SPEC® CFP2006 Result

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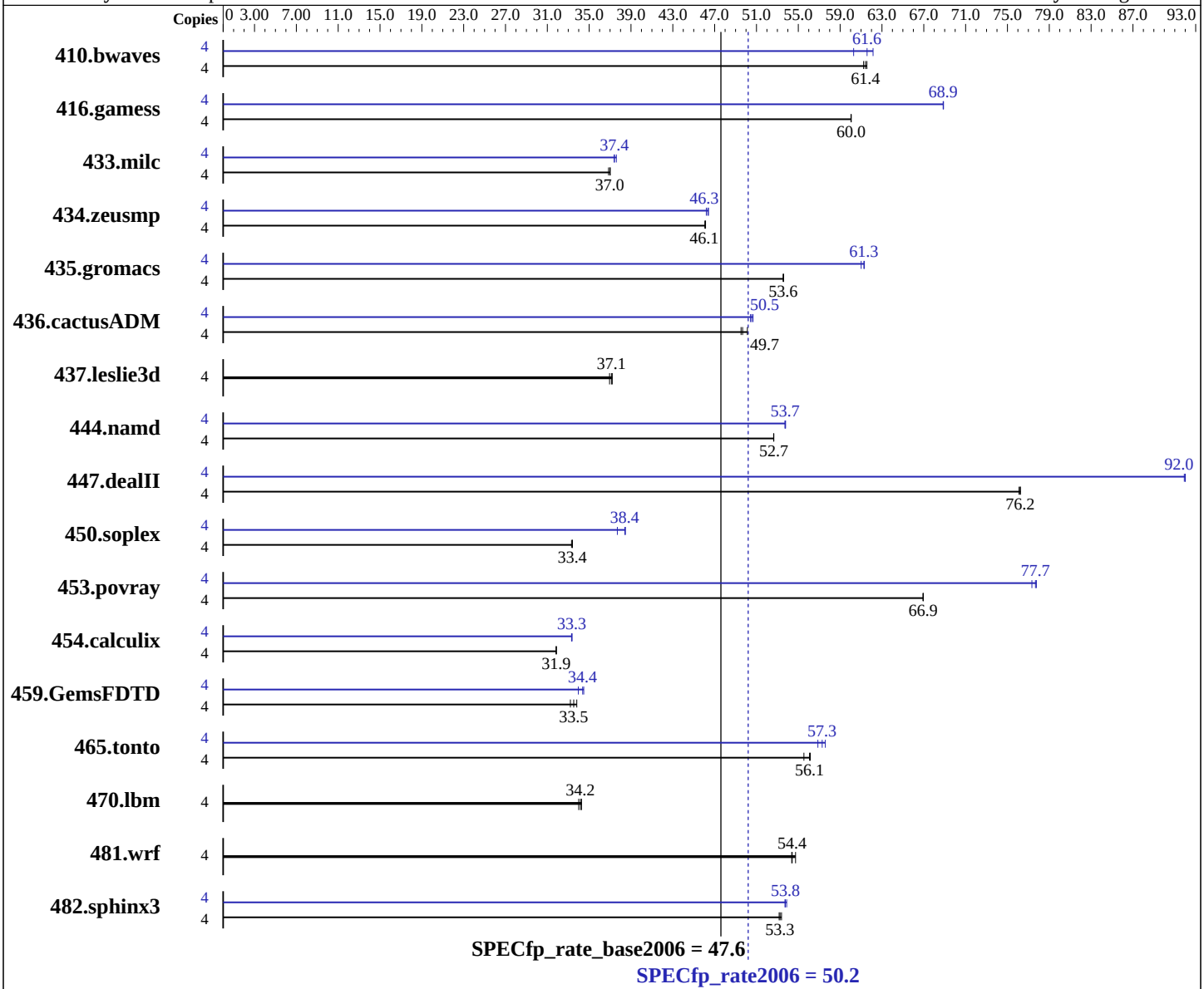
Supermicro
Motherboard H8DM3-2

SPECfp®_rate2006 = 50.2

SPECfp_rate_base2006 = 47.6

CPU2006 license: 1176
Test sponsor: Supermicro
Tested by: Supermicro

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



Hardware

CPU Name:	AMD Opteron 2222 SE
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 9 SP3 64-bit kernel
Compiler:	QLogic PathScale Compiler Suite, Release 2.5
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: 8 GB (8x1GB, DDR2-667 CL5 ECC Reg)
Disk Subsystem: SATA, 400 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	883	61.6	888	61.2	**885**	**61.4**	4	**883**	**61.6**	875	62.1	902	60.3
416.gamess	4	1305	60.0	**1304**	**60.0**	1304	60.1	4	**1137**	**68.9**	1137	68.9	1137	68.9
433.milc	4	996	36.9	992	37.0	**993**	**37.0**	4	977	37.6	982	37.4	**981**	**37.4**
434.zeusmp	4	789	46.1	790	46.1	**789**	**46.1**	4	**785**	**46.3**	788	46.2	784	46.4
435.gromacs	4	**533**	**53.6**	533	53.6	533	53.6	4	**466**	**61.3**	466	61.3	468	61.0
436.cactusADM	4	954	50.1	965	49.5	**962**	**49.7**	4	948	50.4	943	50.7	**946**	**50.5**
437.leslie3d	4	**1013**	**37.1**	1011	37.2	1018	37.0	4	**1013**	**37.1**	1011	37.2	1018	37.0
444.namd	4	609	52.7	**609**	**52.7**	609	52.6	4	597	53.7	596	53.8	**597**	**53.7**
447.dealII	4	**600**	**76.2**	601	76.1	600	76.2	4	498	91.9	497	92.0	**497**	**92.0**
450.soplex	4	1001	33.3	999	33.4	**999**	**33.4**	4	885	37.7	867	38.5	**869**	**38.4**
453.povray	4	318	67.0	318	66.9	**318**	**66.9**	4	275	77.3	**274**	**77.7**	274	77.8
454.calculix	4	1036	31.9	**1036**	**31.9**	1036	31.8	4	989	33.4	**990**	**33.3**	991	33.3
459.GemsFDTD	4	1255	33.8	1278	33.2	**1266**	**33.5**	4	**1234**	**34.4**	1231	34.5	1250	34.0
465.tonto	4	701	56.1	709	55.5	**702**	**56.1**	4	684	57.6	**687**	**57.3**	692	56.9
470.lbm	4	1616	34.0	1604	34.3	**1608**	**34.2**	4	1616	34.0	1604	34.3	**1608**	**34.2**
481.wrf	4	816	54.7	**821**	**54.4**	822	54.4	4	816	54.7	**821**	**54.4**	822	54.4
482.sphinx3	4	1460	53.4	1466	53.2	**1464**	**53.3**	4	1447	53.9	**1450**	**53.8**	1451	53.7

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/H8DM3-2.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 -DSPEC_CPU_TABLE_WORKAROUND
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

Benchmarks using both Fortran and C:
-Ofast

Base Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

Fortran benchmarks:
`-IPA:max_jobs=2`

Benchmarks using both Fortran and C:
`-IPA:max_jobs=2`

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`
447.dealII: `-DSPEC_CPU_TABLE_WORKAROUND`
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: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast`

470.lbm: `basepeak = yes`

482.sphinx3: `Same as 433.milc`

C++ benchmarks:

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

447.dealII: `-Ofast -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 -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: `-Ofast -CG:local_fwd_sched=on -IPA:plimit=525`

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_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5 -ipa`

454.calculix: `-Ofast -CG:prefetch=off -LNO:simd=0 -OPT:unroll_times_max=8 -WOPT:mem_opnds=on`

Continued on next page

Peak Optimization Flags (Continued)

481.wrf: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

Fortran benchmarks:
`-IPA:max_jobs=2`

Benchmarks using both Fortran and C:
`-IPA:max_jobs=2`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.25.xml`

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