SPEC® CFP2006 Result

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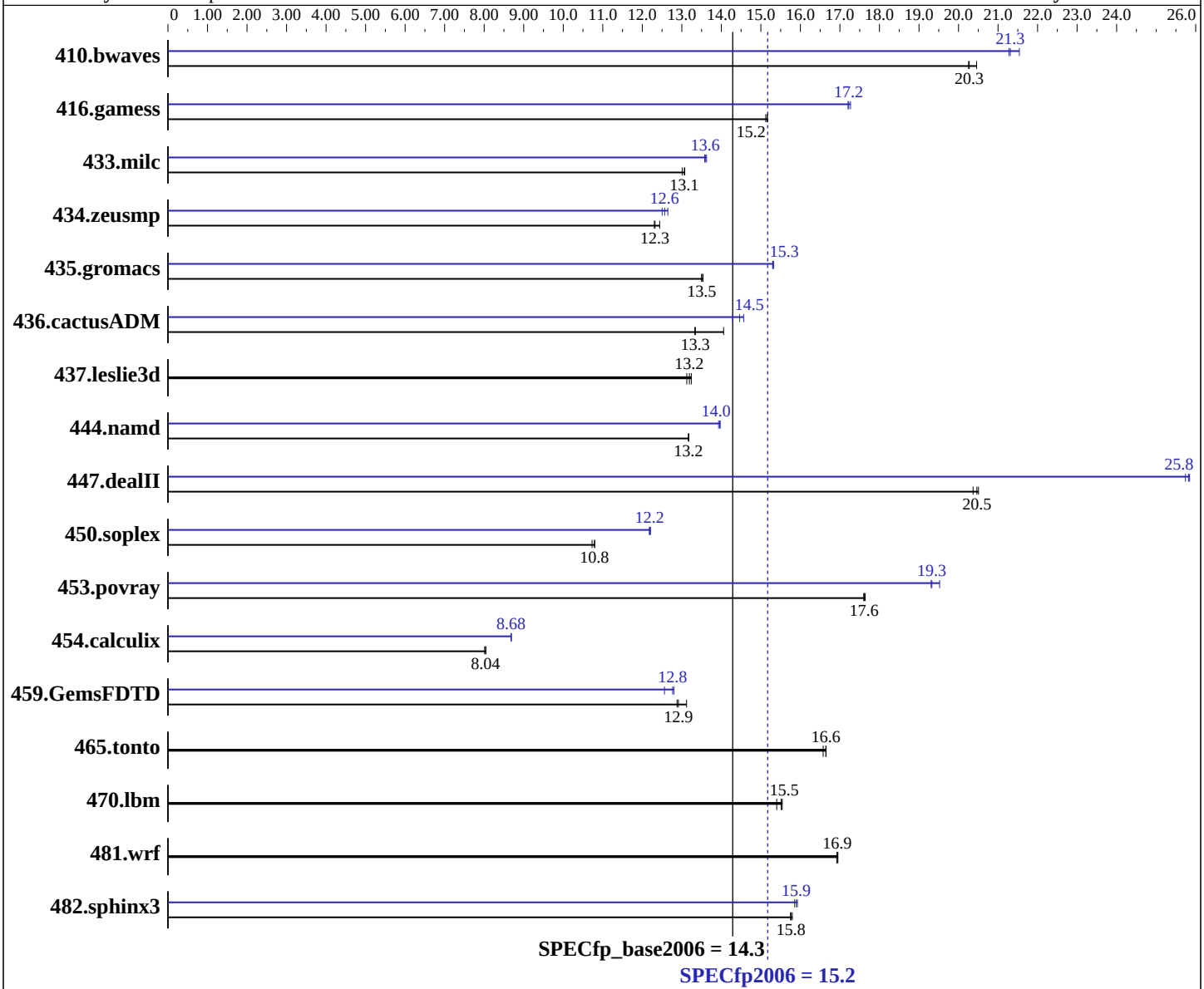
Supermicro
Motherboard H8DMR-82

SPECfp®2006 = 15.2

SPECfp_base2006 = 14.3

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

Test date: Jun-2007
Hardware Availability: May-2007
Software Availability: Feb-2007



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 10 64-bit kernel
Compiler:	QLogic PathScale Compiler Suite, Release 3.0
Auto Parallel:	No
File System:	ext2
System State:	Multi-user, run level 2
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 Single Rank)
Disk Subsystem: 120GB SATA, 7200RPM
Other Hardware: None

Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	664	20.5	**670**	**20.3**	671	20.3	631	21.5	**638**	**21.3**	639	21.3
416.gamess	1295	15.1	1291	15.2	**1292**	**15.2**	1138	17.2	**1137**	**17.2**	1134	17.3
433.milc	702	13.1	706	13.0	**703**	**13.1**	674	13.6	676	13.6	**675**	**13.6**
434.zeusmp	732	12.4	740	12.3	**739**	**12.3**	720	12.6	**724**	**12.6**	728	12.5
435.gromacs	527	13.5	**529**	**13.5**	529	13.5	**467**	**15.3**	466	15.3	467	15.3
436.cactusADM	850	14.1	897	13.3	**896**	**13.3**	**826**	**14.5**	821	14.6	836	14.3
437.leslie3d	716	13.1	710	13.2	**713**	**13.2**	716	13.1	710	13.2	**713**	**13.2**
444.namd	609	13.2	609	13.2	**609**	**13.2**	574	14.0	**574**	**14.0**	576	13.9
447.dealII	562	20.4	**559**	**20.5**	558	20.5	443	25.8	**443**	**25.8**	444	25.7
450.soplex	777	10.7	**773**	**10.8**	772	10.8	**684**	**12.2**	683	12.2	685	12.2
453.povray	302	17.6	**302**	**17.6**	302	17.6	**275**	**19.3**	276	19.3	273	19.5
454.calculix	1026	8.04	**1026**	**8.04**	1030	8.01	950	8.69	**950**	**8.68**	950	8.68
459.GemsFDTD	**822**	**12.9**	809	13.1	824	12.9	845	12.6	**831**	**12.8**	829	12.8
465.tonto	591	16.6	**591**	**16.6**	594	16.6	591	16.6	**591**	**16.6**	594	16.6
470.lbm	892	15.4	884	15.5	**886**	**15.5**	892	15.4	884	15.5	**886**	**15.5**
481.wrf	659	16.9	660	16.9	**660**	**16.9**	659	16.9	660	16.9	**660**	**16.9**
482.sphinx3	1234	15.8	**1237**	**15.8**	1237	15.7	1224	15.9	1229	15.9	**1226**	**15.9**

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

General Notes

```
Tested systems can be used with CSE-815S+-560 case,
To ensure system stability, a 560W (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/H8DMR-82.cfm
```

Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

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Base Compiler Invocation (Continued)

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

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Peak Compiler Invocation (Continued)

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

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

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Peak Optimization Flags (Continued)

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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