SPEC® CFP2006 Result

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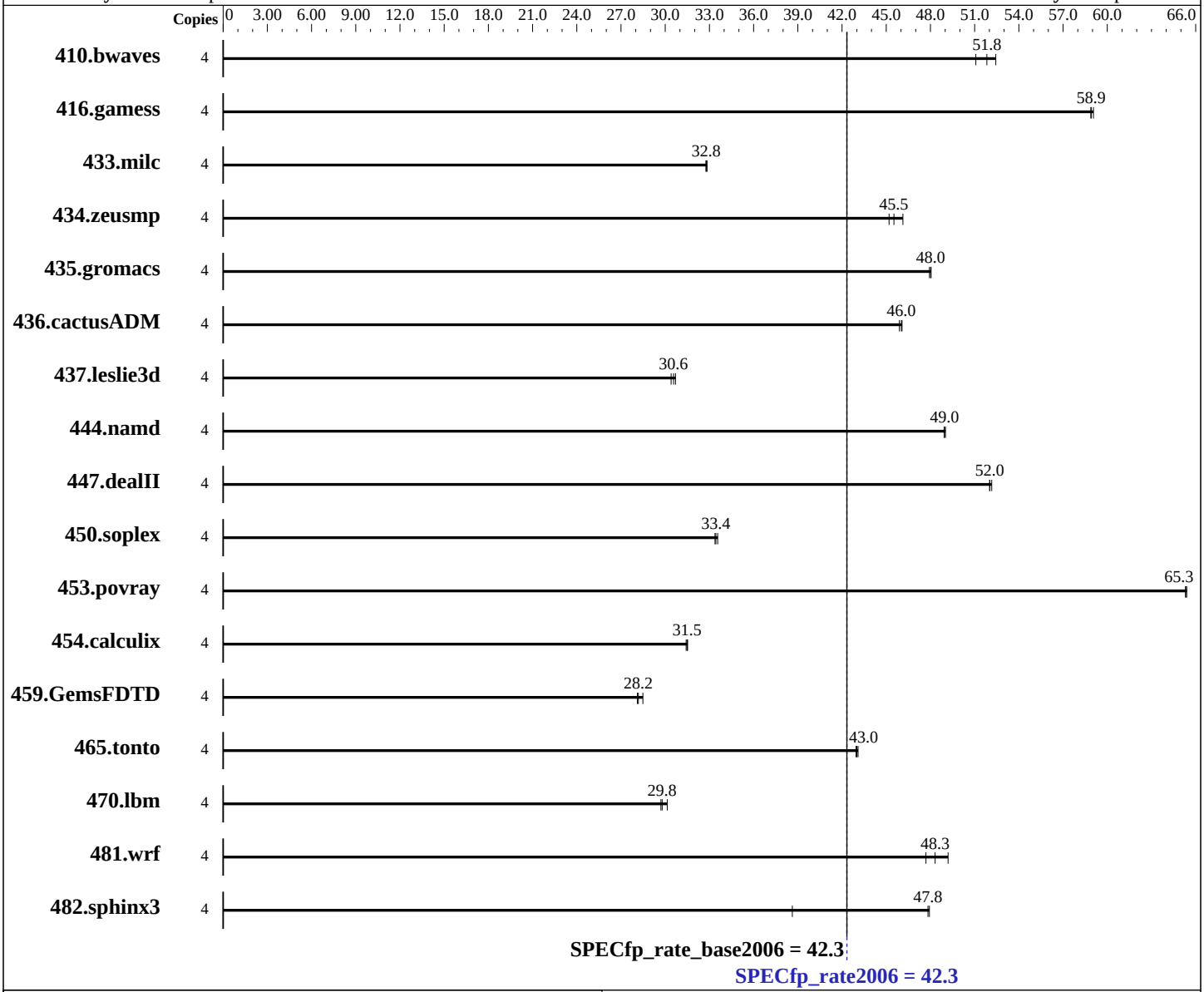
Supermicro
Motherboard H8DM8-2

SPECfp®_rate2006 = 42.3

SPECfp_rate_base2006 = 42.3

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Mar-2007
Hardware Availability: Jan-2007
Software Availability: Sep-2006



Hardware

CPU Name:	AMD Opteron 2220 SE
CPU Characteristics:	2.8GHz
CPU MHz:	2800
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 10.0 (Kernel 2.6.16.21-0.8-smp x86_64)
Compiler:	The Portland Group (PGI) PGI pgcc 6.2-4 C Compiler PGI pgCC 6.2-4 C++ Compiler PGI pgf90 6.2-4 Fortran Compiler
Auto Parallel:	No
File System:	ext3
System State:	Multi-user

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L3 Cache: None
Other Cache: None
Memory: 64 GB (16x4GB, ECC REG PC25300 CLS)
Disk Subsystem: 250GB IDE, 7200RPM
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	1037	52.4	**1049**	**51.8**	1064	51.1	4	1037	52.4	**1049**	**51.8**	1064	51.1
416.gamess	4	1330	58.9	1326	59.1	**1329**	**58.9**	4	1330	58.9	1326	59.1	**1329**	**58.9**
433.milc	4	1118	32.8	1121	32.8	**1120**	**32.8**	4	1118	32.8	1121	32.8	**1120**	**32.8**
434.zeusmp	4	805	45.2	789	46.1	**800**	**45.5**	4	805	45.2	789	46.1	**800**	**45.5**
435.gromacs	4	594	48.0	596	47.9	**595**	**48.0**	4	594	48.0	596	47.9	**595**	**48.0**
436.cactusADM	4	**1039**	**46.0**	1037	46.1	1042	45.9	4	**1039**	**46.0**	1037	46.1	1042	45.9
437.leslie3d	4	**1230**	**30.6**	1225	30.7	1237	30.4	4	**1230**	**30.6**	1225	30.7	1237	30.4
444.namd	4	**655**	**49.0**	654	49.0	656	48.9	4	**655**	**49.0**	654	49.0	656	48.9
447.dealII	4	**879**	**52.0**	880	52.0	877	52.2	4	**879**	**52.0**	880	52.0	877	52.2
450.soplex	4	994	33.6	**998**	**33.4**	999	33.4	4	994	33.6	**998**	**33.4**	999	33.4
453.povray	4	**326**	**65.3**	325	65.4	326	65.3	4	**326**	**65.3**	325	65.4	326	65.3
454.calculix	4	1047	31.5	**1048**	**31.5**	1050	31.4	4	1047	31.5	**1048**	**31.5**	1050	31.4
459.GemsFDTD	4	**1506**	**28.2**	1490	28.5	1510	28.1	4	**1506**	**28.2**	1490	28.5	1510	28.1
465.tonto	4	**915**	**43.0**	913	43.1	916	42.9	4	**915**	**43.0**	913	43.1	916	42.9
470.lbm	4	1823	30.1	**1845**	**29.8**	1850	29.7	4	1823	30.1	**1845**	**29.8**	1850	29.7
481.wrf	4	908	49.2	**925**	**48.3**	937	47.7	4	908	49.2	**925**	**48.3**	937	47.7
482.sphinx3	4	2018	38.6	1627	47.9	**1630**	**47.8**	4	2018	38.6	1627	47.9	**1630**	**47.8**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
 Environment stack size set to 'unlimited'
Tested systems can be used with CSE-825S2-560LPV case,
To ensure system stability, a 550W (minimum) ATX power supply [ 4-pin (+12V), 8-pin (+12V) and 24-pin are required]
Product description located as of http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DM8-2.cfm
```

Base Compiler Invocation

C benchmarks:

```
/opt/pgi/624/linux86-64/6.2/bin/pgcc
```

C++ benchmarks:

```
/opt/pgi/624/linux86-64/6.2/bin/pgCC
```

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Base Compiler Invocation (Continued)

Fortran benchmarks:
/opt/pgi/624/linux86-64/6.2/bin/pgf90

Benchmarks using both Fortran and C:
/opt/pgi/624/linux86-64/6.2/bin/pgcc
/opt/pgi/624/linux86-64/6.2/bin/pgf90

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:
-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc
-Msignextend -tp k8-64

C++ benchmarks:
-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc
-tp k8-64

Fortran benchmarks:
-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc
-tp k8-64

Benchmarks using both Fortran and C:
-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc
-Msignextend -tp k8-64

Base Other Flags

C benchmarks:
`-w`

C++ benchmarks:
`-w`

Fortran benchmarks:
`-w`

Benchmarks using both Fortran and C:
`-w`

Peak Compiler Invocation

C benchmarks:
`/opt/pgi/624/linux86-64/6.2/bin/pgcc`

C++ benchmarks:
`/opt/pgi/624/linux86-64/6.2/bin/pgCC`

Fortran benchmarks:
`/opt/pgi/624/linux86-64/6.2/bin/pgf90`

Benchmarks using both Fortran and C:
`/opt/pgi/624/linux86-64/6.2/bin/pgcc`
`/opt/pgi/624/linux86-64/6.2/bin/pgf90`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

433.milc: `basepeak = yes`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

444.namd: basepeak = yes

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: basepeak = yes

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

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/pgi62_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/pgi62_flags.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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