

In First Cloud-Based STAC-M3 Benchmark, McObject and Lucera Set Records for Market Data Analysis

FOR IMMEDIATE RELEASE

Lucera partners with McObject to offer eXtremeDB Financial Edition database system as a service in its high-performance cloud for financial institutions

Federal Way, WA and New York, NY — November 19, 2014 — McObject®, developer of the eXtremeDB® Financial Edition database management system (DBMS) for capital markets, and Lucera Financial Infrastructures, a premier provider of on-demand high-performance infrastructure to power electronic trading, announced the availability of a STAC Report™ on the first cloud-based STAC-M3™ benchmark assessing high-speed analytics on time series trading data. McObject and Lucera also announced a partnership in which Lucera will offer eXtremeDB Financial Edition as a service for applications hosted on the Lucera Compute™ high-performance, collocated cloud computing infrastructure for financial institutions.

The partnership marks the first time that a low-latency DBMS has been ported to a cloud-based platform and offered as a service to its users.

In the tests conducted by the Securities Technology Analysis Center (STAC®), eXtremeDB Financial Edition and Lucera Compute achieved record-setting results executing complex queries that were designed by trading firms on the STAC Benchmark™ Council to reflect real-world capital markets computing demands. Together, the DBMS and cloud-based infrastructure beat standing records in five of the 17 benchmark tests. Compared to previous STAC-M3 benchmarks using different DBMSs, the McObject-Lucera pairing delivered performance that on average is

- More than three times (3x) as fast as the best previously published result for the Multi-User Intervalized Statistics – 50 Threads benchmark (*STAC-M3.β1.50T.STATS-UI.TIME*)
- More than twice as fast for the Multi-User Intervalized Statistics – 100 Threads benchmark (*STAC-M3.β1.100T.STATS-UI.TIME*)
- More than twice as fast for the National Best Bid and Offer benchmark (*STAC-M3.β1.1T.NBBO.TIME*)

Clients will benefit from the speed of McObject's and Lucera's combined solution via more competitive trade execution, timely risk assessment, and improved strategy formulation via rapid back-testing all while using Lucera's on-demand compute capacity. eXtremeDB Financial Edition simplifies coding by enabling the use of SQL and Python in low-latency trading, and Lucera Compute™ eliminates the need for infrastructure build-out, thus reducing costs and cutting deployment time. eXtremeDB Financial Edition's built-in redundancy and recoverability combine with Lucera Compute's non-stop support and monitoring to provide the highest reliability for mission critical financial systems.

The fully audited STAC-M3 benchmark evaluated time-series data (tick database) management on four SmartOS instances of Lucera Compute™ (64 cores total). Clients written in Python accessed McObject's DBMS using the industry-standard SQL database programming language. Storage consisted of striped enterprise solid state drives instead of specialized low-latency storage devices. Tests utilized the DBMS's columnar data storage and vector-based statistical function library, and leveraged new features in eXtremeDB Financial Edition 6.0 including distributed query processing (the database was partitioned horizontally across 64 shards) and the ability to pipeline vector-based functions from within SQL.

"Organizations rely on Lucera to tame growing volumes of market data and gain the performance needed for successful trading, while managing costs and meeting regulatory requirements. The new STAC-M3 results confirm eXtremeDB Financial Edition's valuable role in helping to meet these goals. McObject is pleased with the benchmark outcome and also with our new partnership with Lucera, which makes eXtremeDB Financial Edition available as an on-demand service for the first time, adding a new dimension in flexibility for our customers," said Chris Mureen, chief operating officer of McObject.

"Financial services organizations historically have been slow to adopt cloud computing technology, which previously could not provide the combination of security, performance and reliability needed by our industry," said Jake Loveless, CEO of Lucera. "Through our partnership with McObject we are able to demonstrate that you can have the best of both worlds: the flexibility and economic efficiency of an on-demand infrastructure and the high performance necessary in today's competitive financial landscape. This benchmark was broken not using custom, on premises, high capex systems – but rather using only four Lucera Compute™ instances collocated in the Equinix Chicago CH2 datacenter. From a price and performance perspective – this is an entirely new level of value."

The performance of eXtremeDB Financial Edition on Lucera Compute, as evidenced by these STAC-M3 Benchmarks, recommends their use together in financial systems including:

- Trade and order execution
- Algorithmic back-testing of data
- Real-time risk analytics and reporting
- Correlation of trading and exposure across multiple asset classes and trading venues
- Real-Time ingestion and analytics of high volume market/OPRA data

"STAC streamlines the efforts of the finance industry to evaluate new technology for strategic business tasks, with tests that are carefully audited and based on objective standards specified by financial firms. STAC-M3 Benchmarks are a rigorous way to understand the performance of technologies that can be used to manage tick data. Through this independently audited STAC Report, McObject has effectively used STAC-M3 to shed light on the performance potential of a previously untested combination of distributed database technology and a cloud architecture," said Peter Lankford, STAC founder and director.

The STAC-M3 Benchmark suite is the industry standard for testing solutions that enable high-speed analytics on time series data, such as tick-by-tick market data. See the full report at www.STACresearch.com/mcobject.

About McObject

Founded by embedded database and real-time systems experts, McObject offers proven data management technology that lends a competitive advantage to capital markets systems. McObject counts among its customers industry leaders such as TradeStation, NSE.IT, SunGard Kingstar, Transaction Network Services, Dalian Commodity Exchange, Financial Technologies

of India Ltd. (FTIL), BAE Systems, Northrop Grumman, Siemens, Philips, EADS, Spirent Communications, F5 Networks, Motorola and Boeing. McObject, based in Federal Way, WA is committed to providing innovative technology and first-rate services to customers and partners. The company can be reached at +1-425-888-8505, or visit <http://financial.mcobject.com>.

About Lucera

Lucera Financial Infrastructures, LLC is a premier provider of on-demand, scalable high-performance infrastructure designed to power electronic connectivity and trading. Lucera's fast, open and intuitive platform is engineered to enable customers to securely leverage our powerful, high-speed and resilient electronic trading infrastructure. We empower our customers with on-demand provisioning and transparency that help them enhance performance, lower cost of operations and provide best in class service.

Lucera is a privately held, New York based firm launched with initial backing from Cantor Fitzgerald, a leading global financial services firm and active Lucera customer. Visit us at www.lucera.com.

Media Contact:
Ted Kenney, McObject LLC
press@mcobject.com
425-888-8505

Gavan Corr, Lucera Financial Infrastructures LLC
sales@lucera.com
888-979-0253

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