



SPEC[®] CFP2006 Result

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Supermicro Motherboard X7DWN+

SPECfp[®]_rate2006 = 82.5

SPECfp_rate_base2006 = 77.9

CPU2006 license: 001176

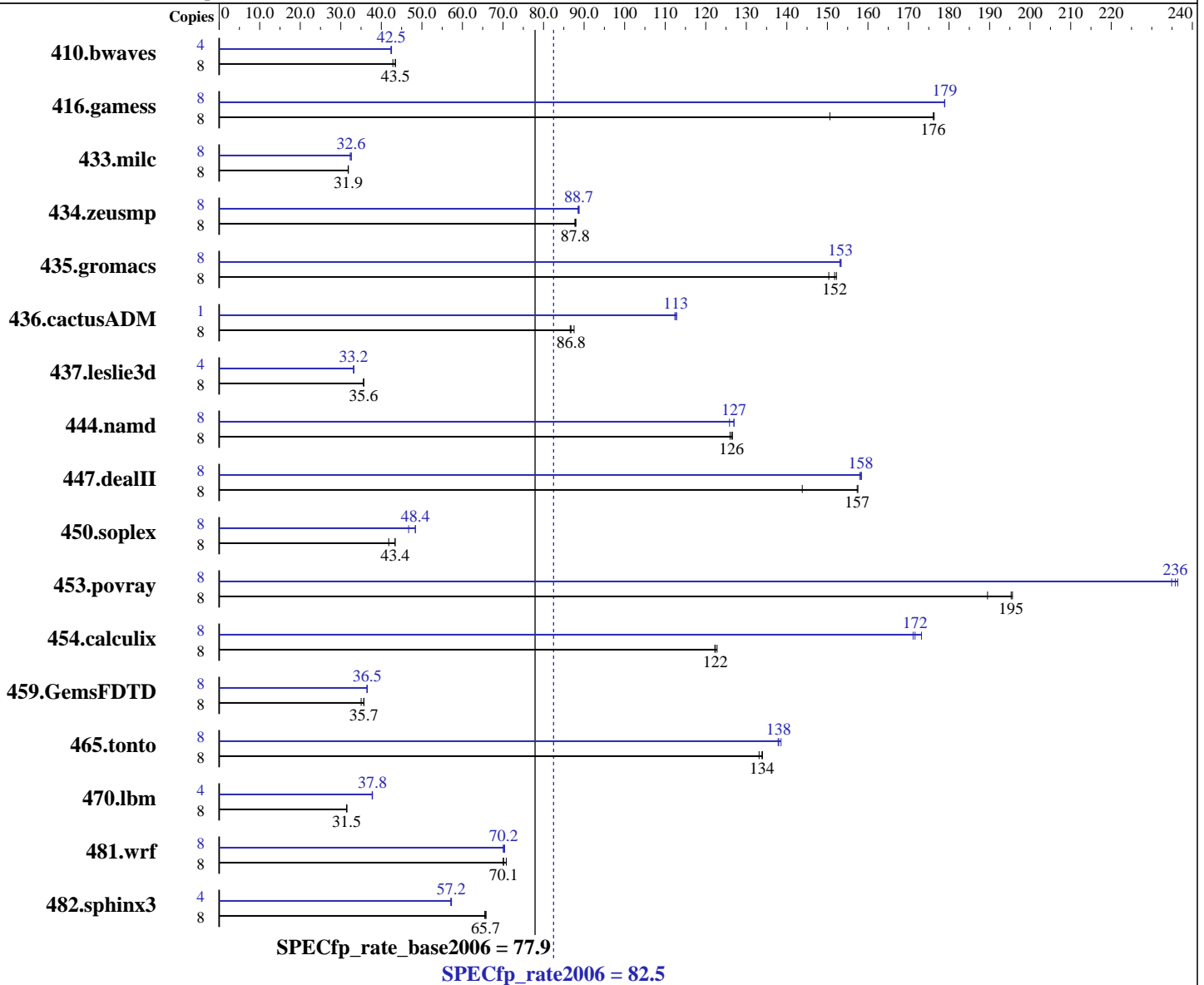
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5472
 CPU Characteristics: Quad Core, 3.00GHz
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1, 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1, kernel 2.6.16.46-0.12-default
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Default
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (16 X 1GB ECC PC2-6400, CL5, FBDIMM)
Disk Subsystem: Westren Digital WD5000YS 500GB SATA2, 7200RPM
Other Hardware: None

Peak Pointers: 32/64-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	8	2502	43.5	2501	43.5	2537	42.8	4	1284	42.3	1279	42.5	1278	42.5
416.gamess	8	888	176	890	176	1040	151	8	875	179	876	179	875	179
433.milc	8	2309	31.8	2305	31.9	2305	31.9	8	2273	32.3	2256	32.6	2254	32.6
434.zeusmp	8	830	87.7	829	87.8	827	88.0	8	823	88.5	820	88.8	821	88.7
435.gromacs	8	380	150	376	152	375	152	8	373	153	372	153	373	153
436.cactusADM	8	1092	87.5	1104	86.6	1102	86.8	1	106	112	106	113	106	113
437.leslie3d	8	2112	35.6	2111	35.6	2109	35.7	4	1134	33.2	1132	33.2	1133	33.2
444.namd	8	509	126	507	127	508	126	8	510	126	505	127	505	127
447.dealII	8	636	144	582	157	581	158	8	578	158	579	158	578	158
450.soplex	8	1595	41.8	1538	43.4	1538	43.4	8	1428	46.7	1379	48.4	1379	48.4
453.povray	8	225	189	218	196	218	195	8	181	235	180	236	180	236
454.calculix	8	537	123	540	122	539	122	8	385	172	381	173	386	171
459.GemsFDTD	8	2424	35.0	2380	35.7	2377	35.7	8	2328	36.5	2326	36.5	2323	36.5
465.tonto	8	591	133	588	134	588	134	8	571	138	570	138	568	139
470.lbm	8	3495	31.5	3495	31.4	3490	31.5	4	1454	37.8	1457	37.7	1454	37.8
481.wrf	8	1262	70.8	1274	70.1	1276	70.1	8	1269	70.4	1275	70.1	1273	70.2
482.sphinx3	8	2380	65.5	2372	65.7	2369	65.8	4	1362	57.2	1365	57.1	1360	57.3

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-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/products/motherboard/Xeon1333/5400/X7DWN+.cfm>
The system bus runs at 1600 MHz
taskset was used to bind processes to cores except for 436.cactusADM at peak

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
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 -nofor_main
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

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast



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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Benchmarks using both Fortran and C:

icc ifort

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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
444.namd: -DSPEC_CPU_LP64
447.deallI: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
```

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Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.xml>

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

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