



SPEC® CINT2006 Result

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Supermicro

SuperServer 6027R-WRF (X9DRW-iF, Intel Xeon E5-2640)

SPECint®_rate2006 = 462

SPECint_rate_base2006 = 440

CPU2006 license: 001176

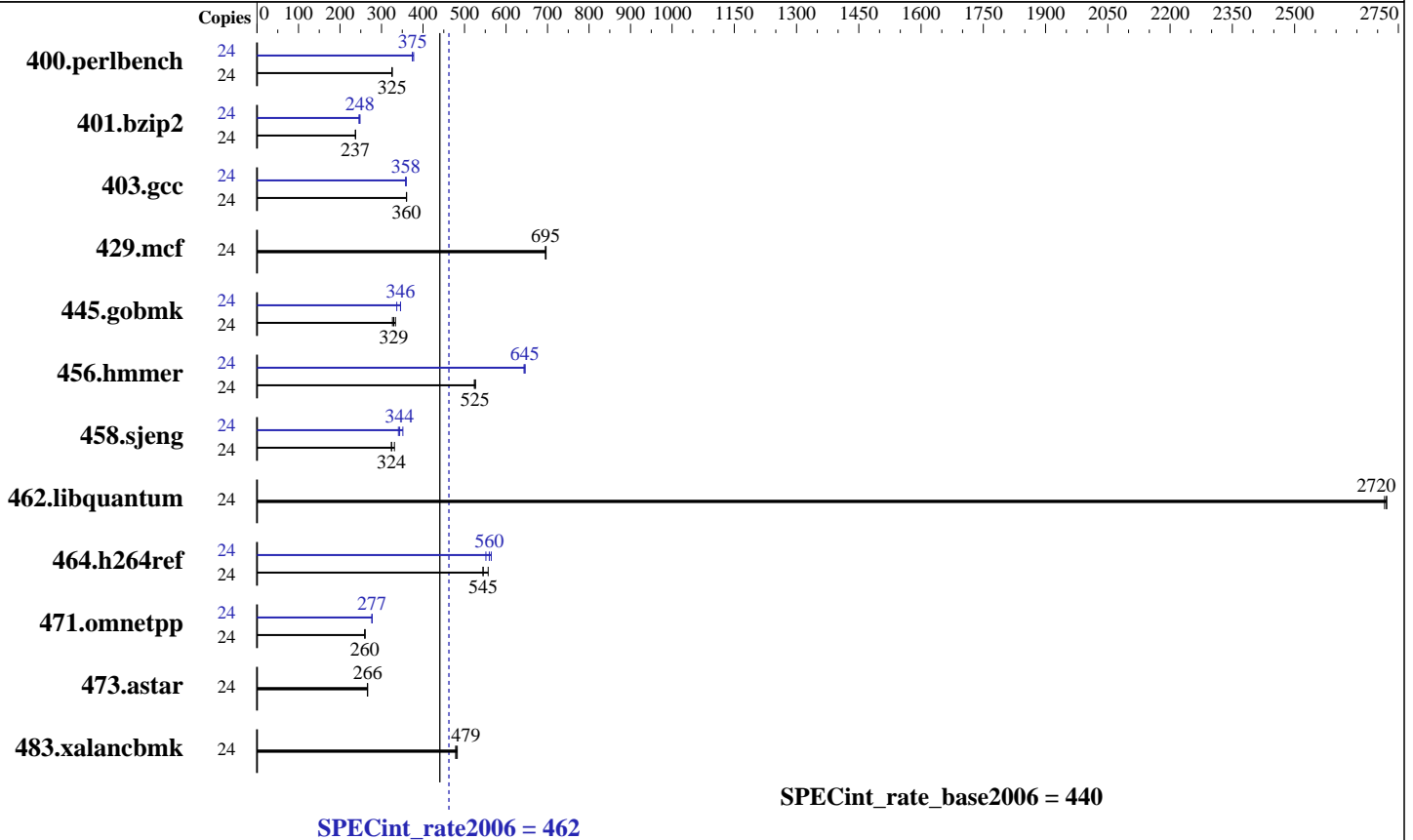
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Mar-2011

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2640
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1 x 1 TB SATA II, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, Kernel 2.6.32-220.el6.x86_64
 Compiler: C/C++; Version 12.1.0.225 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	720	326	722	325	<u>721</u>	<u>325</u>	24	<u>626</u>	<u>375</u>	626	374	621	377
401.bzip2	24	976	237	975	238	<u>976</u>	<u>237</u>	24	<u>935</u>	<u>248</u>	935	248	943	246
403.gcc	24	536	361	537	360	<u>536</u>	<u>360</u>	24	539	358	537	359	<u>539</u>	<u>358</u>
429.mcf	24	315	695	314	696	<u>315</u>	<u>695</u>	24	315	695	314	696	<u>315</u>	<u>695</u>
445.gobmk	24	<u>764</u>	<u>329</u>	755	334	771	326	24	<u>728</u>	<u>346</u>	748	337	728	346
456.hammer	24	425	526	<u>426</u>	<u>525</u>	428	524	24	348	643	<u>347</u>	<u>645</u>	347	646
458.sjeng	24	896	324	877	331	<u>896</u>	<u>324</u>	24	<u>845</u>	<u>344</u>	826	351	852	341
462.libquantum	24	183	2720	183	2720	<u>183</u>	<u>2720</u>	24	183	2720	183	2720	<u>183</u>	<u>2720</u>
464.h264ref	24	975	545	<u>975</u>	<u>545</u>	954	557	24	963	552	941	564	<u>949</u>	<u>560</u>
471.omnetpp	24	576	260	<u>577</u>	<u>260</u>	578	260	24	541	277	<u>541</u>	<u>277</u>	541	277
473.astar	24	<u>633</u>	<u>266</u>	632	266	634	266	24	<u>633</u>	<u>266</u>	632	266	634	266
483.xalancbmk	24	343	483	<u>346</u>	<u>479</u>	346	479	24	343	483	<u>346</u>	<u>479</u>	346	479

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/test/cpu2006/libs/32:/home/test/cpu2006/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>



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Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32



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Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalanbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-auto-ilp32 -ansi-alias
403.gcc: -xAVX -ipo -O3 -no-prec-div
429.mcf: basepeak = yes
445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto-ilp32
462.libquantum: basepeak = yes
464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias
-opt-ra-region-strategy=block -Wl,-z,muldefs
-L/smartheap -lsmartheap
473.astar: basepeak = yes
483.xalanbmk: basepeak = yes



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Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>
<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>
<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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