

IBM posts record STAC-M3™ scores for IBM System x3750 M4

IBM System x3750 M4 with four Intel Xeon E5-4650 processors, Intel DC S3700 solid state drives, and Kx Systems kdb+ 3.1 demonstrates world record performance for tick database applications

October 2, 2013 ... IBM® announces STAC-M3™ Benchmarks (the “Antuco suite”) benchmark scores for the IBM 3750 M4 server using the 8-core Intel® Xeon® Processor E5-4650, 800 GB SATA MLC Intel DC S3700 solid state drives, and Kx Systems kdb+ 3.1.

The 3750 M4 delivered record-breaking performance for the STAC-M3™ Benchmark (the “Antuco suite”) as performed by the Securities Technology Analysis Center (STAC®) on a stack involving an IBM System x3750 M4 server with four 8-core Intel Xeon E5-4650 2.7 GHz processors and 512 GB of memory, Kx Systems kdb+ 3.1, and eight 800 GB Intel S3700 SATA MLC Enterprise solid-state drives (SSDs). The server was connected to the storage using direct SAS connections that were managed by an IBM ServeRAID M5110e SAS/SATA controller.

The stack included the latest version of Kx Systems kdb+, Version 3.1. This stack had at least two times better performance in 14 of the 17 response-time benchmarks, with some results up to 18 times better performance.

This stack also set a new record for NBBO (National Best Bid and Offer) performance, beating the next best published performance by 38%. Results are summarized in Table 1.

Table 1. NBBO Benchmark - Calculate NBBO across all exchanges for all symbols on one day

Spec ID	Write-completion latency (milliseconds)	
	Average (Mean)	Maximum
STAC-M3.B1.1T.NBBO.LAT2	23,561 ms	27,160 ms

A new Kx white paper featuring these results is available at http://kx.com/_papers/Kx-Intel-Solution-1309.pdf. An IBM Redpaper highlighting previous STAC-M3 benchmark results and performance tuning and configuration considerations is also available at <http://www.redbooks.ibm.com/abstracts/redp5029.html?Open>.

Results are current as of September 9, 2013. The official record of these results is the STAC Report, which is available to the public at <http://www.stacresearch.com/node/15058>. For detailed benchmark versions and other information, see the STAC Report, or the STAC web site for the latest benchmark results at <http://www.stacresearch.com/>.

Two case studies for the 3750 M4 being utilized in financial markets low latency trading applications are available at the following IBM web pages:

- Redline Trading: <http://ibm.com/software/success/cssdb.nsf/CS/STRD-99UF2Z>
- Options IT: <http://ibm.com/software/success/cssdb.nsf/CS/DLAS-9BMHBJ>

The IBM System x3750 M4 provides advanced features and capabilities in a dense 2U design. These include support for up to four sockets and 48 DIMMs, mix and match internal HDD or SSD storage, dual power supplies and integrated 1 Gigabit Ethernet (GbE) and 10 GbE networking with options for fiber or copper. The unique 2+2 socket design enables pay-as-you-grow processing and memory expansion to help lower cost and manage growth. The 5+3 PCIe socket design allows you to pay for I/O capabilities as needed. The x3750 M4's capabilities and performance allow clients to reduce total cost of ownership (TCO) by up to 52 percent over four years by consolidating multiple 2-socket servers into fewer 4- socket x3750 M4 servers.

For more information on the x3750 M4, see <http://ibm.com/systems/x/hardware/rack/x3750m4/>

This benchmark was sponsored by the IBM Wall Street Center of Excellence. For more information about the Center, or to arrange a visit, visit the following website:

<http://ibm.com/systems/services/briefingcenter/wscoe/>

IBM and System x are trademarks or registered trademarks of IBM Corporation.

Intel and Xeon are registered trademarks of Intel Corporation.

"STAC", STAC logos, and all STAC names are trademarks or registered trademarks of the SecuritiesTechnology Analysis Center, LLC.

All other company/product names and service marks may be trademarks or registered trademarks of their respective companies.