



SPEC® CINT2006 Result

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Supermicro

SuperServer 6047R-E1R36N (X9DRi-LN4F+, Intel E5-2680)

SPECint®2006 = 55.2

SPECint_base2006 = 51.6

CPU2006 license: 001176

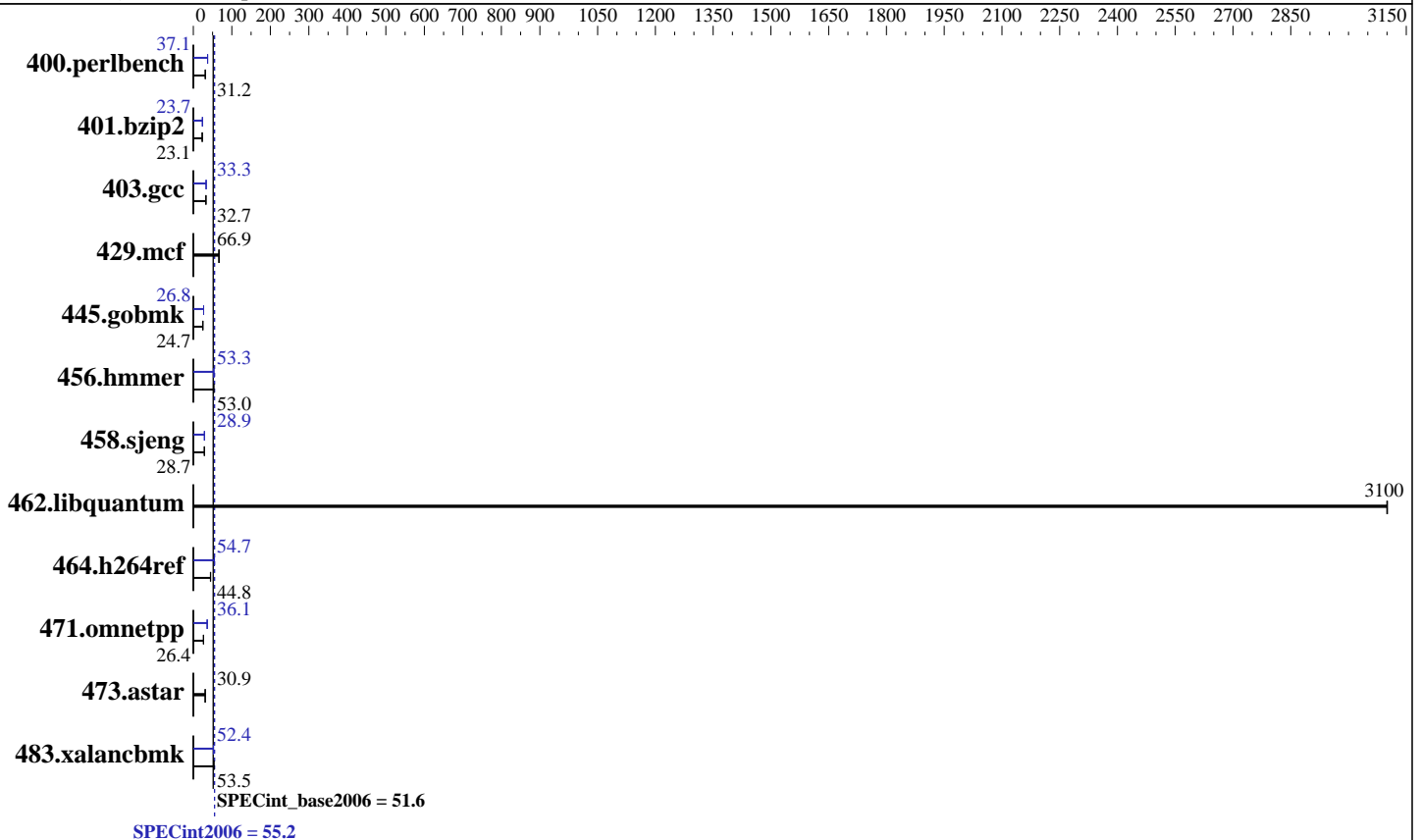
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2013

Hardware Availability: Feb-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2680
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 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: Yes
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	315	31.0	313	31.2	<u>313</u>	<u>31.2</u>	263	37.2	<u>263</u>	<u>37.1</u>	264	37.0
401.bzip2	<u>417</u>	<u>23.1</u>	417	23.1	418	23.1	<u>408</u>	<u>23.7</u>	407	23.7	408	23.7
403.gcc	246	32.7	246	32.7	<u>246</u>	<u>32.7</u>	<u>242</u>	<u>33.3</u>	242	33.3	242	33.3
429.mcf	138	65.9	<u>136</u>	<u>66.9</u>	136	67.2	138	65.9	<u>136</u>	<u>66.9</u>	136	67.2
445.gobmk	424	24.7	425	24.7	<u>424</u>	<u>24.7</u>	391	26.8	392	26.8	<u>392</u>	<u>26.8</u>
456.hammer	176	53.0	176	53.0	<u>176</u>	<u>53.0</u>	175	53.3	<u>175</u>	<u>53.3</u>	175	53.2
458.sjeng	422	28.7	421	28.7	<u>421</u>	<u>28.7</u>	420	28.8	419	28.9	<u>419</u>	<u>28.9</u>
462.libquantum	<u>6.68</u>	<u>3100</u>	6.68	3100	6.68	3100	<u>6.68</u>	<u>3100</u>	6.68	3100	6.68	3100
464.h264ref	<u>493</u>	<u>44.8</u>	499	44.3	493	44.9	<u>405</u>	<u>54.7</u>	403	55.0	405	54.6
471.omnetpp	237	26.4	236	26.4	<u>237</u>	<u>26.4</u>	173	36.1	<u>173</u>	<u>36.1</u>	174	36.0
473.astar	<u>227</u>	<u>30.9</u>	227	30.9	228	30.7	<u>227</u>	<u>30.9</u>	227	30.9	228	30.7
483.xalancbmk	<u>129</u>	<u>53.5</u>	129	53.6	131	52.7	132	52.4	<u>132</u>	<u>52.4</u>	132	52.4

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

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:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "16"

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

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64



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Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs -L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64



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Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -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) -opt-prefetch
               -ansi-alias

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch
            -ansi-alias

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
          -opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
            -ansi-alias

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

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)
              -opt-ra-region-strategy=block -ansi-alias
              -Wl,-z,muldefs -L/smartheap -lsmartheap

```

Continued on next page



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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

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

You can also download the XML flags source by saving the following link:

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

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For other inquiries, please contact webmaster@spec.org.

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