



# SPEC® CFP2006 Result

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## Supermicro Motherboard X8DTG-DF

SPECfp®2006 = 40.3

SPECfp\_base2006 = 37.6

CPU2006 license: 001176

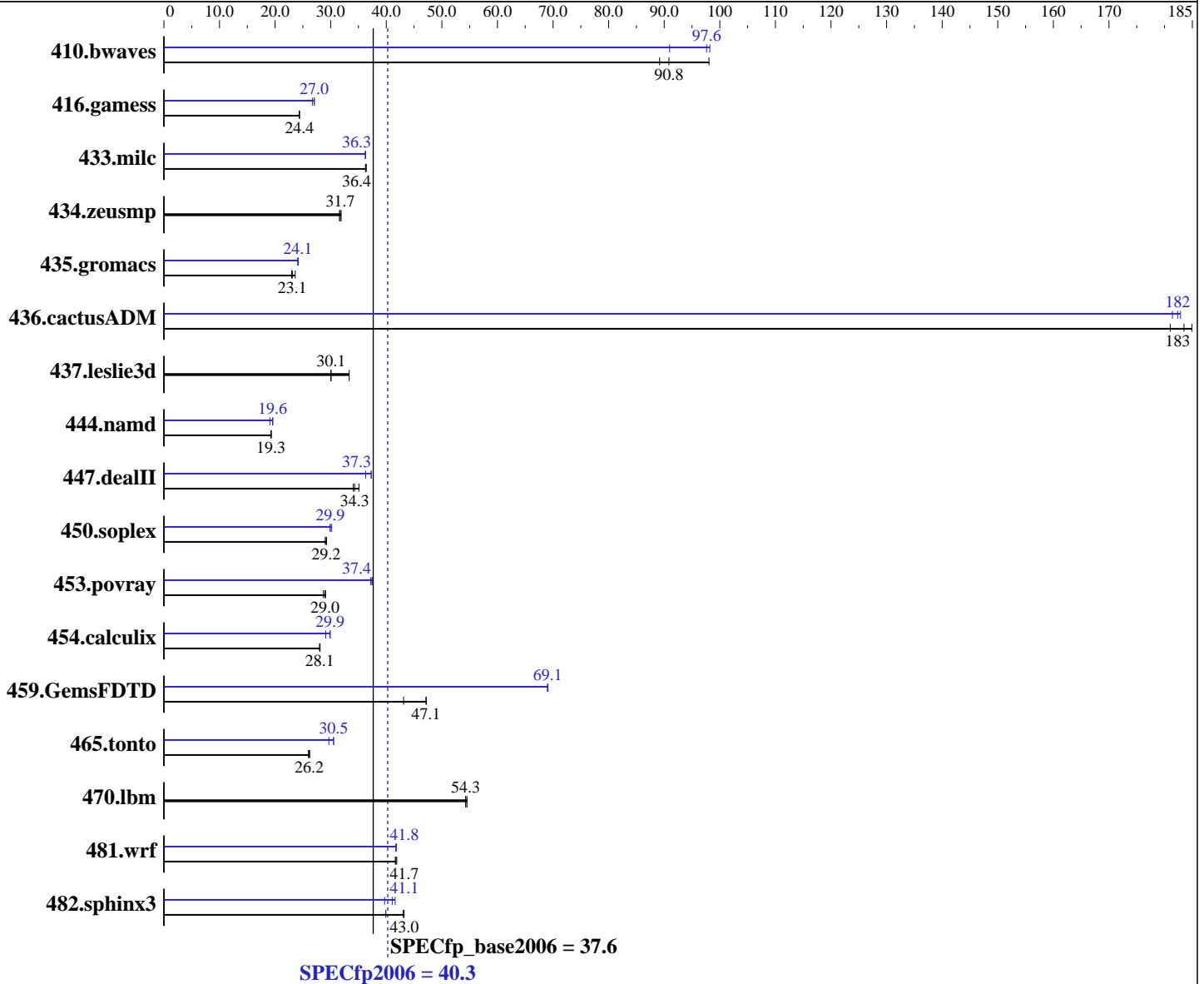
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2009

Hardware Availability: Oct-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon X5570  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
 CPU MHz: 2933  
 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 10 (x86\_64) SP2  
 Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux  
 Build 20090131 Package ID: l\_cproc\_p\_11.0.080,  
 l\_cprof\_p\_11.0.080  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (6 x 4GB DDR3-1333 RDIMM, ECC, CL9)  
Disk Subsystem: 1 x 250 GB SATA II, 7200 RPM  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: Binutils 2.18.50.0.7.20080502

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	152	89.2	<b>150</b>	<b>90.8</b>	139	98.1	149	91.0	138	98.2	<b>139</b>	<b>97.6</b>
416.gamess	803	24.4	<b>803</b>	<b>24.4</b>	804	24.4	<b>724</b>	<b>27.0</b>	733	26.7	723	27.1
433.milc	<b>253</b>	<b>36.4</b>	253	36.3	252	36.4	253	36.3	253	36.2	<b>253</b>	<b>36.3</b>
434.zeusmp	<b>287</b>	<b>31.7</b>	285	31.9	288	31.6	<b>287</b>	<b>31.7</b>	285	31.9	288	31.6
435.gromacs	302	23.6	311	23.0	<b>309</b>	<b>23.1</b>	296	24.1	296	24.1	<b>296</b>	<b>24.1</b>
436.cactusADM	64.6	185	66.0	181	<b>65.1</b>	<b>183</b>	65.3	183	<b>65.5</b>	<b>182</b>	65.9	181
437.leslie3d	313	30.0	<b>313</b>	<b>30.1</b>	282	33.3	313	30.0	<b>313</b>	<b>30.1</b>	282	33.3
444.namd	415	19.3	417	19.2	<b>416</b>	<b>19.3</b>	409	19.6	421	19.1	<b>410</b>	<b>19.6</b>
447.dealII	<b>333</b>	<b>34.3</b>	326	35.1	336	34.1	<b>307</b>	<b>37.3</b>	315	36.3	307	37.3
450.soplex	285	29.3	<b>286</b>	<b>29.2</b>	287	29.0	276	30.2	<b>279</b>	<b>29.9</b>	279	29.9
453.povray	183	29.1	<b>184</b>	<b>29.0</b>	185	28.7	<b>142</b>	<b>37.4</b>	143	37.2	142	37.5
454.calculix	295	28.0	294	28.1	<b>294</b>	<b>28.1</b>	276	29.9	<b>276</b>	<b>29.9</b>	283	29.1
459.GemsFDTD	<b>225</b>	<b>47.1</b>	225	47.2	246	43.1	154	69.1	154	69.0	<b>154</b>	<b>69.1</b>
465.tonto	375	26.2	379	26.0	<b>376</b>	<b>26.2</b>	332	29.7	<b>322</b>	<b>30.5</b>	322	30.5
470.lbm	253	54.3	252	54.5	<b>253</b>	<b>54.3</b>	253	54.3	252	54.5	<b>253</b>	<b>54.3</b>
481.wrf	267	41.9	<b>268</b>	<b>41.7</b>	268	41.6	267	41.8	268	41.7	<b>267</b>	<b>41.8</b>
482.sphinx3	488	39.9	451	43.2	<b>453</b>	<b>43.0</b>	491	39.7	469	41.6	<b>475</b>	<b>41.1</b>

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 stacksize to unlimited prior to run

## Platform Notes

Default BIOS Settings

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M



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Test date: Dec-2009  
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## Base Compiler Invocation

C benchmarks:  
 icc

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:  
 -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

Benchmarks using both Fortran and C:  
 -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



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<b>Supermicro Motherboard X8DTG-DF</b>	<b>SPECfp2006 =</b>	<b>40.3</b>
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<b>CPU2006 license:</b> 001176	<b>Test date:</b> Dec-2009
<b>Test sponsor:</b> Supermicro	<b>Hardware Availability:</b> Oct-2009
<b>Tested by:</b> Supermicro	<b>Software Availability:</b> Feb-2009

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc

450.soplex: icpc -m32

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  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## 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)  
-fno-alias

470.lbm: basepeak = yes

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

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## Peak Optimization Flags (Continued)

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- -opt-prefetch

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

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)  
-unroll4 -auto

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

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## Peak Optimization Flags (Continued)

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

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel -auto-ilp32

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20091125.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20091125.xml>

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

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