SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

$SPECfp®\_rate2006 =$ 26.4

$SPECfp\_rate\_base2006 =$ 26.0

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Aug-2007

Hardware Availability: Sep-2007

Software Availability: Oct-2007

Copies scale: 0, 2.00, 4.00, 6.00, 8.00, 10.0, 12.0, 14.0, 16.0, 18.0, 20.0, 22.0, 24.0, 26.0, 28.0, 30.0, 32.0, 34.0, 36.0

Benchmark	Copies	Result
410.bwaves	2	33.3
	2	32.9
416.gamess	2	32.5
	2	32.1
433.milc	2	20.9
	2	20.2
434.zeusmp	2	26.2
435.gromacs	2	31.4
	2	26.0
436.cactusADM	2	24.6
437.leslie3d	2	19.8
444.namd	2	29.0
	2	28.8
447.dealII	2	29.9
450.soplex	2	20.0
453.povray	2	35.3
	2	35.1
454.calculix	2	29.6
459.GemsFDTD	2	18.5
465.tonto	2	29.5
	2	28.7
470.lbm	2	19.8
	2	19.9
481.wrf	2	29.7
	2	29.1
482.sphinx3	2	28.4

SPECfp_rate_base2006 = 26.0

SPECfp_rate2006 = 26.4

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 7.1-0 Fortran Compiler 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

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECfp_rate2006 =   26.4

SPECfp_rate_base2006 = 26.0

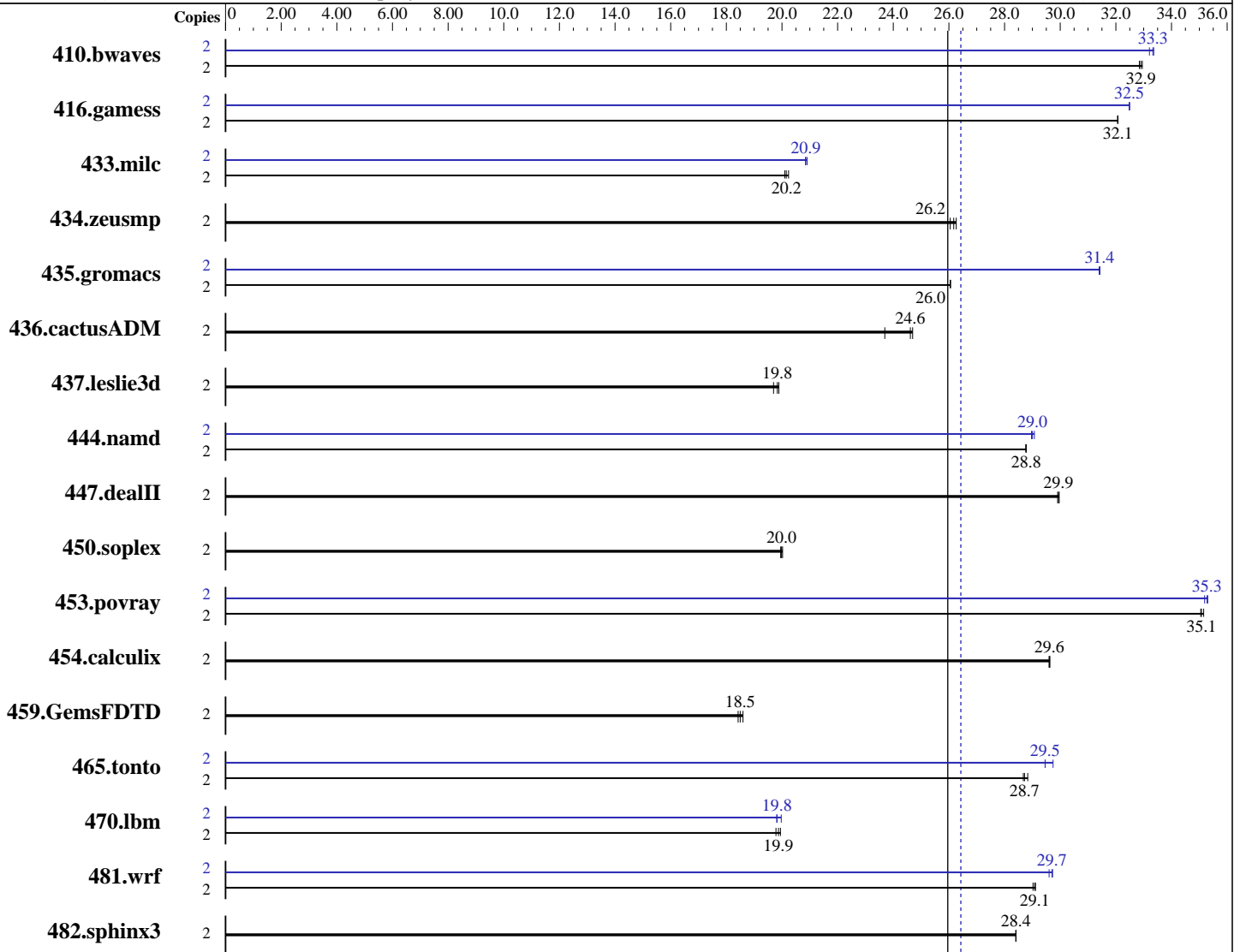|	
CPU2006 license: 3	**Test date:** Aug-2007
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Sep-2007
Tested by: Hewlett-Packard Company	**Software Availability:** Oct-2007

L3 Cache:	None	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	64-bit
Memory:	16 GB (4x4 GB, PC2-5300P CL5)	Other Software:	none
Disk Subsystem:	1x72 GB 10 K SAS		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	825	33.0	**826**	**32.9**	828	32.8	2	818	33.2	**815**	**33.3**	815	33.4
416.gamess	2	1221	32.1	1221	32.1	**1221**	**32.1**	2	**1206**	**32.5**	1206	32.5	1205	32.5
433.milc	2	913	20.1	**911**	**20.2**	907	20.2	2	881	20.8	**880**	**20.9**	878	20.9
434.zeusmp	2	**695**	**26.2**	693	26.3	699	26.0	2	**695**	**26.2**	693	26.3	699	26.0
435.gromacs	2	548	26.0	548	26.1	**548**	**26.0**	2	455	31.4	454	31.4	**455**	**31.4**
436.cactusADM	2	968	24.7	**971**	**24.6**	1009	23.7	2	968	24.7	**971**	**24.6**	1009	23.7
437.leslie3d	2	945	19.9	**948**	**19.8**	954	19.7	2	945	19.9	**948**	**19.8**	954	19.7
444.namd	2	558	28.8	**557**	**28.8**	557	28.8	2	554	29.0	552	29.1	**553**	**29.0**
447.dealII	2	764	30.0	765	29.9	**764**	**29.9**	2	764	30.0	765	29.9	**764**	**29.9**
450.soplex	2	836	20.0	833	20.0	**835**	**20.0**	2	836	20.0	833	20.0	**835**	**20.0**
453.povray	2	303	35.2	304	35.1	**303**	**35.1**	2	**302**	**35.3**	302	35.2	301	35.3
454.calculix	2	557	29.6	**557**	**29.6**	557	29.6	2	557	29.6	**557**	**29.6**	557	29.6
459.GemsFDTD	2	1152	18.4	**1147**	**18.5**	1141	18.6	2	1152	18.4	**1147**	**18.5**	1141	18.6
465.tonto	2	**685**	**28.7**	686	28.7	683	28.8	2	662	29.7	668	29.5	**668**	**29.5**
470.lbm	2	1378	19.9	**1383**	**19.9**	1389	19.8	2	**1386**	**19.8**	1376	20.0	1387	19.8
481.wrf	2	767	29.1	770	29.0	**768**	**29.1**	2	755	29.6	752	29.7	**752**	**29.7**
482.sphinx3	2	**1372**	**28.4**	1372	28.4	1372	28.4	2	**1372**	**28.4**	1372	28.4	1372	28.4

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

Hewlett-Packard Company

SPECfp_rate2006 =   26.4

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.0

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Aug-2007

Hardware Availability: Sep-2007

Software Availability: Oct-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

Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

$SPECfp\_rate2006 =$ 26.4

$SPECfp\_rate\_base2006 =$ 26.0

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Aug-2007

Hardware Availability: Sep-2007

Software Availability: Oct-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:
        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: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)
                -Mipa=noarg(pass 2) -Mpfo(pass 2) -fast -O4 -Mdse
                -Mfprelaxed -Msmartalloc=huge:8 -tp k8-64 -Bstatic_pgi

        470.lbm: -fast -Mfprelaxed -Msmartalloc=huge:8 -Mipa=fast
                -Mipa=noarg -tp k8-64 -Bstatic_pgi

        482.sphinx3: basepeak = yes

Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECfp_rate2006 =	26.4

SPECfp_rate_base2006 =	26.0

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

Test date: Aug-2007
Hardware Availability: Sep-2007
Software Availability: Oct-2007

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: `-Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)`
`-Mipa=inline(pass 2) -fast -O4 -Mfprelaxed`
`-Msmartalloc=huge:32 --zc_eh -tp k8-64 -Bstatic_pgi`

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: `-fast -Mfprelaxed -Msmartalloc=huge:32 -Mipa=fast`
`-Mipa=inline --zc_eh -tp k8-64 -Bstatic_pgi`

Fortran benchmarks:

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

416.gamess: `-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Mvect=noaltcode`
`-Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi`

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: `-fast -Mfprelaxed -Msmartalloc=huge:128 -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:16 -tp k8-64 -Mfpapprox=rsqrt`
`-Bstatic_pgi`

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: `-fast -Mfprelaxed -Msmartalloc=huge:32 -Mvect=noaltcode`
`-tp k8-64 -Bstatic_pgi`

Peak Other Flags

C benchmarks:
`-w`

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

$SPECfp\_rate2006 = 26.4$

$SPECfp\_rate\_base2006 = 26.0$

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

Peak Other Flags (Continued)

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-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

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 13:30:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 September 2007.