



# SPEC® CFP2006 Result

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**Intel Corporation**

(Test Sponsor: Advanced Micro Devices)

Intel S5000PAL Server Board, Intel Xeon processor  
E5345, 2.33 GHz

**SPECfp®\_rate2006 = Not Run**

**SPECfp\_rate\_base2006 = 46.2**

**CPU2006 license:** 49

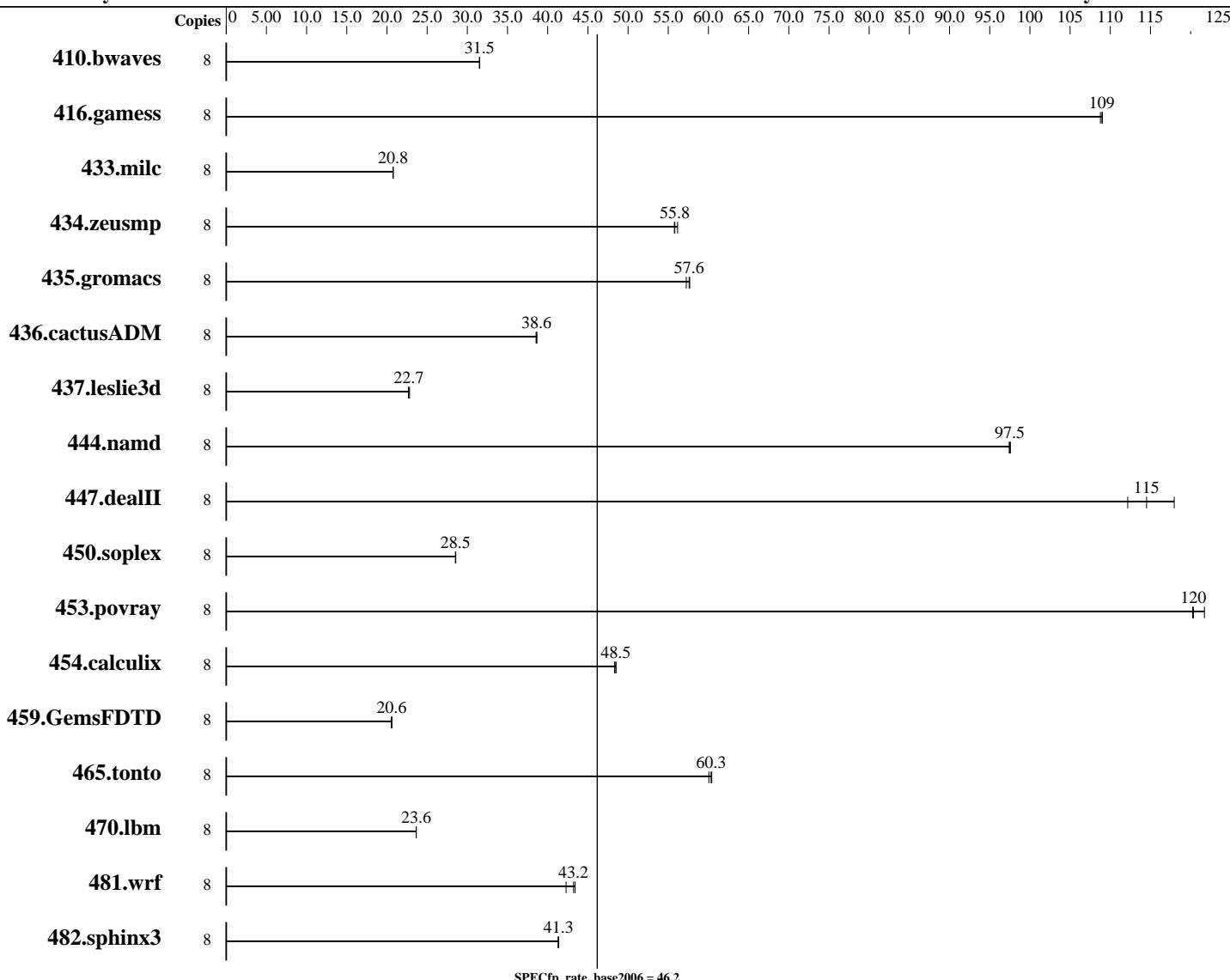
**Test date:** Sep-2007

**Test sponsor:** Advanced Micro Devices

**Hardware Availability:** May-2007

**Tested by:** Advanced Micro Devices

**Software Availability:** Jul-2007



## Hardware

CPU Name: Intel Xeon E5345  
 CPU Characteristics:  
 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+D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

## Software

Operating System: SuSE Linux Enterprise Server 10 SP1 64-bit kernel  
 Compiler: gcc, g++, gfortran 4.1.2  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-user, run level 3  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other Software: None

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L3 Cache: None

Other Cache: None

Memory: 16 GB (8x2GB, DDR2-667 FBDIMM CL5 Reg Dual Rank)

Disk Subsystem: 1x250GB SATA, 7200 RPM

Other Hardware: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	<b>3448</b>	<b>31.5</b>	3451	31.5	3446	31.5							
416.gamess	8	1437	109	1440	109	<b>1438</b>	<b>109</b>							
433.milc	8	3538	20.8	<b>3536</b>	<b>20.8</b>	3535	20.8							
434.zeusmp	8	<b>1304</b>	<b>55.8</b>	1306	55.8	1296	56.2							
435.gromacs	8	990	57.7	<b>992</b>	<b>57.6</b>	998	57.2							
436.cactusADM	8	<b>2476</b>	<b>38.6</b>	2480	38.6	2473	38.7							
437.leslie3d	8	3316	22.7	<b>3310</b>	<b>22.7</b>	3297	22.8							
444.namd	8	659	97.4	<b>658</b>	<b>97.5</b>	658	97.6							
447.dealII	8	776	118	<b>799</b>	<b>115</b>	816	112							
450.soplex	8	<b>2338</b>	<b>28.5</b>	2339	28.5	2336	28.6							
453.povray	8	354	120	350	122	<b>354</b>	<b>120</b>							
454.calculix	8	<b>1361</b>	<b>48.5</b>	1361	48.5	1366	48.3							
459.GemsFDTD	8	4118	20.6	4132	20.5	<b>4126</b>	<b>20.6</b>							
465.tonto	8	1303	60.4	<b>1305</b>	<b>60.3</b>	1311	60.0							
470.lbm	8	4651	23.6	<b>4650</b>	<b>23.6</b>	4649	23.6							
481.wrf	8	2113	42.3	<b>2068</b>	<b>43.2</b>	2058	43.4							
482.sphinx3	8	3770	41.4	3776	41.3	<b>3771</b>	<b>41.3</b>							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

'numactl' was used to bind copies to the cores

## General Notes

"powersave -f" used to set speed to maximum  
wrf needs wrf\_data\_header\_size 8  
to read the unformatted data input file correctly

The test system can be assembled using a  
Delta TDPS-600AB 600W 12V power supply.



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## Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

Benchmarks using both Fortran and C:

gcc gfortran

## 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:

-O3 -fno-inline-functions -funroll-loops

C++ benchmarks:

-O3 -funroll-loops

Fortran benchmarks:

-O3 -fno-inline-functions -funroll-loops

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The flags file that was used to format this result can be browsed at

[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.03.html](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.03.html)

You can also download the XML flags source by saving the following link:

[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.03.xml](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.03.xml)

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

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