



# SPEC® CFP2006 Result

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## Supermicro

(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor X5355, 2.66 GHz)

SPECfp®2006 =

19.9

SPECfp\_base2006 =

17.1

CPU2006 license: 13

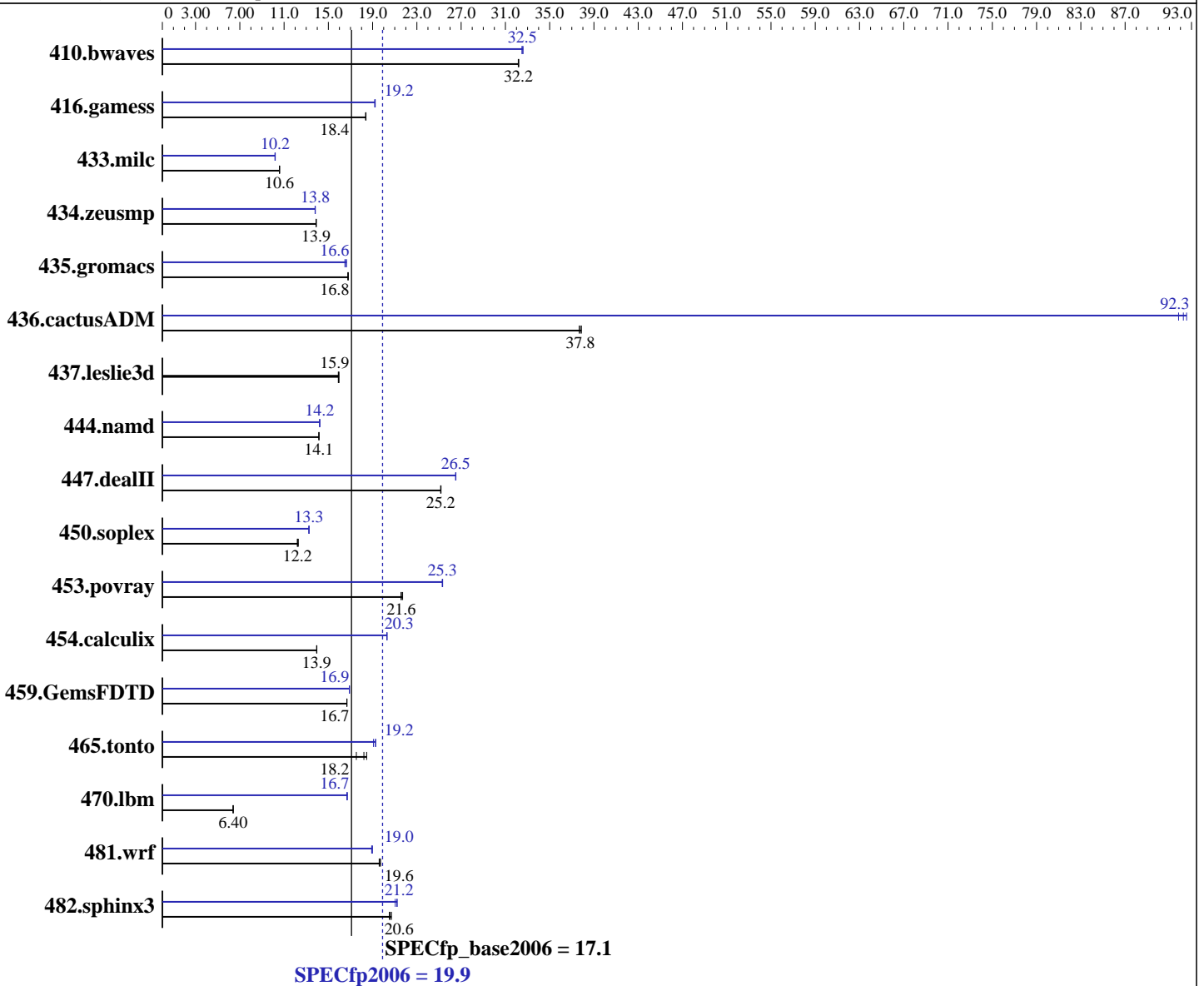
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Aug-2007

Hardware Availability: Jul-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5355  
 CPU Characteristics: Quad Core, 2.66 GHz  
 CPU MHz: 2666  
 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 SP1 RC1, Kernel linux-cbmg 2.6.16.43-0.5-smp for x86\_64  
 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

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8 \* 2GB Samsung PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: Seagate, SCSI, 73GB, 10Krpm, 1 disk only  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: Binutils 2.17.50.0.15

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	422	32.2	423	32.2	<b>422</b>	<b>32.2</b>	418	32.5	417	32.6	<b>418</b>	<b>32.5</b>
416.gamess	1066	18.4	<b>1065</b>	<b>18.4</b>	1064	18.4	1018	19.2	<b>1018</b>	<b>19.2</b>	1021	19.2
433.milc	866	10.6	868	10.6	<b>868</b>	<b>10.6</b>	900	10.2	<b>900</b>	<b>10.2</b>	902	10.2
434.zeusmp	<b>655</b>	<b>13.9</b>	655	13.9	655	13.9	658	13.8	<b>659</b>	<b>13.8</b>	659	13.8
435.gromacs	<b>425</b>	<b>16.8</b>	425	16.8	426	16.8	429	16.6	433	16.5	<b>431</b>	<b>16.6</b>
436.cactusADM	316	37.9	<b>316</b>	<b>37.8</b>	317	37.7	129	92.6	<b>130</b>	<b>92.3</b>	130	91.8
437.leslie3d	589	16.0	<b>590</b>	<b>15.9</b>	591	15.9	589	16.0	<b>590</b>	<b>15.9</b>	591	15.9
444.namd	567	14.1	<b>567</b>	<b>14.1</b>	567	14.2	564	14.2	<b>564</b>	<b>14.2</b>	565	14.2
447.dealII	455	25.1	<b>455</b>	<b>25.2</b>	454	25.2	432	26.5	<b>431</b>	<b>26.5</b>	431	26.5
450.soplex	679	12.3	684	12.2	<b>683</b>	<b>12.2</b>	629	13.3	630	13.2	<b>629</b>	<b>13.3</b>
453.povray	245	21.7	<b>246</b>	<b>21.6</b>	247	21.6	210	25.3	210	25.3	<b>210</b>	<b>25.3</b>
454.calculix	591	14.0	592	13.9	<b>591</b>	<b>13.9</b>	<b>407</b>	<b>20.3</b>	406	20.3	407	20.3
459.GemsFDTD	636	16.7	<b>636</b>	<b>16.7</b>	637	16.7	627	16.9	<b>628</b>	<b>16.9</b>	628	16.9
465.tonto	561	17.5	<b>540</b>	<b>18.2</b>	533	18.5	510	19.3	516	19.1	<b>511</b>	<b>19.2</b>
470.lbm	2143	6.41	<b>2148</b>	<b>6.40</b>	2151	6.39	824	16.7	822	16.7	<b>823</b>	<b>16.7</b>
481.wrf	570	19.6	567	19.7	<b>569</b>	<b>19.6</b>	588	19.0	<b>589</b>	<b>19.0</b>	591	18.9
482.sphinx3	942	20.7	<b>946</b>	<b>20.6</b>	950	20.5	<b>920</b>	<b>21.2</b>	926	21.0	918	21.2

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

## General Notes

Bios settings:  
Hardware Prefetcher: Enabled  
Adjacent Sector Prefetch: Enabled  
All benchmarks compiled in 64-bit mode except  
450.soplex, 470.lbm and 482.sphinx3, for peak, are  
compiled in 32-bit mode

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

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 -parallel

C++ benchmarks:  
-fast -parallel

Fortran benchmarks:  
-fast -parallel

Benchmarks using both Fortran and C:  
-fast -parallel



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## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

Fortran benchmarks:

ifort

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
437.leslie3d: -DSPEC_CPU_LP64
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

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealIII: -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 -parallel

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: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch -parallel

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 -parallel -prefetch -auto-ilp32

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.20090714.33.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.20090714.33.xml>



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

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