



## TRADExpress Internalization System

Enables any bank to rapidly deploy a fully operational internal trading platform.

### Introduction

TRADExpress Internalization System enables any bank to rapidly deploy a fully operational internal trading platform.

Investment banks with significant order flow may benefit substantially from introducing an internal trading facility. It might be either for systematic internalization or as an internal crossing facility, creating a dark pool of liquidity. Optionally you can allow your customers direct access to this dark pool.

Cinnober is the leading technology provider offering a proven, full-service, pre-built internal trading facility. The Internalization System marries technical excellence with sophisticated yet robust business functionality.

If your bank is starting internalization, the shrink-wrapped Internalization System will enable you to dedicate your resources to other priorities. If you already are running an internalization process, the system is the perfect building block to link up to your existing smart order routing system.

Your investment in TRADExpress will result in lower transaction costs for you and your customers. Key features include:

- Proven, high performance trading technology that is ready for immediate deployment
- Leadership in low latency
- Operational stability
- Quick and easy specification of trading rules
- Within the EU, pre-configured connectivity to Markit BOAT™, the trading platform built and hosted by Cinnober
- Support of standard protocols, such as FIX 4.4

### Business functionality

- A state-of-the-art trading engine with
  - solutions for equities as well as equity and index options and futures
  - handles equities and derivatives trading in the same system
  - allows the same instrument to be traded in more than one order book, for instance in different currencies
  - support for both order-driven and quote-driven markets
  - support for both continuous trading and auctions markets
  - support for request-for-quote and bulletin board markets
  - support for standard order types, as well as combination orders
  - supports order types like limit, market, discretionary, fill and kill, fill or kill, good till date, good for day, good till cancelled, good until next uncross
- supports stop-loss orders and accept orders
- support for dark orders, iceberg orders and pegged orders
- aggregated market data feeds, as well as full order depth
- the ability to easily and inexpensively create and/or change trading strategies using TRADExpress Trading Beans™
- changes or additional functionality can easily be implemented by reconfiguration without code change or system rebuilds
- Opportunities for growth
  - a predictable return on investment
  - around-the-clock live operation (with a service window of under an hour per week)

## The TRADExpress Platform

The Internalization System, as with all of Cinnober's offerings, is based on the TRADExpress platform, which includes all infrastructural components needed for mission-critical transaction solutions. It provides outstanding performance in terms of low latency, high throughput, scalability, easy monitoring and fault tolerance.

TRADExpress is currently in production in several demanding, high-transaction environments.

TRADExpress is implemented in Java and is thus platform-independent. It runs on all hardware and software platforms that support Java Virtual Machine (JVM) and supports a wide range of operating systems and databases (Oracle, MySQL, IBM DB2, Sybase, Microsoft SQL Server databases).

The platform has a fault-tolerant architecture that runs servers in redundant pairs, usually at two different sites. If a primary server fails, the hot standby immediately takes over without missing a beat – or a single byte. This means that no transactions are lost and the failover time is virtually zero.

Moreover, there is no need for specialized, expensive clustered disks or databases. This reduces the cost of production and test environments and simplifies deployment.

You can optimize the choice of HW and SW platforms considering both procurement and support costs as well as the operating experience of your own organization.

Passion for change | Cinnober provides mission-critical solutions to the world's most demanding financial marketplaces.

We are passionate about one thing: applying advanced financial technology to help marketplaces seize new opportunities in times of change.

We build partnerships with our customers based on trust and transparency. We serve banks, exchanges, brokerage firms and other actors that have extreme demands on business functionality, high throughput and low latency.

We currently have product-based offerings for a number of areas, such as marketplaces, post-trade management and binary markets. All solutions use our TRADExpress™ technology, designed for scalability and flexibility.

Among our customers are Alpha Trading Systems, Turquoise, Markit BOAT, the Chicago Board Options Exchange, Liffe NYSE Euronext, the London Metal Exchange, Deutsche Bank, Borsa Italiana and the American Stock Exchange.

We are an independent provider of marketplace solutions, and do not operate a market of our own, avoiding any conflicts of interest. We are not owned by – nor have any ownership interests in – any market operator.

Our track record says it all. We help our customers turn change into a competitive advantage.



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