AZUL SYSTEMS ZING VS. HOTSPOT JVM

a Diffusion™ Performance study

Push Technology compared the performance of their Java-based data distribution solution, Diffusion, running on Azul Zing®, versus performance using Oracle's HotSpot JVM

TEST ENVIRONMENT

MANUFACTURER	IRON SYSTEMS	IRON SYSTEMS
PROCESSORS	INTEL XENON PROCESSOR E5-4620 (16M CACHE, 2.20 GHZ, 7.20 GT/S INTEL QPI)	INTEL XENON PROCESSOR X5650 (12M CACHE, 2.66 GHZ, 6.40 GT/S INTEL QPI)
MEMORY	16GB RDIMM, 1333MHZ, LOW VOLT, DUALRANK	16GB RDIMM, 1333MHZ, LOW VOLT, DUALRANK
NETWORKING	1 X SOLARFLARE COMMUNICATIONS SFC9020 (SOLAR STORM)	1 X SOLARFLARE COMMUNICATIONS SFC9020 (SOLAR STORM)
OPERATING SYSTEM	CENTOS 6.3 – WITH LINUX KERNEL: 2.6.32 – 279.EL6. X86_64	CENTOS 6.4 – WITH LINUX KERNEL: 2.6.32 – 250.EL6. X86_64

RESULTS

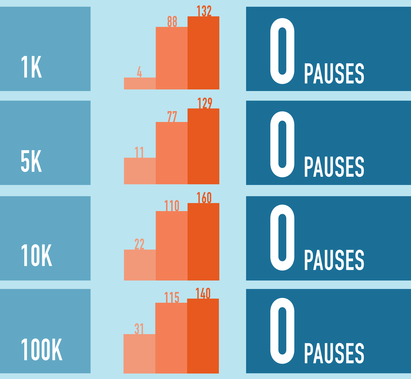
GARBAGE COLLECTION TIME

DELAY IN MILLISECONDS

AVERAGE | 99TH PERCENTILE | 99.9TH PERCENTILE

HOTSPOT JVM GARBAGE COLLECTION PAUSE TIMES UP TO 115 MILLISECONDS AT THE 99TH PERCENTILE

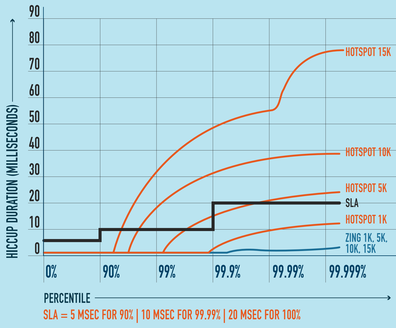
ZING ZERO GC-RELATED PAUSES OVER 2.5 MSEC– EVEN AT THE 99.999TH PERCENTILE!



0 PAUSES FOR ZING

SYSTEM HEALTH HICCUP CHARTS

GC PAUSES FOR EACH JAVA RUNTIME, BY PERCENTILE — HOTSPOT | ZING | SLA



SLA = 5 MSEC FOR 90% | 10 MSEC FOR 99.99% | 20 MSEC FOR 100%

PERCENTILE AT WHICH SYSTEMS START SHOWING STRESS

HOTSPOT JVM **95%**

AZUL SYSTEMS ZING **99.999%**

THE TAKEAWAY

HOTSPOT

ZING

WHEN LATENCY IS A CRITICAL COMPONENT, A WELL-TUNED ZING RUNTIME OUTPERFORMS A WELL-TUNED HOTSPOT.

FOR THIS DATA DISTRIBUTION BENCHMARK

TUNE UP YOUR JAVA-BASED DATA DISTRIBUTION WITH ZING FROM AZUL SYSTEMS.

VIEW OUR COMPLETE METHODOLOGY >>

AZUL SYSTEMS

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