SPEC® CINT2006 Result

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Hewlett-Packard Company

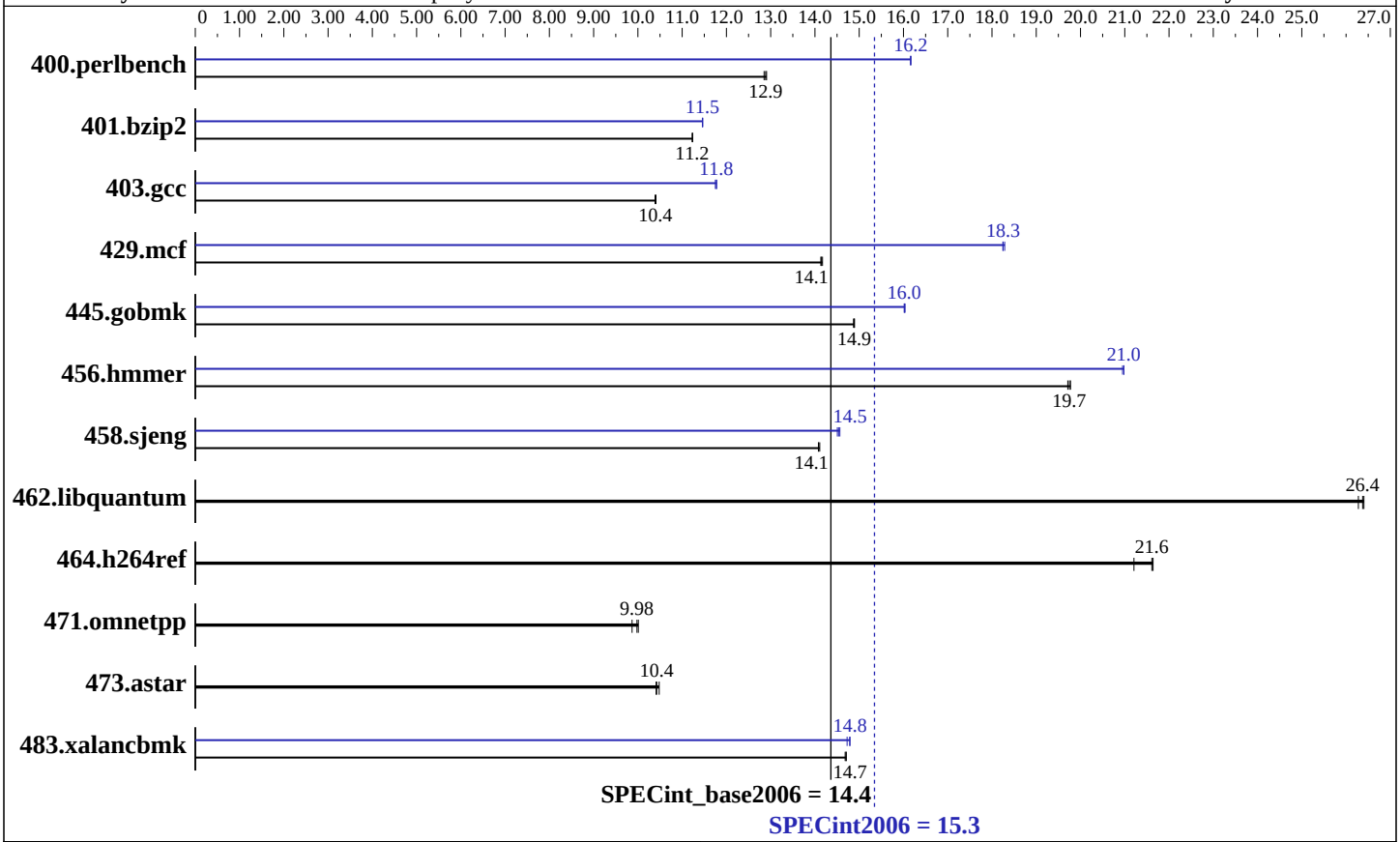
ProLiant DL385 G2
(3.0 GHz AMD Opteron 2222)

SPECint®2006 = 15.3

SPECint_base2006 = 14.4

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:	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) SP1 kernel 2.6.16.46-0.12-default
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

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	760	12.9	757	12.9	**758**	**12.9**	604	16.2	605	16.2	**604**	**16.2**
401.bzip2	859	11.2	**859**	**11.2**	859	11.2	842	11.5	**842**	**11.5**	842	11.5
403.gcc	774	10.4	775	10.4	**774**	**10.4**	**684**	**11.8**	685	11.7	683	11.8
429.mcf	645	14.1	644	14.2	**645**	**14.1**	499	18.3	**500**	**18.3**	500	18.2
445.gobmk	**705**	**14.9**	704	14.9	705	14.9	654	16.0	**655**	**16.0**	655	16.0
456.hmmer	473	19.7	**472**	**19.7**	472	19.8	**445**	**21.0**	445	21.0	445	21.0
458.sjeng	858	14.1	859	14.1	**859**	**14.1**	**833**	**14.5**	834	14.5	831	14.6
462.libquantum	788	26.3	785	26.4	**786**	**26.4**	788	26.3	785	26.4	**786**	**26.4**
464.h264ref	1023	21.6	**1024**	**21.6**	1044	21.2	1023	21.6	**1024**	**21.6**	1044	21.2
471.omnetpp	624	10.0	**626**	**9.98**	633	9.87	624	10.0	**626**	**9.98**	633	9.87
473.astar	670	10.5	674	10.4	**673**	**10.4**	670	10.5	674	10.4	**673**	**10.4**
483.xalancbmk	469	14.7	470	14.7	**469**	**14.7**	**467**	**14.8**	466	14.8	469	14.7

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/hugepagesi
Single-processor kernel used
```

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`

Continued on next page

Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
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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For other inquiries, please contact webmaster@spec.org.

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