SPEC® CINT2006 Result

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Hewlett-Packard Company

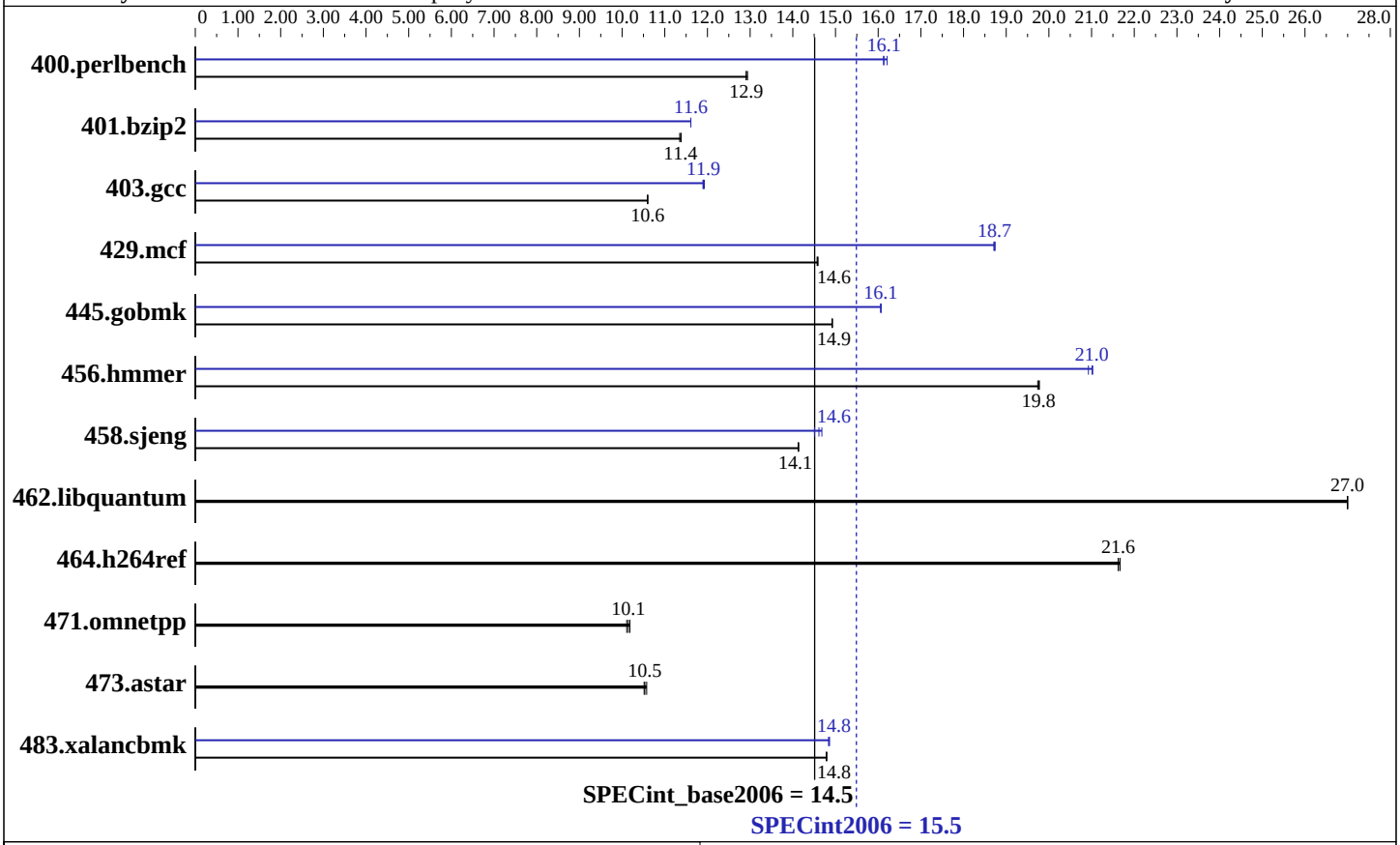
ProLiant BL465c
(3.0GHz AMD Opteron 2222)

SPECint®2006 = 15.5

SPECint_base2006 = 14.5

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

Test date: Aug-2007
Hardware Availability: Sep-2007
Software Availability: Oct-2007



Hardware

CPU Name:	AMD Opteron 2222
CPU Characteristics:	
CPU MHz:	3000
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:	1x72 GB 10 K SAS
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) SP1 kernel 2.6.16.46-0.12-smp
Compiler:	The Portland Group (PGI) PGI pgcc 7.1-0 C Compiler PGI pgCC 7.1-0 C++ Compiler
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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	757	12.9	755	12.9	**757**	**12.9**	603	16.2	606	16.1	**605**	**16.1**
401.bzip2	**848**	**11.4**	848	11.4	850	11.3	**831**	**11.6**	831	11.6	831	11.6
403.gcc	**759**	**10.6**	760	10.6	759	10.6	**676**	**11.9**	677	11.9	675	11.9
429.mcf	625	14.6	626	14.6	**626**	**14.6**	487	18.7	487	18.7	**487**	**18.7**
445.gobmk	**703**	**14.9**	703	14.9	703	14.9	653	16.1	**653**	**16.1**	653	16.1
456.hmmer	**472**	**19.8**	473	19.7	472	19.8	444	21.0	446	20.9	**444**	**21.0**
458.sjeng	856	14.1	857	14.1	**856**	**14.1**	**828**	**14.6**	834	14.5	824	14.7
462.libquantum	767	27.0	**767**	**27.0**	768	27.0	767	27.0	**767**	**27.0**	768	27.0
464.h264ref	1021	21.7	**1023**	**21.6**	1023	21.6	1021	21.7	**1023**	**21.6**	1023	21.6
471.omnetpp	614	10.2	**616**	**10.1**	618	10.1	614	10.2	**616**	**10.1**	618	10.1
473.astar	664	10.6	**666**	**10.5**	668	10.5	664	10.6	**666**	**10.5**	668	10.5
483.xalancbmk	466	14.8	**467**	**14.8**	467	14.8	465	14.8	**465**	**14.8**	464	14.9

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'
ulimit -l set to 1048576
Set vm/nr_hugepages=1024 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages
```

Base Compiler Invocation

C benchmarks:
`pgcc`

C++ benchmarks:
`pgcpp`

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`

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Base Portability Flags (Continued)

464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -Mipa=fast -Mipa=inline -Mipa=noarg -Mfprelaxed
-Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi

C++ benchmarks:
-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc --zc_eh
-tp k8-32 -Bstatic_pgi -lsmartheap

Base Other Flags

C benchmarks:
-w

C++ benchmarks:
-w -L/proj/qa/smartheap/SmartHeap_8/lib

Peak Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp

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: `-Mpfi`(pass 1) `-Mpfo`(pass 2) `-Mipa=inline`(pass 2) `-fast -O4 -Mfprelaxed -Msmartalloc=huge:8 -Mnounroll -tp k8-64 -Bstatic_pgi`

401.bzip2: `-Mpfi`(pass 1) `-Mpfo`(pass 2) `-fast -O4 -Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi`

403.gcc: `-fastsse -Mfprelaxed -Msmartalloc=huge:32 -Mipa=fast -Mipa=inline -tp k8-32 -Bstatic_pgi`

429.mcf: `-fastsse -Mipa=fast -Mipa=inline -Msmartalloc=huge:16 -tp k8-32 -Bstatic_pgi`

445.gobmk: `-Mpfi`(pass 1) `-Mpfo`(pass 2) `-Mipa=fast`(pass 2) `-fast -O4 -Msmartalloc=huge:32 -Mfprelaxed -Mnovect -tp k8-64 -Bstatic_pgi`

456.hmmer: `-fast -Msmartalloc=huge:32 -Mfprelaxed -Msafeptr -Mipa=const -Mipa=ptr -Mipa=arg -tp k8-64 -Bstatic_pgi`

458.sjeng: `-Mpfi`(pass 1) `-Mipa=fast`(pass 2) `-Mipa=inline`(pass 2) `-Mipa=noarg`(pass 2) `-Mpfo`(pass 2) `-fast -Msmartalloc=huge:32 -Mfprelaxed -tp k8-64 -Bstatic_pgi`

462.libquantum: `basepeak = yes`

464.h264ref: `basepeak = yes`

C++ benchmarks:

471.omnetpp: `basepeak = yes`

473.astar: `basepeak = yes`

483.xalancbmk: `-fastsse -O4 -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc --zc_eh -tp k8-32 -Bstatic_pgi -lsmartheap`

Peak Other Flags

C benchmarks:
`-w`

C++ benchmarks:
`-w -L/proj/qa/smartheap/SmartHeap_8/lib`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/hp-pgi710_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/hp-pgi710_flags.xml

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