



SPEC® CFP2006 Result

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Supermicro

(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5345, 2.33 GHz)

SPECfp®2006 = 18.4

SPECfp_base2006 = 15.8

CPU2006 license: 13

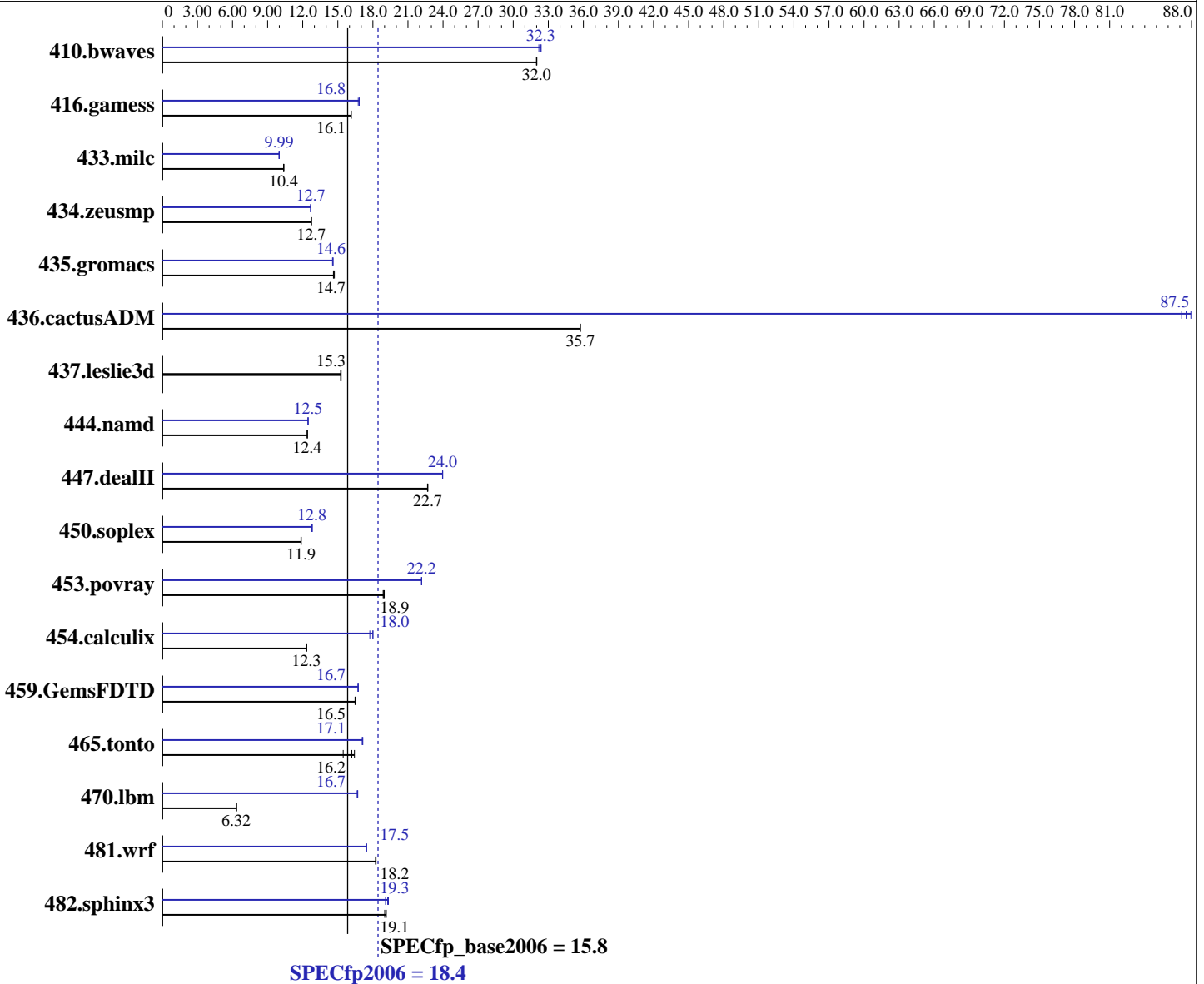
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Aug-2007

Hardware Availability: Jul-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5345
 CPU Characteristics: Quad Core, 2.33 GHz
 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 + 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	425	32.0	424	32.0	<u>425</u>	<u>32.0</u>	420	32.4	<u>420</u>	<u>32.3</u>	422	32.2
416.gamess	1214	16.1	<u>1213</u>	<u>16.1</u>	1213	16.1	<u>1163</u>	<u>16.8</u>	1163	16.8	1169	16.7
433.milc	885	10.4	<u>885</u>	<u>10.4</u>	884	10.4	919	9.99	<u>919</u>	<u>9.99</u>	920	9.98
434.zeusmp	714	12.7	<u>715</u>	<u>12.7</u>	715	12.7	<u>717</u>	<u>12.7</u>	719	12.7	717	12.7
435.gromacs	<u>487</u>	<u>14.7</u>	485	14.7	488	14.6	<u>489</u>	<u>14.6</u>	491	14.5	489	14.6
436.cactusADM	334	35.7	335	35.7	<u>334</u>	<u>35.7</u>	<u>137</u>	<u>87.5</u>	136	87.9	137	87.2
437.leslie3d	<u>616</u>	<u>15.3</u>	615	15.3	616	15.3	<u>616</u>	<u>15.3</u>	615	15.3	616	15.3
444.namd	647	12.4	647	12.4	<u>647</u>	<u>12.4</u>	<u>644</u>	<u>12.5</u>	644	12.5	644	12.5
447.dealII	505	22.7	<u>504</u>	<u>22.7</u>	504	22.7	477	24.0	478	24.0	<u>477</u>	<u>24.0</u>
450.soplex	702	11.9	704	11.8	<u>703</u>	<u>11.9</u>	652	12.8	651	12.8	<u>651</u>	<u>12.8</u>
453.povray	282	18.9	280	19.0	<u>281</u>	<u>18.9</u>	240	22.2	<u>240</u>	<u>22.2</u>	240	22.2
454.calculix	668	12.3	670	12.3	<u>669</u>	<u>12.3</u>	458	18.0	465	17.7	<u>458</u>	<u>18.0</u>
459.GemsFDTD	642	16.5	644	16.5	<u>644</u>	<u>16.5</u>	634	16.7	<u>634</u>	<u>16.7</u>	634	16.7
465.tonto	636	15.5	599	16.4	<u>607</u>	<u>16.2</u>	<u>575</u>	<u>17.1</u>	574	17.1	576	17.1
470.lbm	2164	6.35	2179	6.31	<u>2173</u>	<u>6.32</u>	825	16.7	<u>823</u>	<u>16.7</u>	823	16.7
481.wrf	611	18.3	613	18.2	<u>612</u>	<u>18.2</u>	641	17.4	<u>640</u>	<u>17.5</u>	640	17.5
482.sphinx3	<u>1020</u>	<u>19.1</u>	1018	19.1	1025	19.0	1021	19.1	<u>1012</u>	<u>19.3</u>	1008	19.3

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.dealII: -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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