



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp[®]_rate2006 = 28.2

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

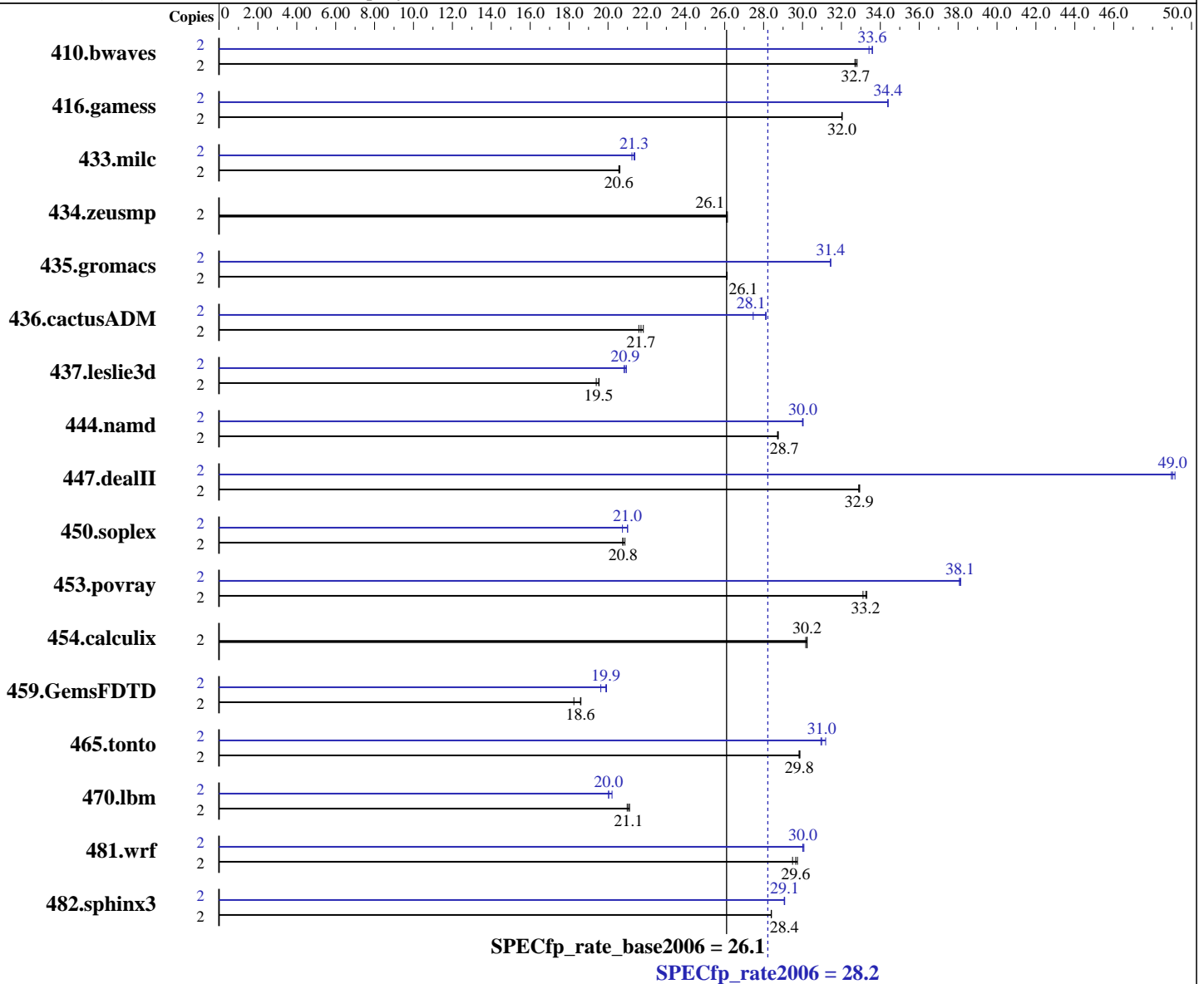
Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-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

Continued on next page

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 pgf90 7.1-1 Fortran Compiler
 PGI pgcc 7.1-1 C Compiler
 PGI pgCC 7.1-1 C++ Compiler
 QLogic PathScale Compiler Suite,
 Release 3.0
 Auto Parallel: No

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = **28.2**

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB PC2-5300P CL5)
Disk Subsystem: 1x146 GB 10 K SAS
Other Hardware: None

File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	831	32.7	828	32.8	830	32.7	2	809	33.6	809	33.6	813	33.4
416.gamess	2	1223	32.0	1222	32.0	1223	32.0	2	1139	34.4	1139	34.4	1138	34.4
433.milc	2	893	20.6	893	20.6	891	20.6	2	865	21.2	860	21.3	859	21.4
434.zeusmp	2	697	26.1	696	26.1	698	26.1	2	697	26.1	696	26.1	698	26.1
435.gromacs	2	547	26.1	547	26.1	547	26.1	2	454	31.4	454	31.4	454	31.4
436.cactusADM	2	1107	21.6	1095	21.8	1102	21.7	2	870	27.5	851	28.1	850	28.1
437.leslie3d	2	962	19.5	963	19.5	969	19.4	2	900	20.9	898	20.9	903	20.8
444.namd	2	558	28.8	558	28.7	559	28.7	2	534	30.0	535	30.0	534	30.0
447.dealII	2	695	32.9	695	32.9	696	32.9	2	466	49.2	467	49.0	467	49.0
450.soplex	2	799	20.9	803	20.8	803	20.8	2	794	21.0	794	21.0	804	20.7
453.povray	2	321	33.1	320	33.2	319	33.3	2	279	38.1	279	38.1	280	38.1
454.calculix	2	546	30.2	547	30.2	546	30.2	2	546	30.2	547	30.2	546	30.2
459.GemsFDTD	2	1163	18.2	1142	18.6	1140	18.6	2	1067	19.9	1081	19.6	1065	19.9
465.tonto	2	660	29.8	660	29.8	659	29.9	2	631	31.2	635	31.0	636	30.9
470.lbm	2	1305	21.1	1302	21.1	1309	21.0	2	1372	20.0	1372	20.0	1360	20.2
481.wrf	2	751	29.7	758	29.5	753	29.6	2	744	30.0	743	30.1	744	30.0
482.sphinx3	2	1373	28.4	1373	28.4	1373	28.4	2	1341	29.1	1341	29.1	1340	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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 28.2

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Base Compiler Invocation (Continued)

C++ benchmarks:
pgcpp

Fortran benchmarks:
pgf95

Benchmarks using both Fortran and C:
pgcc pgf95

Base Portability Flags

```

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -Mnomain
436.cactusADM: -DSPEC_CPU_LP64 -Mnomain
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -Mnomain
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

```

Base Optimization Flags

```

C benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi

C++ benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
--zc_eh -tp k8-64 -Bstatic_pgi

Fortran benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi

Benchmarks using both Fortran and C:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi

```



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 28.2

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Base Other Flags

C benchmarks:

-w

C++ benchmarks:

-w

Fortran benchmarks:

-w

Benchmarks using both Fortran and C:

-w

Peak Compiler Invocation

C benchmarks (except as noted below):

pathcc

433.milc: pgcc

C++ benchmarks (except as noted below):

pathCC

444.namd: pgcpp

Fortran benchmarks (except as noted below):

pgf95

416.gamess: pathf95

437.leslie3d: pathf95

459.GemsFDTD: pathf95

Benchmarks using both Fortran and C (except as noted below):

pgcc pgf95

436.cactusADM: pathcc pathf95

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64

416.gamess: -DSPEC_CPU_LP64

433.milc: -DSPEC_CPU_LP64

434.zeusmp: -DSPEC_CPU_LP64

435.gromacs: -DSPEC_CPU_LP64 -Mnomain

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 28.2

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Peak Portability Flags (Continued)

```

436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -Mnomain
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

433.milc: -Mphi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)
          -Mipa=noarg(pass 2) -Mpfo(pass 2) -fast -O4 -Mdse
          -Mfprelaxed -Msmartalloc=huge:448 -tp k8-64 -Bstatic_pgi

```

470.lbm: -Ofast

```

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
             -OPT:Ofast -WOPT:aggstr=0 -m32

```

C++ benchmarks:

```

444.namd: -fast -O4 -Mfprelaxed -Msmartalloc=huge:448 --zc_eh
          -tp k8-64 -Mnodepchk -Mprefetch -Msafe_lastval
          -Msafeptr=static -Mstride0 -Munroll=n:4 -Mvect=noidiom
          -Mvect=prefetch -Bstatic_pgi

```

```

447.deallI: -Ofast -static -INLINE:aggressive=on -OPT:malloc_alg=1
            -m32 -fno-exceptions

```

```

450.soplex: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
            -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1
            -LNO:minvariant=off -LNO:prefetch=1 -fno-exceptions

```

```

453.povray: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
            -fno-fast-math

```

Fortran benchmarks:

```

410.bwaves: -fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc
            -tp k8-64 -Bstatic_pgi

```

```

416.gamess: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O2
            -OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 28.2

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test date: Dec-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007

Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: -Ofast -OPT:malloc_alg=1

459.GemsFDTD: -Ofast -LNO:fission=2 -LNO:prefetch=0

465.tonto: -fast -O4 -Mfprelaxed -Msmartalloc=huge:448 -Mipa=fast
-Mipa=inline -Mvect=noaltcode -tp k8-64 -Bstatic_pgi

Benchmarks using both Fortran and C:

435.gromacs: -fast -O4 -Mipa=fast -Mipa=inline -Mfprelaxed
-Msmartalloc=huge:448 -tp k8-64 -Mfpapprox=rsqrt
-Bstatic_pgi

436.cactusADM: -O3 -LNO:prefetch=3 -LNO:prefetch_ahead=5
-LNO:ou_prod_max=10 -LNO:full_unroll=5 -ipa

454.calculix: basepeak = yes

481.wrf: -fast -Mfprelaxed -Msmartalloc=huge:448 -Mvect=noaltcode
-tp k8-64 -Bstatic_pgi

Peak Other Flags

C benchmarks:

433.milc: -w

C++ benchmarks:

444.namd: -w

Fortran benchmarks:

410.bwaves: -w

434.zeusmp: -w

465.tonto: -w

Benchmarks using both Fortran and C (except as noted below):

-w

436.cactusADM: No flags used



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_rate2006 = 28.2

SPECfp_rate_base2006 = 26.1

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Dec-2007

Hardware Availability: Jan-2008

Software Availability: Nov-2007

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/hp-pgi710_ps30_flags.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/hp-pgi710_ps30_flags.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 15:14:41 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 January 2008.