

speed > price > transparency



LMAX Exchange engaged Percona to:

- Handle infrastructure concerns, and optimize the database environment
- Guarantee database uptime
- Provide ongoing support and technical expertise for database issues when needed

LMAX Exchange Uses Percona Support to Provide Accurate, Accessible Customer Trading Data

[LMAX Exchange](#) is the world's leading MTF for FX (foreign exchange) and one of the UK's fastest growing financial technology companies. LMAX Exchange delivers the unique benefits of complete pre- and post-trade transparency, "exchange quality" FX execution, and a secure, level playing field for all market participants.

To fulfill these requirements, LMAX Exchange chose a two-tier database approach, utilizing a custom in-memory high performance "core" data store backed by a Percona database. Together this system processes tens of millions of transactions daily, volumes that are driven by millisecond to millisecond fluctuations in FX market prices. The custom in-memory data store handles the immediate microsecond level response, and the MySQL data store handles customer data, including trades and other financial information. This combines the advantages of speed and ultra-low latency with the more readable and accessible long term storage of a Percona database. This data can then be queried and retrieved more easily by applications and customers.

"Most of the changes to our core in-memory data store don't result in any transactions – they're just updates to reflect market conditions," said Andrew Stewart, Director of Strategy and Research at LMAX Exchange. "But when customers engage with our system, we need to make sure that this information is reliable, available and – most importantly – easily accessible."

LMAX Exchange contacted Percona to help ensure that the data their customers need is readily searchable and queryable anywhere, anytime. Percona's expertise and reputation as open source database experts – as evidenced in their [Database Performance Blog](#) – was a deciding factor in LMAX Exchange's choice.

"As a financial technology company, we strive to provide a transparent and always available environment to our customers. This means guaranteeing ultra-low latency execution (within microseconds) at 'internet scale.' We depend on our hybrid database architecture to deliver accurate and up-to-date information to our clients, with no loss of performance or usability. Percona technical support is an invaluable part of this equation."

- Andrew Stewart, Director of Strategy and Research at LMAX Exchange



Percona's initial engagement was in the form of a [Database Performance Audit](#), which assessed the status, health and settings of the long-term database and its connections and interactions with the core database. This audit produced a number of suggestions designed to optimize the communication between the data stores, as well as ways to make the Percona database more responsive and available, including:

- Main database configuration (including hardware and OS, and MySQL configuration, InnoDB settings, schema and general recommendations)
- Log database (including MyISAM usage, queries, key buffer size and IO scheduler)
- Client behavior in the connections pool settings
- Instrumentation around monitoring, trending, backup and disaster recovery
- Architecture (including data size, capacity planning, high availability structure and hardware resources)

The implemented recommendations allowed LMAX Exchange to achieve response times that matched their customers' expectations in order to have a great user experience, without affecting the performance of the whole database environment.

LMAX Exchange continues to engage Percona support so that they can rely on Percona's expertise anytime a shift or change in workload affects customer experience. With Percona, LMAX Exchange enjoys peace of mind knowing that any database issue that they encounter that impacts their ability to deliver a world-class customer experience – at internet scale – will be handled by experts that know how to address the problem.

Percona XtraDB Cluster provides a stable environment for high availability and replication

LMAX Exchange uses [Percona XtraDB Cluster](#) as a replication solution for their transactional data. Percona XtraDB Cluster provides a cost-effective, robust solution for applications that require synchronous replication of data, fault tolerant failover and quick, easy scalability across commodity, off-the-shelf hardware. Organizations use Percona XtraDB Cluster to power highly available applications and the most demanding public, private and hybrid cloud environments. Percona XtraDB Cluster is fully compatible with MySQL®, MariaDB® or Percona Server® for MySQL.

Percona Support guarantees database optimization

LMAX Exchange subscribes to [Percona Support](#). Percona Support is a highly responsive, effective and affordable option to ensure the continuous performance of your MySQL and MongoDB® deployments. Our user-friendly support team is accessible 24x7x365 online or by phone to ensure that your databases are running optimally. We can help you increase your uptime, be more productive, reduce your support budget, and implement fixes for performance issues faster.

"Percona's experts talk directly with 'Tier 3' support. Their database knowledge and obvious familiarity with technical issues mean we don't waste time working through a set support script – they get right into heart of a problem. Knowing they are available at any time to handle database questions or issues, with expert advice, provides us with incalculable peace of mind," said Andrew Stewart.

Contact Us Now

To determine what open source database solution is right for your business, please call us at +1-888-316-9775 (USA), +44 203 608 6727 (Europe), or email us at sales@percona.com.