KaiTrade Accelerator System Overview
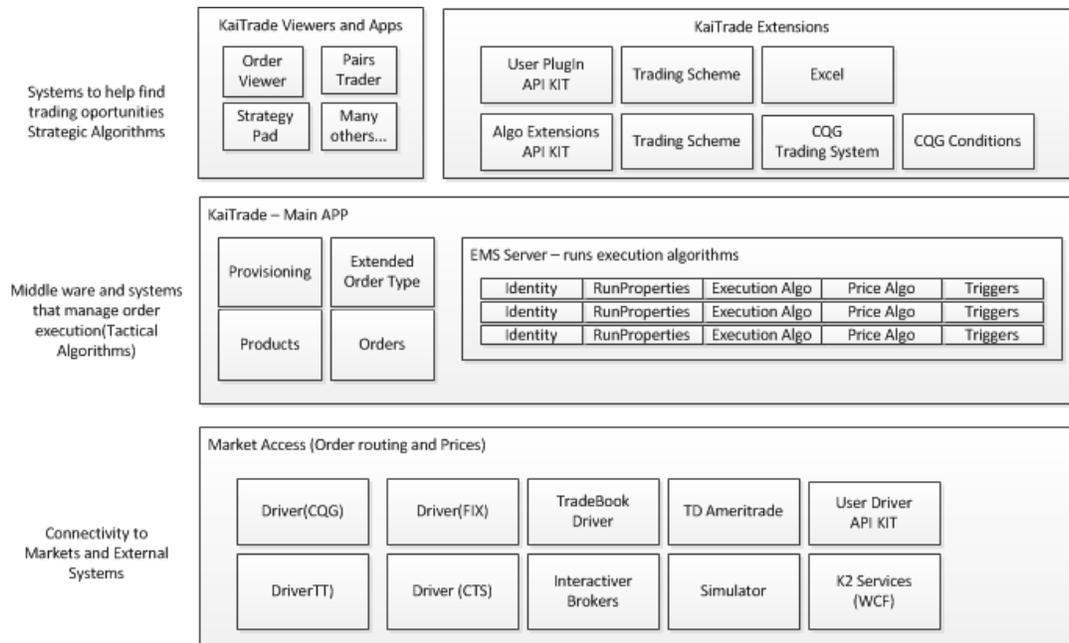
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 Introduction

At Kaitrade, our focus is on improving trading by providing products that reduce the time and cost in getting trading technology into use, together with services that support all aspects of the trading process.We have deep experience of trading systems across the complete trading cycle from advanced algorithmic trading systems, middle office post trade processing and back office integration.This overview is intended to provide a technical overview of the KaiTrade Accelerator product.

1 Overview

KaiTrade has three functional areas:

- Systems that help identify trading opportunities (Strategic Algorithms) and trade entry.

- Middle-ware and order execution management algorithms(tactical algorithms)

- Connectivity - connections to Markets, Exchanges and external systems.

The majority of the components are accessible using KaiTrade's API's.

2 Tools to identify opportunities

KaiTrade is intended and designed to allow people to write their own trading solutions. You can quickly realize your trading ideas using:

- Excel - KaiTrade provides extensive and highly efficient access to all its functions from Excel
- CQG Conditions and trading systems - KaiTrade is able to use conditions written in CQG to enter and exit order execution strategies, for example the trader can write and test a condition in CQG and then use KaiTrade to enter a bracket order when the condition triggers. Traders can develop trading systems in CQG and then use KaiTrade to execute their trading signals direct from CQG.

In addition to these tools traders and developers can use the following:

- Trading Schemes
- Custom Plug-Ins
- Algorithms Extensions Libraries

2.1 Trading Schemes

A trading scheme is a system that a trader sets up in KaiTrade to identify trading conditions. The trader does this by adding the following components to their scheme:

- Data Acquisition - these components access raw data they can store the data for later use(e.g. to replay) or feed the data real time into the scheme.
- Data Aggregation - These functions take raw data and aggregate it into bars by time, or volume, where a broker provides bar/historic data the aggregation is not needed.
- Statistical functions - These functions add data such as moving averages, ATR, Bollinger bands, etc to the data provided by the market.
- Pattern Detection functions - Pattern match functions identify patterns in the data, for example crosses between different data points. The pattern detection function usually leads to some condition to go long or go short.

C# Scripting - KaiTrade now has an embedded C# script engine, this can be used to script the conditions (from the pattern detection together.

2.2 Custom Plug-Ins

Custom plug-ins are applications developed either by the trader, 3rd Party developers or KaiTrade. These plug-ins usually provide both user interface and algorithms. They give a trader or trading firm a quick way to lever all the facilities KaiTrade provides to create their own trading strategies. They can then distribute the plugin to other KaiTrade users.

2.3 Algorithm Libraries

KaiTrade algorithm extensions API Kit let users and 3rd Party developers add their own:

- Execution Algorithms
- Strategy prices based algorithms
- Statistical functions
- Pattern detect functions

This enables the trader to extend the existing KaiTrade system, for example if a trade wanted some custom execution algorithm to run within the KaiTrade EMS they would use the extensions API kit to write one.

3 KaiTrade Trading applications

KaiTrade provides a set of tools to facilitate trading; these are all written as plugins.

3.1 Viewers

KaiTrade provides viewers to enable users to view and manage different parts of the system see - http://www.kaitrade.com/KTA/Viewers.html

- Order Viewer - provides access to orders, modify and cancel working orders
- Product Viewer - provides access to products, load and save product sets
- Fill Viewer - provides a view of fills for a particular order
- Driver Viewer - shows drivers(connections) and their state, stop and restart connections
- Log Viewer - provides a log of system messages, note that KaiTrade provides detailed logging for support staff.

3.2 StrategyPad

The strategy pad an a application that enables the user to manage all strategies running in KaiTrade see - http://www.kaitrade.com/KTA/StrategyPad.html

3.3 WatchList

The watch list allows the user to select products and view the prices for each product - they can click on products and place orders.

3.4 PairsTrader

The pairs trader is a complete pairs trading application.

3.5 Pre Trade Allocator

The Pre-Trade Allocator is use when a trader wants to send in order for a given product and split these over a group of traders. Rather than use post trade allocation, the trader can set up the splits and the system sends in a set of orders split over the desired accounts.

4 Main App - Execution Management

The main application's main responsibilities are to:

- Provide execution through strategies, execution algorithms and extended order types.
- Manage key items such as orders and products
- Control Access to the system as whole

4.1 Strategies

Execution Strategies are the way that KaiTrade manages orders, when a trader wants to send orders to a particular market they enter a strategy. Depending on the execution algorithm associated with the strategy on or more orders will be sent to market. In general the are a set of strategies running in KaiTrade's Execution management server (EMS) - these are managed using the strategy pad.

4.2 Extended Order types

In KaiTrade there is an extended order processor, this provides:

- Stop and StopLimit orders
- Profit(Target orders)
- Trailing Stops
- OCO functionality

These are used in circumstances where the target broker does not natively provide the functions.

4.3 Managers

The system provides managers to control vital parts of the system such as strategies, orders and products. Most managers have a viewer associated with them to let the user work them.

4.4 Provisioning

Provisioning is the way that KaiTrade manages access to the system, when some trade or system signs into KaiTrade, the system download their profile from a secure web server. The system uses the profile to:

- Verifying that a particular ID is enabled to use the system.
- Determining which drivers (connections to markets) a ID will have access to.
- Determining which plug-ins(apps) and algorithm extension libraries the ID can use.
- Controlling access to the various remote services.

Note that the ID can be a user or some instance of KaiTrade running on a server.

5 Connectivity

KaiTrade provides access to a wide range of asset classes and markets.

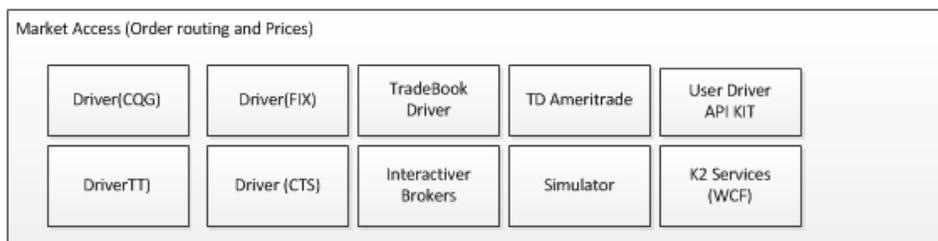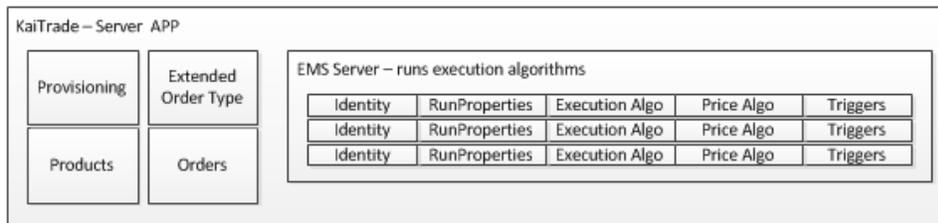| Name	Asset Class	Description
CQG Integrated Client	Futures	
Bloomberg Tradebook	Futures, Stocks, FX	
Interactive Brokers (TWS)	Futures, Stocks, FX	
TD Ameritrade	Stocks	
FIX Protocol	Any provided by the broker.	
CTS - Cunningham	Futures	
WCF Remote Driver	Any	Connects to a remote driver service using WCF
Simulator	Futures, stocks,FX	Provides a simulation market for testing
TT XTAPI	Futures	

5.1 Drivers

A driver is a component that provides access to a given broker or exchange. KaiTrade provides an API that lets you write your own connectivity to brokers and exchanges using the KaiTrade Driver API kit.We support FIX protocol to connect to a wide range of brokers.

5.2 K2 Remote Services

If you need to write you own trading applications you can make use of the KaiTrade K2 Remote services.

You can use the following services to engineer your own applications:

- RemoteBaseFacade
- ProductService

- PriceService
- StrategyService
- OrderService
- FillService
- DriverService