



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 29.5

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECint_rate_base2006 = 27.4

CPU2006 license: 3

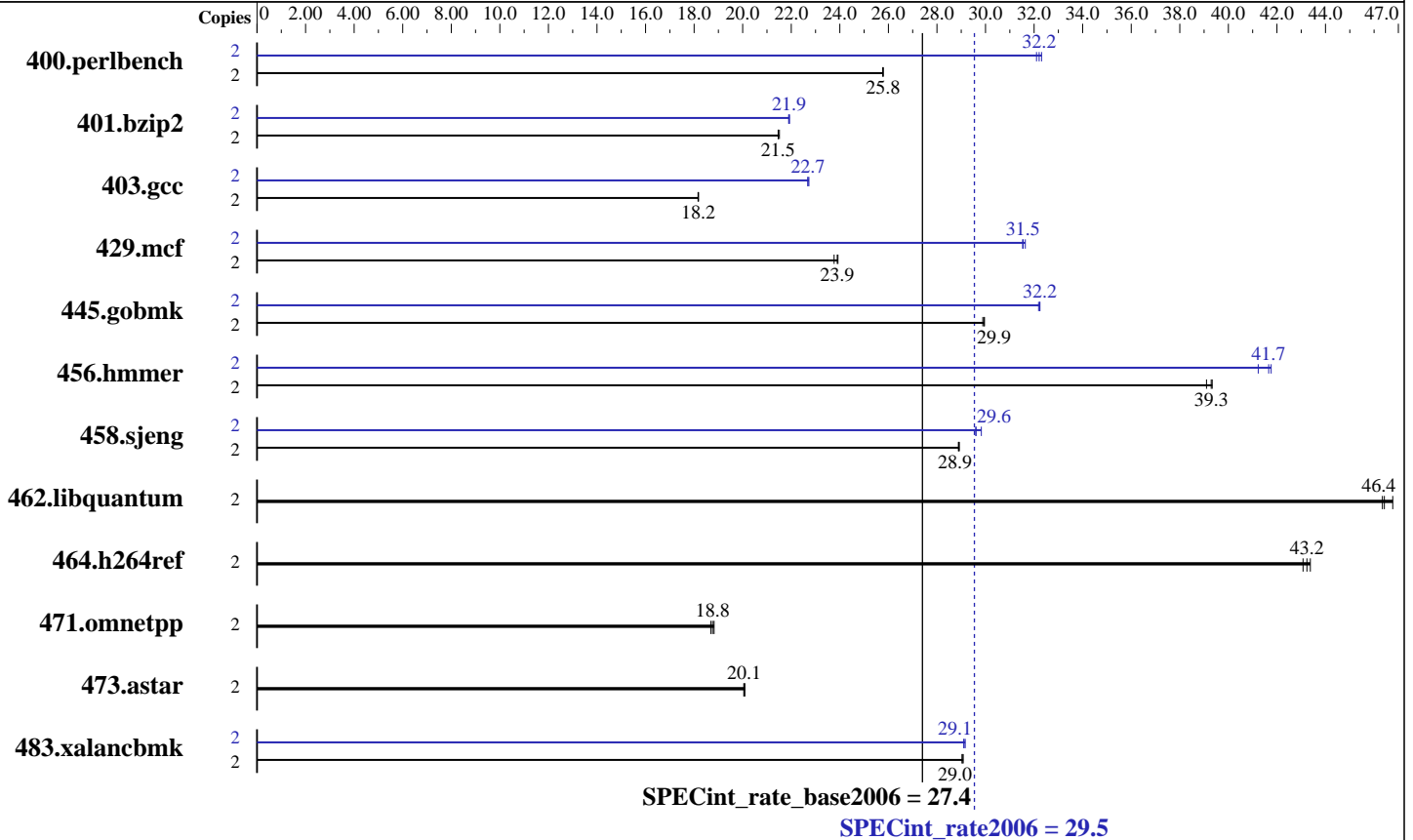
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2007

Tested by: Hewlett-Packard Company

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



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	758	25.8	758	25.8	758	25.8	2	607	32.2	609	32.1	605	32.3
401.bzip2	2	899	21.5	897	21.5	899	21.5	2	882	21.9	880	21.9	881	21.9
403.gcc	2	886	18.2	887	18.2	886	18.2	2	710	22.7	710	22.7	708	22.7
429.mcf	2	762	23.9	768	23.8	763	23.9	2	579	31.5	577	31.6	578	31.5
445.gobmk	2	702	29.9	701	29.9	700	30.0	2	651	32.2	652	32.2	651	32.2
456.hmmmer	2	477	39.1	475	39.3	474	39.3	2	453	41.2	447	41.8	448	41.7
458.sjeng	2	837	28.9	837	28.9	838	28.9	2	817	29.6	818	29.6	811	29.8
462.libquantum	2	886	46.8	893	46.4	894	46.3	2	886	46.8	893	46.4	894	46.3
464.h264ref	2	1024	43.2	1020	43.4	1027	43.1	2	1024	43.2	1020	43.4	1027	43.1
471.omnetpp	2	664	18.8	666	18.8	669	18.7	2	664	18.8	666	18.8	669	18.7
473.astar	2	700	20.0	700	20.1	699	20.1	2	700	20.0	700	20.1	699	20.1
483.xalancbmk	2	475	29.0	475	29.1	475	29.0	2	473	29.2	474	29.1	474	29.1

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
'numactl' was used to bind copies to the cores
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.hmmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
```

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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



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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



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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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