



# SPEC<sup>®</sup> CFP2006 Result

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## Supermicro Motherboard H8DM8-2

SPECfp<sup>®</sup>2006 = 12.7

SPECfp\_base2006 = 12.7

CPU2006 license: 001176

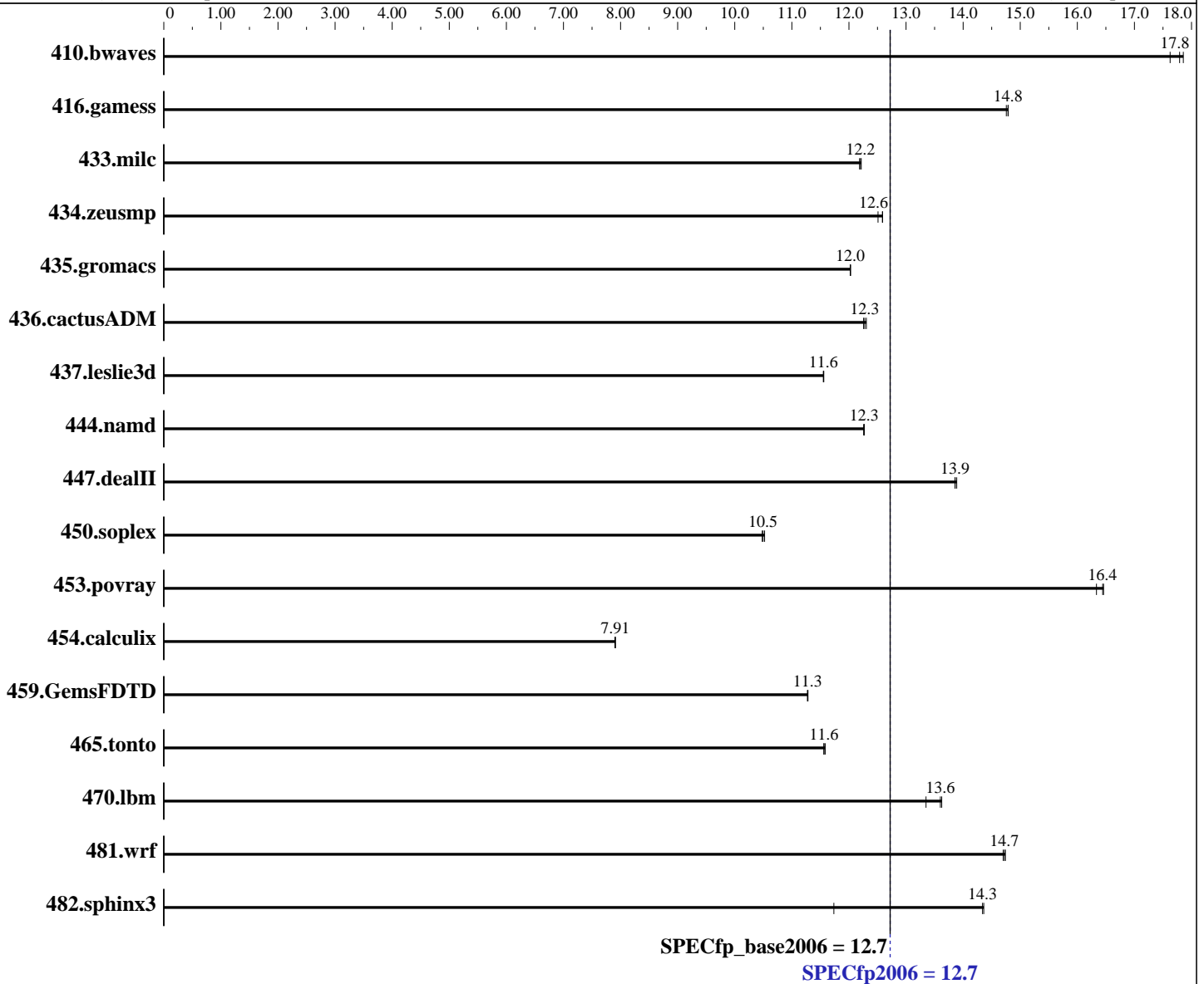
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2007

Hardware Availability: Jan-2007

Software Availability: Sep-2006



### Hardware

CPU Name: AMD Opteron 2220 SE  
 CPU Characteristics: 2.8GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core

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### Software

Operating System: SuSE 10.0 (Kernel 2.6.16.21-0.8-smp x86\_64)  
 Compiler: The Portland Group (PGI)  
 PGI pgcc 6.2-4 C Compiler  
 PGI pgCC 6.2-4 C++ Compiler  
 PGI pgf90 6.2-4 Fortran Compiler  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-user

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L3 Cache: None  
Other Cache: None  
Memory: 64 GB (16x4GB, ECC REG PC25300 CLS)  
Disk Subsystem: 250GB IDE, 7200 RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b>764</b>	<b>17.8</b>	771	17.6	761	17.9	<b>764</b>	<b>17.8</b>	771	17.6	761	17.9
416.gamess	1324	14.8	1327	14.8	<b>1324</b>	<b>14.8</b>	1324	14.8	1327	14.8	<b>1324</b>	<b>14.8</b>
433.milc	752	12.2	753	12.2	<b>752</b>	<b>12.2</b>	752	12.2	753	12.2	<b>752</b>	<b>12.2</b>
434.zeusmp	723	12.6	727	12.5	<b>723</b>	<b>12.6</b>	723	12.6	727	12.5	<b>723</b>	<b>12.6</b>
435.gromacs	594	12.0	594	12.0	<b>594</b>	<b>12.0</b>	594	12.0	594	12.0	<b>594</b>	<b>12.0</b>
436.cactusADM	975	12.3	971	12.3	<b>973</b>	<b>12.3</b>	975	12.3	971	12.3	<b>973</b>	<b>12.3</b>
437.leslie3d	<b>813</b>	<b>11.6</b>	814	11.6	813	11.6	<b>813</b>	<b>11.6</b>	814	11.6	813	11.6
444.namd	<b>654</b>	<b>12.3</b>	654	12.3	654	12.3	<b>654</b>	<b>12.3</b>	654	12.3	654	12.3
447.dealII	824	13.9	825	13.9	<b>825</b>	<b>13.9</b>	824	13.9	825	13.9	<b>825</b>	<b>13.9</b>
450.soplex	<b>795</b>	<b>10.5</b>	793	10.5	796	10.5	<b>795</b>	<b>10.5</b>	793	10.5	796	10.5
453.povray	323	16.5	<b>324</b>	<b>16.4</b>	326	16.3	323	16.5	<b>324</b>	<b>16.4</b>	326	16.3
454.calculix	1044	7.90	1043	7.91	<b>1043</b>	<b>7.91</b>	1044	7.90	1043	7.91	<b>1043</b>	<b>7.91</b>
459.GemsFDTD	940	11.3	941	11.3	<b>941</b>	<b>11.3</b>	940	11.3	941	11.3	<b>941</b>	<b>11.3</b>
465.tonto	849	11.6	<b>851</b>	<b>11.6</b>	851	11.6	849	11.6	<b>851</b>	<b>11.6</b>	851	11.6
470.lbm	1008	13.6	1029	13.3	<b>1010</b>	<b>13.6</b>	1008	13.6	1029	13.3	<b>1010</b>	<b>13.6</b>
481.wrf	<b>759</b>	<b>14.7</b>	758	14.7	760	14.7	<b>759</b>	<b>14.7</b>	758	14.7	760	14.7
482.sphinx3	<b>1359</b>	<b>14.3</b>	1357	14.4	1661	11.7	<b>1359</b>	<b>14.3</b>	1357	14.4	1661	11.7

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

## General Notes

Environment stack size set to 'unlimited'  
Tested systems can be used with CSE-825S2-560LPV case,  
To ensure system stability, a 550W (minimum) ATX power supply [ 4-pin (+12V), 8-pin (+12V) and 24-pin are required]  
Product description located as of <http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DM8-2.cfm>

## Base Compiler Invocation

C benchmarks:  
/opt/pgi/624/linux86-64/6.2/bin/pgcc

C++ benchmarks:  
/opt/pgi/624/linux86-64/6.2/bin/pgCC

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## Base Compiler Invocation (Continued)

Fortran benchmarks:

/opt/pgi/624/linux86-64/6.2/bin/pgf90

Benchmarks using both Fortran and C:

/opt/pgi/624/linux86-64/6.2/bin/pgcc  
/opt/pgi/624/linux86-64/6.2/bin/pgf90

## 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 -Mnomain  
436.cactusADM: -DSPEC\_CPU\_LP64 -Mnomain  
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 -Mnomain  
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:

-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc  
-Msignextend -tp k8-64

C++ benchmarks:

-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc  
-tp k8-64

Fortran benchmarks:

-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc  
-tp k8-64

Benchmarks using both Fortran and C:

-fastsse -Mipa=fast -Mipa=inline -Mfprelaxed=rsqrt -Msmartalloc  
-Msignextend -tp k8-64



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## Base Other Flags

C benchmarks:  
-w

C++ benchmarks:  
-w

Fortran benchmarks:  
-w

Benchmarks using both Fortran and C:  
-w

## Peak Compiler Invocation

C benchmarks:  
/opt/pgi/624/linux86-64/6.2/bin/pgcc

C++ benchmarks:  
/opt/pgi/624/linux86-64/6.2/bin/pgCC

Fortran benchmarks:  
/opt/pgi/624/linux86-64/6.2/bin/pgf90

Benchmarks using both Fortran and C:  
/opt/pgi/624/linux86-64/6.2/bin/pgcc  
/opt/pgi/624/linux86-64/6.2/bin/pgf90

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

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**Software Availability:** Sep-2006

## Peak Optimization Flags (Continued)

444.namd: basepeak = yes

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: basepeak = yes

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

## Peak Other Flags

C benchmarks:

-w

C++ benchmarks:

-w

Fortran benchmarks:

-w

Benchmarks using both Fortran and C:

-w



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

[http://www.spec.org/cpu2006/flags/pgi62\\_flags.html](http://www.spec.org/cpu2006/flags/pgi62_flags.html)

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

[http://www.spec.org/cpu2006/flags/pgi62\\_flags.xml](http://www.spec.org/cpu2006/flags/pgi62_flags.xml)

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

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