SPEC® CFP2006 Result

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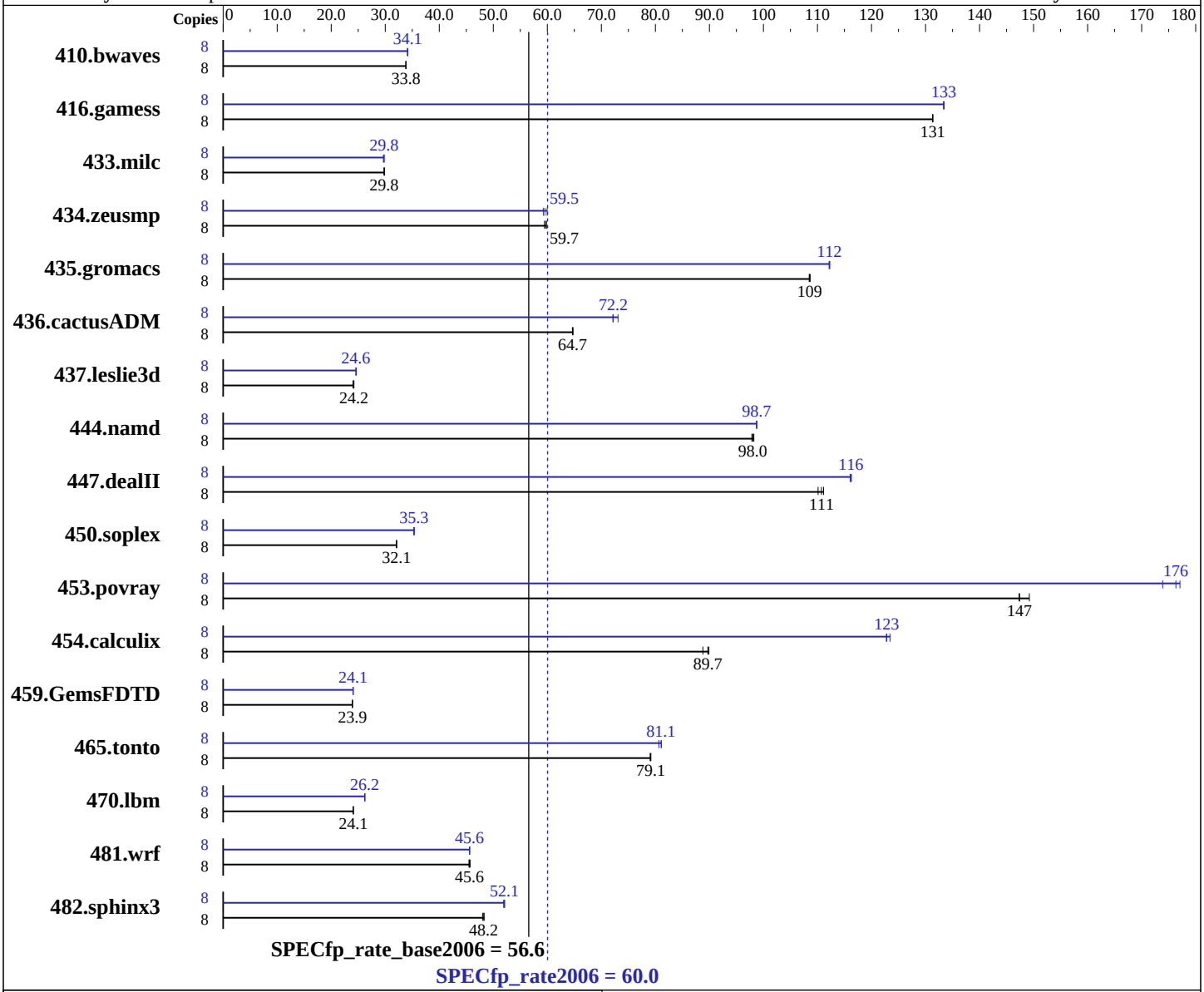
Supermicro Motherborad X7DB3

SPECfp®_rate2006 = 60.0

SPECfp_rate_base2006 = 56.6

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

Test date: Oct-2007
Hardware Availability: Nov-2006
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	Quad Core, 2.33GHz
CPU MHz:	2333
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:	8 MB I+D on chip per chip, 4 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:	No
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 * 2 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem: 500 GB 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	3215	33.8	3213	33.8	**3214**	**33.8**	8	**3185**	**34.1**	3185	34.1	3186	34.1
416.gamess	8	1193	131	1192	131	**1193**	**131**	8	**1174**	**133**	1174	133	1175	133
433.milc	8	**2463**	**29.8**	2461	29.8	2467	29.8	8	2476	29.7	**2467**	**29.8**	2464	29.8
434.zeusmp	8	**1219**	**59.7**	1224	59.5	1217	59.8	8	1229	59.2	**1223**	**59.5**	1214	60.0
435.gromacs	8	526	109	**526**	**109**	527	108	8	509	112	509	112	**509**	**112**
436.cactusADM	8	1476	64.8	1479	64.6	**1478**	**64.7**	8	1308	73.1	1325	72.1	**1324**	**72.2**
437.leslie3d	8	3107	24.2	3131	24.0	**3109**	**24.2**	8	**3060**	**24.6**	3061	24.6	3051	24.6
444.namd	8	653	98.2	**654**	**98.0**	656	97.9	8	650	98.7	**650**	**98.7**	650	98.7
447.dealII	8	824	111	**826**	**111**	831	110	8	789	116	787	116	**788**	**116**
450.soplex	8	**2079**	**32.1**	2081	32.1	2078	32.1	8	**1888**	**35.3**	1891	35.3	1887	35.4
453.povray	8	285	149	289	147	**289**	**147**	8	245	174	240	177	**241**	**176**
454.calculix	8	734	89.9	**736**	**89.7**	743	88.8	8	535	123	**537**	**123**	538	123
459.GemsFDTD	8	**3547**	**23.9**	3544	23.9	3554	23.9	8	3530	24.0	**3528**	**24.1**	3528	24.1
465.tonto	8	**995**	**79.1**	996	79.0	994	79.2	8	971	81.1	976	80.6	**971**	**81.1**
470.lbm	8	**4564**	**24.1**	4563	24.1	4565	24.1	8	4192	26.2	4192	26.2	**4192**	**26.2**
481.wrf	8	1964	45.5	**1961**	**45.6**	1955	45.7	8	1958	45.6	1961	45.6	**1959**	**45.6**
482.sphinx3	8	3248	48.0	3228	48.3	**3233**	**48.2**	8	**2995**	**52.1**	2993	52.1	3004	51.9

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-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/Xeon1333/5000P/X7DB3.cfm
The system bus runs at 1333 MHz
Bios settings:
Hardware Prefetcher:      Disabled
Adjacent Sector Prefetch: Disabled
All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3
for peak, are compiled in 32-bit mode
taskset was used to bind processes to cores
```

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
436.cactusADM: -DSPEC_CPU_LP64
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_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:

Continued on next page

Base Optimization Flags (Continued)

435.gromacs: `-fast -nofor_main`(*)

436.cactusADM: `Same as 435.gromacs`

454.calculix: `Same as 435.gromacs`

481.wrf: `-fast`

(*) Indicates an optimization flag that was found in a portability variable.

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`
436.cactusADM: `-DSPEC_CPU_LP64`
444.namd: `-DSPEC_CPU_LP64`

Continued on next page

Peak Portability Flags (Continued)

447.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
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

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

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Peak Optimization Flags (Continued)

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 -nofor_main`(*)

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

454.calculix: `-fast -unroll-aggressive -auto-ilp32 -nofor_main`(*)

481.wrf: `-fast -auto-ilp32`

(*) Indicates an optimization flag that was found in a portability variable.

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.17.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.17.xml`

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