FIXGlobal
FACE2FACE Forum 2009

In support of
FIX PROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD℠

# Introduction to Algorithmic Trading

**Nov 10, 2009**
**Seoul, Korea**

**Josephine Kim - Vice President, AES sales, Credit Suisse HK**

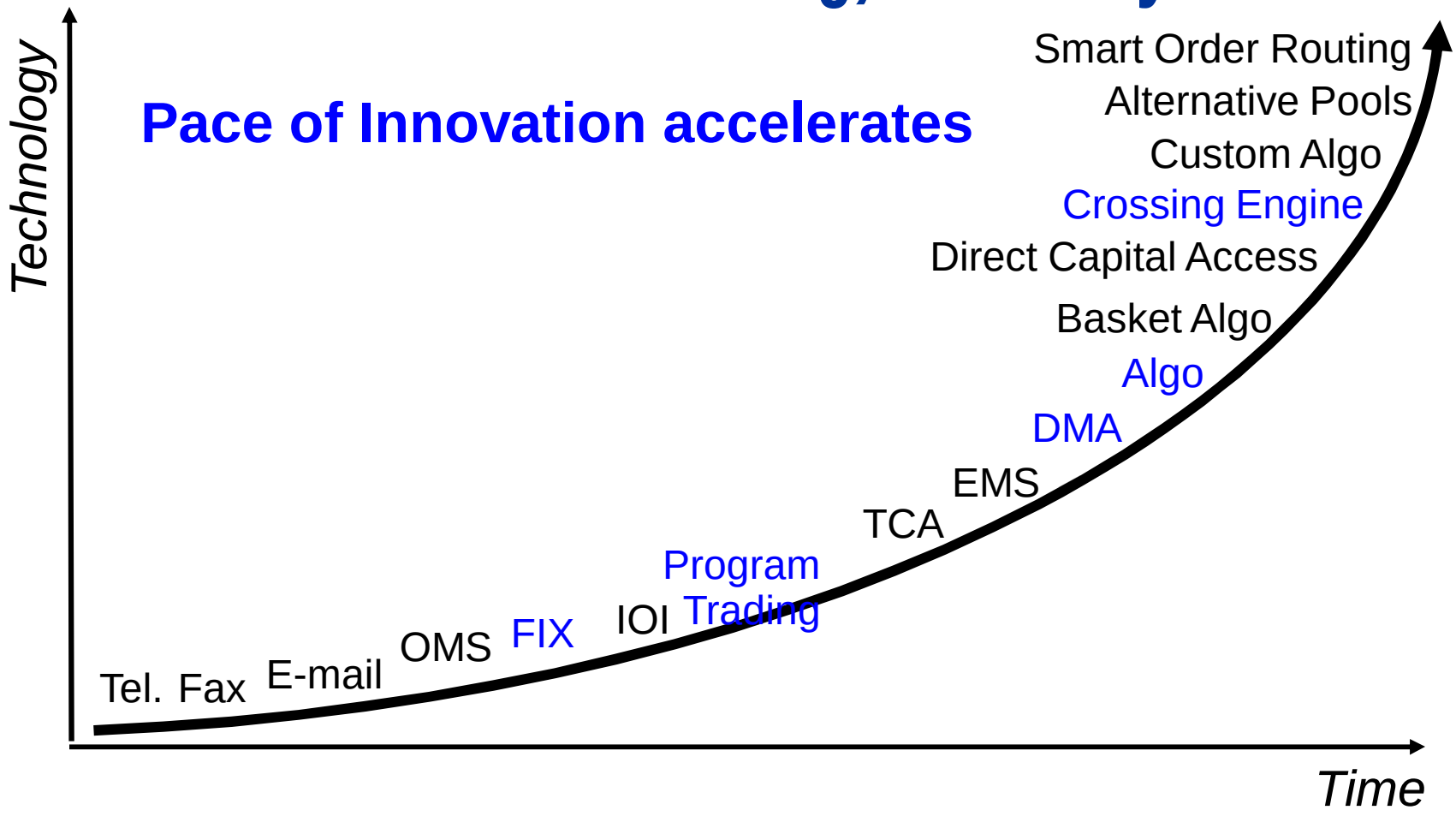
# Agenda

- Terminology
- Trading Characteristics
- Algorithmic Trading
- Evolution of Electronic Trading
- Smart Order Routing, Alternative pools
- Multi Asset Algo trading
- Q & A

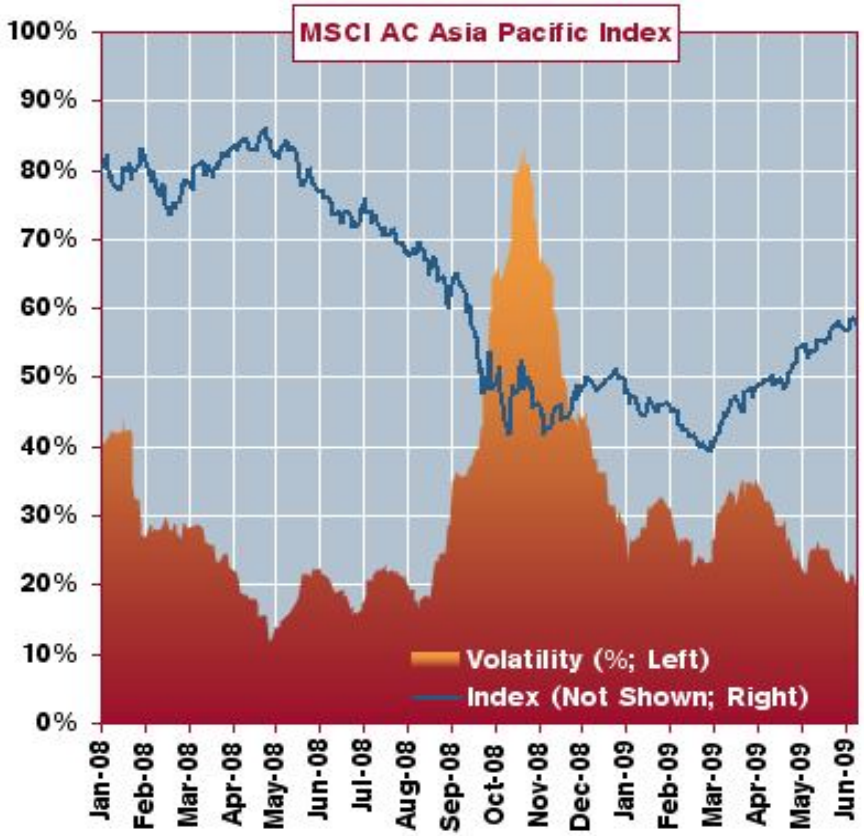
# Terminology

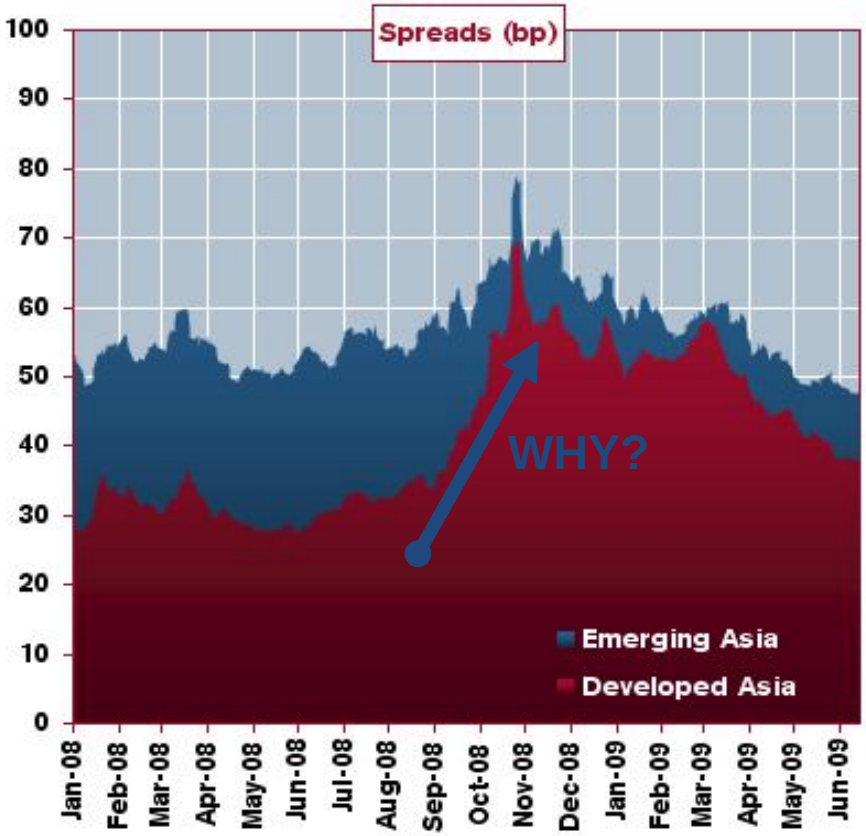
- Algorithmic Trading
- Program trading / basket trading, System trading, HTS/ on line trading, Alternative pools

# Evolution of Electronic Trading, driven by Innovation



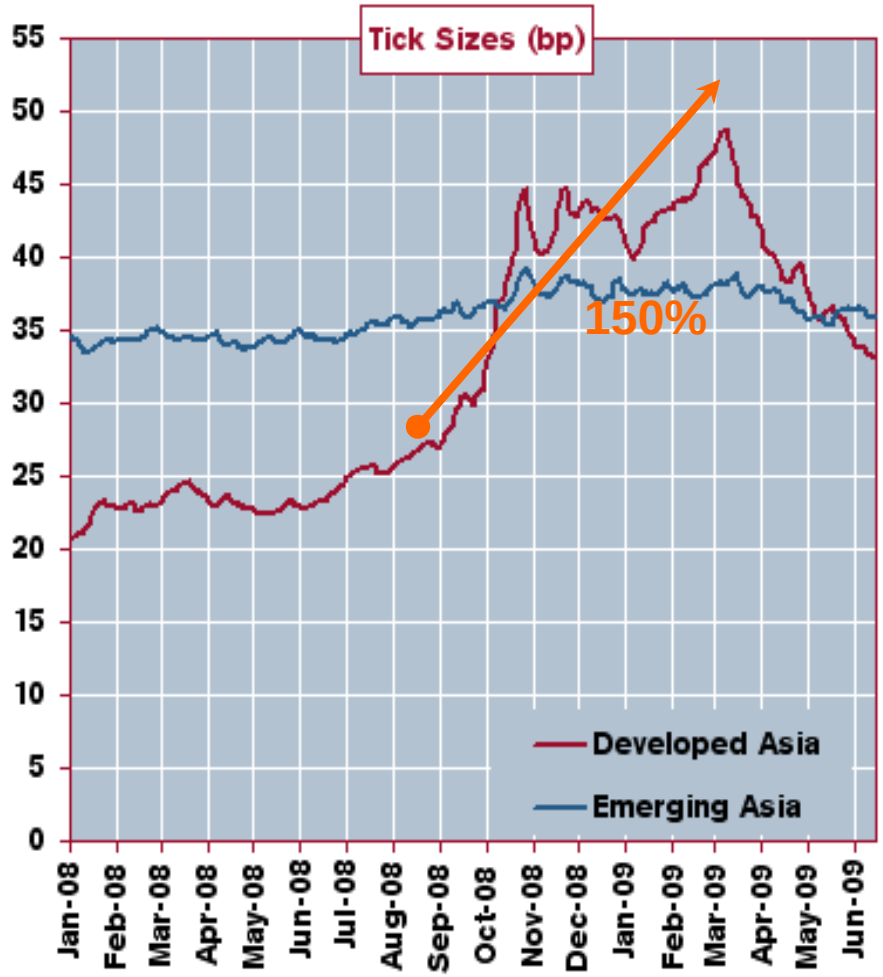
# Trading Characteristics - Volatility vs. Spreads




- Volatility → Normalized
- Execution Costs (Spreads in bp) → Still High for Developed **BUT WHY?**

# Tick Size - Markets Need Efficient Regulations




## KOREA VS. AUSTRALIA

| Stock Price [KRW] | Minimum Tick [KRW] | Minimum Tick [bp] |
|---|---|---|
| 0 – 5,000 | 5 | 10 bp or more |
| 5,000 – 10,000 | 10 | Between 10 and 20 bp |
| 10,000 – 50,000 | 50 | Between 10 and 50 bp |
| 50,000 – 100,000 | 100 | Between 10 and 20 bp |
| 100,000 – 500,000 | 500 | Between 10 and 50 bp |
| 500,000 + | 1000 | 20 bp or less |

| Stock Price [AUD] | Minimum Tick [AUD] | Minimum Tick [bp] |
|---|---|---|
| 0 – 0.1 | 0.001 | 100 bp or more |
| 0.1 – 2 | 0.005 | Between 25 bp and 500 bp |
| 2 – 1,000 | 0.010 | Between 0.1 and 50 bp |
| 1,000 + | 1.000 | 10 bp or less |

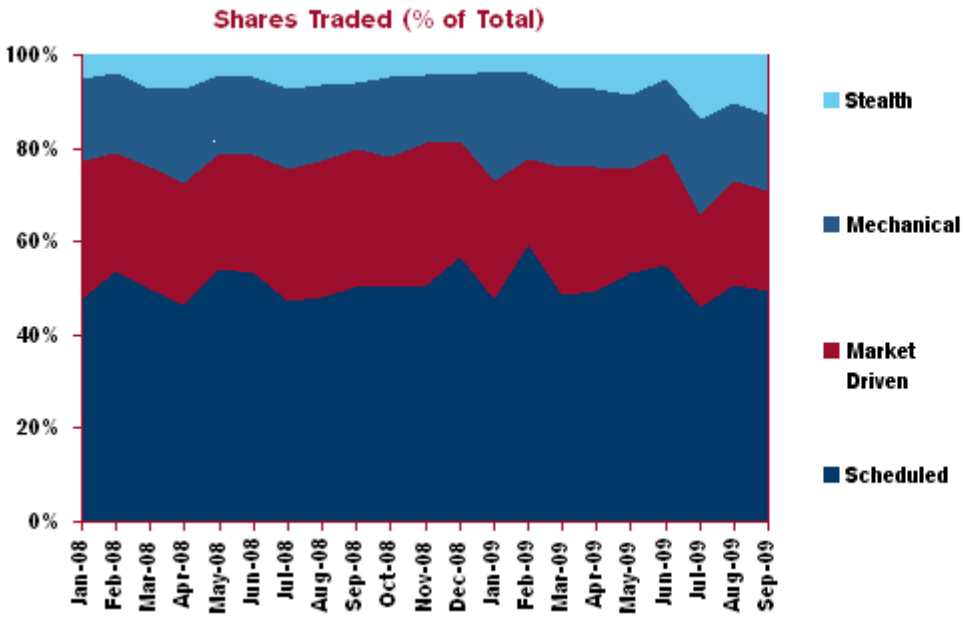
## THE AVOIDABLE MESS

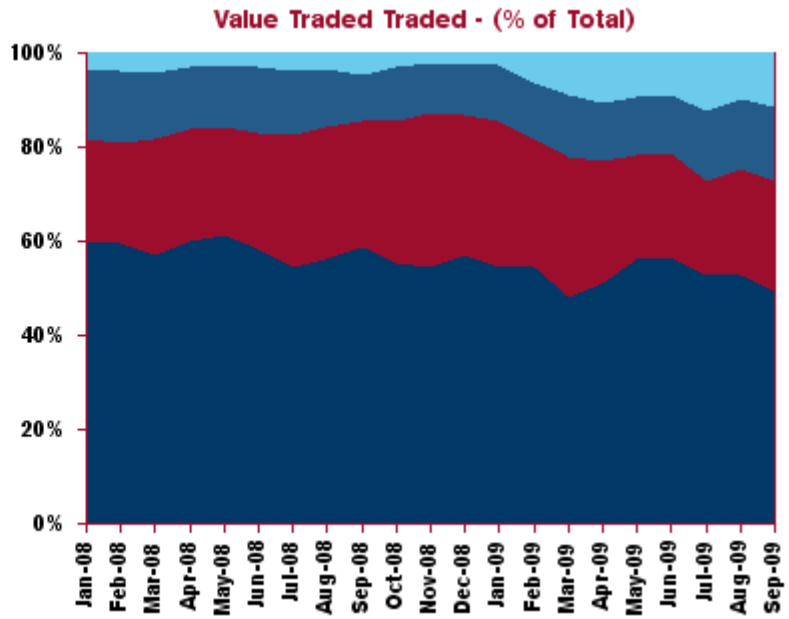
- Markets with fixed or inefficient tick structures suffered (JP, HK, AU, and SG)
- INVESTORS PAID THE PRICE IN EXECUTION COSTS

# Evolution of Algorithms

- **Schedule driven algorithms – VWAP, TWAP, CLOSE**
  - Structured with fixed start and end, adheres to schedule
- **Mechanical algorithms – RESERVE, FLOAT**
    - Pegged/Float Algorithms
- **Market driven algorithms – VOL Inline, Price- Inline**
  - Reactive, monitors real-time activity, reacts to events
- **Liquidity Seeking algorithms – GUERRILLA, SNIPER**
  - Pro-active liquidity seeking algorithms, most sophisticated

# What Your Peers Have Been Doing? – Tactic Selections



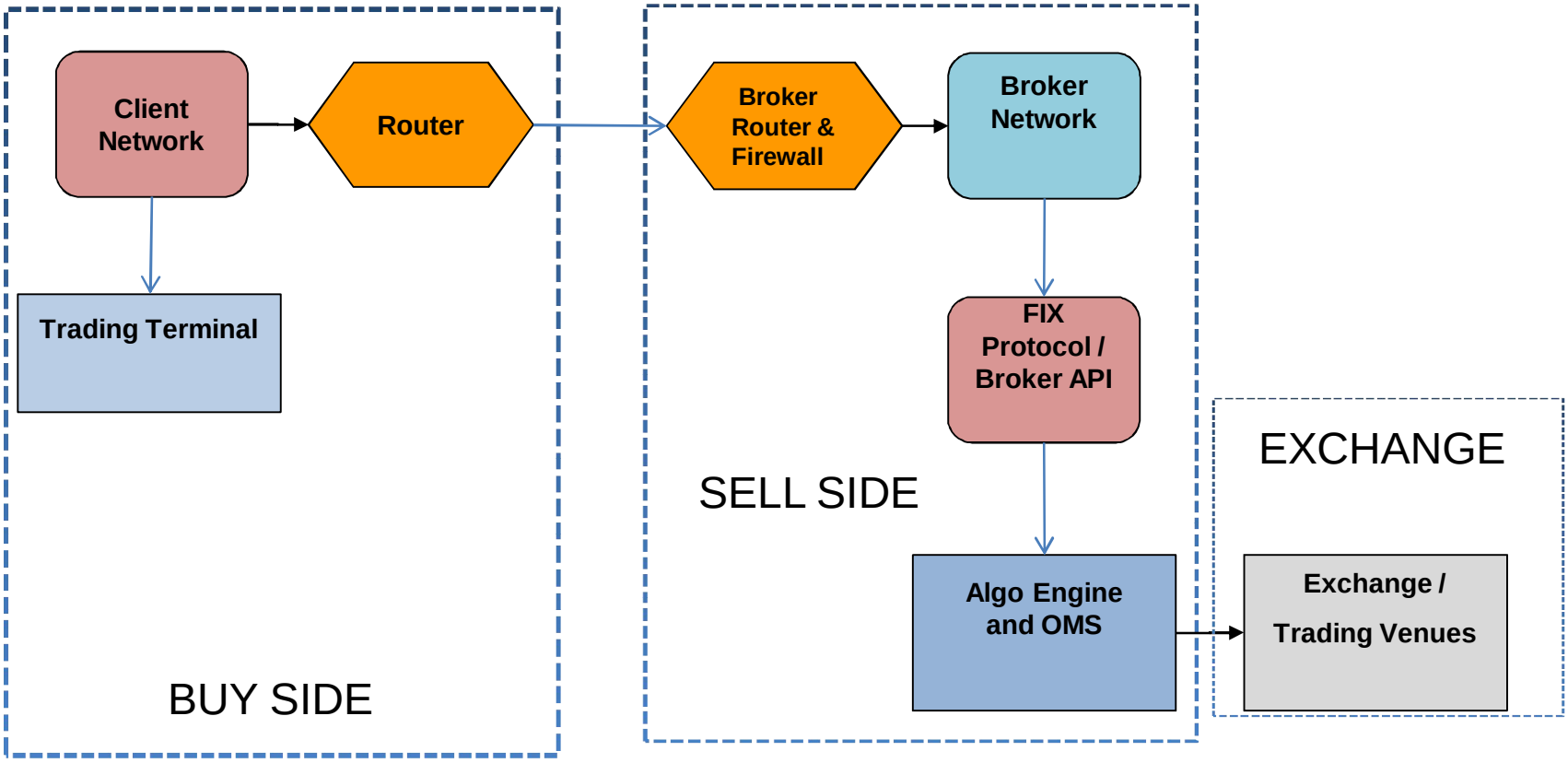




- In terms of value traded, we have seen substantial increases in Sniper and Price Inline in 2009
- Recent uptick in Guerrilla suggests people care about spread costs

# Defining alternative pools

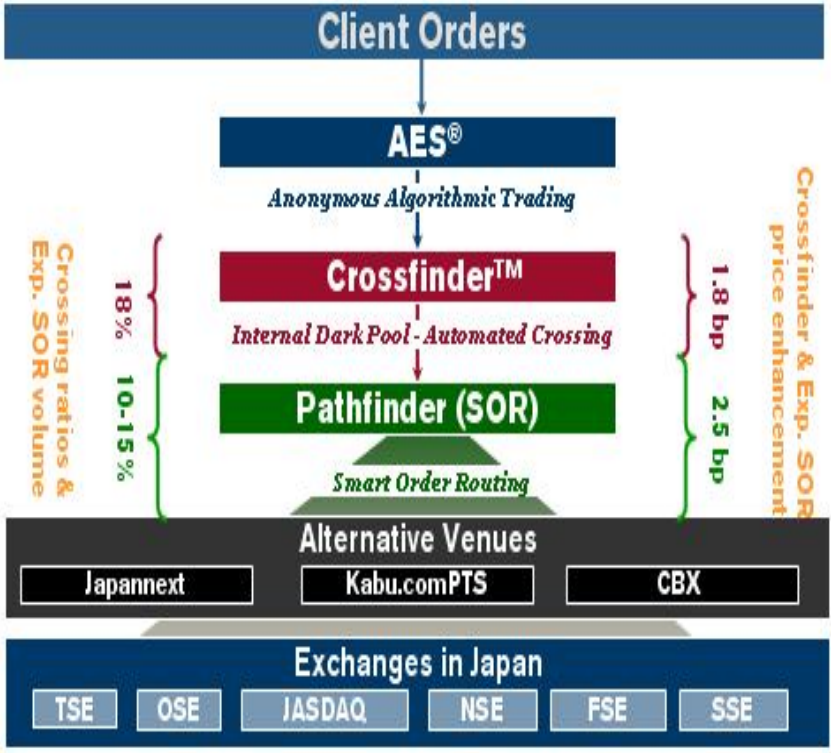
- **"Non-displayed liquidity"**
  - Displayed liquidity now being called "light pools"
  - Some categorization will include alternative venues
- **An old concept, new name**
  - This has been the role of brokers for years
- **Categorizing alternative Pools – by ownership**
  - Independent (Liquidnet, BlocSec, Instinet, ITG Posit, etc)
  - Broker/Dealer internalisation (CS Crossfinder, UBS PIN, Citi Match)
  - Consortium owned (Turquoise in Eur, BIDS in the US)
  - Exchange owned (Chi-x and SGX proposal in Singapore)
- **Regulatory implications affect it differently in each market**
  - Some regulation means it still needs to be report to central exchanges

# Typical Platform Setup

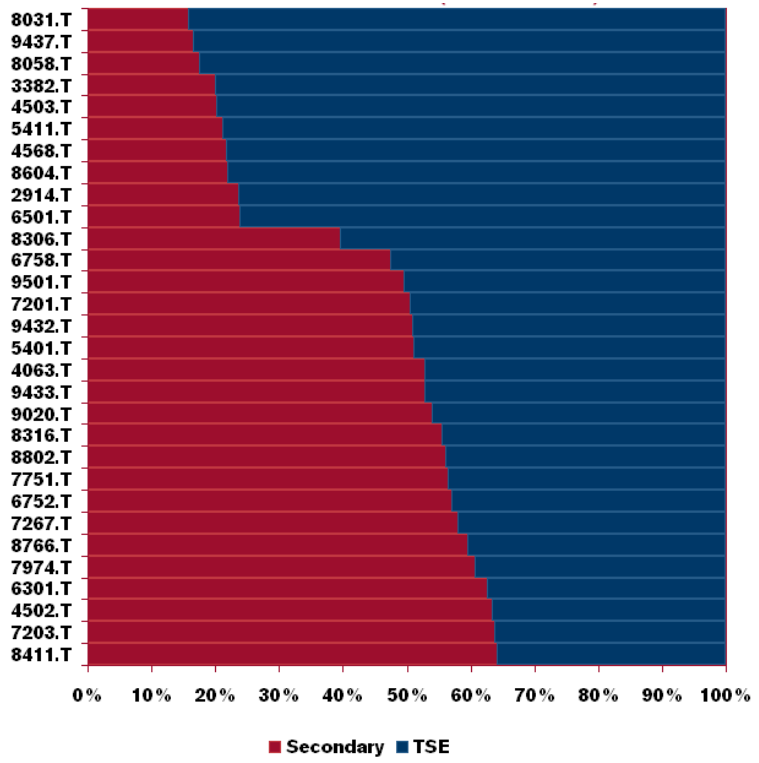


# Smart Order Routing

## Pathfinder - The Frontier of Execution Technology



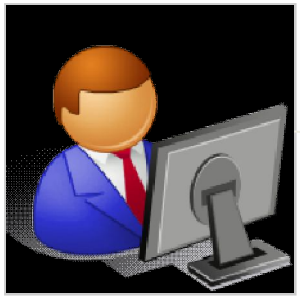

**WHERE IS THE BEST PRICE? (TOPIX CORE 30)**



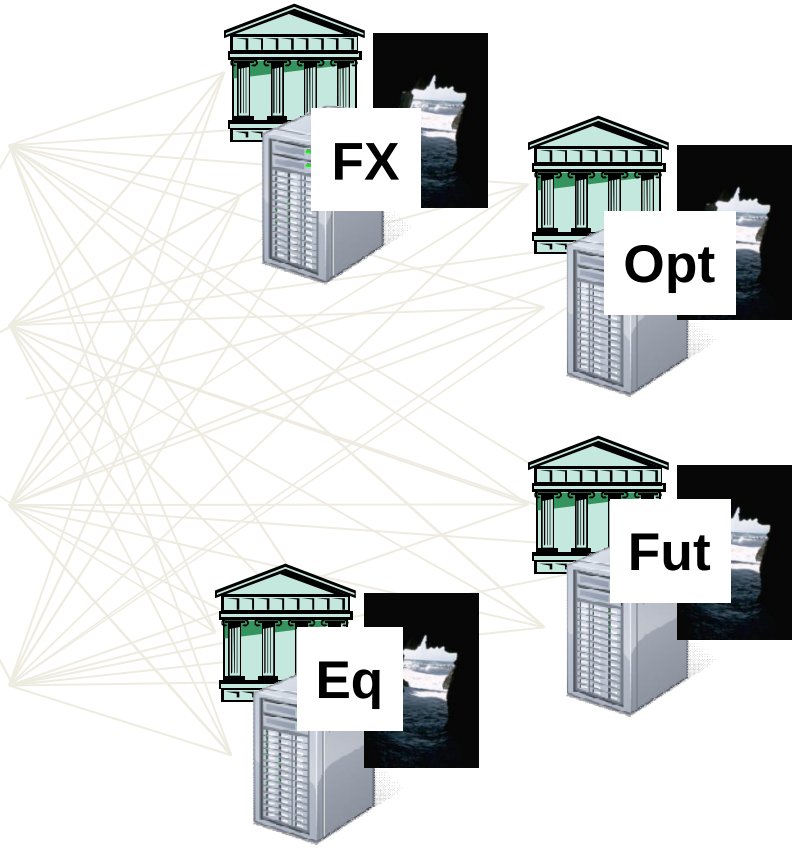

PATHFINDER SOR

- **Price enhancements of 3 bp for TOPIX 500**

# Going Multi Asset



Trade multi asset from your favorite EMS




- FX – access to multiple venues to find the best execution price

- F & O – efficiently trade in fast moving markets

# Global distribution from whatever is on your desk

Quick Buttons
BUY
BUY DMA
Buy 1,000 CHEUNG KONG HOLDINGS LTD (HKD) LMT DAY AES
EMSX Add Order
Last 97.85
Change 1.10
Bid 97.85
Ask 97.90
High 97.95
Low 96.80
Volume 1694796
VWAP 0.000
Montage
Side BUY
Quantity 1,000
Ticker 1 HK Equity
Type LMT
Limit
TIF DAY
Broker AES
HandInst ANY
CashQ HKD 0
Account
Instructions
Strategy VWAP
Broker Fields
Start Time: __:__
End Time: __:__
Max%Volume:
TRIGGER:
Rx:
Display Qty:
Additional Fields
GTD: __/__/__
StopPx:
OddLots:
ExecInst:
P/A:
CFD:
Settle: 11/17/09
ExchDest: HK
Add
Route
Manual
Clear

# Algorithmic Trading
# An alternative solution to trade

- Faster
- Smarter
- Cheaper
- Vision for Korea