SPEC® CINT2006 Result

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Hewlett-Packard Company

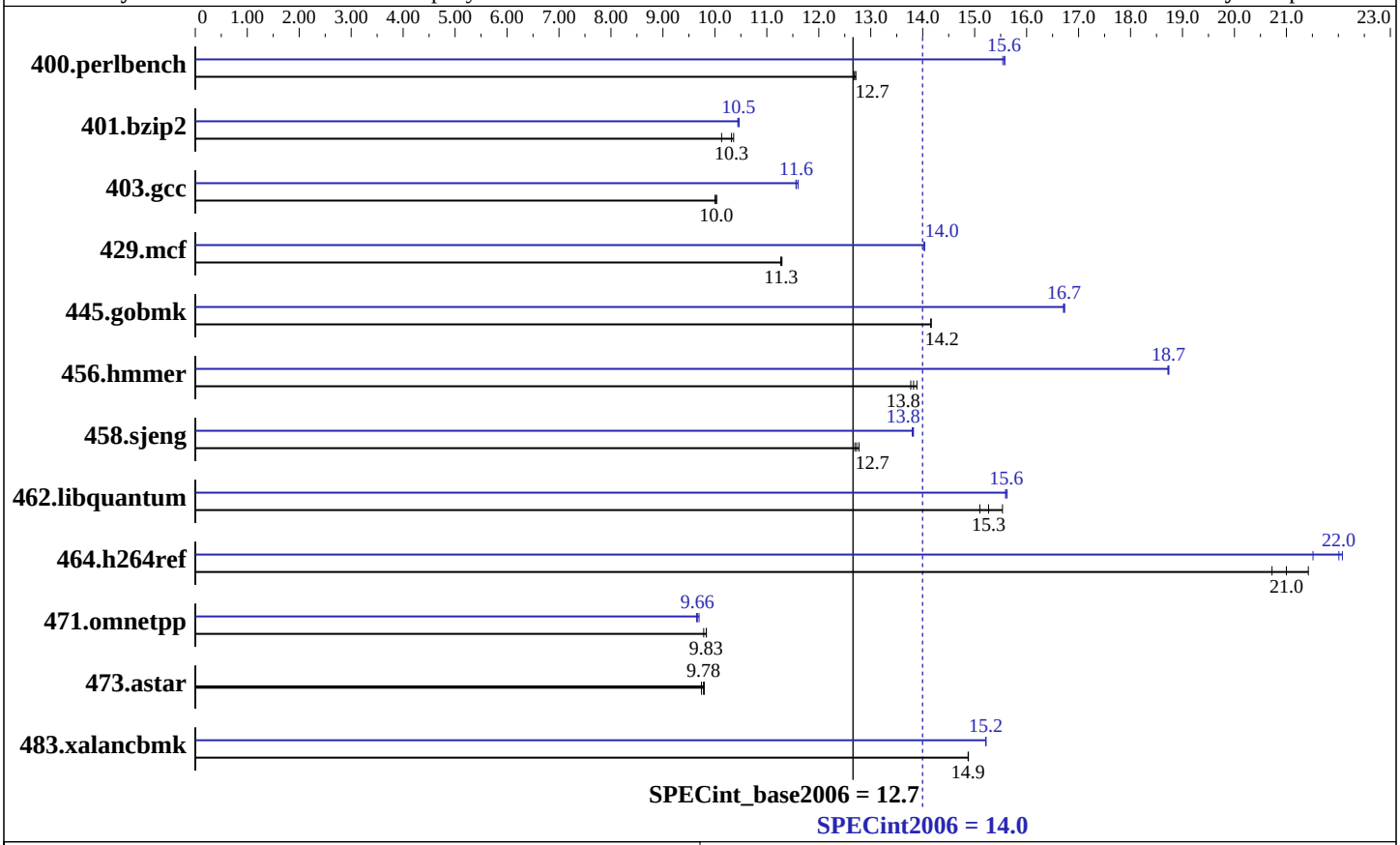
Proliant DL365 (AMD Opteron 2220 SE)

SPECint®2006 = 14.0

SPECint_base2006 = 12.7

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: May-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007



Hardware

CPU Name:	AMD Opteron 2220 SE
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:	None

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	768	12.7	**770**	**12.7**	771	12.7	627	15.6	**627**	**15.6**	629	15.5
401.bzip2	953	10.1	**935**	**10.3**	931	10.4	922	10.5	**923**	**10.5**	924	10.4
403.gcc	805	10.0	802	10.0	**803**	**10.0**	696	11.6	**696**	**11.6**	694	11.6
429.mcf	808	11.3	809	11.3	**809**	**11.3**	650	14.0	**650**	**14.0**	650	14.0
445.gobmk	**741**	**14.2**	741	14.2	741	14.2	627	16.7	**627**	**16.7**	628	16.7
456.hmmer	**675**	**13.8**	672	13.9	678	13.8	498	18.7	498	18.7	**498**	**18.7**
458.sjeng	947	12.8	953	12.7	**951**	**12.7**	877	13.8	875	13.8	**876**	**13.8**
462.libquantum	1372	15.1	**1357**	**15.3**	1334	15.5	1326	15.6	1329	15.6	**1327**	**15.6**
464.h264ref	**1054**	**21.0**	1033	21.4	1068	20.7	1002	22.1	**1005**	**22.0**	1029	21.5
471.omnetpp	635	9.84	**636**	**9.83**	639	9.79	645	9.70	**647**	**9.66**	648	9.65
473.astar	**718**	**9.78**	717	9.80	721	9.74	**718**	**9.78**	717	9.80	721	9.74
483.xalancbmk	**464**	**14.9**	464	14.9	464	14.9	**453**	**15.2**	453	15.2	454	15.2

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
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/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

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/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/amd514K8.lib/32 -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/cpu2006/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.20090714.16.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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