



SPEC® CFP2006 Result

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Supermicro Motherboard X7DVA-8

SPECfp®_rate2006 = 68.1

SPECfp_rate_base2006 = 61.6

CPU2006 license: 001176

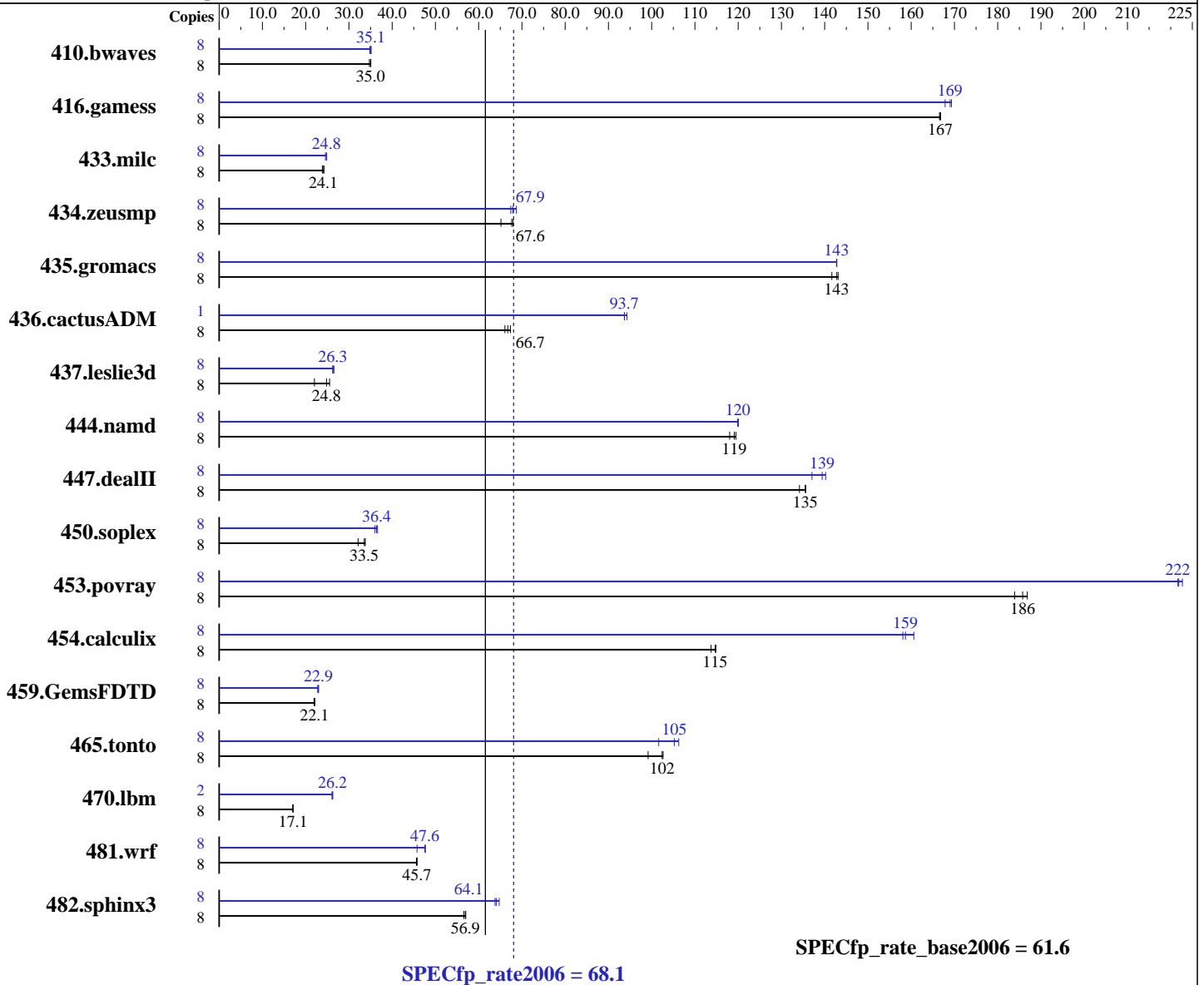
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics: Quad Core, 2.83GHz
 CPU MHz: 2833
 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: SuSE Linux Enterprise Server 10 (x86_64) SP1, kernel 2.6.16.46-0.12-default
 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

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L3 Cache: None
Other Cache: None
Memory: 12 GB (6 X 2GB ECC PC2-5300, CL5, FBDIMM)
Disk Subsystem: Western Digital WD1600YS-01SHB1 160GB SATA II, 7200RPM
Other Hardware: None

Peak Pointers: 32/64-bit
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	3130	34.7	<u>3107</u>	<u>35.0</u>	3101	35.1	8	3095	35.1	3121	34.8	<u>3100</u>	<u>35.1</u>		
416.gamess	8	939	167	<u>940</u>	<u>167</u>	941	167	8	<u>927</u>	<u>169</u>	925	169	933	168		
433.milc	8	3078	23.9	3032	24.2	<u>3043</u>	<u>24.1</u>	8	2990	24.6	<u>2963</u>	<u>24.8</u>	2954	24.9		
434.zeusmp	8	1117	65.2	<u>1076</u>	<u>67.6</u>	1071	68.0	8	1059	68.7	<u>1073</u>	<u>67.9</u>	1080	67.4		
435.gromacs	8	399	143	403	142	<u>400</u>	<u>143</u>	8	<u>400</u>	<u>143</u>	400	143	400	143		
436.cactusADM	8	1419	67.4	<u>1432</u>	<u>66.7</u>	1447	66.1	1	128	93.7	127	94.3	<u>128</u>	<u>93.7</u>		
437.leslie3d	8	3414	22.0	<u>3029</u>	<u>24.8</u>	2945	25.5	8	2833	26.5	<u>2858</u>	<u>26.3</u>	2866	26.2		
444.namd	8	<u>539</u>	<u>119</u>	537	119	544	118	8	535	120	<u>535</u>	<u>120</u>	534	120		
447.dealII	8	682	134	675	136	<u>675</u>	<u>135</u>	8	653	140	668	137	<u>656</u>	<u>139</u>		
450.soplex	8	2077	32.1	<u>1989</u>	<u>33.5</u>	1974	33.8	8	1852	36.0	<u>1833</u>	<u>36.4</u>	1822	36.6		
453.povray	8	228	187	231	184	<u>229</u>	<u>186</u>	8	192	222	<u>192</u>	<u>222</u>	191	223		
454.calculix	8	580	114	575	115	<u>576</u>	<u>115</u>	8	<u>416</u>	<u>159</u>	411	161	418	158		
459.GemsFDTD	8	3836	22.1	3870	21.9	<u>3846</u>	<u>22.1</u>	8	3726	22.8	3693	23.0	<u>3701</u>	<u>22.9</u>		
465.tonto	8	<u>769</u>	<u>102</u>	767	103	794	99.2	8	<u>748</u>	<u>105</u>	775	102	741	106		
470.lbm	8	6460	17.0	<u>6428</u>	<u>17.1</u>	6426	17.1	2	1047	26.2	1053	26.1	<u>1048</u>	<u>26.2</u>		
481.wrf	8	<u>1954</u>	<u>45.7</u>	1959	45.6	1954	45.7	8	1953	45.8	1874	47.7	<u>1879</u>	<u>47.6</u>		
482.sphinx3	8	2757	56.6	<u>2740</u>	<u>56.9</u>	2735	57.0	8	2445	63.8	<u>2434</u>	<u>64.1</u>	2408	64.7		

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-811S-520 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/Xeon1333/5000V/X7DVA-8.cfm>
The system bus runs at 1333 MHz
The "taskset" command was used to bind benchmark copies to cores
except for 436.catusADM peak



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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 -parallel -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.20090713.00.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.20090713.00.xml>

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