



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 53.4

ProLiant DL385 G2 (AMD Opteron 2220)

SPECint_rate_base2006 = 47.9

CPU2006 license: 3

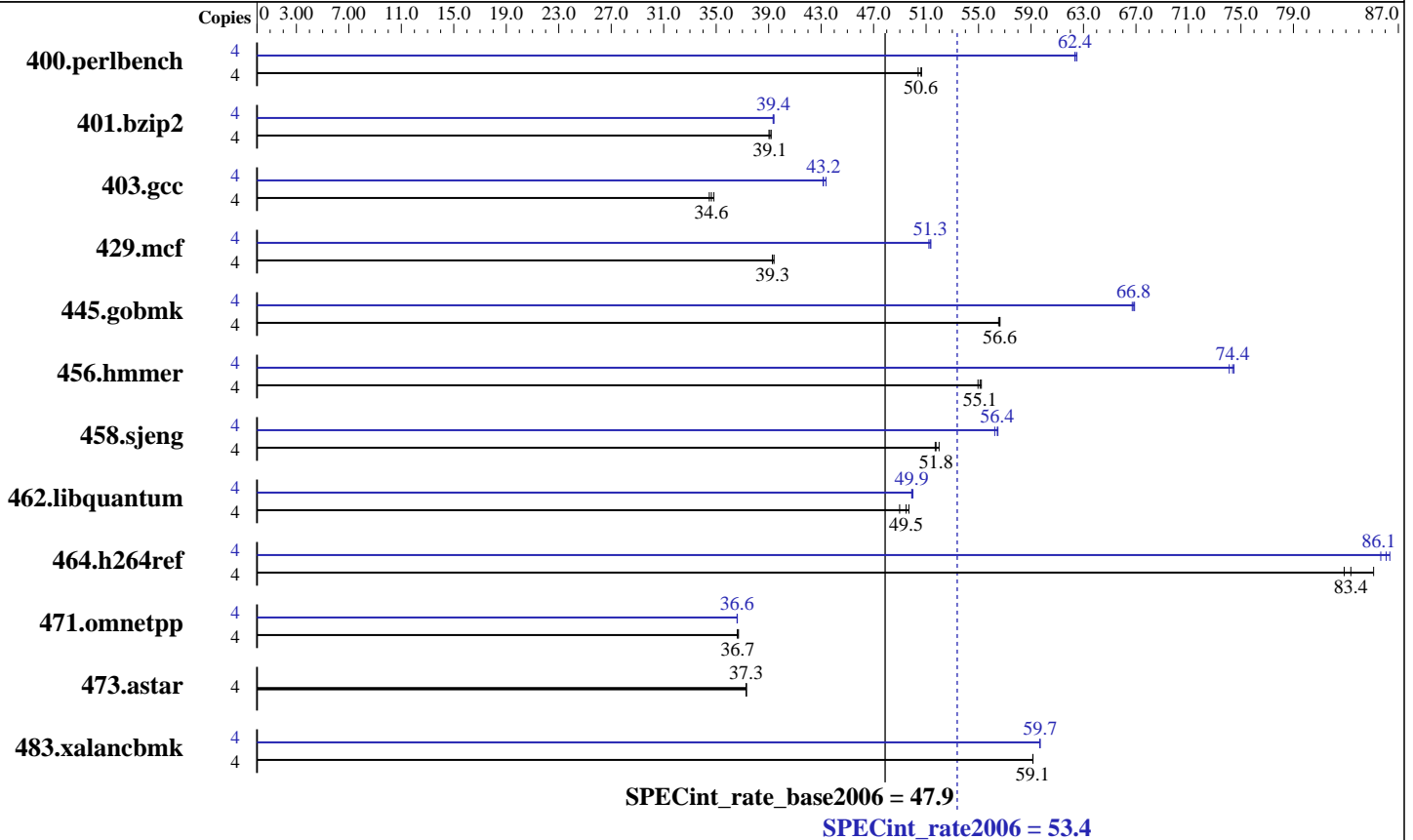
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jun-2007

Hardware Availability: Jan-2007

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: 32 GB (8x4 GB, PC2-5300P CL5)
 Disk Subsystem: 1x72 GB 10 K SAS
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64)
 SuSE kernel 2.6.16.21-0.8-smp
 Compiler: QLogic PathScale
 Compiler Suite, Release 3.0
 Auto Parallel: No
 File System: ext2
 System State: Multi-user, run level 3
 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	<u>772</u>	<u>50.6</u>	771	50.7	775	50.4	4	625	62.5	627	62.4	<u>627</u>	<u>62.4</u>
401.bzip2	4	<u>987</u>	<u>39.1</u>	985	39.2	989	39.0	4	<u>980</u>	<u>39.4</u>	981	39.3	980	39.4
403.gcc	4	<u>930</u>	<u>34.6</u>	925	34.8	934	34.5	4	742	43.4	746	43.1	<u>746</u>	<u>43.2</u>
429.mcf	4	926	39.4	<u>928</u>	<u>39.3</u>	929	39.3	4	<u>711</u>	<u>51.3</u>	712	51.2	710	51.4
445.gobmk	4	741	56.6	<u>741</u>	<u>56.6</u>	742	56.5	4	629	66.7	627	66.9	<u>628</u>	<u>66.8</u>
456.hmmer	4	676	55.2	<u>677</u>	<u>55.1</u>	679	55.0	4	504	74.1	<u>502</u>	<u>74.4</u>	501	74.5
458.sjeng	4	<u>935</u>	<u>51.8</u>	931	52.0	936	51.7	4	861	56.2	857	56.5	<u>858</u>	<u>56.4</u>
462.libquantum	4	1692	49.0	<u>1675</u>	<u>49.5</u>	1668	49.7	4	<u>1660</u>	<u>49.9</u>	1661	49.9	1658	50.0
464.h264ref	4	<u>1062</u>	<u>83.4</u>	1068	82.9	1040	85.1	4	1025	86.3	1033	85.7	<u>1028</u>	<u>86.1</u>
471.omnetpp	4	681	36.7	<u>682</u>	<u>36.7</u>	683	36.6	4	683	36.6	<u>683</u>	<u>36.6</u>	683	36.6
473.astar	4	753	37.3	<u>753</u>	<u>37.3</u>	753	37.3	4	753	37.3	<u>753</u>	<u>37.3</u>	753	37.3
483.xalancbmk	4	467	59.1	467	59.2	<u>467</u>	<u>59.1</u>	4	463	59.7	462	59.7	<u>462</u>	<u>59.7</u>

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

Platform Notes

Node interleaving is disabled
taskset utility used to bind CPU(s) to processes
ulimit -s unlimited set

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
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

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Base Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-Ofast -OPT:malloc_alg=1

C++ benchmarks:

-Ofast -m32 -L/cpu2006/SmartHeap_8.1/lib -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

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

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Peak Optimization Flags (Continued)

429.mcf: -m32 -O3 -ipa -L/cpu2006/SmartHeap_8.1/lib -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/SmartHeap_8.1/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -Ofast -m32 -OPT:unroll_times_max=8
-L/cpu2006/SmartHeap_8.1/lib -lsmartheap

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.16.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.16.xml

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 12:40:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 August 2007.