



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®2006 = 14.0

ProLiant BL465c (AMD Opteron 2220)

SPECint_base2006 = 12.7

CPU2006 license: 3

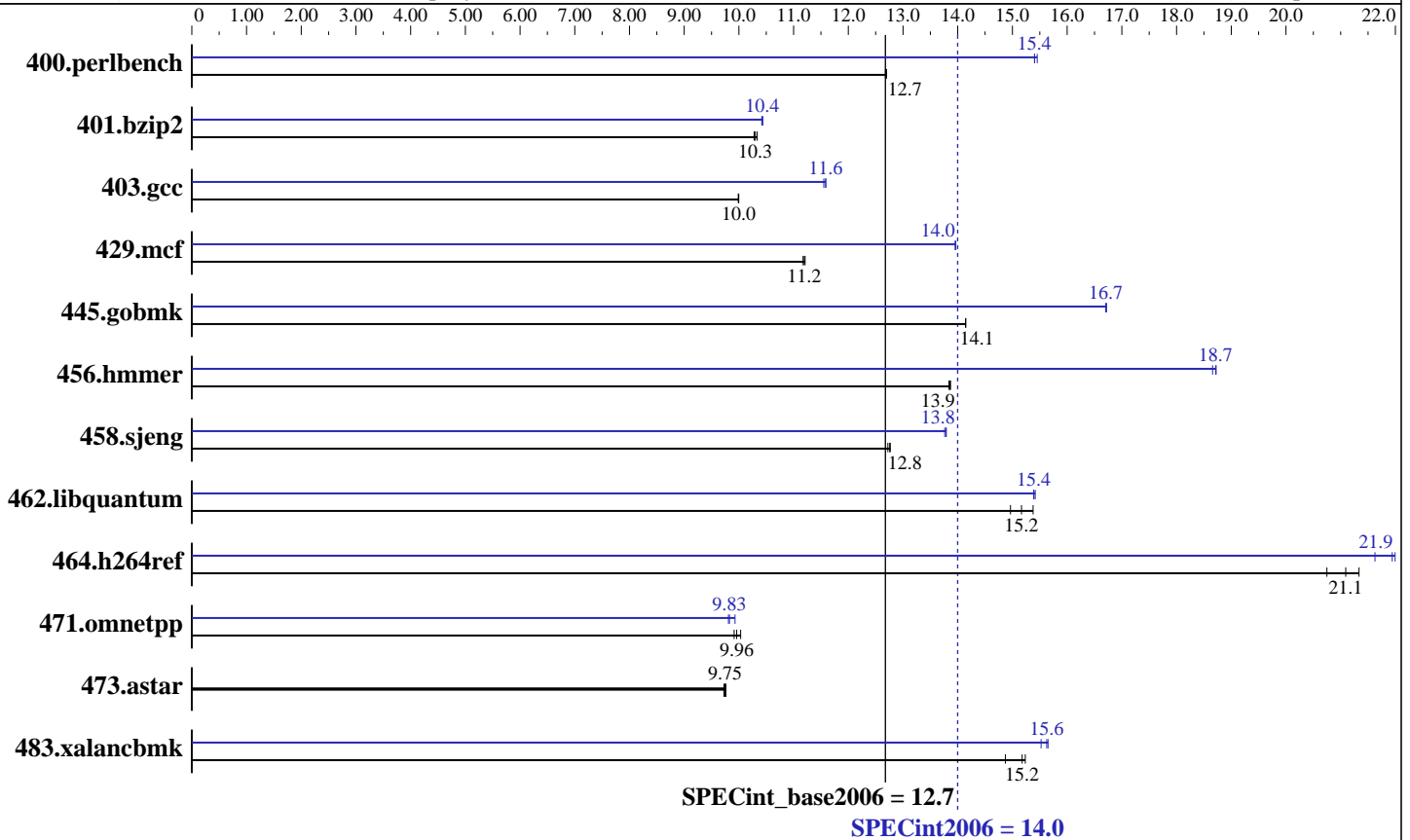
Test sponsor: Hewlett-Packard Company

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: 2.8 GHz, 1 MB L2 cache
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 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: 2x72 GB 10 K SAS
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) 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: MicroQuill SmartHeap Library 8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	769	12.7	<u>769</u>	<u>12.7</u>	771	12.7	634	15.4	632	15.5	<u>634</u>	<u>15.4</u>
401.bzip2	<u>937</u>	<u>10.3</u>	939	10.3	934	10.3	926	10.4	925	10.4	<u>925</u>	<u>10.4</u>
403.gcc	806	9.99	805	10.0	<u>805</u>	<u>10.0</u>	695	11.6	<u>695</u>	<u>11.6</u>	697	11.6
429.mcf	814	11.2	<u>815</u>	<u>11.2</u>	816	11.2	<u>653</u>	<u>14.0</u>	653	14.0	653	14.0
445.gobmk	741	14.1	742	14.1	<u>742</u>	<u>14.1</u>	627	16.7	<u>628</u>	<u>16.7</u>	628	16.7
456.hmmer	674	13.8	<u>673</u>	<u>13.9</u>	673	13.9	500	18.7	<u>499</u>	<u>18.7</u>	498	18.7
458.sjeng	951	12.7	<u>949</u>	<u>12.8</u>	948	12.8	879	13.8	<u>878</u>	<u>13.8</u>	878	13.8
462.libquantum	<u>1366</u>	<u>15.2</u>	1385	15.0	1347	15.4	<u>1346</u>	<u>15.4</u>	1347	15.4	1344	15.4
464.h264ref	<u>1049</u>	<u>21.1</u>	1037	21.3	1067	20.7	1006	22.0	<u>1009</u>	<u>21.9</u>	1023	21.6
471.omnetpp	623	10.0	630	9.91	<u>628</u>	<u>9.96</u>	<u>636</u>	<u>9.83</u>	629	9.93	637	9.81
473.astar	719	9.76	<u>720</u>	<u>9.75</u>	722	9.73	719	9.76	<u>720</u>	<u>9.75</u>	722	9.73
483.xalancbmk	<u>455</u>	<u>15.2</u>	453	15.2	464	14.9	444	15.5	441	15.7	<u>442</u>	<u>15.6</u>

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

General Notes

Node interleaving is disabled
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
483.xalancbmk: -DSPEC_CPU_LINUX



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Base Optimization Flags

C benchmarks:

-Ofast -OPT:malloc_alg=1

C++ benchmarks:

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

Base Other Flags

C benchmarks:

-IPA:max_jobs=4

C++ benchmarks:

-IPA:max_jobs=4

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

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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.hmmr: -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

Peak Other Flags

Same as Base Other Flags

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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Tested with SPEC CPU2006 v1.0.
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