



# SPEC<sup>®</sup> CFP2006 Result

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Intel Corporation

(Test Sponsor: Advanced Micro Devices)

Intel S5000PAL Server Board, Intel Xeon processor X5355, 2.66 GHz

SPECfp<sup>®</sup>\_rate2006 = Not Run

SPECfp\_rate\_base2006 = 48.9

CPU2006 license: 49

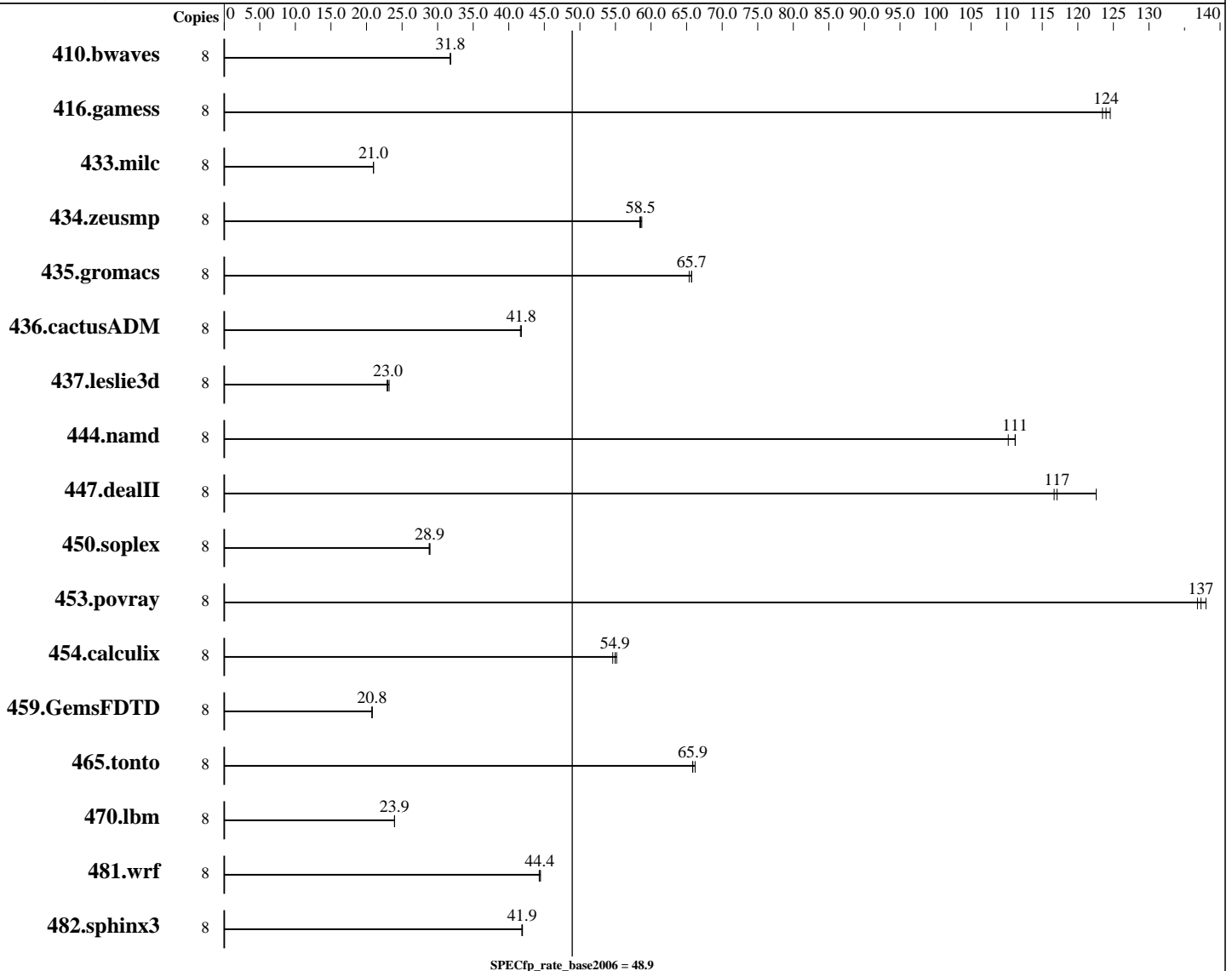
Test sponsor: Advanced Micro Devices

Tested by: Advanced Micro Devices

Test date: Sep-2007

Hardware Availability: May-2007

Software Availability: Jul-2007



## Hardware

CPU Name: Intel Xeon X5355  
 CPU Characteristics: 2666  
 CPU MHz: Integrated  
 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

Continued on next page

## 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>3420</b> | <b>31.8</b> | 3416        | 31.8        | 3420        | 31.8        |        |         |       |         |       |         |       |
| 416.gamess    | 8      | 1258        | 125         | <b>1264</b> | <b>124</b>  | 1269        | 123         |        |         |       |         |       |         |       |
| 433.milc      | 8      | 3504        | 21.0        | <b>3500</b> | <b>21.0</b> | 3499        | 21.0        |        |         |       |         |       |         |       |
| 434.zeusmp    | 8      | <b>1244</b> | <b>58.5</b> | 1240        | 58.7        | 1246        | 58.4        |        |         |       |         |       |         |       |
| 435.gromacs   | 8      | 874         | 65.4        | 869         | 65.7        | <b>869</b>  | <b>65.7</b> |        |         |       |         |       |         |       |
| 436.cactusADM | 8      | <b>2290</b> | <b>41.8</b> | 2290        | 41.8        | 2296        | 41.6        |        |         |       |         |       |         |       |
| 437.leslie3d  | 8      | 3244        | 23.2        | 3285        | 22.9        | <b>3269</b> | <b>23.0</b> |        |         |       |         |       |         |       |
| 444.namd      | 8      | <b>577</b>  | <b>111</b>  | 577         | 111         | 582         | 110         |        |         |       |         |       |         |       |
| 447.dealII    | 8      | 747         | 123         | <b>782</b>  | <b>117</b>  | 784         | 117         |        |         |       |         |       |         |       |
| 450.soplex    | 8      | 2307        | 28.9        | 2316        | 28.8        | <b>2309</b> | <b>28.9</b> |        |         |       |         |       |         |       |
| 453.povray    | 8      | <b>310</b>  | <b>137</b>  | 308         | 138         | 311         | 137         |        |         |       |         |       |         |       |
| 454.calculix  | 8      | 1208        | 54.6        | 1196        | 55.2        | <b>1201</b> | <b>54.9</b> |        |         |       |         |       |         |       |
| 459.GemsFDTD  | 8      | <b>4086</b> | <b>20.8</b> | 4087        | 20.8        | 4079        | 20.8        |        |         |       |         |       |         |       |
| 465.tonto     | 8      | 1189        | 66.2        | <b>1195</b> | <b>65.9</b> | 1196        | 65.8        |        |         |       |         |       |         |       |
| 470.lbm       | 8      | <b>4591</b> | <b>23.9</b> | 4592        | 23.9        | 4590        | 24.0        |        |         |       |         |       |         |       |
| 481.wrf       | 8      | <b>2015</b> | <b>44.4</b> | 2018        | 44.3        | 2010        | 44.5        |        |         |       |         |       |         |       |
| 482.sphinx3   | 8      | <b>3724</b> | <b>41.9</b> | 3718        | 41.9        | 3726        | 41.9        |        |         |       |         |       |         |       |

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.lelie3d: -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

Benchmarks using both Fortran and C:

-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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