

VoltDB Exceeds 877,000 Online Transactions per Second In Recent Erlang Application Benchmark Test

Latest Performance Results and Earlier Record Benchmarks Place VoltDB in Leadership Position as Provider of More Scale and Throughput Across all Languages

BILLERICA, Mass, April 9, 2013 – [VoltDB](#), the world’s fastest [high-velocity database](#), today announced the results of a recent third-party benchmark performance test designed to test throughput and scalability for large-scale online gaming applications. An [Erlang](#) client application benchmark for VoltDB recently recorded an extraordinary 877,519 transactions per second running on a standard Amazon EC2 server configuration. The benchmark test used a VoltDB application that simulated high-velocity transaction workloads common across many Web and cloud-based applications, including online gaming, wireless, financial trading, digital media and network monitoring.

This latest benchmark follows other recent VoltDB record benchmarks. One performed on [Node.js](#) applications achieved 695,000 ACID transactions per second, while another performed on Spring Framework applications from [SpringSource](#), a VMware division, delivered more than 686,000 transactions per second. Additionally, a Java benchmark test performed on a SGIRackable scale-out cluster for cloud applications yielded a remarkable 3.4 million transactions per second. Collectively, these performance tests establish VoltDB as the only database that combines massively scalable and fast data ingestion, real-time decisioning and analytics for applications leveraging current and emerging programming languages.

"We are seeing a tremendous amount of innovation around Erlang and other languages, but in many cases these applications are constrained by databases that cannot deliver sufficient transaction throughput and decisioning performance," said VoltDB Vice President of Market Technology and Solutions, Mark Hydar. "VoltDB is built to solve this problem, and these benchmark tests prove that it is the best database for unleashing the business value for high velocity applications, written in any programming language."

[Eonblast Corporation](#), an online game developer, is a prime example of an Erlang developer facing the problem articulated by Hydar. "I first came to VoltDB while searching for a better database for heavy duty online-game servers, having experienced first-hand how difficult it was to try to scale MySQL for this purpose," said Eonblast CEO Henning Diedrich. "I also wanted a flexible, more scalable server programming language, and Erlang caught my attention. Using an Erlang driver for VoltDB, we achieved over 877,000 online transactions per second and found VoltDB uniquely suitable for the requirements of more complex game worlds - better than any other database in fact."

Benchmark Configuration and Operation

The Amazon EC2 configuration consisted of 20-node Amazon EC2 cc2.xlarge cluster broken up into 8 Erlang client and 12 VoltDB server nodes. The m3.2xlarge provided the following, as described by the Amazon EC2 Instance Types:

Cluster Compute Eight Extra Large Instance (cc2.8xlarge)

- 60.5 GiB of memory
- 88 EC2 Compute Units (2 x Intel Xeon E5-2670, eight-core)
- 3370 GB of instance storage
- 64-bit platform
- I/O Performance: Very High (10 Gigabit Ethernet)

These nodes were configured with Ubuntu Server 12.04 LTS for Cluster Instances AMI, Oracle Java JDK 1.7, Erlang R15B03, and VoltDB Enterprise Edition 3.0 RC. Each of the five server nodes was set to six partitions, resulting in 30 partitions across the database cluster.

The benchmark is based on the VoltDB voter example, which comes with every VoltDB distribution. When fully utilizing a 16-core cluster instance as client node, the Erlang driver for VoltDB routinely reached throughput of 260,000 transactions per second per machine. Using 8 client nodes connected to a 12-node VoltDB cluster, each client node executed an average of 109,689 transactions per second for a cluster total of 877,519 TPS.

For complete information on this benchmark test, please see:
<http://blog.voltDB.com/877000-tps-with-erlang-and-voltDB/>

About VoltDB:

VoltDB provides a fully durable, in-memory [relational database](#) that combines high-velocity data ingestion and real-time data analytics and decisioning to enable organizations to unleash a new generation of big data applications that deliver unprecedented business value. Organizations in markets ranging from financial services and Web media, to public utilities and national defense, use VoltDB to narrow the “ingestion-to-decision” gap from minutes, or even hours, to milliseconds. Founded by database legend Dr. Michael Stonebraker, VoltDB is privately held with offices in Billerica, Mass. and Santa Clara, Calif.

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