



SPEC® CINT2006 Result

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Supermicro

SPECint®_rate2006 = 52.3

Motherboard H8DMR-82 AMD Opteron 2220

SPECint_rate_base2006 = 46.6

CPU2006 license: 001176

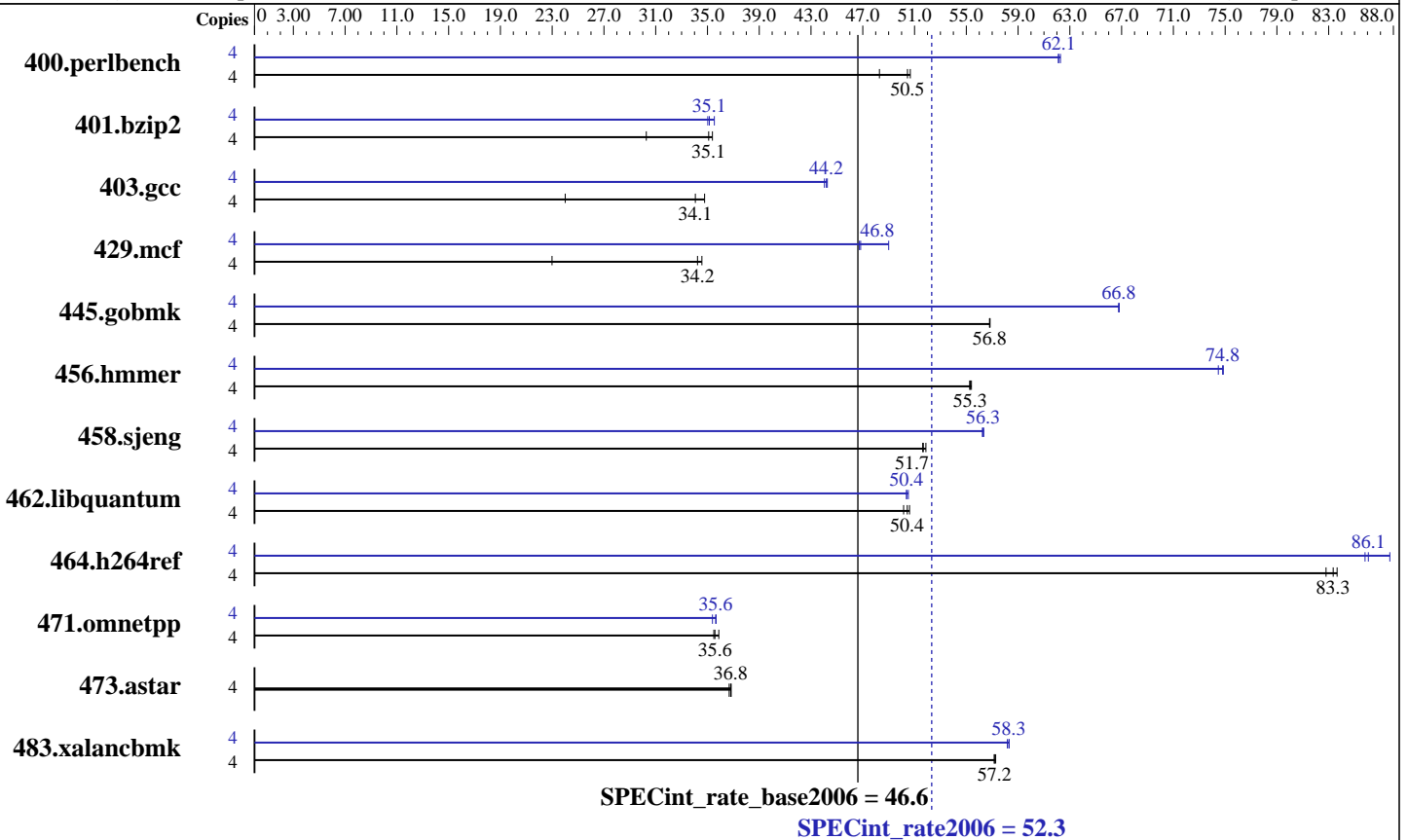
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Sep-2007

Hardware Availability: Oct-2006

Software Availability: Apr-2007



Hardware

CPU Name: AMD Opteron 2220
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x2GB, PC2-5300 CL5 ECC Reg Dual Rank)
 Disk Subsystem: SATA, 250 GB
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 SP1 64-bit kernel
 Compiler: The Portland Group (PGI)
 PGI pgcc 7.1-0 C Compiler
 PGI pgCC 7.1-0 C++ Compiler
 PathScale Compiler Suite, Release 3.0
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user, run level 2
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap 8.0 32-bit Library for Linux



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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	4	809	48.3	<u>775</u>	<u>50.5</u>	771	50.7	4	629	62.1	628	62.3	<u>629</u>	<u>62.1</u>
401.bzip2	4	1275	30.3	<u>1100</u>	<u>35.1</u>	1091	35.4	4	1086	35.5	1102	35.0	<u>1098</u>	<u>35.1</u>
403.gcc	4	1341	24.0	<u>945</u>	<u>34.1</u>	926	34.8	4	727	44.3	731	44.0	<u>729</u>	<u>44.2</u>
429.mcf	4	1587	23.0	<u>1066</u>	<u>34.2</u>	1055	34.6	4	744	49.0	781	46.7	<u>779</u>	<u>46.8</u>
445.gobmk	4	<u>739</u>	<u>56.8</u>	739	56.8	738	56.8	4	628	66.8	628	66.8	<u>628</u>	<u>66.8</u>
456.hammer	4	<u>675</u>	<u>55.3</u>	675	55.3	674	55.4	4	501	74.5	<u>499</u>	<u>74.8</u>	499	74.9
458.sjeng	4	<u>937</u>	<u>51.7</u>	933	51.9	937	51.6	4	859	56.3	<u>860</u>	<u>56.3</u>	861	56.2
462.libquantum	4	1652	50.2	1638	50.6	<u>1643</u>	<u>50.4</u>	4	1645	50.4	1640	50.5	<u>1645</u>	<u>50.4</u>
464.h264ref	4	<u>1062</u>	<u>83.3</u>	1058	83.7	1069	82.8	4	1009	87.7	1032	85.8	<u>1029</u>	<u>86.1</u>
471.omnetpp	4	697	35.9	704	35.5	<u>703</u>	<u>35.6</u>	4	701	35.7	<u>702</u>	<u>35.6</u>	707	35.4
473.astar	4	766	36.7	762	36.8	<u>763</u>	<u>36.8</u>	4	766	36.7	762	36.8	<u>763</u>	<u>36.8</u>
483.xalancbmk	4	483	57.2	482	57.3	<u>483</u>	<u>57.2</u>	4	473	58.3	<u>474</u>	<u>58.3</u>	475	58.2

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

Operating System Notes

Environment stack size set to 'unlimited'
PGI_HUGE_PAGES set to 896.
Total number of huge pages available is 7168.

General Notes

Product description located as of
<http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DMR-82.cfm>
taskset was used to bind processes to cores

Base Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

```

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
483.xalancbmk: -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

-Ofast -OPT:malloc_alg=1

C++ benchmarks:

-Ofast -m32 -L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap

Peak Compiler Invocation

C benchmarks:

pathcc

C++ benchmarks:

pathCC

Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -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
483.xalancbmk: -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

400.perlbench: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
               -LNO:opt=0

```

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Peak Optimization Flags (Continued)

401.bzip2: -O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint

403.gcc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
-OPT:Ofast

429.mcf: -m32 -O3 -ipa
-L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap

445.gobmk: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off
-WOPT:retype_expr=on

456.hmmer: -O2 -OPT:alias=disjoint -OPT:malloc_alg=1 -CG:cflow=0

458.sjeng: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=50000 -IPA:pu_reorder=2

462.libquantum: -O3 -ipa -CG:local_fwd_sched=on -IPA:space=1000

464.h264ref: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0

C++ benchmarks:

471.omnetpp: -Ofast -CG:gcm=off -m32
-L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
-L/cpu2006/mpaton/1.0/amd514K8.lib/32 -lsmartheap

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.06.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.06.xml

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

Tested with SPEC CPU2006 v1.0.1.
Report generated on Tue Jul 22 14:18:31 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 October 2007.