SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

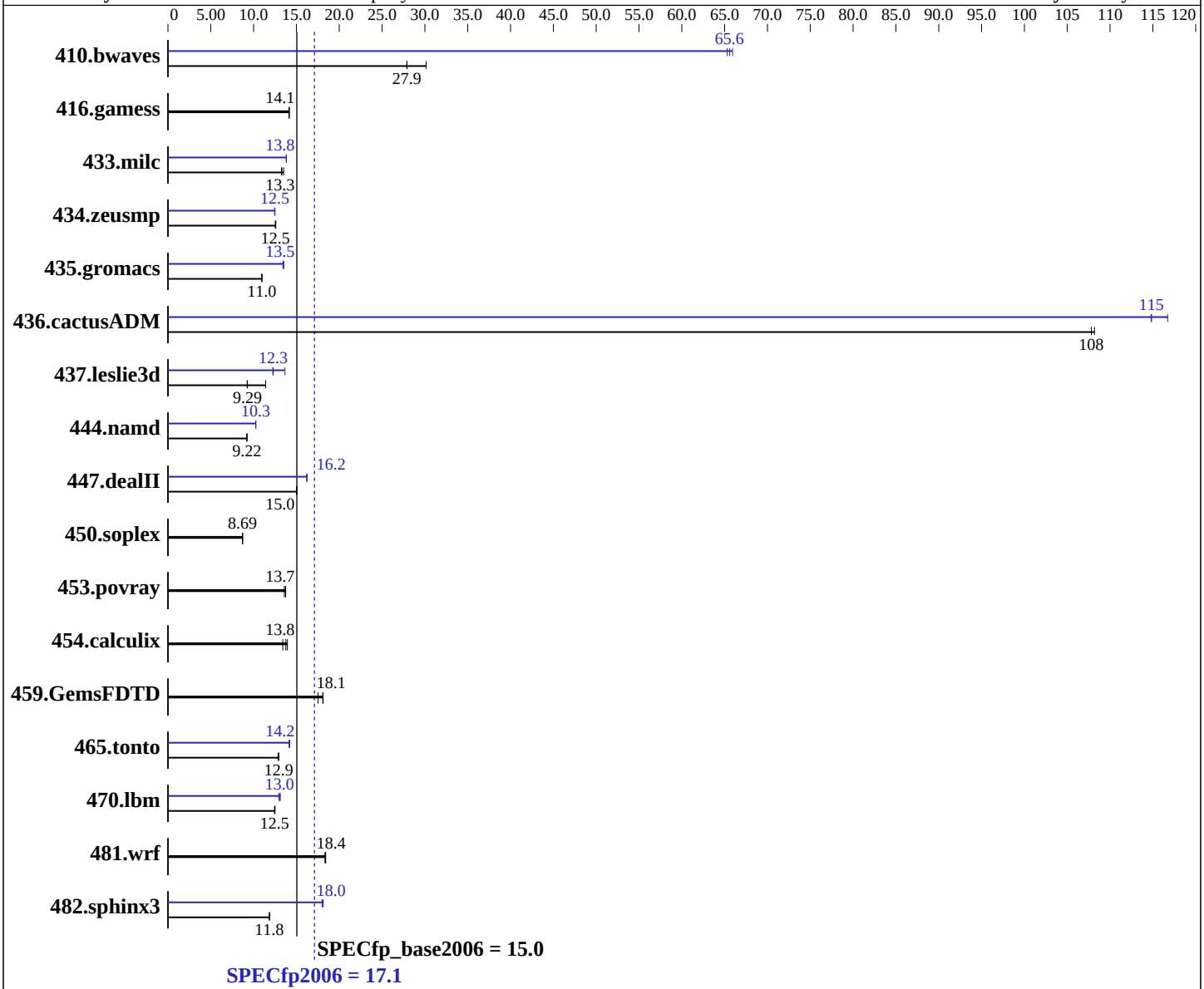
ProLiant BL685c G5
(2.3 GHz AMD Opteron 8356)

SPECfp®2006 = 17.1

SPECfp_base2006 = 15.0

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2008
Hardware Availability: Mar-2008
Software Availability: May-2008



Hardware

CPU Name:	AMD Opteron 8356
CPU Characteristics:	
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	16 cores, 4 chips, 4 cores/chip
CPU(s) orderable:	2,4 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB 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:	PGI Server Complete Version 7.2
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	binutils-2.18.50

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant BL685c G5
(2.3 GHz AMD Opteron 8356)

SPECfp2006 = 17.1

SPECfp_base2006 = 15.0

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2008
Hardware Availability: Mar-2008
Software Availability: May-2008

L3 Cache: 2 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (16x4 GB, PC2-5300P CL5)
Disk Subsystem: 1x146 GB 10 K SAS
Other Hardware: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	487	27.9	451	30.1	**487**	**27.9**	**207**	**65.6**	208	65.3	206	65.9
416.gamess	1382	14.2	1386	14.1	**1384**	**14.1**	1382	14.2	1386	14.1	**1384**	**14.1**
433.milc	693	13.2	679	13.5	**690**	**13.3**	664	13.8	**664**	**13.8**	664	13.8
434.zeusmp	**725**	**12.5**	723	12.6	726	12.5	**729**	**12.5**	731	12.5	728	12.5
435.gromacs	650	11.0	652	10.9	**651**	**11.0**	**529**	**13.5**	532	13.4	528	13.5
436.cactusADM	111	108	**111**	**108**	110	108	**104**	**115**	102	117	104	115
437.leslie3d	**1012**	**9.29**	824	11.4	1017	9.25	768	12.2	**764**	**12.3**	688	13.7
444.namd	869	9.23	**870**	**9.22**	870	9.21	**782**	**10.3**	783	10.2	781	10.3
447.dealII	762	15.0	**762**	**15.0**	760	15.1	705	16.2	**705**	**16.2**	705	16.2
450.soplex	960	8.69	954	8.74	**959**	**8.69**	960	8.69	954	8.74	**959**	**8.69**
453.povray	**388**	**13.7**	387	13.7	392	13.6	**388**	**13.7**	387	13.7	392	13.6
454.calculix	**600**	**13.8**	615	13.4	591	13.9	**600**	**13.8**	615	13.4	591	13.9
459.GemsFDTD	605	17.5	586	18.1	**587**	**18.1**	605	17.5	586	18.1	**587**	**18.1**
465.tonto	761	12.9	**761**	**12.9**	766	12.9	**694**	**14.2**	692	14.2	695	14.2
470.lbm	1104	12.4	**1103**	**12.5**	1099	12.5	1061	13.0	**1055**	**13.0**	1047	13.1
481.wrf	606	18.4	**608**	**18.4**	609	18.3	606	18.4	**608**	**18.4**	609	18.3
482.sphinx3	**1647**	**11.8**	1644	11.9	1647	11.8	**1081**	**18.0**	1075	18.1	1083	18.0

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'
Max locked memory set to 2097152
PGI_HUGE_PAGES set to 896
Total number of huge pages available is 14336
NCPUS set to number of cores
numactl used to bind processes to CPUs
```

Platform Notes

```
BIOS configuration:
  Power Regulator set to Static High Performance Mode
```

Base Compiler Invocation

C benchmarks:
pgcc

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=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed -Mconcur
-Msmartalloc=huge:896 -tp barcelona-64 -Bstatic_pgi

C++ benchmarks:
-fast -Mipa=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed
-Msmartalloc=huge:896 --zc_eh -tp barcelona-64 -Bstatic_pgi

Fortran benchmarks:
-fast -Mipa=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed -Mconcur
-Msmartalloc=huge:896 -tp barcelona-64 -Bstatic_pgi

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-fast -Mipa=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed -Mconcur -Msmartalloc=huge:896 -tp barcelona-64 -Bstatic_pgi`

Base Other Flags

C benchmarks:
`-w`

C++ benchmarks:
`-w`

Fortran benchmarks:
`-w`

Benchmarks using both Fortran and C:
`-w`

Peak Compiler Invocation

C benchmarks:
`pgcc`

C++ benchmarks:
`pgcpp`

Fortran benchmarks:
`pgf95`

Benchmarks using both Fortran and C:
`pgcc pgf95`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

433.milc: `-fastsse -Msmartalloc=huge:896 -Mconcur -Msafeptr -Mfprelaxed -Mipa=jobs:8 -Mipa=inline -Mipa=arg -Mipa=const -Mipa=ptr -Mipa=shape -tp barcelona-64`

Continued on next page

Peak Optimization Flags (Continued)

433.milc (continued):
-Bstatic_pgi

470.lbm: -fastsse -Mfprelaxed -Msmartalloc=huge:896 -Mipa=fast
-Mipa=inline -Mipa=noarg -Mprefetch=distance:12
-Mprefetch=nta -tp barcelona-64 -Bstatic_pgi

482.sphinx3: -Mpfi(pass 1) -Mipa=jobs:8(pass 2) -Mipa=fast(pass 2)
-Mipa=inline(pass 2) -Mpfo(pass 2) -fastsse -Mfprelaxed
-Msmartalloc -Mprefetch=distance:12 -Mprefetch=nta
-tp barcelona-64 -Bstatic_pgi

C++ benchmarks:

444.namd: -Mpfi(pass 1) -Mipa=jobs:8(pass 2) -Mipa=fast(pass 2)
-Mipa=inline(pass 2) -Mconcur=noaltcode(pass 2)
-Mpfo(pass 2) -fast -Mfprelaxed -Msmartalloc=huge:896
--zc_eh -Mnodepchk -Munroll=n:4 -Munroll=m:8
-tp barcelona-64 -Bstatic_pgi

447.dealII: -fast -Mfprelaxed -Msmartalloc=huge:896 --zc_eh -Mnovect
-alias=ansi -Mipa=jobs:8 -Mipa=fast -Mipa=inline
-tp barcelona-64 -Bstatic_pgi

450.soplex: basepeak = yes

453.povray: basepeak = yes

Fortran benchmarks:

410.bwaves: -fastsse -Mloop32 -Mfprelaxed -Msmartalloc
-Mprefetch=distance:12 -Mprefetch=nta -Mconcur -Mipa=jobs:8
-Mipa=fast -Mipa=inline -tp barcelona-64 -Bstatic_pgi

416.gamess: basepeak = yes

434.zeusmp: -fast -Mloop32 -Mipa=jobs:8 -Mipa=fast -Mipa=inline
-Mfprelaxed -Mconcur -Msmartalloc -tp barcelona-64
-Bstatic_pgi

437.leslie3d: -fast -Mipa=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed
-Mconcur=noaltcode -Msmartalloc=huge:896 -tp barcelona-64
-Bstatic_pgi

459.GemsFDTD: basepeak = yes

465.tonto: -fast -O4 -Mfprelaxed -Msmartalloc=huge:896
-Mprefetch=distance:8 -Mipa=jobs:8 -Mipa=fast -Mipa=inline
-Mvect=noaltcode -tp barcelona-64 -Bstatic_pgi

Continued on next page

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: `-fast -Mconcur -Mfpapprox=rsqrt -Mipa=jobs:8 -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:896 -tp barcelona-64 -Bstatic_pgi`

436.cactusADM: `-fastsse -Mfprelaxed -Mconcur -Msmartalloc -Mdse -Mipa=jobs:8 -Mipa=fast -Mipa=inline -tp barcelona-64 -Bstatic_pgi`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-w`

C++ benchmarks:
`-w`

Fortran benchmarks:
`-w`

Benchmarks using both Fortran and C:
`-w`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/hp-PGI72-PS32-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/hp-PGI72-PS32-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 17:50:51 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 April 2008.