



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®2006 = 13.9

ProLiant DL385 G2 (AMD Opteron 2220)

SPECint_base2006 = 12.6

CPU2006 license: 3

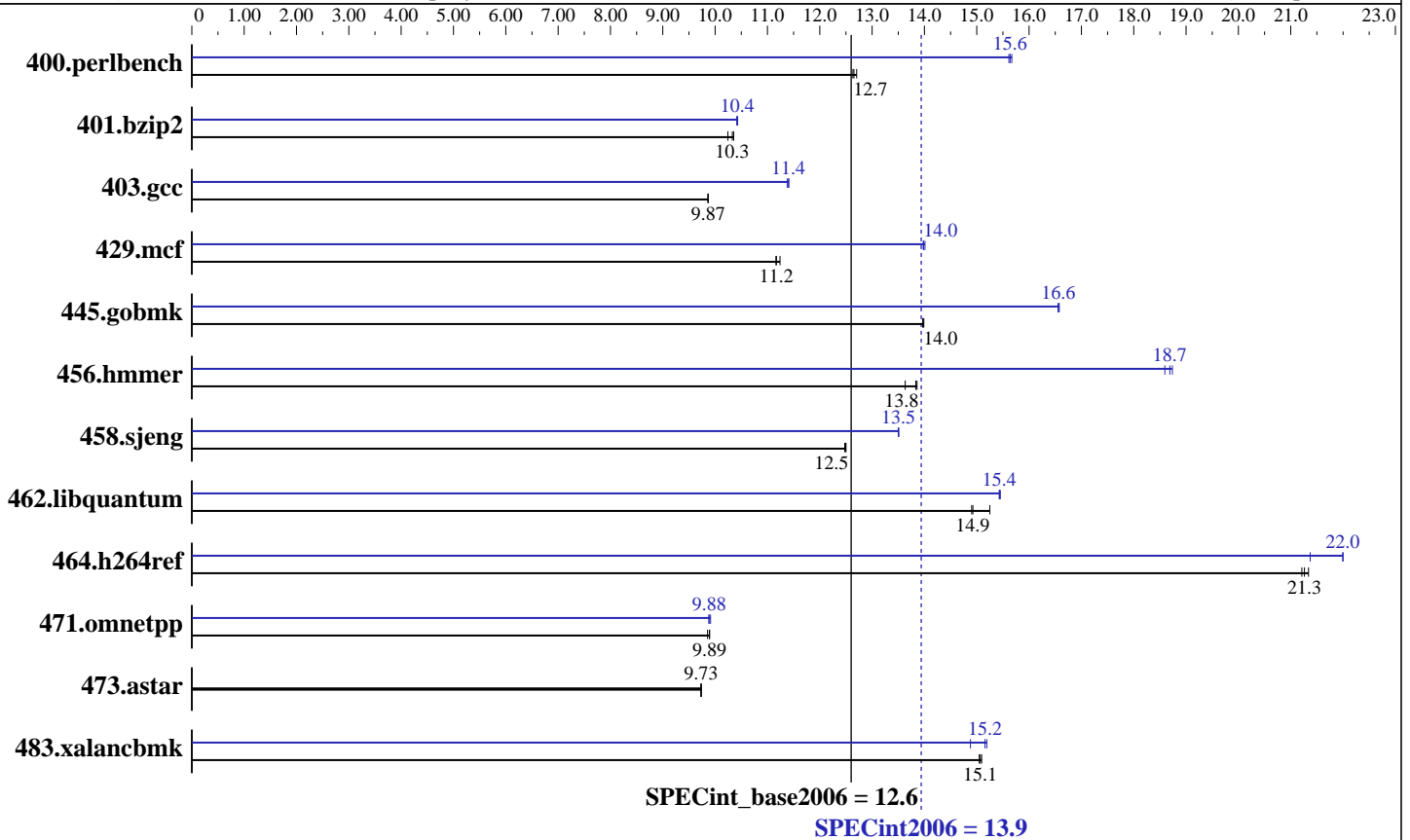
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jul-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: 1 core, 1 chip, 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 (4x4 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-default
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	773	12.6	769	12.7	<u>772</u>	<u>12.7</u>	626	15.6	<u>625</u>	<u>15.6</u>	623	15.7
401.bzip2	932	10.4	942	10.2	<u>934</u>	<u>10.3</u>	927	10.4	925	10.4	<u>926</u>	<u>10.4</u>
403.gcc	816	9.86	816	9.87	816	9.87	708	11.4	706	11.4	706	11.4
429.mcf	811	11.2	816	11.2	817	11.2	652	14.0	651	14.0	652	14.0
445.gobmk	751	14.0	750	14.0	<u>751</u>	<u>14.0</u>	633	16.6	633	16.6	634	16.6
456.hmmer	684	13.6	673	13.9	<u>674</u>	<u>13.8</u>	502	18.6	498	18.7	<u>499</u>	<u>18.7</u>
458.sjeng	968	12.5	970	12.5	<u>969</u>	<u>12.5</u>	896	13.5	896	13.5	896	13.5
462.libquantum	1390	14.9	1388	14.9	1359	15.3	<u>1342</u>	<u>15.4</u>	1341	15.5	1343	15.4
464.h264ref	<u>1041</u>	<u>21.3</u>	1037	21.3	1043	21.2	1006	22.0	1006	22.0	1035	21.4
471.omnetpp	<u>632</u>	<u>9.89</u>	632	9.89	634	9.86	<u>632</u>	<u>9.88</u>	630	9.91	633	9.88
473.astar	<u>721</u>	<u>9.73</u>	721	9.74	722	9.73	<u>721</u>	<u>9.73</u>	721	9.74	722	9.73
483.xalancbmk	459	15.0	457	15.1	<u>458</u>	<u>15.1</u>	464	14.9	454	15.2	<u>455</u>	<u>15.2</u>

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

Platform Notes

Node interleaving is disabled
ulimit -s unlimited set
Single processor kernel used

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

Same as Base Compiler Invocation

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

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

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Peak Optimization Flags (Continued)

456.hmmcr: -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.20090714.15.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.15.xml

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

Tested with SPEC CPU2006 v1.0.
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