



SPEC[®] CFP2006 Result

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Supermicro Motherboard X7DB3

SPECfp[®]_rate2006 = 47.6

SPECfp_rate_base2006 = 44.9

CPU2006 license: 001176

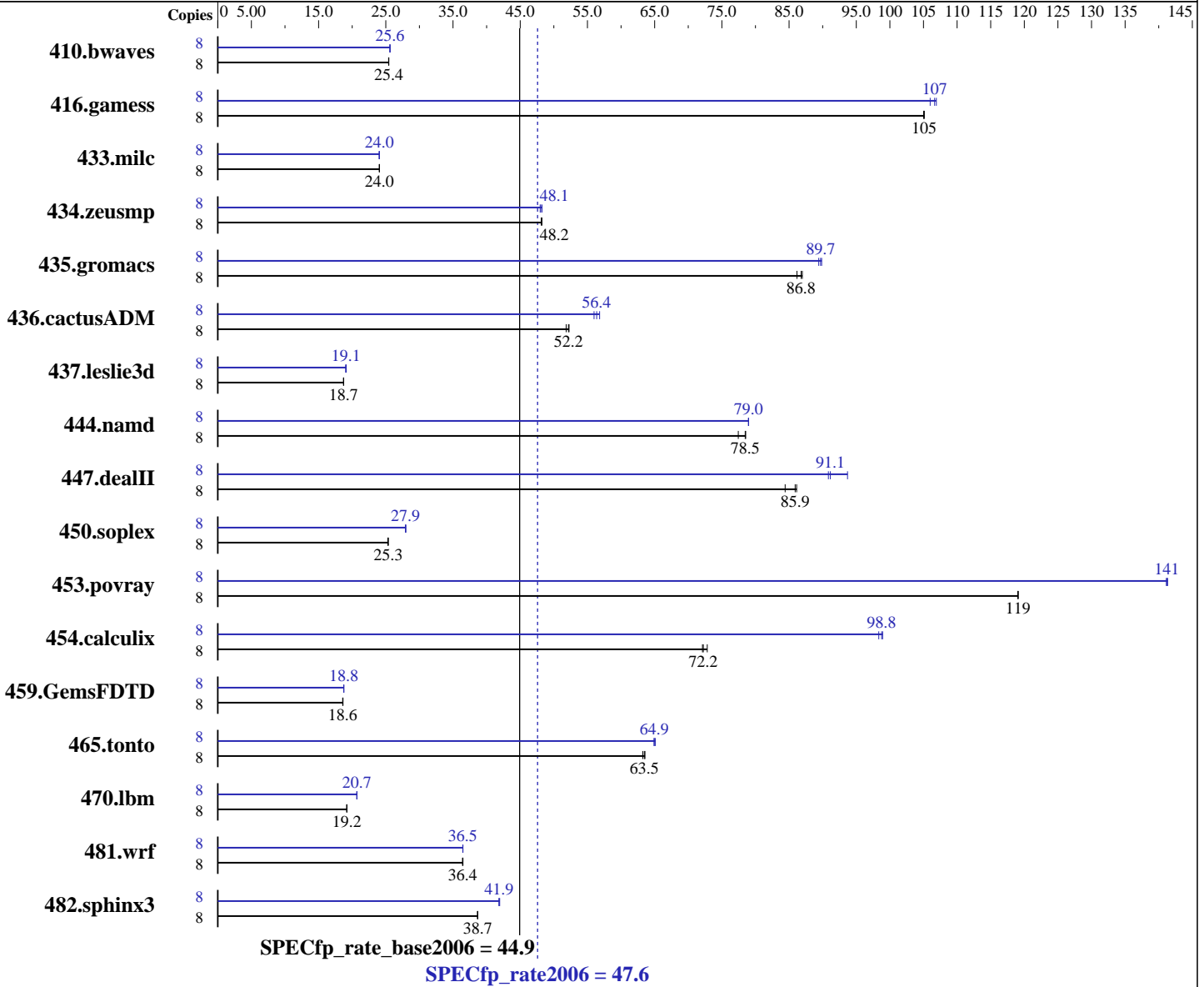
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Sep-2007

Hardware Availability: Sep-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5320
 CPU Characteristics: Quad Core, 1.86GHz
 CPU MHz: 1860
 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: Default
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 * 2 GB DDR2 5300, 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	4278	25.4	4273	25.4	4274	25.4	8	4243	25.6	4245	25.6	4243	25.6
416.gamess	8	1490	105	1492	105	1491	105	8	1465	107	1469	107	1478	106
433.milc	8	3055	24.0	3054	24.0	3054	24.0	8	3057	24.0	3056	24.0	3055	24.0
434.zeusmp	8	1512	48.2	1509	48.2	1512	48.2	8	1509	48.2	1515	48.1	1518	48.0
435.gromacs	8	657	87.0	658	86.8	663	86.2	8	637	89.7	639	89.4	636	89.8
436.cactusADM	8	1844	51.8	1829	52.3	1832	52.2	8	1696	56.4	1708	56.0	1683	56.8
437.leslie3d	8	4013	18.7	4020	18.7	4017	18.7	8	3943	19.1	3952	19.0	3934	19.1
444.namd	8	828	77.4	817	78.5	818	78.5	8	812	79.0	812	79.0	813	79.0
447.dealII	8	1063	86.1	1084	84.4	1065	85.9	8	977	93.7	1004	91.1	1007	90.9
450.soplex	8	2637	25.3	2632	25.3	2630	25.4	8	2388	27.9	2389	27.9	2384	28.0
453.povray	8	357	119	357	119	358	119	8	301	141	301	141	302	141
454.calculix	8	915	72.1	914	72.2	906	72.8	8	668	98.8	671	98.3	667	98.9
459.GemsFDTD	8	4555	18.6	4566	18.6	4564	18.6	8	4529	18.7	4526	18.8	4525	18.8
465.tonto	8	1240	63.5	1245	63.2	1239	63.6	8	1209	65.1	1212	64.9	1213	64.9
470.lbm	8	5725	19.2	5724	19.2	5724	19.2	8	5311	20.7	5311	20.7	5310	20.7
481.wrf	8	2453	36.4	2449	36.5	2452	36.4	8	2449	36.5	2451	36.5	2451	36.5
482.sphinx3	8	4035	38.6	4031	38.7	4032	38.7	8	3727	41.8	3725	41.9	3717	41.9

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



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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



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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 -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.20090714.24.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.20090714.24.xml>

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 14:08:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 November 2007.