SPEC® CFP2006 Result

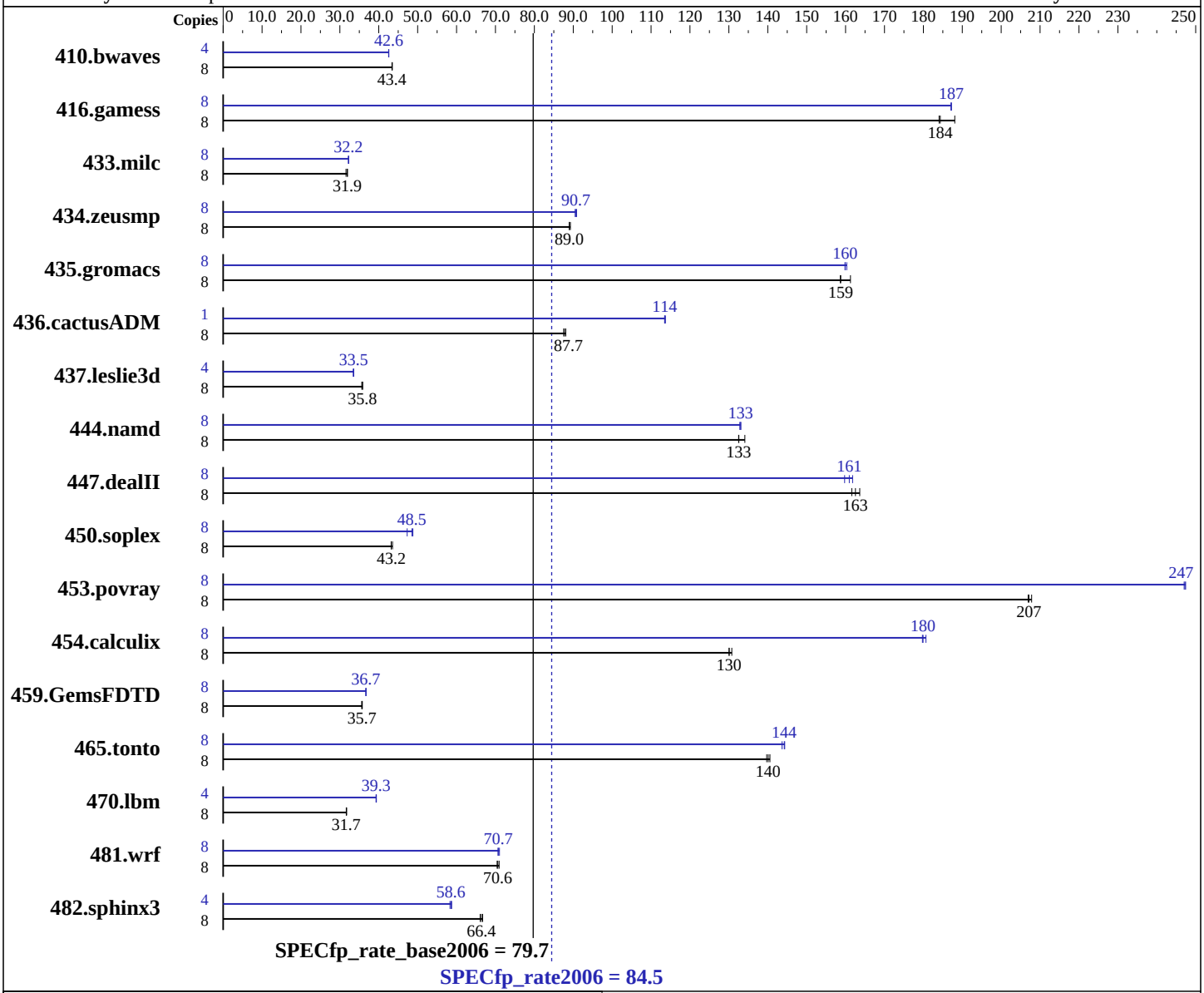
Supermicro
Motherboard X7DWN+

SPECfp®_rate2006 = 84.5

SPECfp_rate_base2006 = 79.7

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

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5482
CPU Characteristics:	Quad Core, 3.20GHz
CPU MHz:	3200
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:	64-Bit Suse Linux Enterprise Server 10 w/ SP1
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	Yes
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 (16 * 1 GB PC2-6400 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem: Seagate Barracuda ST3750640NS, 750GB SATA, 7200RPM
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	8	2500	43.5	**2505**	**43.4**	2505	43.4	4	1276	42.6	**1277**	**42.6**	1278	42.5
416.gamess	8	833	188	**850**	**184**	851	184	8	**837**	**187**	837	187	837	187
433.milc	8	2326	31.6	2299	31.9	**2300**	**31.9**	8	**2279**	**32.2**	2276	32.3	2280	32.2
434.zeusmp	8	818	89.0	**818**	**89.0**	816	89.3	8	**803**	**90.7**	805	90.5	801	90.9
435.gromacs	8	354	161	360	159	**360**	**159**	8	357	160	**357**	**160**	356	160
436.cactusADM	8	1085	88.1	**1090**	**87.7**	1092	87.5	1	**105**	**114**	105	113	105	114
437.leslie3d	8	2110	35.6	**2099**	**35.8**	2098	35.8	4	1125	33.4	1120	33.6	**1121**	**33.5**
444.namd	8	478	134	**484**	**133**	484	133	8	483	133	482	133	**482**	**133**
447.dealII	8	566	162	559	164	**563**	**163**	8	566	162	573	160	**569**	**161**
450.soplex	8	**1544**	**43.2**	1545	43.2	1532	43.5	8	1410	47.3	**1375**	**48.5**	1368	48.8
453.povray	8	205	208	206	207	**205**	**207**	8	172	247	172	247	**172**	**247**
454.calculix	8	507	130	**507**	**130**	505	131	8	**367**	**180**	365	181	367	180
459.GemsFDTD	8	2373	35.8	2382	35.6	**2378**	**35.7**	8	2313	36.7	2312	36.7	**2312**	**36.7**
465.tonto	8	563	140	**562**	**140**	560	141	8	548	144	545	144	**546**	**144**
470.lbm	8	3461	31.8	3473	31.6	**3472**	**31.7**	4	1398	39.3	1395	39.4	**1397**	**39.3**
481.wrf	8	1260	70.9	1269	70.4	**1266**	**70.6**	8	**1263**	**70.7**	1258	71.0	1265	70.7
482.sphinx3	8	2337	66.7	2360	66.1	**2348**	**66.4**	4	1337	58.3	1327	58.7	**1331**	**58.6**

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 500W (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
BIOS Setting: Default
The taskset command was used with submit to bind benchmark copies to processors.
Except for 436.cactusADM peak runs which did not use submit.
```

Base Compiler Invocation

C benchmarks:
icc

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

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.dealII: `-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

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

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

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