



SPEC® CFP2006 Result

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Supermicro

SPECfp®2006 = 46.2

Motherboard X8DAL-3 (Intel Xeon X5667, 3.06GHz)

SPECfp_base2006 = 43.4

CPU2006 license: 001176

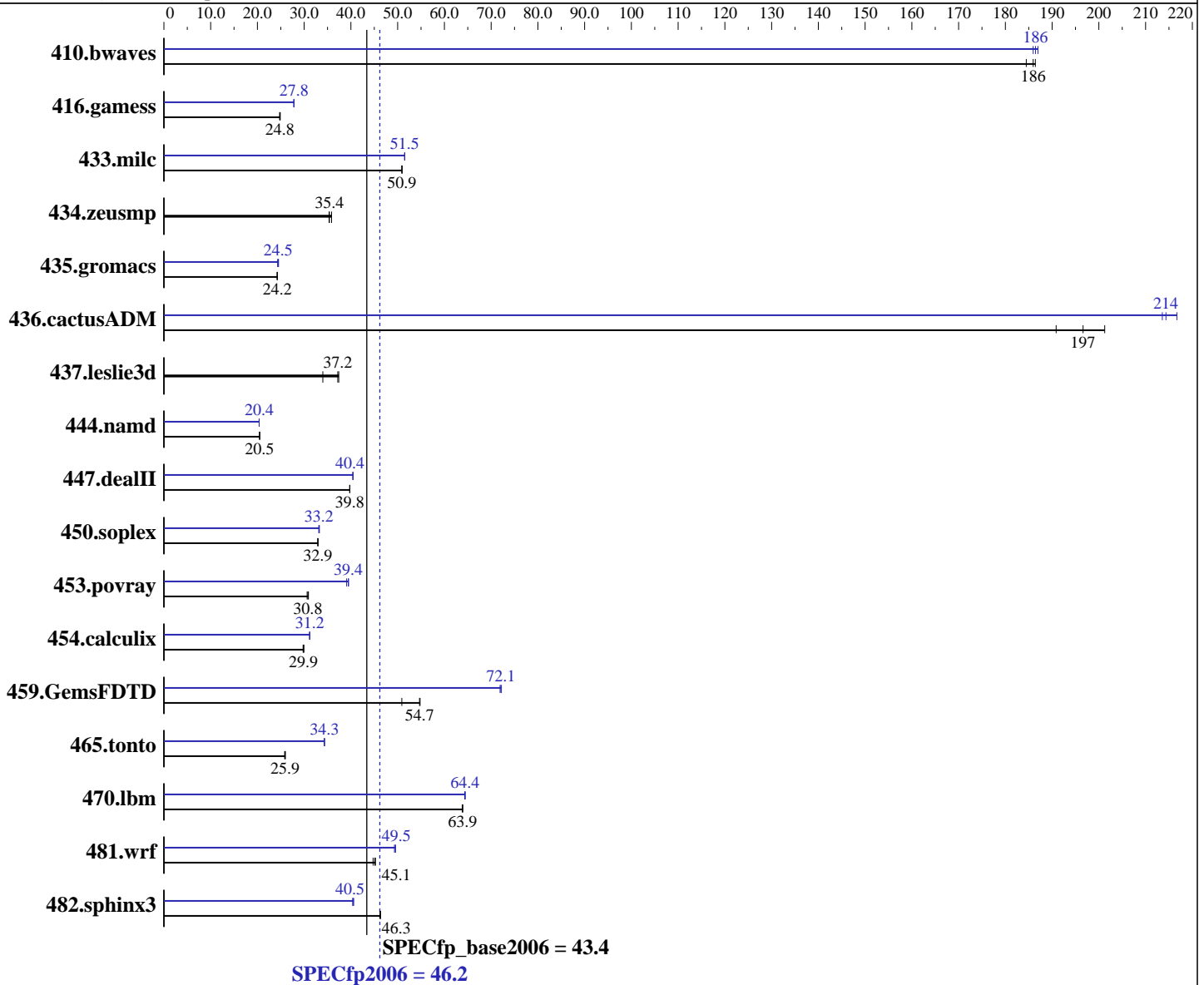
Test date: Apr-2010

Test sponsor: Supermicro

Hardware Availability: Mar-2010

Tested by: Supermicro

Software Availability: Nov-2009



Hardware

CPU Name: Intel Xeon X5667
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
 CPU MHz: 3066
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64)
 Kernel 2.6.27.19-5-default
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1
 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)

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L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 x 4 GB DDR3-1333 RDIMM, ECC, CL9)
 Disk Subsystem: 1 x 300 GB SATA II, 7200 RPM
 Other Hardware: None

Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: None

Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 73.7 | 184 | 72.9 | 186 | <u>73.1</u> | <u>186</u> | <u>72.9</u> | <u>186</u> | 72.7 | 187 | 73.1 | 186 |
| 416.gamess | <u>789</u> | <u>24.8</u> | 791 | 24.7 | 787 | 24.9 | <u>704</u> | <u>27.8</u> | 704 | 27.8 | 704 | 27.8 |
| 433.milc | 180 | 50.9 | 180 | 50.9 | <u>180</u> | <u>50.9</u> | <u>178</u> | <u>51.5</u> | 178 | 51.5 | 178 | 51.5 |
| 434.zeusmp | 257 | 35.3 | 254 | 35.9 | <u>257</u> | <u>35.4</u> | 257 | 35.3 | 254 | 35.9 | <u>257</u> | <u>35.4</u> |
| 435.gromacs | 295 | 24.2 | 294 | 24.3 | <u>295</u> | <u>24.2</u> | 291 | 24.5 | <u>292</u> | <u>24.5</u> | 294 | 24.3 |
| 436.cactusADM | <u>60.8</u> | <u>197</u> | 59.4 | 201 | 62.6 | 191 | <u>55.7</u> | <u>214</u> | 55.1 | 217 | 56.0 | 214 |
| 437.leslie3d | <u>253</u> | <u>37.2</u> | 251 | 37.4 | 277 | 34.0 | <u>253</u> | <u>37.2</u> | 251 | 37.4 | 277 | 34.0 |
| 444.namd | 392 | 20.5 | <u>392</u> | <u>20.5</u> | 391 | 20.5 | 393 | 20.4 | <u>393</u> | <u>20.4</u> | 394 | 20.4 |
| 447.dealII | 288 | 39.8 | <u>288</u> | <u>39.8</u> | 288 | 39.7 | <u>283</u> | <u>40.4</u> | 283 | 40.4 | 283 | 40.5 |
| 450.soplex | 253 | 32.9 | <u>253</u> | <u>32.9</u> | 253 | 32.9 | 252 | 33.2 | 251 | 33.3 | <u>251</u> | <u>33.2</u> |
| 453.povray | 174 | 30.6 | 172 | 30.9 | <u>173</u> | <u>30.8</u> | <u>135</u> | <u>39.4</u> | 136 | 39.1 | 135 | 39.5 |
| 454.calculix | 277 | 29.8 | <u>276</u> | <u>29.9</u> | 275 | 29.9 | <u>265</u> | <u>31.2</u> | 265 | 31.2 | 265 | 31.2 |
| 459.GemsFDTD | 194 | 54.8 | 208 | 50.9 | <u>194</u> | <u>54.7</u> | 147 | 72.2 | 148 | 71.9 | <u>147</u> | <u>72.1</u> |
| 465.tonto | 379 | 26.0 | 381 | 25.8 | <u>380</u> | <u>25.9</u> | 287 | 34.3 | <u>287</u> | <u>34.3</u> | 287 | 34.3 |
| 470.lbm | 215 | 63.9 | <u>215</u> | <u>63.9</u> | 215 | 63.9 | 214 | 64.3 | 213 | 64.5 | <u>213</u> | <u>64.4</u> |
| 481.wrf | <u>248</u> | <u>45.1</u> | 247 | 45.3 | 250 | 44.7 | 225 | 49.5 | 227 | 49.3 | <u>226</u> | <u>49.5</u> |
| 482.sphinx3 | 422 | 46.2 | 421 | 46.3 | <u>421</u> | <u>46.3</u> | <u>482</u> | <u>40.5</u> | 480 | 40.6 | 483 | 40.4 |

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
```

Platform Notes

Fan speed set to Full Speed in BIOS Setup.
 As tested, the system used a Supermicro
 SP645-PS power supply, 2 SNK-P0035AP4 heatsinks,
 and 1 JMC1225-12HB, 1 SAN cooler XF-P01603,
 2 Nidec UltraFlo T92T12MMA7-57 T072 cooling fans.



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General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

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:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-ansi-alias`

470.lbm: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
-unroll2`

C++ benchmarks:

444.namd: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32`

447.dealIII: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias -scalar-rep- -auto-ilp32`

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Peak Optimization Flags (Continued)

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -auto-ilp32

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.html>



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

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