



SPEC® CFP2006 Result

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Supermicro

(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5450,
3.00 GHz)

SPECfp®2006 = 23.2

SPECfp_base2006 = 20.0

CPU2006 license: 13

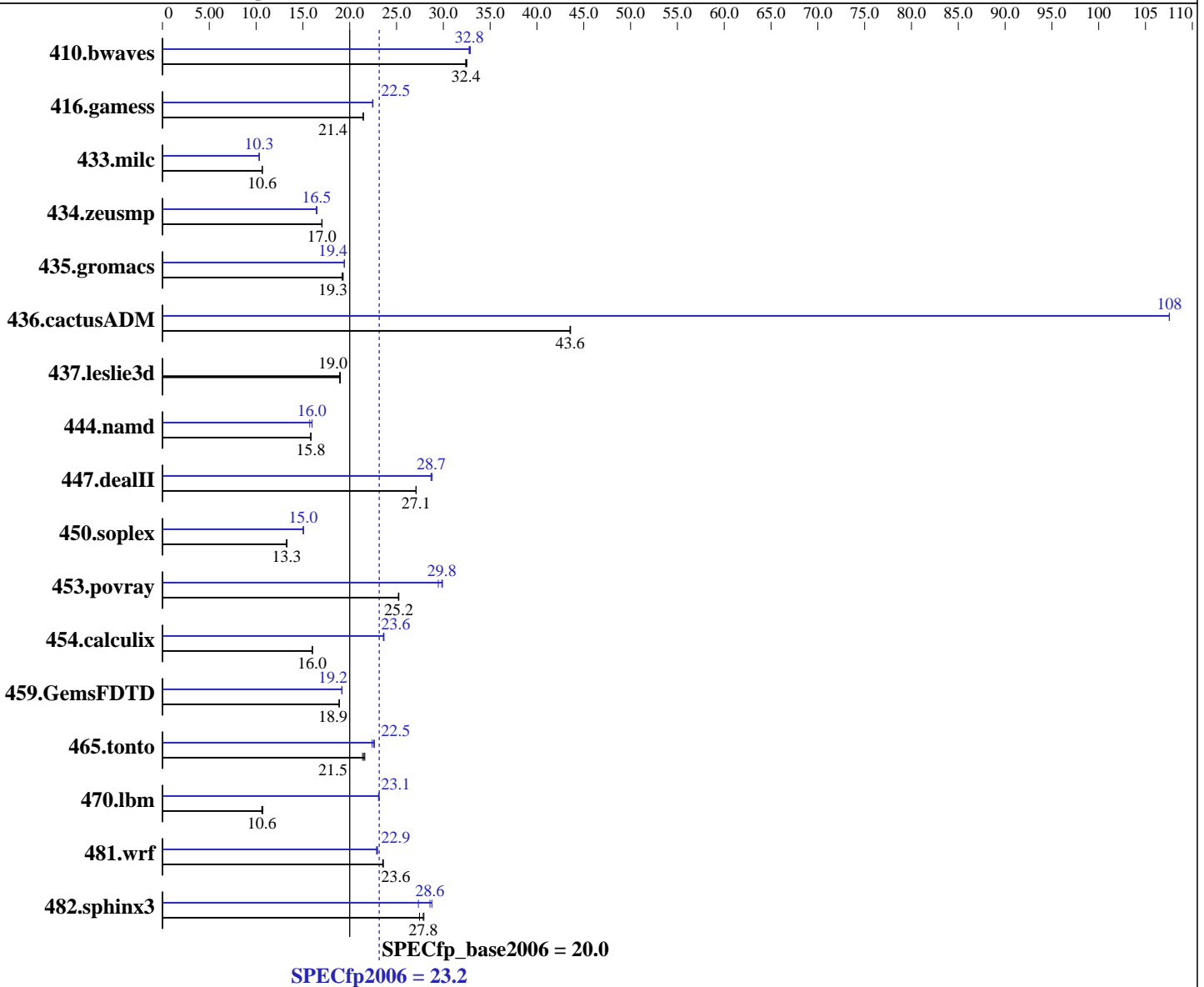
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5450
 CPU Characteristics: Quad Core, 3.00 GHz
 CPU MHz: 3000
 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: 12 MB I+D on chip per chip, 6 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 10.1 for Linux
 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 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 DDR2 5300F, 2 rank,
CL5-5-5, ECC)
Disk Subsystem: 1x73GB Seagate ST37330LC SCSI 10K RPM
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	419	32.4	420	32.4	418	32.5	415	32.8	413	32.9	414	32.8
416.gamess	913	21.4	912	21.5	914	21.4	872	22.5	872	22.4	871	22.5
433.milc	859	10.7	863	10.6	862	10.6	888	10.3	889	10.3	889	10.3
434.zeusmp	534	17.1	534	17.0	535	17.0	554	16.4	553	16.5	552	16.5
435.gromacs	372	19.2	370	19.3	371	19.3	368	19.4	368	19.4	367	19.4
436.cactusADM	274	43.6	274	43.6	275	43.5	111	108	111	108	111	108
437.leslie3d	495	19.0	496	19.0	497	18.9	495	19.0	496	19.0	497	18.9
444.namd	506	15.8	507	15.8	506	15.9	502	16.0	502	16.0	510	15.7
447.dealII	422	27.1	422	27.1	422	27.1	399	28.7	398	28.7	397	28.8
450.soplex	627	13.3	628	13.3	631	13.2	555	15.0	553	15.1	555	15.0
453.povray	211	25.2	211	25.2	211	25.2	178	29.9	181	29.5	178	29.8
454.calculix	516	16.0	516	16.0	515	16.0	349	23.6	350	23.6	349	23.7
459.GemsFDTD	562	18.9	562	18.9	562	18.9	554	19.2	553	19.2	554	19.2
465.tonto	455	21.6	457	21.5	460	21.4	439	22.4	435	22.6	436	22.5
470.lbm	1293	10.6	1294	10.6	1282	10.7	594	23.1	595	23.1	594	23.1
481.wrf	474	23.6	473	23.6	475	23.5	488	22.9	486	23.0	488	22.9
482.sphinx3	700	27.8	710	27.5	698	27.9	713	27.3	677	28.8	682	28.6

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, at 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:
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Benchmarks using both Fortran and C:
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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/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.20090714.06.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.20090714.06.xml>



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