



Millennium Exchange™



The reliable, scalable, flexible trading platform for financial markets

# Millennium Exchange™



An endlessly extensible electronic trading platform  
which can be deployed to trade virtually any  
product in any type of market.



# Reliable · Scalable · Flexible



Competition, consolidation, and regulatory changes have created an unpredictable yet opportunistic environment for the world's financial markets. To thrive in the current environment, you need a trading platform that moves as quickly as you do. The right trading platform will complement—not constrain—the rapid evolution of your business. The wrong one could mean the difference between success and failure.

Millennium Exchange, the flagship product of MillenniumIT®, offers marketplaces an endlessly extensible trading platform with the ability to grow and change as quickly as your business does. It can be configured to trade virtually any product in any type of market. The platform is built on rule-based, distributed, and fault tolerant technology, enabling it to be highly reliable, scalable, and flexible to meet your specific needs.

In addition to being comprehensive and flexible, a good platform must be easy to implement and cost-effective to run. Millennium Exchange is built to deploy quickly, resulting in a shorter time to market. It allows for fast and straightforward implementation of business logic changes by simply changing the business rules, resulting in lower support costs than other platforms. And most importantly, it is easy to use and understand, resulting in less training and administration time.

# Globally Proven Technology

## Millennium Exchange Key Performance Features

Scalable from 1,000 orders/second for “off-the-shelf” PC server based systems to 100,000+ orders/second for multi CPU, multi server systems with infiniband interconnect.  
Latency is less than 25 milliseconds—with guaranteed off-site disaster recovery.



## One Platform, Many Functions

From instruments and market structures to execution methods and multiple countries, Millennium Exchange permits a broad range of trading functionality.

All types of instruments can be traded, including equities, derivatives, fixed income, commodities, and synthetics. The platform supports order-driven, quote-driven, and hybrid market structures at electronic or floor-based marketplaces. Multiple users can connect to the system, including broker/dealers, market makers, specialists, floor brokers, and buy side institutional and retail clients.

In addition, Millennium Exchange:

- Permits marketplaces to define their own order book prioritization schemes, such as price-time, price-capacity-time, or inverse order books;
- Supports the parity-based allocation schemes used at floor-based exchanges;
- Automates the features of a voice broker market;
- Supports all standard order types, as well as more complex strategies such as implied and multi-legged orders; and
- Supports trading in multiple currencies and across multiple time zones.

## Sophisticated Order Management Features

Millennium Exchange is capable of intelligently handling requests to increase order quantity. To preserve the time priority of the currently displayed quantity, the platform supports the inclusion of the additional quantity as a separate order. The platform is also capable of automatically canceling an order on a specified event.



#### **Fast, Flexible, Dependable Implementation**

The wealth of functionality means nothing without a system for implementing, updating and supporting such a powerful platform. The strength of Millennium Exchange lies in MillenniumIT's proven technology.

#### **Business Innovation – Dynamically (BID)**

BID is a tool with which a client's business practices and rules can be incorporated into the platform without having to make changes to the actual software code. As such, Millennium Exchange can be customized to meet the exact business requirements of a client in a fraction of the time taken by traditional systems.

#### **Dynamic message and table definitions**

The structure and content of system messaging and database tables is controlled by the application, again allowing for customizations and changes to be made with unprecedented speed and efficiency.



# Real Benefits

Millennium Exchange is built as a message-based distributed system where a large number of small decoupled programs work cooperatively in a distributed environment to deliver the business functionality. This proven architecture and the resulting product provide a host of advantages:

**High Availability:** Proprietary fault tolerant technology where immediately available replica processes ensure uninterrupted trading even in the face of software or hardware outages.

**Top Performance:** Specialized processing enables the system to handle very large order rates—approximately 3,500 incoming orders per second per partition and 40,000 price quotes per second per partition using “off-the-shelf” hardware. At full rated performance, order latencies are less than 50 milliseconds for 90% of the orders.

**Low-cost Hardware:** Required levels of availability and performance are provided by the software, eliminating the need to invest in expensive, high-performance hardware. The software is also ideally positioned to fully exploit the capabilities of the new generation of multi-core processor-based hardware.

**Platform Independence:** Enables customers to pick the operating system of their choice.

**Reduced Bandwidth:** A new concept in market data delivery to local and remote desktops, spatial subscription gives “instant on” and “instant restore” capability to the user. As the rate of flow of data to the desktop is proportional to the data items visible on the screen, bandwidth requirements are significantly reduced.

**Regular Updates:** MillenniumIT continuously invests in research and development, spending close to 15% of revenue each year on product and technology enhancement. New product lines are launched every 12 to 18 months with patch upgrades in between launch dates.

**Short Deployment Times:** Smaller exchanges have been implemented from start to finish in less than three months, whereas larger exchanges have been implemented in 10-12 months. An ISO9001:2000 certified organisation, MillenniumIT's deployment processes are carefully validated and proven.

**24/7 Support:** MillenniumIT's 24-hour support center, located in Colombo, Sri Lanka, coordinates the worldwide support for warranty-based activity, maintenance calls, and time and material services, ensuring that your system is supported 24 hours a day, seven days a week.

## Related Products

**Millennium Surveillance™**  
Surveillance and Market Monitoring System

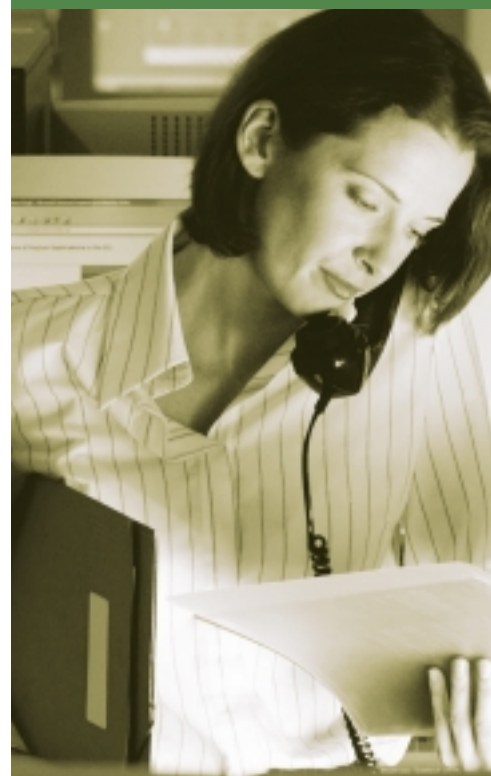
**Millennium Depository™**  
Central Securities Depository

**Millennium Settlement™**  
Clearing and Settlement System

**Millennium Trader™**  
Front-end Trading System

**Millennium Gateway™**  
Real-Time Protocol Converter of  
Dissimilar Networks

**Millennium StreetAccess™**  
Intelligent Order Management System



Millennium Exchange is the only platform solution that offers such great levels of reliability, scalability, and flexibility. Contact us today to learn more about how you can put Millennium Exchange to work for you.



Millennium Exchange offers a wide variety of functional and technical features:

#### Key Functional Features

- Equity, derivatives, fixed income, commodity, and synthetic trading
- Order-driven, quote-driven, and hybrid market structures
- Electronic and floor-based markets
- Trading on price or yield
- Multiple currencies and time zones
- Automated and manual auctions
- Unrestricted or controlled continuous trading
- Odd lot, partial round lot, and round lot trading on single or multiple order books
- Regular and non-regular settlement
- Comprehensive range of standard and complex order types
- Flexible order book prioritization schemes
- Sophisticated order management
- Publication of order book by price or by order
- Comprehensive range of other market data (e.g. top of book, last sale, high/low, VWAP, indices)
- Position and exposure management
- Internal trading restrictions
- Flexible fee structures
- Flexible user permission schemes
- Complete audit trail

#### Key Technical Features

- Distributed
- Message based
- Software fault tolerant
- User defined trading rules
- User defined roles for traders
- Spatial subscription
- Partitioning
- Operating System: Unix or Linux
- Database: Oracle

## MillenniumIT's International Offices

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