



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 58.7

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECint_rate_base2006 = 54.2

CPU2006 license: 3

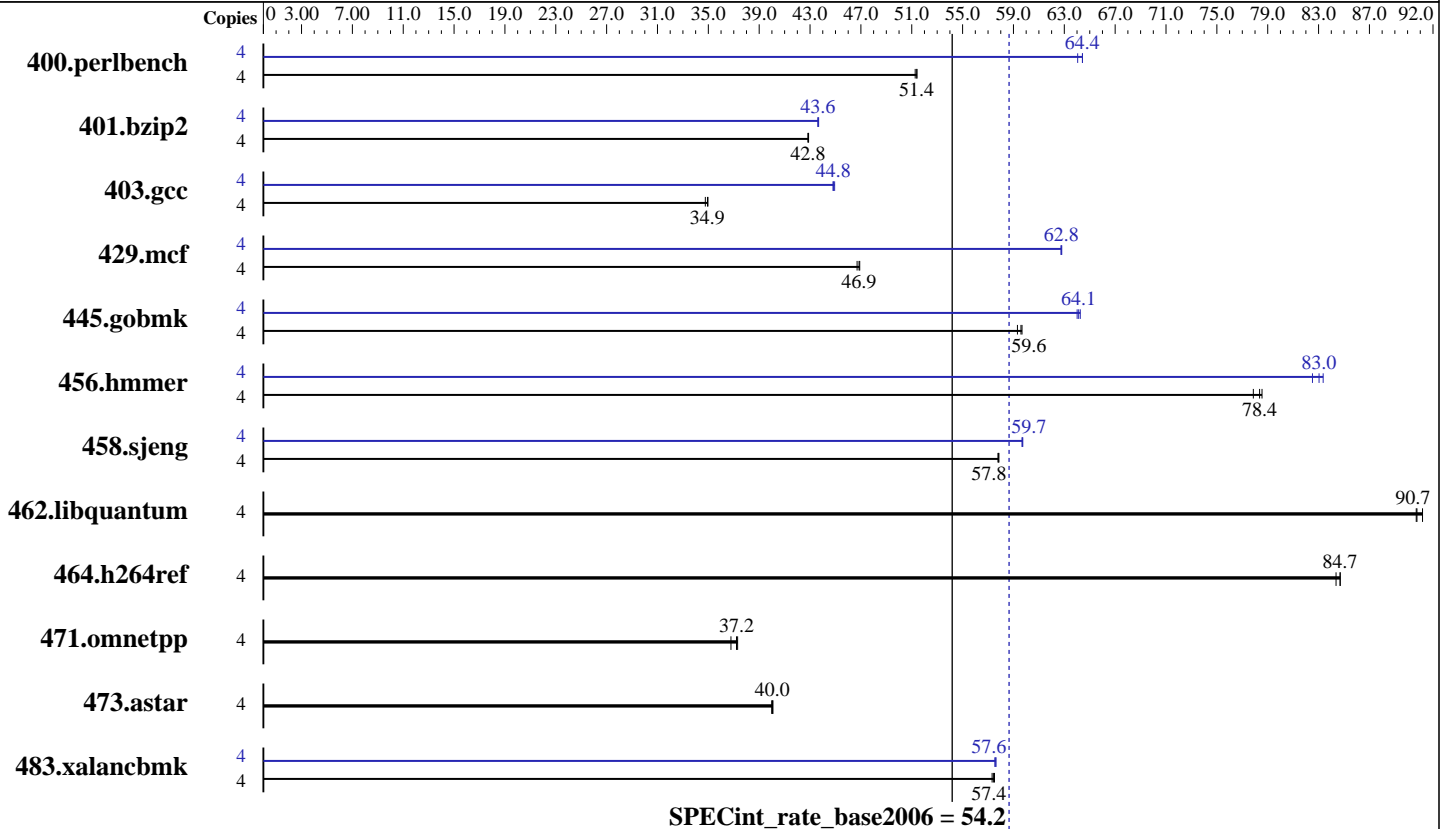
Test date: Aug-2007

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: 3000
 CPU MHz: Integrated
 FPU: 4 cores, 2 chips, 2 cores/chip
 CPU(s) enabled: 1,2 chips
 CPU(s) orderable: 64 KB I + 64 KB D on chip per core
 Primary Cache: 1 MB I+D on chip per core
 Secondary Cache: None
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (8x4 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	4	762	51.3	760	51.4	760	51.4	4	607	64.4	607	64.4	610	64.1
401.bzip2	4	901	42.8	901	42.8	900	42.9	4	884	43.7	885	43.6	885	43.6
403.gcc	4	921	35.0	922	34.9	926	34.8	4	718	44.8	717	44.9	719	44.8
429.mcf	4	781	46.7	779	46.9	778	46.9	4	581	62.8	581	62.8	581	62.7
445.gobmk	4	703	59.7	704	59.6	707	59.3	4	654	64.1	656	64.0	653	64.3
456.hmmer	4	479	77.9	475	78.6	476	78.4	4	448	83.4	452	82.5	449	83.0
458.sjeng	4	838	57.8	837	57.8	837	57.8	4	811	59.7	811	59.7	810	59.7
462.libquantum	4	913	90.7	914	90.7	909	91.2	4	913	90.7	914	90.7	909	91.2
464.h264ref	4	1045	84.7	1045	84.7	1049	84.4	4	1045	84.7	1045	84.7	1049	84.4
471.omnetpp	4	670	37.3	672	37.2	680	36.8	4	670	37.3	672	37.2	680	36.8
473.astar	4	701	40.1	701	40.0	702	40.0	4	701	40.1	701	40.0	702	40.0
483.xalancbmk	4	480	57.5	481	57.4	482	57.3	4	479	57.6	479	57.6	480	57.5

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.hmmer: -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 -lsmarheap

Base Other Flags

C benchmarks:

-w

C++ benchmarks:

-w -L/proj/qa/smarheap/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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