

Proven trading system built to support innovation and change

Built to support business growth, X-stream is a proven multi-asset trading solution that combines exceptional performance and rich functionality with unparalleled flexibility and adaptability.

Proven, with more than 18 installations in 14 countries, X-stream provides the operational efficiencies needed to rein in costs and maintain profitability as well as the robust functionality necessary to fully meet client demands. At the same time, X-stream's flexible architecture is a powerful tool that enables marketplaces to grow and adapt as their business grows and requirements change.

X-stream is the ideal solution for marketplaces that expect their requirements to expand and also need to effectively manage costs. With X-stream, marketplaces can strengthen performance and functionality as needed and pay only for what they actually require.

X-stream product family

X-stream offers three distinct editions with each succeeding version raising the bar on functionality, capacity, performance and latency. Designed to seamlessly integrate, there is no data migration or additional operational training required from one model to the next, which translates into faster time to market.

- **Standard Edition (XSE):** Geared for markets that want to become operational with minimum effort and cost and that plan to trade non-complex products, XSE is an out-of-the-box solution that provides all the functionality required to operate an exchange for equities and fixed income markets. In addition, XSE offers functionality such as trade reporting and the generation of index market data. Simple parameter changes provide the necessary flexibility for the target markets.
- **PLUS Edition:** An extension of Standard Edition, PLUS Edition is designed for markets that require derivatives trading capabilities -- including warrants, futures, repos, single stock and index options.
- **Custom Edition:** An extension of Plus Edition and driven by customer needs, Custom Edition incorporates the specific functionality and tailoring requested by individual customers. Custom Edition is appropriate for trading in sophisticated asset classes, such as interest rate and credit derivatives, which by their nature, require specialized functional enhancements.



Key benefits

All editions of X-stream offer the following advantages:

- **Integrated multi-asset class trading:**

Equities and fixed income securities can be traded simultaneously on a single robust platform. With PLUS and Custom editions, derivatives markets can be incorporated into the platform as well.

- **Unparalleled flexibility:**

An extensive plug-in library covering up to 300 functions can be used to customize X-stream's more than sixty algorithms and processes without having to modify the main system. In addition, the transition manager enables the effortless change of business rules during a trading day through scheduled or operator initiated events.

- **Rapid time to market:**

The plug-in library enables new business functions to be easily and safely introduced without impacting existing functions or system performance.

- **Exceptional performance:**

X-stream can sustain an order rate of over 4,500 orders/second with sub-millisecond latency.

- **Cost effective; easy to operate:**

Built on a low cost Linux platform and run on low cost commodity hardware, X-stream is highly cost efficient to test, deploy, maintain and upgrade. In addition, the learning curve is easy, enabling marketplaces to become operational with minimal effort and cost.

- **Robust fault tolerance and disaster recovery:**

Designed to have no single point of failure, X-stream provides a resilient and robust system through the use of fault tolerant processing with hot-standby capabilities for zero transaction loss during failover.

- **Standardized connectivity:**

Provides a purpose built FIX package (V5.0/SP1) for marketplaces that promotes efficient connectivity, interoperability and automation. The X-stream client API and various proprietary interfaces to major market data vendors – including Reuters and Bloomberg – are also offered.

- **Easy, cost effective migration path:**

All versions of X-stream are built on the same code base, making the migration to successive editions easy to implement and requiring no data migration or additional operational training.

Functional highlights

All editions of X-stream offer the following functional highlights:

- **Comprehensive market model support:**

Via the plug in module, X-stream can be configured to support a virtual endless array of market models. Examples include order and quote driven, specialist and hybrid, combined with market makers (primary and secondary), negotiated deals and RFQs, continuous auctions and periodic crossings.

- **Wide-ranging order type support:**

Supports all standard order types, order triggers, standard order durations and quantity restrictions. X-stream also provides capabilities for order sharing and transfers, crossing rules and 'on-behalf' processing.

- **Market maker support:**

X-stream provides real time market maker surveillance and offers the following features to support market makers: definable alarms; order book supervision with

minimum bid/offer and quantity size; price validation and validity time; rollover rules for spot month, second month or 'n' months; market maker quotes and order supervision; supervision schedules; order/quote depth, price and maximum spread supervision; and market maker protection from executing more volume than intended.

- **Market data management:**

X-stream provides a multicast low latency data feed which supports all standard market data dissemination capabilities.

- **Risk management:**

X-stream provides facilities to maintain holding balances, daily P/L, and bilateral credit limits in real-time through the trading day. These facilities can be deployed using a wide variety of models to enable the management of risk at various stages of the trading process.

- **Market control and supervision:**

Provides the ability to configure trade alerts for market surveillance and at the user level so that each market operations role can be customized.



Technical platform

- Intel x86, 64 bit processors
- O/S: UNIX (including but not limited to Solaris, HPUX), Linux
- Database; IBM Informix RDBMS

Minimal technical requirements

- 3.0 GHz Dual Core Xeon processors with Linux OS
- 8GB RAM
- 2 x 160GB disk
- 2 x Gigabit network controllers

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For more than 30 years, NASDAQ OMX has been a leader in creating electronic technology solutions for the exchange industry. We have a long history of partnering with marketplaces worldwide to provide the strategic guidance, technology tools and ongoing support to help them meet their goals. With X-stream, in addition to gaining an exceptional technology platform, marketplaces benefit from the unwavering commitment and dedicated support of the world's largest exchange company. For more information, visit www.nasdaqomx.com/whatwedo/markettechnology.