



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp®2006 = 16.0

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_base2006 = 14.8

CPU2006 license: 3

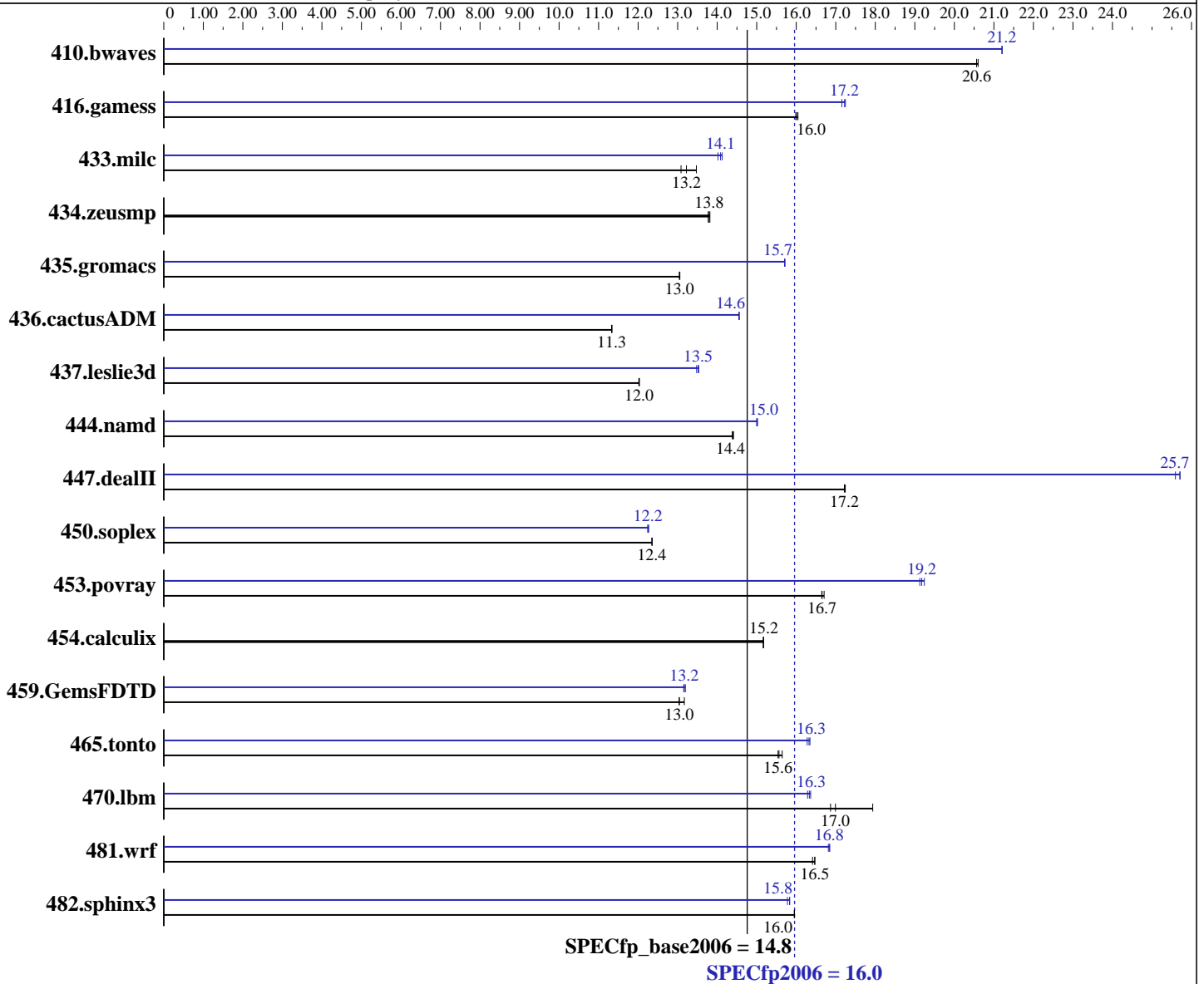
Test date: Dec-2007

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: 4 cores, 2 chips, 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

SPECfp2006 = **16.0**

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_base2006 = **14.8**

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: 32 GB (8x4 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	661	20.6	660	20.6	661	20.6	641	21.2	641	21.2	641	21.2
416.gamess	1225	16.0	1220	16.0	1223	16.0	1137	17.2	1141	17.2	1135	17.2
433.milc	702	13.1	694	13.2	681	13.5	655	14.0	652	14.1	650	14.1
434.zeusmp	660	13.8	659	13.8	661	13.8	660	13.8	659	13.8	661	13.8
435.gromacs	547	13.0	547	13.0	547	13.1	454	15.7	455	15.7	455	15.7
436.cactusADM	1055	11.3	1054	11.3	1055	11.3	821	14.6	822	14.5	821	14.6
437.leslie3d	782	12.0	782	12.0	781	12.0	697	13.5	695	13.5	695	13.5
444.namd	557	14.4	558	14.4	557	14.4	535	15.0	534	15.0	534	15.0
447.dealII	664	17.2	664	17.2	664	17.2	445	25.7	447	25.6	445	25.7
450.soplex	675	12.3	675	12.4	675	12.4	681	12.2	681	12.2	680	12.3
453.povray	318	16.7	320	16.6	319	16.7	277	19.2	277	19.2	278	19.1
454.calculix	544	15.2	544	15.2	544	15.2	544	15.2	544	15.2	544	15.2
459.GemsFDTD	806	13.2	814	13.0	813	13.0	806	13.2	807	13.2	804	13.2
465.tonto	629	15.6	633	15.5	632	15.6	602	16.3	605	16.3	603	16.3
470.lbm	766	17.9	815	16.9	809	17.0	840	16.4	844	16.3	841	16.3
481.wrf	678	16.5	678	16.5	681	16.4	663	16.8	664	16.8	664	16.8
482.sphinx3	1222	16.0	1222	16.0	1221	16.0	1231	15.8	1235	15.8	1231	15.8

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

SPECfp2006 = 16.0

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_base2006 = 14.8

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

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp2006 = 16.0

SPECfp_base2006 = 14.8

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

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

SPECfp2006 = 16.0

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_base2006 = 14.8

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

SPECfp2006 = 16.0

ProLiant DL185 G5
(3.0 GHz AMD Opteron 2222)

SPECfp_base2006 = 14.8

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)

SPECfp2006 = 16.0

SPECfp_base2006 = 14.8

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 15:13:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 January 2008.