



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 26.5

ProLiant BL465c
(3.0GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 26.0

CPU2006 license: 3

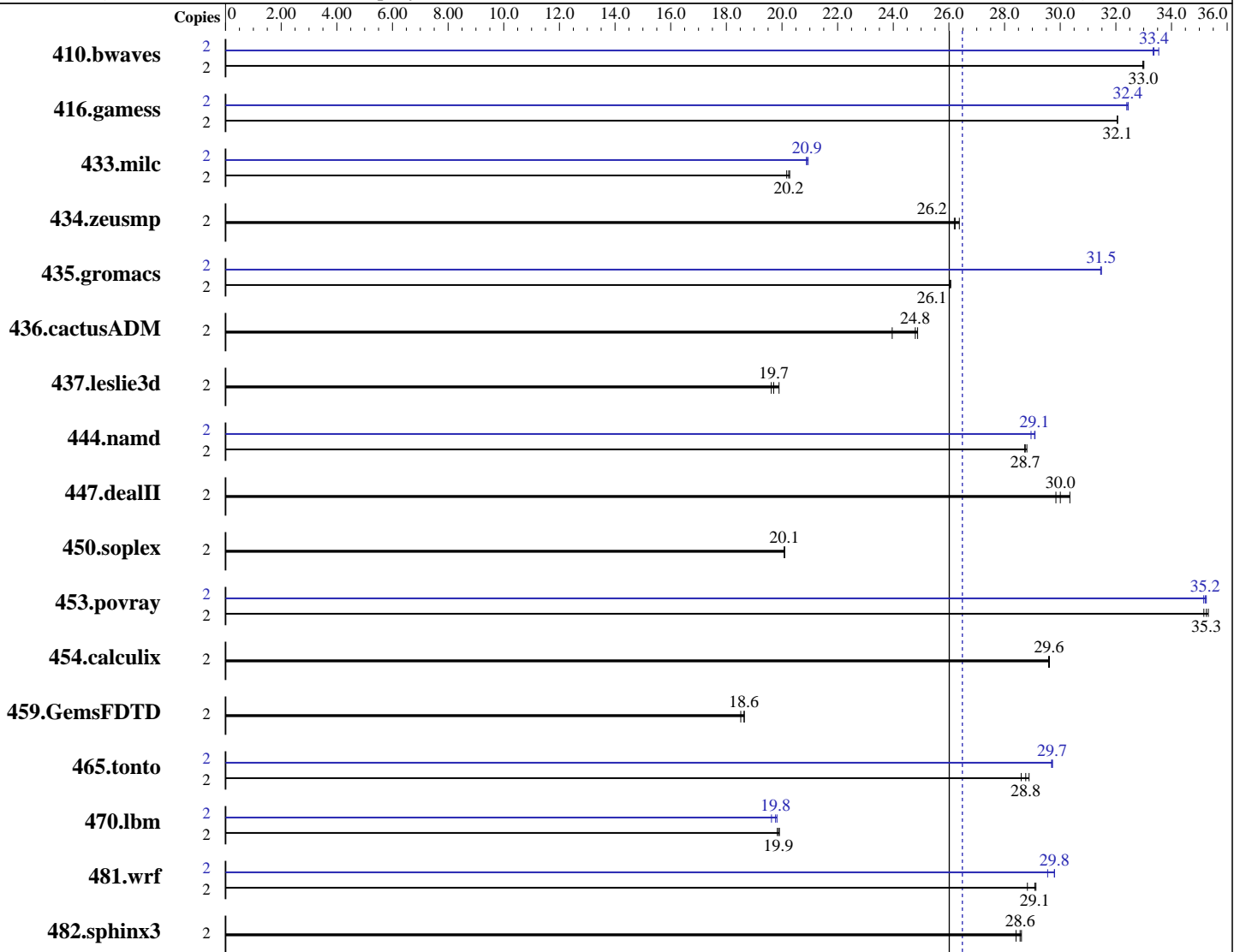
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2007

Tested by: Hewlett-Packard Company

Software Availability: Oct-2007



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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

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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

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L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB, PC2-5300P CL5)
Disk Subsystem: 1x72 GB 10 K SAS
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 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	823	33.0	824	33.0	824	33.0	2	815	33.3	810	33.5	814	33.4
416.gamess	2	1222	32.1	1221	32.1	1222	32.1	2	1209	32.4	1207	32.4	1207	32.4
433.milc	2	910	20.2	907	20.2	905	20.3	2	879	20.9	879	20.9	877	20.9
434.zeusmp	2	690	26.4	695	26.2	694	26.2	2	690	26.4	695	26.2	694	26.2
435.gromacs	2	548	26.1	548	26.0	548	26.1	2	454	31.5	454	31.5	454	31.5
436.cactusADM	2	961	24.9	964	24.8	997	24.0	2	961	24.9	964	24.8	997	24.0
437.leslie3d	2	945	19.9	958	19.6	954	19.7	2	945	19.9	958	19.6	954	19.7
444.namd	2	558	28.7	557	28.8	558	28.7	2	554	29.0	552	29.1	551	29.1
447.dealII	2	754	30.3	763	30.0	767	29.8	2	754	30.3	763	30.0	767	29.8
450.soplex	2	830	20.1	830	20.1	831	20.1	2	830	20.1	830	20.1	831	20.1
453.povray	2	301	35.3	302	35.3	303	35.2	2	302	35.3	303	35.2	302	35.2
454.calculix	2	557	29.6	557	29.6	558	29.6	2	557	29.6	557	29.6	558	29.6
459.GemsFDTD	2	1146	18.5	1138	18.6	1139	18.6	2	1146	18.5	1138	18.6	1139	18.6
465.tonto	2	681	28.9	688	28.6	684	28.8	2	663	29.7	662	29.7	662	29.7
470.lbm	2	1386	19.8	1380	19.9	1383	19.9	2	1386	19.8	1390	19.8	1400	19.6
481.wrf	2	767	29.1	768	29.1	775	28.8	2	756	29.5	750	29.8	750	29.8
482.sphinx3	2	1372	28.4	1363	28.6	1365	28.6	2	1372	28.4	1363	28.6	1365	28.6

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

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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

```



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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: -Mphi(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

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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.dealIII: 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

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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

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For other inquiries, please contact webmaster@spec.org.

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