

# LSEG Markets Technology Exchange



The LSEG Markets Technology suite provides robust, scalable and high-performance solutions for operators of trading venues, clearing houses, central securities depositories and related businesses. The products are used by LSEG to operate its own businesses and are proven in demanding global markets and regulatory environments.

## Resilient, scalable, and adaptive trading system

LSEG Markets Technology Exchange is a multi-asset, multi-market, trading system designed for resiliency, high performance and ultra-low latency. It is proven in the most demanding and innovative trading venues across the financial markets infrastructure space, providing customers with the competitive advantage needed to succeed in the demanding and changing marketplaces they operate within.

With a diverse global customer base, LSEG's Exchange product provides a fully integrated, reliable and cost-effective solution that meets a global set of trade execution requirements. It is a resilient system with an extensive and rich range of out-of-the-box functionality and a proven track record of solid up-time and operational availability.

## Key facts

### 01

**Best-in-class technology and reliability:** The hallmark of LSEG Markets Technology Exchange is its robust fault tolerance and disaster recovery capability that has recorded unparalleled uptime across its implementations. The resilient system is designed to avoid single points of failure and uses parallel, concurrent processes to ensure zero transaction loss during all types of failover events.

### 02

**Feature rich trading system:** Out-of-the box trading solution for all asset classes on a single robust platform that meets standard trading requirements off-the shelf, leading to reduced time-to-market and lower implementation risk.

### 03

**Leveraged on by 20+ markets around the globe:** LSEG Markets Technology Exchange is a solid technology foundation on which a diverse set of 20+ clients rely to provide trusted and stable markets to their members, with a history of delivering against requirements in some of the world's most sophisticated regulatory environments.

### 04

**High performance and throughput:** Benchmark latency of <30 microseconds and throughputs of 100,000 orders per second/partition (scalable up to a million orders per second) on off-the shelf commodity hardware.

### 05

**Unparalleled uptime record:** Track record for resiliency with 99.999% uptime across tier-1 markets.

### 06

**Deployable on cloud:** Leveraging the latest technology stack to reduce total-cost-of-ownership (TCO) and time-to-market.

### 07

**Scalable system::** Scalable both horizontally and vertically to quickly respond to increased transaction volumes without software changes, solely by means of application configuration.

### 08

**Market-driven product roadmap:** A product-based implementation approach follows an industry-validated functional and technical roadmap.

## Functional highlights

### 01

**Multi-asset and market support:** Extensive support for a multitude of asset classes including equity, fixed income, currencies, commodities and their derivatives. Capability to roll out multiple market structures within the confines of a single venue.

### 02

**Wide range of matching algorithms:** Easily configurable matching logic from existing methodologies such as order types and time qualifiers to reflect the liquidity/volatility profile of the market or a specific group of instruments.

### 03

**Market maker support:** Market maker protection and monitoring combined with highly deterministic latency profile to support high frequency quoting.

### 04

**Implied in, out and across orders:** For derivatives strategies, increase liquidity by deriving liquidity/orders within strategy order books and/or leg order books based on resting orders.

### 05

**Comprehensive set of pre-trade risk filters:** Enhance market integrity with trading safeguards such as fat finger checks as well as exposure based pre-trade risk checks to ensure orderly trading.

### 06

**Low latency binary gateways for HFTs:** End-to-end gateway latency of <30 microseconds along with highly deterministic latency profile.

### 07

**Market data and Integrated Index calculator:** For better monetisation of your data, leverage a variety of real-time index computations and enriched market data solutions.

### 08

**RFQs and trade negotiations:** Tools to facilitate liquidity formation/discovery without the risk of information leakage.

### 09

**Integrated market operations:** Intuitive browser-based business operation UI for efficient market control, supervision and reference data management.

## Key business benefits



**Easy deployment and configuration:**

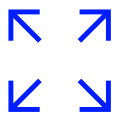
An easy to configure system, facilitating unique market structure requirements. The core system provides readily deployable, out-of-the-box functionality on which enhancements can be quickly brought to market.



**Market Ready:** Equipped with core exchange operational requirements (MiFID-II/Dodd-Frank) that are applicable to a variety of tier-1 market models ensuring minimal conformance effort.



**Ease of Integration:** Able to on-board trading participants quickly via an industry standard gateway framework that promotes efficient connectivity, interoperability and automation. More than 100 ISVs have already established connectivity to the LSEG Markets Technology Exchange system.



**Low total cost of ownership:** Optimise infrastructure investment by deploying the system on either physical hardware or directly on the Cloud. The system is fully scalable both horizontally and vertically, allowing for rationalised infrastructure investment to match the scale of the operation as the business grows, while preventing unnecessary infrastructure tie-in.



**Fast time to market:** Technology and feature enhancements are delivered through frequent upgrades and a managed roadmap that considers time-to-market, emerging technology enhancements and the cost of ownership.

## Key components

**LSEG Markets Technology Exchange is a fast, resilient and functionally complete trading system that supports multiple markets and assets on a single platform.**

The product leverages a distributed process architecture, where logical units of a large system are broken down into smaller manageable processes, deployed on off-the-shelf commodity servers and high-bandwidth networks.

Individually designed, decoupled and modular components are at the root of the clean software design of LSEG Markets Technology Exchange. This architecture is key to remaining cost-effective and competitive in today's fast evolving marketplace.

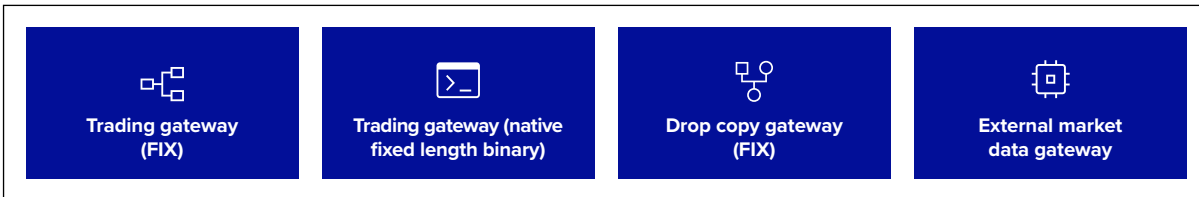
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### Key components of LSEG Markets Technology Exchange

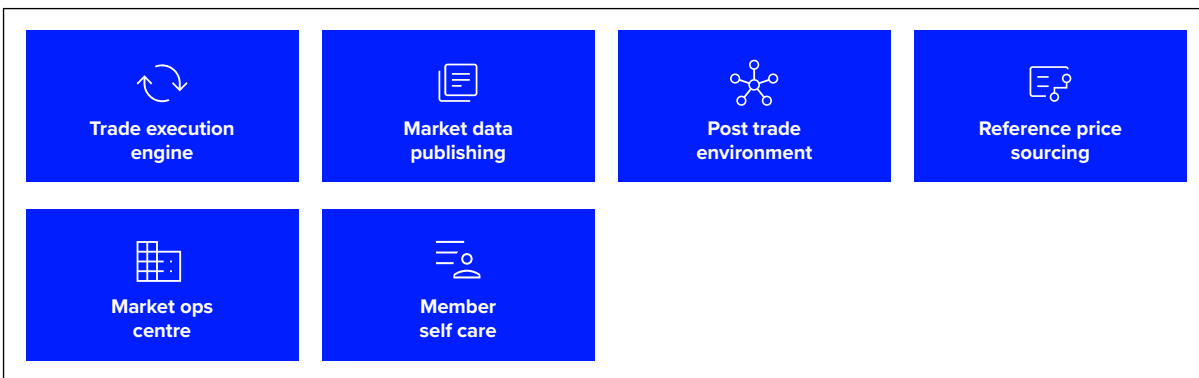
#### Integrated markets



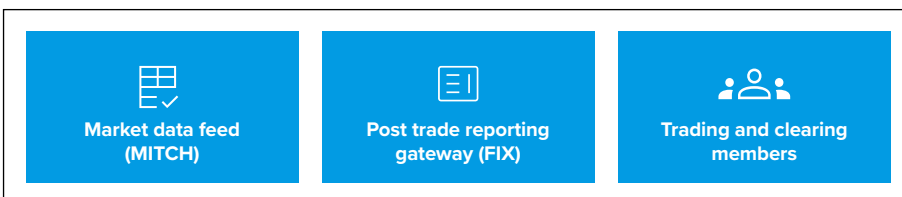
#### Inbound gateways



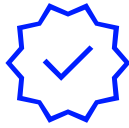
#### Trading components



#### Outbound gateways



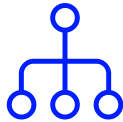
## Technical overview



**Leveraging a proven technology platform:** LSEG's Exchange product is built on top of the LSEG Markets Technology Advanced Platform, enabling high performance real-time processing together with the superior resiliency that characterises all our products from order routing to post trade across our customer base.



**Extensive performance and scalability:** Operating on a low-cost Linux platform and running on low maintenance commodity hardware infrastructure or directly on the Cloud, LSEG Markets Technology Exchange is cost-effective to test, deploy, maintain and upgrade. Benchmark latency of <30 microseconds and throughputs of 100,000 orders per second/partition (scalable up to a million orders per second) on off-the shelf commodity hardware.



**A feature rich flexible system:** LSEG Markets Technology Exchange provides functional and operational flexibility through a wide array of parameters and rules. This enables short build-to-production time with configurable rule-based mapping and data modelling capabilities. The creation of new asset-classes, order-types, matching-logic, etc. can be achieved without changes to underlying code. All its core features (e.g. instrument models, extendable messaging protocol, matching rules, reference data validation rules, user hierarchy, permissions) are configurable, without needing to modify the code. This enables many complex changes and additions to be made quickly, without an impact or risk to the rest of the system.



**Ensuring resiliency and quick recovery:** This multi-component system is managed by LSEG's proprietary process management and life-support system, SysGuard. This approach eliminates single points of failure, ensuring resiliency and quick recovery to provide an uninterrupted service.

## Technical platform

LSEG Markets Technology Exchange is platform and architecture independent and can be deployed across a varying spectrum of configurations.

- Physical or Cloud deployment
- Distributed, message-based
- Software-based fault tolerance with zero data loss

- Business rule engine
- Web-based front ends
- Database: Postgre SQL or Oracle
- Operating system: Linux

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## Contact us

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