SPEC® CFP2006 Result

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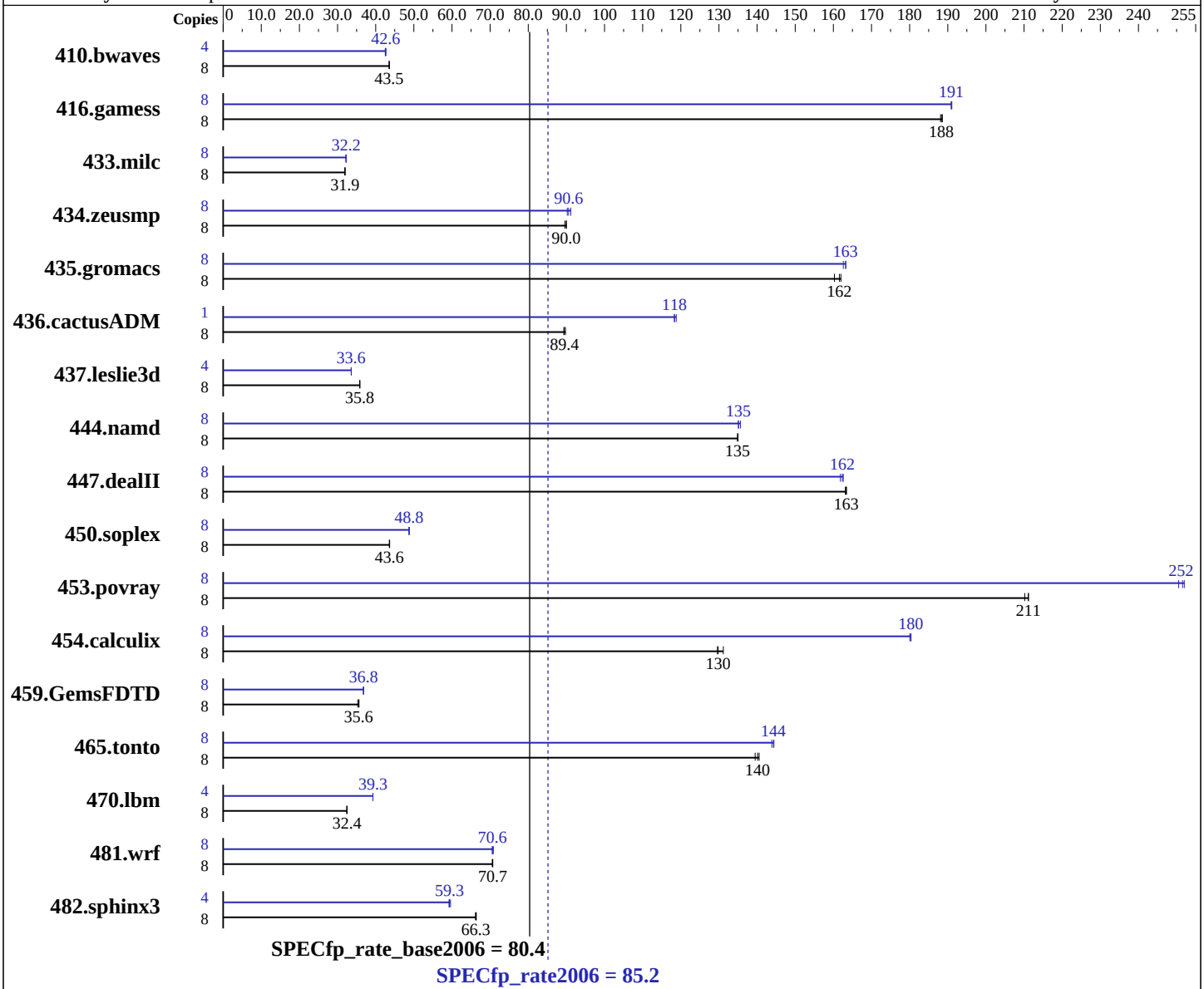
Supermicro
Motherboard X7DWT-INF

SPECfp®_rate2006 = 85.2

SPECfp_rate_base2006 = 80.4

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: 32 GB (8 X 4GB ECC PC2-6400, CL5, FBDIMM)
Disk Subsystem: Western DigitalD WD1600YS-01SHB1 160GB SATA II, 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	2496	43.6	2497	43.5	**2496**	**43.5**	4	1279	42.5	1274	42.7	**1275**	**42.6**
416.gamess	8	831	189	**832**	**188**	833	188	8	821	191	**820**	**191**	820	191
433.milc	8	**2299**	**31.9**	2300	31.9	2299	31.9	8	**2279**	**32.2**	2278	32.2	2279	32.2
434.zeusmp	8	**809**	**90.0**	813	89.6	809	90.0	8	807	90.2	799	91.2	**804**	**90.6**
435.gromacs	8	356	160	353	162	**353**	**162**	8	**350**	**163**	351	163	350	163
436.cactusADM	8	1070	89.3	**1069**	**89.4**	1065	89.8	1	**101**	**118**	101	118	101	119
437.leslie3d	8	**2100**	**35.8**	2100	35.8	2098	35.8	4	1119	33.6	1120	33.6	**1119**	**33.6**
444.namd	8	475	135	**476**	**135**	476	135	8	**475**	**135**	473	136	475	135
447.dealII	8	560	163	**560**	**163**	561	163	8	563	163	565	162	**564**	**162**
450.soplex	8	1528	43.7	**1530**	**43.6**	1531	43.6	8	1368	48.8	1369	48.7	**1369**	**48.8**
453.povray	8	202	210	**202**	**211**	202	211	8	**169**	**252**	170	251	169	252
454.calculix	8	503	131	**508**	**130**	509	130	8	366	180	**366**	**180**	367	180
459.GemsFDTD	8	**2387**	**35.6**	2406	35.3	2383	35.6	8	2305	36.8	**2306**	**36.8**	2308	36.8
465.tonto	8	**562**	**140**	560	141	564	139	8	545	144	547	144	**546**	**144**
470.lbm	8	3389	32.4	**3387**	**32.4**	3385	32.5	4	1399	39.3	**1399**	**39.3**	1399	39.3
481.wrf	8	1264	70.7	1267	70.5	**1264**	**70.7**	8	1267	70.6	**1265**	**70.6**	1261	70.8
482.sphinx3	8	2357	66.2	**2352**	**66.3**	2349	66.4	4	1317	59.2	**1314**	**59.3**	1308	59.6

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 SC-808T-980 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/X7DWT-INF.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`

Continued on next page

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

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

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