



Corporate Profile





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**FASTER TECHNOLOGY FOR
CAPITAL MARKETS**

Executive Summary

Fixbytes Technology (incorporated and holding company in India, with 100% owned subsidiary in Hong Kong) is a financial technology solution provider for the **Capital Markets** (electronic high-frequency, high-performance, low-latency trading and algorithmic execution platforms) for all the asset classes (Equities, Fixed Income, Derivatives and FX), for the buy and sell-side institutions – Investment banks, Hedge funds, Asset manager, Fund managers, Institutional brokers, etc.

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- ▶ Fixbytes will deliver **full Institutional Front Office** platform (FIX Engine, Algorithm engine, Direct Market Access, Direct Strategy Access, Market connectivity, Exchange Simulation, etc) built on light-weight technologies like FIX, Ajax, Java, JMS, C# - **supported by complete Front Office resource support.**
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12 financial software products for Capital Markets

The chosen products are:

- **functionally different and competitive** in many aspects, which are benchmarked against the current leading market products;
- designed by the **lead technology architects** from leading investment banks and brokers;
- **priced attractively** for the markets;
- **flavored for the Asian markets (multi-lingual and multiple currency)** for easy implementation and support

Target Financial Markets are Hong Kong, Singapore, Japan, Australia, India, China, UK and US

Current Industry Challenges

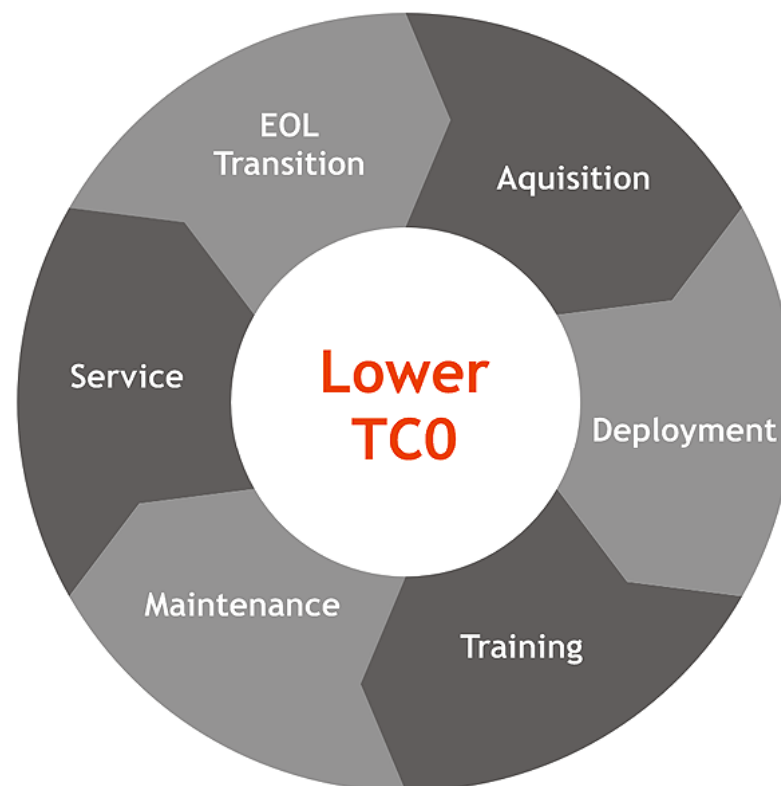
Factors	Challenges
Product coverage	<ul style="list-style-type: none"> • Few vendors provide end-to-end full Front-office suite
Product Support	<ul style="list-style-type: none"> • Limited, Costly or sometimes not available
Product Quality	<ul style="list-style-type: none"> • Missing key features like hot deployment, Web-based administration modules, true High-availability and integration components • Performance metrics (HF, latency, HA) are missing or wrongly published
High Availability	<ul style="list-style-type: none"> • Not adequate high-availability (HA) features to meet the required RTO demands
Customization	<ul style="list-style-type: none"> • Products are rigid and hard to customize (legacy technologies) • Products are heavy, thick – involves lot of coding and increases TCO
Integration	<ul style="list-style-type: none"> • Integration with existing systems is difficult and hard to customize, since adaptors are not defined
Time to Market	<ul style="list-style-type: none"> • Deployment life cycle is long and uncertain – multiple integration, multiple vendors, budget constraints, etc
Cost of Ownership	<ul style="list-style-type: none"> • With multi-vendor model, multiple integration touch-points and costly products – the TCO for the product rollouts and integration is expensive – as well as the recurring cost runs in millions of dollars



High Cost of Ownership

How Do We Address?

- Providing service / consulting capabilities on top of products
- Full suite of Front office products – with built-in interfaces and adaptors
- Use of light-weight / thin / platform independent technologies (with plug and play components) – Core Java, C#.NET
- Modular design and components
- UI based administration and configuration modules
- Hot deployment i.e. run-time changes without system shutdown
- Automatic software-enabled High availability
- Improved performance and latency
- Faster deployment cycle (speed to market)
- Local Support and service available
- Software localization for Asian markets
- Localized training structure and execution



**Guaranteed Lower Cost of Ownership
by 25% !**

Solution Offerings

Solutions = Service + Consulting + Products

- Complete Front-Office suite
- Range of solutions using industry standard protocol FIX – support all FIX versions (v 4.x to 5.0)
- Automated Trading for all Asset classes (Equities, Derivative, Fixed Income, FX)
- For all Buy and Sell-side institutions
- Enables Straight Through Processing (STP)
- Broker neutral
- Solutions are built on Service Oriented Architecture (SOA)
- Integrated solution
- Consulting and services comes bundled
- Offshore support available



Fig: Full suite of Front Office Solutions

Why FIX-based solutions ?

- With ever-growing demand of *platform independent electronic trading solution* and the common accepted transactional protocols like Financial Information eXchange ('FIX'), the business potential for the acceptance of end-to-end trading solution using FIX will be on high-demand – especially for the Asian Markets.
- Investment banks, Asset managers, Brokers, Exchanges are striving to be FIX-compliant (or upgrading their FIX infrastructure) – and they are looking at solutions in the market (cheaper, faster)
- Newer markets like India and China are opening and looking at electronic execution innovations
- Asian Markets are attracting huge liquidity, equivalent to their US or European counterparts (with 'low-touch' trades increasing in demand and use) and FIX is playing crucial role in electronic platform developments
- Technology platforms favoring high performance, Straight through processing (STP) and FIX based systems are on high-demand
- Technology is increasingly playing pivotal role in high volume, secure transactions and CIOs are looking out for better, cost-effective and integrated systems
- IT spending on the electronically traded systems and FIX based systems will go up by 35%



Fixbytes will intend to be a premier FIX Protocol Premier member

The Financial Information eXchange (FIX) Protocol is a "specification" which defines specific kinds of electronic messages for communicating securities transactions between two parties. FIX defines only the format of the messages and the session-level interaction between two applications. For more information on FIX, please refer to www.fixprotocol.org

Enterprise Architecture (Sell-side)

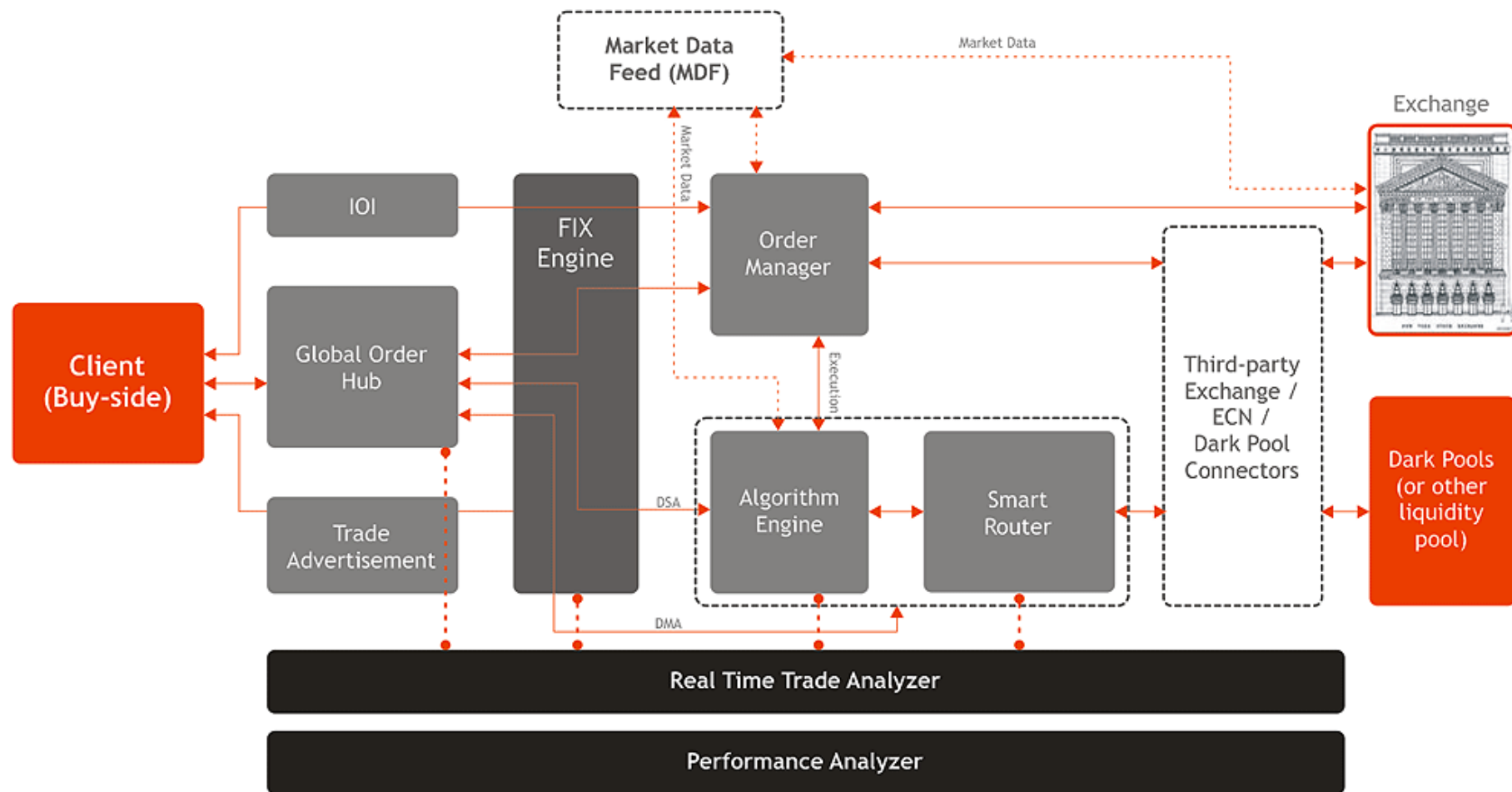


Fig: Enterprise Sell-side architecture for Straight Through Processing

Enterprise Architecture (Buy-side)

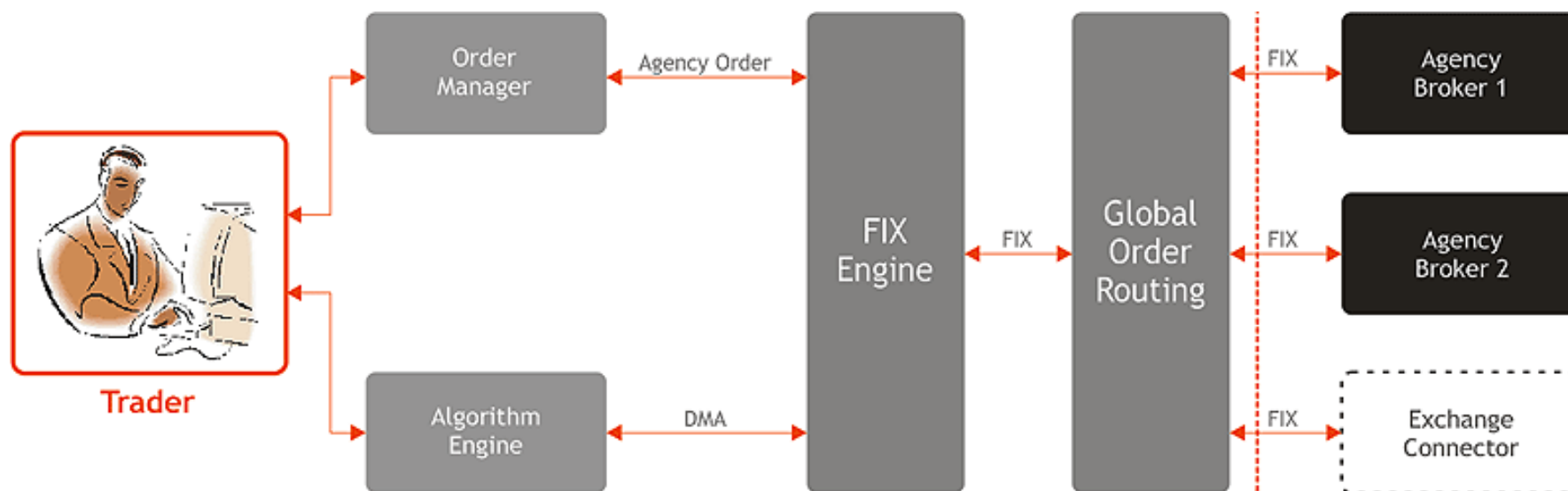


Fig: Enterprise Buy-side architecture

Products

- Fixbytes architecture (“Fixbytes Streamline”) brings best of enterprise architecture
- Products are built on pure Service Oriented Architecture (SOA)

Solution	Fixbytes products
FIX Engine (and FIX routing)	<i>FIX Fire</i>
Global Order Hub	<i>Globus</i>
Order Manager	<i>Eureka</i>
Algorithm Engine	<i>Algo Edge</i>
Smart Router for Liquidity	<i>Smart Router</i>
Real-time Trade Analyzer	<i>Instant</i>
Performance Analyzer	<i>Barometer</i>
Exchange Simulator	<i>Connect First</i>
FIX Testing & Certification	<i>Certify First</i>
Indication of Interest	<i>IOI Edge</i>
Trade Advertisement	<i>TradeAd</i>
Compliance Engine	<i>Assure</i>

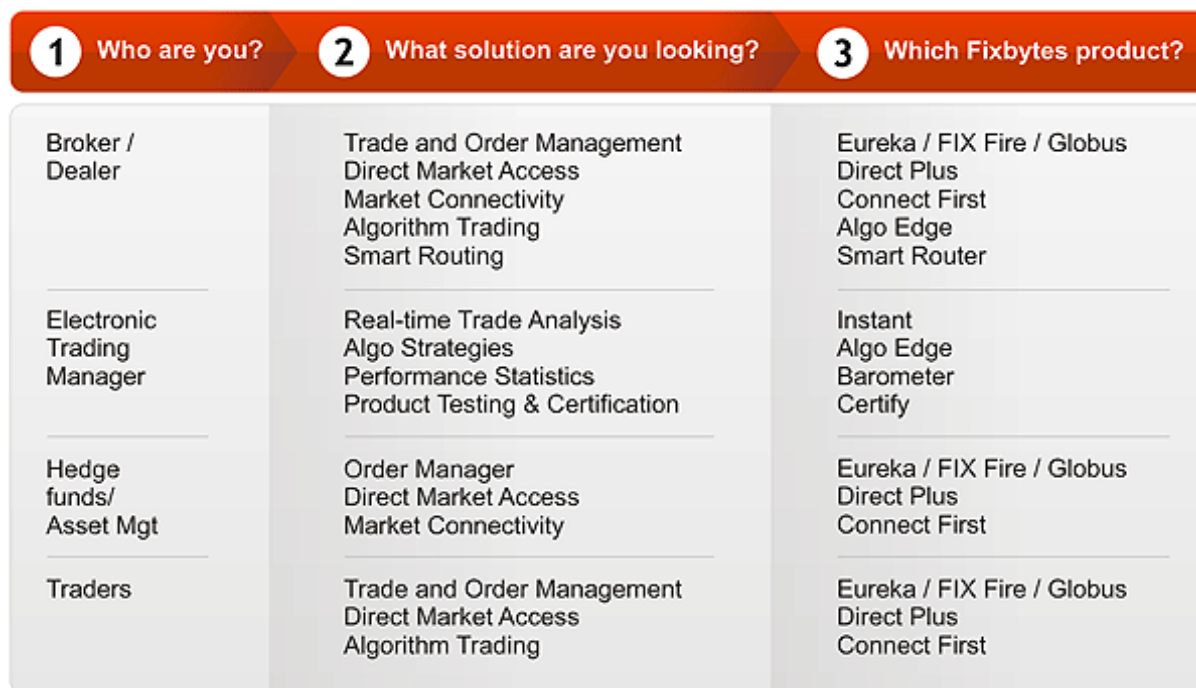


Fig: Solution-drive approach rather than product driven

Services framework

Full spectrum of Service offerings for Front to Back Office requirements

Onsite and Offshore support options available

Billing rates tailored as per your cashflow

<p>Consulting</p> <ul style="list-style-type: none"> Testing & QA FIX Front Office 	<p>Technology Resourcing</p> <ul style="list-style-type: none"> Front Office Middle Office Back Office 	<p>Testing & QA</p> <ul style="list-style-type: none"> Offshore Testing Testing CoE End-to-end Testing
<p>Offshore Support</p> <ul style="list-style-type: none"> Production Support Testing Application Support 	<p>Training</p> <ul style="list-style-type: none"> FIX Front Office Fixbytes products 	<p>Package Implementation</p> <ul style="list-style-type: none"> Fixbytes products Package support Customization

Services - Consulting

Enterprise Architecture Consulting

- Service oriented architecture review for Front Office
- Existing Enterprise Architecture gaps and recommendation

FIX Consulting

- Consulting services from planning, designing and implementing FIX solutions (FIX Engine, FIX Testing & Certification, FIX Connectivity, FIX-to-FIX routing, FIX adaptors, etc)
- FIX and Connectivity solution
- Design and specifications for FIX testing (manual and automated)
- FIX functional and regression testing
- FIX Certification and Training (Products and Specifications)
- FIX Training Migration from legacy system to FIX-enabled platform

Quality Assurance / Testing

- **Offshoring testing practice** (team size from 5-50) – *skills* QTP, Rational, Mercury, LoadRunner, Bugzilla, etc
- Selection of test tools and framework
- Feasibility, sizing and scoping of all the projects
- Preparation and execution of test cases
- Automated and Regression testing

Services – Technology Resourcing

Business Analyst (Front Office to Back Office)

Skills: Business Analysis, Requirements gathering, Specification preparation, Testing and knowledge on FIX, OMS, DMA, etc

Front Office / Middle Office / Back Office development and support (including Market connectivity)

Skills: Java, C#, C++, Messaging (TIBCO/MQ), Unix/Linux, FIX, databases (Sybase, SQL Server, Oracle), Tools (Maven, Eclipse, SVN), DMA, Smart Router, OMS (Fidessa, Charles River), etc

FIX development and support

Skills: Core Java, Messaging (JMS/MQ/TIBCO), Spring, Hibernate, FIX Fire, Cameron FIX Server, Tools (Maven, Eclipse, SVN)

Algo development and support

Skills: Algo strategies, Core Java, Messaging (JMS/MQ/TIBCO), Spring, Hibernate, FIX, Data grid technologies (Gigaspace, Coherence, etc)

Application Support (Production Support)

Skills: Trading floor support, SQL, Server side UNIX Shell Scripting, FIX, Perl, Front office products, DMA, Database (Sybase / Oracle), etc

C++ / UNIX Developer

Skills: C / C++, UNIX / Linux, Perl, Unix Shell scripting, SQL, Sybase / Oracle

Testing & Quality Assurance

Skills: Testing experience in Front office products (OMS, DMA, Algo), Tracking tools (JIRA), Transact SQL, Server side UNIX, Market connectivity, FIX protocol, any Testing tools, etc

System Administrators

Skills: Sybase DBA, Oracle DBA, UNIX Administrator

Application Architects

Skills: Java / C++ architecture, Design patterns, Application models, UML, design tools (Rational, etc)

Services – Testing & Support

Software Testing

- Setting up the offshore testing practice
- Testing Team size from 5-50 (onsite or offshore)
- Testing Tools: TestDirector, Quality Center, QTP, TestPartner, JIRA, ClearQuest, etc
- Consulting-led Services to enable optimum testing investment
- Domain and Technology-based Center of Excellence (CoEs) to facilitate subject matter expertise
- Project management services for overall testing and QA projects

Production Support

- Setting up Offshore Support Center (OSC)
- Production Support Team size from 5-50 (Level 2)
- Skills and experience availability – UNIX scripting (Shell, Perl), PL/SQL, Sybase, Oracle, FIX, Java / C++, etc
- Onsite production support (Trading floor support) – 6 month+ contracts
- Production system analysis and reviews (system health check and improvements)
- System administration (or managed services) outsourcing – FIX, UNIX, Sybase, Oracle, SQL Server, Sun-Solaris, HP-UX

End of Presentation

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