects until initialization is complete for the new source servers. Strategies can use this accessor to avoid making decisions from incomplete order book data. The Strategy's OnDepth callback with also deliver alerts about the reset, initializing, and initialized events, with the message's depth_update_type set accordingly.