SPEC® CINT2006 Result
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Hewlett-Packard Company

SPECint®_rate2006 = 46.9

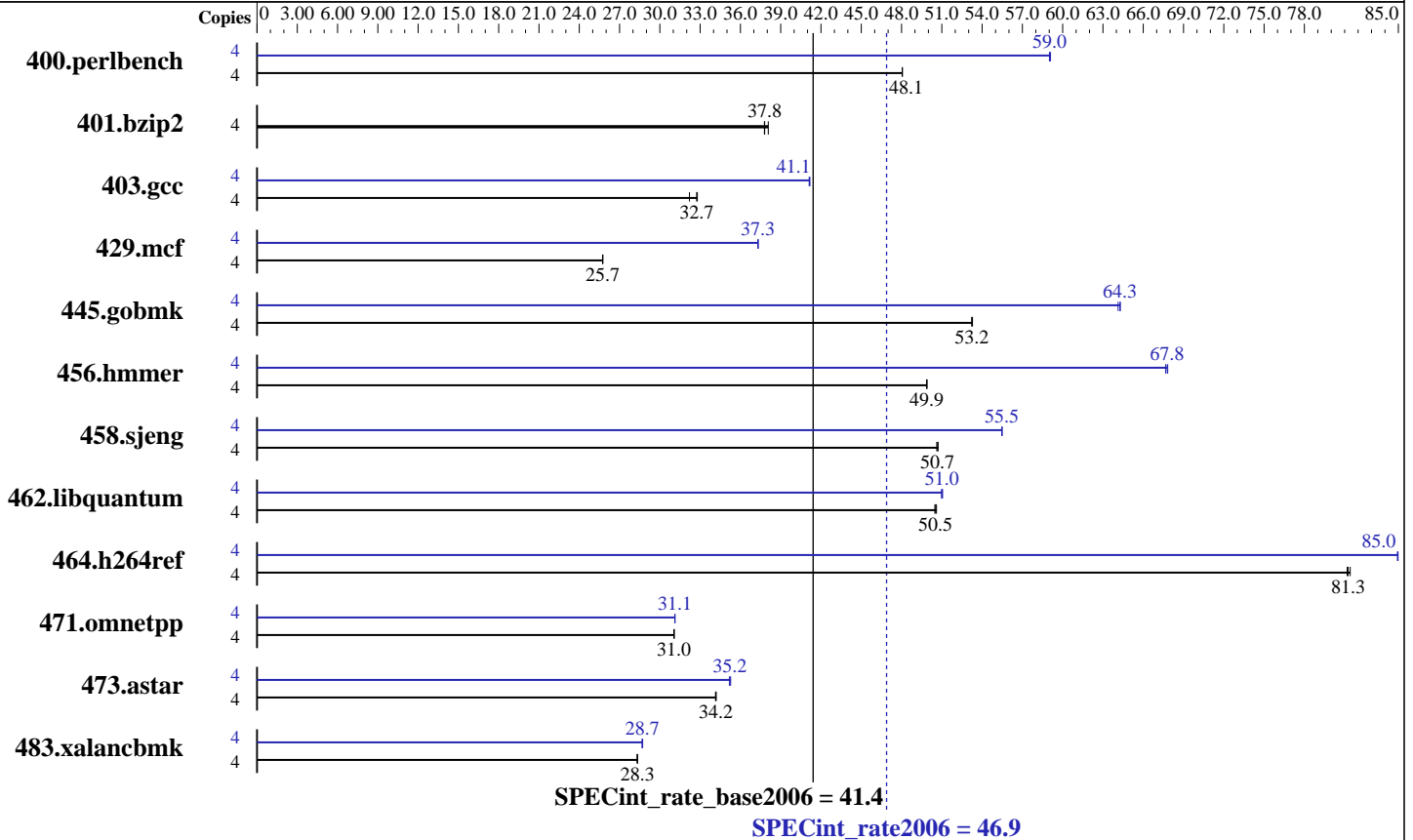## ProLiant DL585 (AMD Opteron 854)

SPECint_rate_base2006 = 41.4

CPU2006 license: 3	**Test date:** Apr-2006
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Oct-2005
Tested by: Hewlett-Packard Company	**Software Availability:** Mar-2006

Copies 0 3.00 6.00 9.00 12.0 15.0 18.0 21.0 24.0 27.0 30.0 33.0 36.0 39.0 42.0 45.0 48.0 51.0 54.0 57.0 60.0 63.0 66.0 69.0 72.0 75.0 78.0 85.0

```
400.perlbench   4                                                          59.0
                4                              48.1
401.bzip2       4                    37.8
403.gcc         4                         41.1
                4               32.7
429.mcf         4                   37.3
                4           25.7
445.gobmk       4                                    64.3
                4                           53.2
456.hmmer       4                                       67.8
                4                          49.9
458.sjeng       4                                 55.5
                4                          50.7
462.libquantum  4                            51.0
                4                           50.5
464.h264ref     4                                                                 85.0
                4                                                              81.3
471.omnetpp     4            31.1
                4            31.0
473.astar       4               35.2
                4              34.2
483.xalancbmk   4          28.7
                4          28.3
```

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Hardware

CPU Name:	AMD Opteron 854
CPU Characteristics:	2.8GHz, 1MB L2 cache
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	2,4 chips
Primary Cache:	64 KB I + 64 KB D on chip per chip
Secondary Cache:	1 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (16x2048 MB PC3200 CL3.0)
Disk Subsystem:	1x146GB 10K Ultra320 SCSI
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 9 (x86_64) SP 3
	SuSE kernel 2.6.5-7.244-smp
Compiler:	PathScale EKO Compiler Suite, Release 2.4
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					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	**813**	**48.1**	813	48.1	813	48.1	4	662	59.0	661	59.1	**662**	**59.0**
401.bzip2	4	**1021**	**37.8**	1014	38.1	1021	37.8	4	**1021**	**37.8**	1014	38.1	1021	37.8
403.gcc	4	982	32.8	**984**	**32.7**	1000	32.2	4	**783**	**41.1**	782	41.2	783	41.1
429.mcf	4	1417	25.8	1417	25.7	**1417**	**25.7**	4	**978**	**37.3**	977	37.3	978	37.3
445.gobmk	4	787	53.3	**788**	**53.2**	788	53.2	4	653	64.3	**653**	**64.3**	654	64.1
456.hmmer	4	**748**	**49.9**	748	49.9	748	49.9	4	552	67.7	**551**	**67.8**	550	67.8
458.sjeng	4	954	50.7	**955**	**50.7**	956	50.6	4	872	55.5	**872**	**55.5**	872	55.5
462.libquantum	4	1642	50.5	1638	50.6	**1640**	**50.5**	4	1626	51.0	**1624**	**51.0**	1623	51.1
464.h264ref	4	1087	81.4	1090	81.2	**1089**	**81.3**	4	1042	85.0	**1042**	**85.0**	1042	84.9
471.omnetpp	4	**805**	**31.0**	805	31.0	804	31.1	4	**803**	**31.1**	803	31.1	803	31.1
473.astar	4	822	34.1	821	34.2	**821**	**34.2**	4	798	35.2	796	35.3	**797**	**35.2**
483.xalancbmk	4	**974**	**28.3**	974	28.3	975	28.3	4	962	28.7	961	28.7	**962**	**28.7**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
   BIOS Configuration Notes
     Node Interleaving Disabled
   Other Configuration Notes
     Taskset utility used to bind process to CPU(s)
```

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
```

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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:
```
-Ofast
```

C++ benchmarks:
```
-Ofast -m32
```

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
       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
 483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
               -IPA:plimit=525 -IPA:pu_reorder=1

    401.bzip2: basepeak = yes
```

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Peak Optimization Flags (Continued)

403.gcc: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-m32 -O3`
`-OPT:Ofast`

429.mcf: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-m32 -O2`
`-ipa`

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 -WOPT:aggstr=0 -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 -IPA:pu_reorder=2 -CG:gcm=off -m32`

473.astar: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.04.html

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You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.04.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v91.
Report generated on Tue Jul 22 09:59:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 August 2006.