



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 52.5

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPECfp_rate_base2006 = 51.5

CPU2006 license: 3

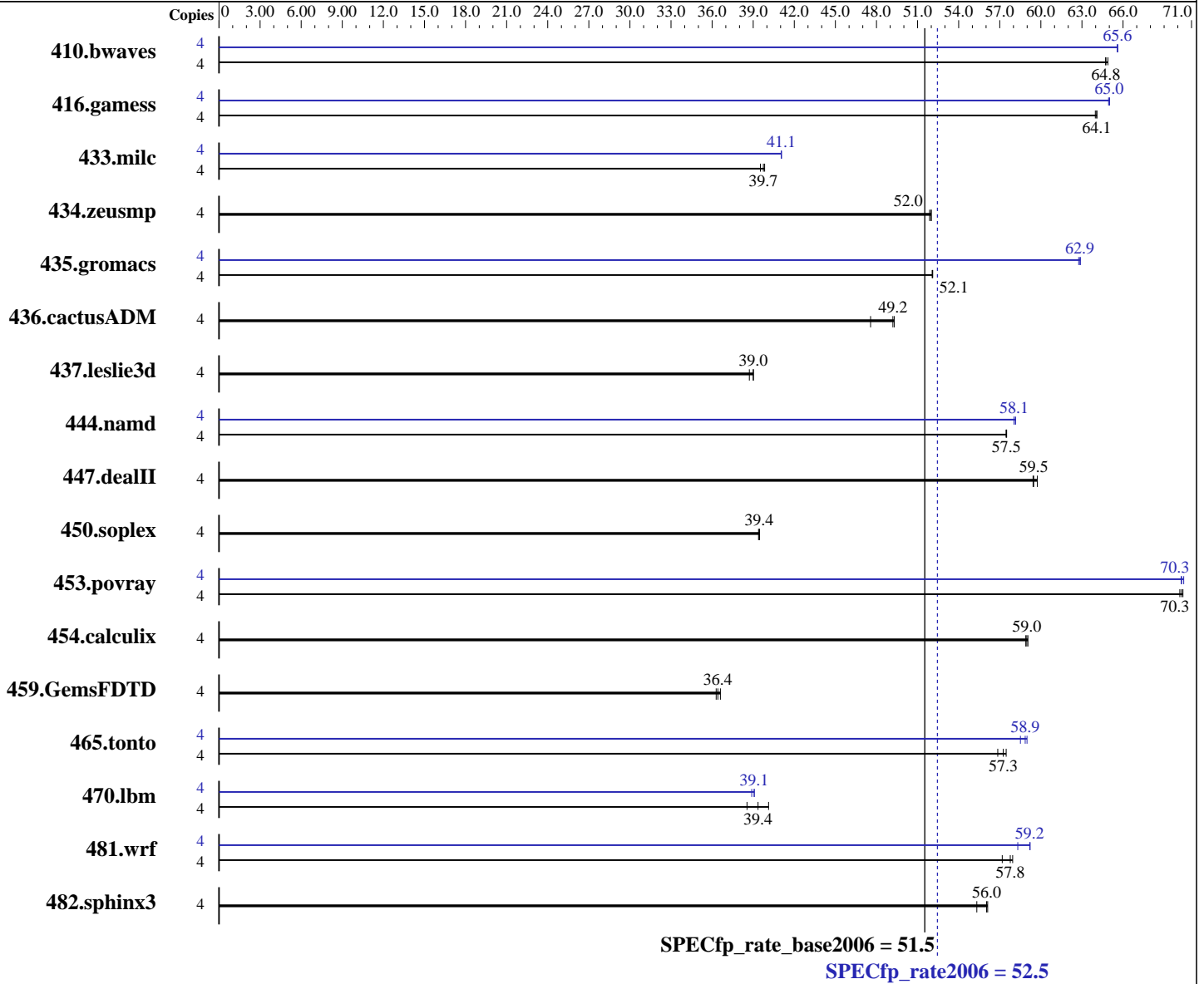
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2007

Tested by: Hewlett-Packard Company

Software Availability: Sep-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

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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: 32 GB (8x4 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	4	838	64.9	840	64.7	840	64.8	4	829	65.6	829	65.6	829	65.6		
416.gamess	4	1222	64.1	1224	64.0	1222	64.1	4	1205	65.0	1206	64.9	1205	65.0		
433.milc	4	929	39.5	924	39.7	922	39.8	4	894	41.1	894	41.1	895	41.0		
434.zeusmp	4	700	52.0	702	51.9	700	52.0	4	700	52.0	702	51.9	700	52.0		
435.gromacs	4	548	52.1	548	52.1	548	52.1	4	455	62.8	454	62.9	454	62.9		
436.cactusADM	4	969	49.3	1005	47.6	972	49.2	4	969	49.3	1005	47.6	972	49.2		
437.leslie3d	4	964	39.0	971	38.7	964	39.0	4	964	39.0	971	38.7	964	39.0		
444.namd	4	558	57.5	558	57.5	558	57.5	4	553	58.1	553	58.0	552	58.2		
447.dealII	4	770	59.4	766	59.7	769	59.5	4	770	59.4	766	59.7	769	59.5		
450.soplex	4	845	39.5	847	39.4	846	39.4	4	845	39.5	847	39.4	846	39.4		
453.povray	4	302	70.4	303	70.1	303	70.3	4	302	70.4	303	70.3	303	70.3		
454.calculix	4	560	58.9	560	59.0	559	59.1	4	560	58.9	560	59.0	559	59.1		
459.GemsFDTD	4	1165	36.4	1169	36.3	1159	36.6	4	1165	36.4	1169	36.3	1159	36.6		
465.tonto	4	692	56.9	687	57.3	685	57.5	4	673	58.5	669	58.9	667	59.0		
470.lbm	4	1370	40.1	1397	39.4	1426	38.5	4	1413	38.9	1407	39.1	1406	39.1		
481.wrf	4	773	57.8	771	57.9	781	57.2	4	755	59.2	766	58.3	754	59.2		
482.sphinx3	4	1409	55.3	1391	56.0	1389	56.1	4	1409	55.3	1391	56.0	1389	56.1		

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

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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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