



# SPEC<sup>®</sup> CFP2006 Result

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## Supermicro Motherborad X7DB3

SPECfp<sup>®</sup>\_rate2006 = 56.8

SPECfp\_rate\_base2006 = 53.4

CPU2006 license: 001176

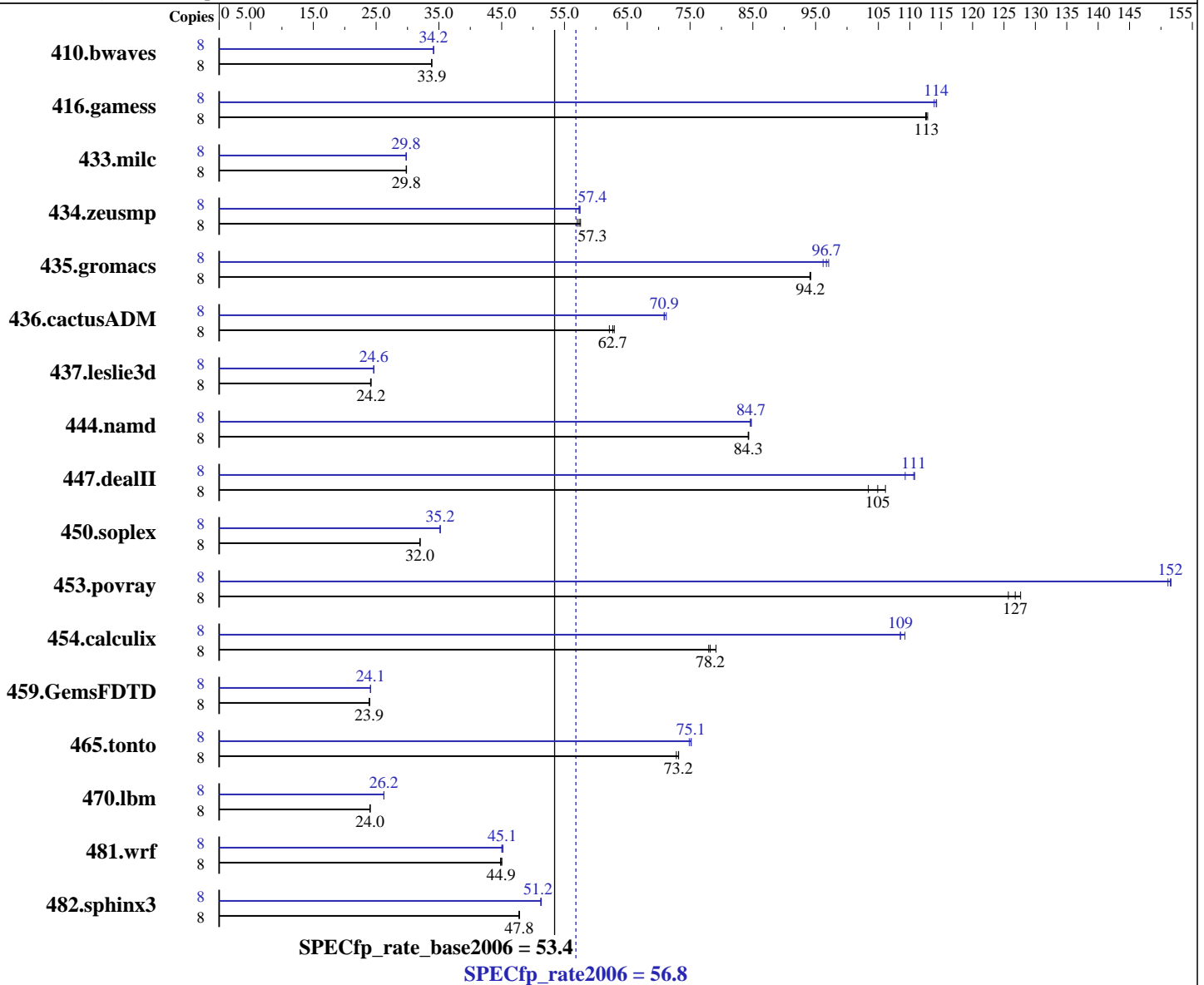
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2007

Hardware Availability: May-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5335  
 CPU Characteristics: Quad Core, 2.00GHz  
 CPU MHz: 2000  
 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: 500GB 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	3210	33.9	3212	33.8	<b><u>3211</u></b>	<b><u>33.9</u></b>	8	3184	34.1	<b><u>3183</u></b>	<b><u>34.2</u></b>	3183	34.2
416.gamess	8	1388	113	1392	113	<b><u>1391</u></b>	<b><u>113</u></b>	8	1375	114	1371	114	<b><u>1371</u></b>	<b><u>114</u></b>
433.milc	8	<b><u>2462</u></b>	<b><u>29.8</u></b>	2466	29.8	2461	29.8	8	<b><u>2466</u></b>	<b><u>29.8</u></b>	2462	29.8	2466	29.8
434.zeusmp	8	1276	57.0	1265	57.6	<b><u>1270</u></b>	<b><u>57.3</u></b>	8	1266	57.5	1270	57.3	<b><u>1269</u></b>	<b><u>57.4</u></b>
435.gromacs	8	607	94.1	606	94.2	<b><u>606</u></b>	<b><u>94.2</u></b>	8	<b><u>591</u></b>	<b><u>96.7</u></b>	588	97.1	594	96.2
436.cactusADM	8	<b><u>1525</u></b>	<b><u>62.7</u></b>	1519	62.9	1538	62.1	8	1342	71.2	<b><u>1349</u></b>	<b><u>70.9</u></b>	1349	70.9
437.leslie3d	8	3108	24.2	<b><u>3109</u></b>	<b><u>24.2</u></b>	3119	24.1	8	<b><u>3054</u></b>	<b><u>24.6</u></b>	3054	24.6	3050	24.7
444.namd	8	761	84.3	761	84.4	<b><u>761</u></b>	<b><u>84.3</u></b>	8	759	84.6	757	84.7	<b><u>757</u></b>	<b><u>84.7</u></b>
447.dealII	8	862	106	<b><u>873</u></b>	<b><u>105</u></b>	885	103	8	826	111	<b><u>827</u></b>	<b><u>111</u></b>	838	109
450.soplex	8	<b><u>2086</u></b>	<b><u>32.0</u></b>	2083	32.0	2087	32.0	8	<b><u>1895</u></b>	<b><u>35.2</u></b>	1896	35.2	1894	35.2
453.povray	8	<b><u>336</u></b>	<b><u>127</u></b>	339	126	333	128	8	282	151	<b><u>281</u></b>	<b><u>152</u></b>	281	152
454.calculix	8	<b><u>844</u></b>	<b><u>78.2</u></b>	846	78.0	834	79.1	8	<b><u>608</u></b>	<b><u>109</u></b>	604	109	608	109
459.GemsFDTD	8	3538	24.0	3552	23.9	<b><u>3551</u></b>	<b><u>23.9</u></b>	8	<b><u>3520</u></b>	<b><u>24.1</u></b>	3520	24.1	3521	24.1
465.tonto	8	1076	73.2	<b><u>1076</u></b>	<b><u>73.2</u></b>	1081	72.8	8	1051	74.9	1047	75.2	<b><u>1048</u></b>	<b><u>75.1</u></b>
470.lbm	8	4572	24.0	4571	24.0	<b><u>4572</u></b>	<b><u>24.0</u></b>	8	4189	26.2	4188	26.2	<b><u>4188</u></b>	<b><u>26.2</u></b>
481.wrf	8	<b><u>1990</u></b>	<b><u>44.9</u></b>	1984	45.0	1994	44.8	8	1977	45.2	1985	45.0	<b><u>1981</u></b>	<b><u>45.1</u></b>
482.sphinx3	8	<b><u>3263</u></b>	<b><u>47.8</u></b>	3259	47.8	3265	47.8	8	3044	51.2	<b><u>3042</u></b>	<b><u>51.2</u></b>	3038	51.3

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 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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Test sponsor: Supermicro  
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Test date: Oct-2007  
Hardware Availability: May-2007  
Software Availability: Nov-2007

## 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:

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## 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

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## 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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**Software Availability:** Nov-2007

## 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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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