

Trading System Architecture

OMS/EMS/TickerPlant/Simulation Framework

OMS - Order Management System (real time database connected to different feeds, fills, market data, static and reference data (Sc 5))

1. Keeps track of current positions
2. Keeps track of new trades
3. Real time pnl and risk exposures
4. Keeps track of outstanding parent orders
5. Allows to enter new parent orders or modify existing orders (Communicates with EMS)
6. Real time slippage analysis
7. Paper trading accounts for new strategies
8. Historical trades, pnl, attribution analysis

EMS - Execution Management System (Sc 5)

1. Execution gateways to external brokers
2. Connected to market data feeds
3. Connection to in-house microtrader
4. Sends notifications about fills into OMS
5. Keeps track of current live orders
6. Allows to replay the daily events in the case of disaster recovery

Ticker Plant (Sc 5)

1. Receives notifications about market data events: trades, quotes, imbalances, halts, etc.
2. Keeps in memory the latest snapshot of market data
3. Keeps in memory intraday history of market events
4. Saves market data events into database

Fill Simulator (Sc 5)

1. Fills parent orders using market logic, used to debug the software without actual trading or for paper trading accounts
2. Fills child orders for micro-trader allowing to fine tune execution logic for customized algos
3. Used for stress testing

Architecture (Sc 5)

