SPEC® CFP2006 Result

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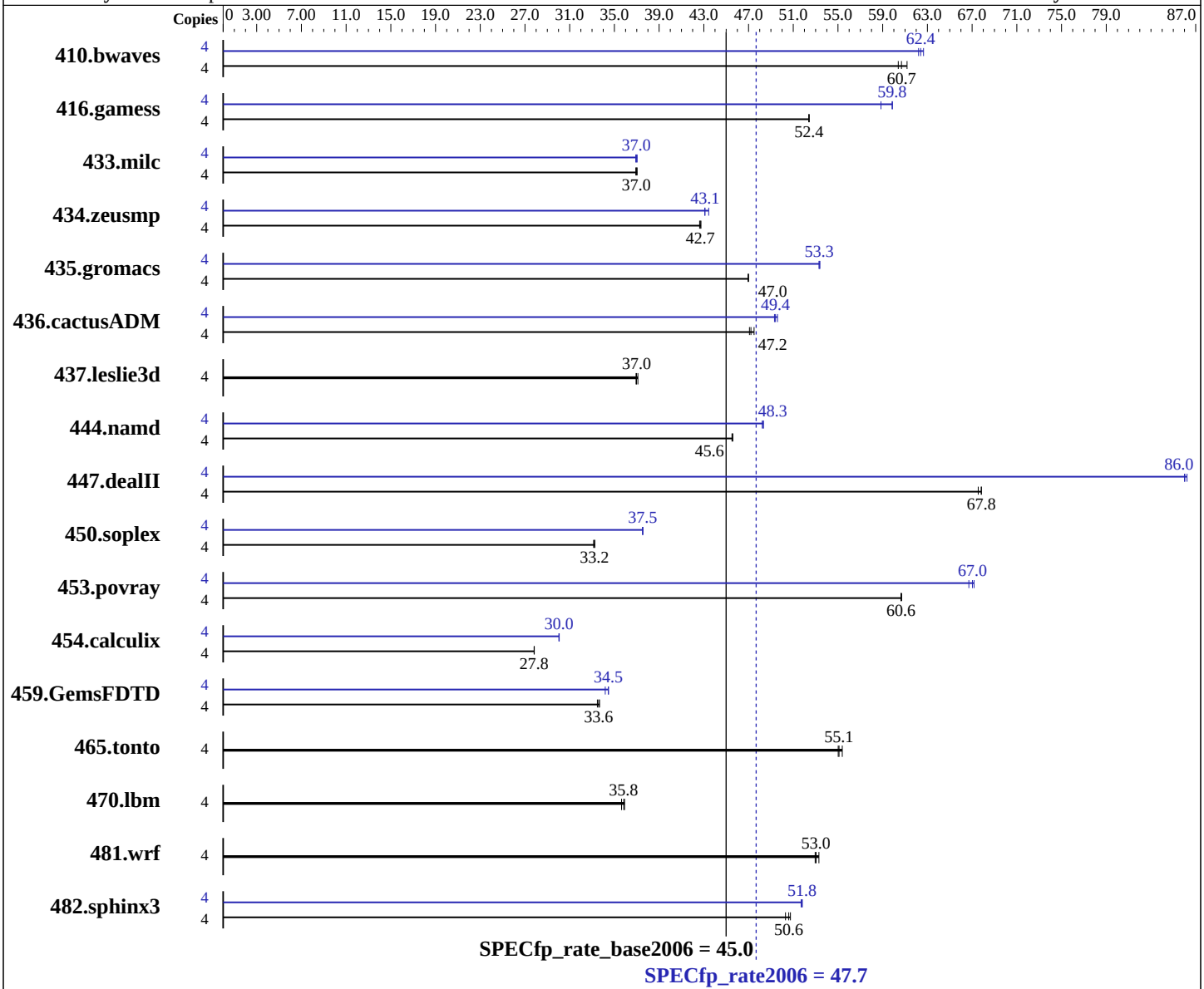
Supermicro
Motherboard H8DMU+

SPECfp®_rate2006 = 47.7

SPECfp_rate_base2006 = 45.0

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

Test date: Oct-2007
Hardware Availability: Jul-2007
Software Availability: Feb-2007



Hardware

CPU Name:	AMD Opteron 2218
CPU Characteristics:	
CPU MHz:	2600
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-default
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
Auto Parallel:	No
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2GB, DDR2-667 CL5 ECC Reg Dual Rank)
Disk Subsystem: SATA, 250 GB
Other Hardware: None

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	889	61.2	**896**	**60.7**	900	60.4	4	874	62.2	868	62.7	**871**	**62.4**
416.gamess	4	1494	52.4	1495	52.4	**1494**	**52.4**	4	**1309**	**59.8**	1331	58.8	1308	59.9
433.milc	4	995	36.9	991	37.0	**993**	**37.0**	4	995	36.9	991	37.0	**993**	**37.0**
434.zeusmp	4	852	42.7	854	42.6	**853**	**42.7**	4	**845**	**43.1**	838	43.4	845	43.1
435.gromacs	4	608	47.0	**608**	**47.0**	608	47.0	4	**536**	**53.3**	536	53.3	535	53.4
436.cactusADM	4	1015	47.1	1006	47.5	**1012**	**47.2**	4	**967**	**49.4**	969	49.3	964	49.6
437.leslie3d	4	1013	37.1	1018	36.9	**1017**	**37.0**	4	1013	37.1	1018	36.9	**1017**	**37.0**
444.namd	4	**704**	**45.6**	704	45.6	705	45.5	4	664	48.3	665	48.2	**664**	**48.3**
447.dealII	4	675	67.8	677	67.5	**675**	**67.8**	4	531	86.2	532	86.0	**532**	**86.0**
450.soplex	4	1007	33.1	**1005**	**33.2**	1003	33.2	4	889	37.5	**889**	**37.5**	888	37.6
453.povray	4	351	60.6	351	60.7	**351**	**60.6**	4	317	67.2	**317**	**67.0**	319	66.7
454.calculix	4	**1186**	**27.8**	1186	27.8	1186	27.8	4	1098	30.1	1098	30.0	**1098**	**30.0**
459.GemsFDTD	4	1268	33.5	1260	33.7	**1263**	**33.6**	4	1231	34.5	1242	34.2	**1231**	**34.5**
465.tonto	4	711	55.4	**714**	**55.1**	715	55.0	4	711	55.4	**714**	**55.1**	715	55.0
470.lbm	4	1542	35.6	**1534**	**35.8**	1530	35.9	4	1542	35.6	**1534**	**35.8**	1530	35.9
481.wrf	4	**842**	**53.0**	838	53.3	844	53.0	4	**842**	**53.0**	838	53.3	844	53.0
482.sphinx3	4	**1541**	**50.6**	1536	50.7	1550	50.3	4	1508	51.7	**1505**	**51.8**	1505	51.8

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

General Notes

```
taskset utility used to bind CPU(s) to processes
All memory slots filled on all chips
Tested systems can be used with CSE-825TQ-R700LPV 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/H8DMU+.cfm
```

Base Compiler Invocation

C benchmarks:
`pathcc`

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Base Compiler Invocation (Continued)

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
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
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-Ofast

C++ benchmarks:
-Ofast

Fortran benchmarks:
-Ofast -OPT:malloc_alg=1

Benchmarks using both Fortran and C:
-Ofast -OPT:malloc_alg=1

Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

Peak 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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

433.milc: -Ofast -CG:cflow=off -LNO:prefetch=1 -OPT:malloc_alg=1

470.lbm: basepeak = yes

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -WOPT:aggstr=0 -m32

C++ benchmarks:

444.namd: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-fno-exceptions

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Peak Optimization Flags (Continued)

447.dealII: `-Ofast -static -INLINE:aggressive=on -OPT:malloc_alg=1 -m32 -fno-exceptions`

450.soplex: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-m32 -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1 -LNO:minvariant=off -LNO:prefetch=1 -fno-exceptions`

453.povray: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast -fno-fast-math`

Fortran benchmarks:

410.bwaves: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -OPT:Ofast -OPT:IEEE_arith=3 -LNO:blocking=off -LNO:ignore_feedback=off`

416.gamess: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O2 -OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256`

434.zeusmp: `-Ofast -CG:local_fwd_sched=on -LNO:blocking=off -LNO:interchange=off -LNO:fu=10 -LNO:full_unroll_outer=on`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `-Ofast -LNO:fission=2 -LNO:prefetch=0`

465.tonto: `basepeak = yes`

Benchmarks using both Fortran and C:

435.gromacs: `-O3 -OPT:rsqrt=2 -OPT:ro=3`

436.cactusADM: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -LNO:prefetch=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5 -ipa`

454.calculix: `-Ofast -LNO:simd=0 -WOPT:mem_opnds=on`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.06.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.06.xml`

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

Tested with SPEC CPU2006 v1.0.1.
Report generated on Tue Sep 13 11:30:38 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 November 2007.