



# SPEC® CFP2006 Result

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## Acer Incorporated

SPECfp®2006 = 43.5

Gateway GB2x280 F1 (Intel Xeon X5570, 2.93 GHz)

SPECfp\_base2006 = 40.7

CPU2006 license: 97

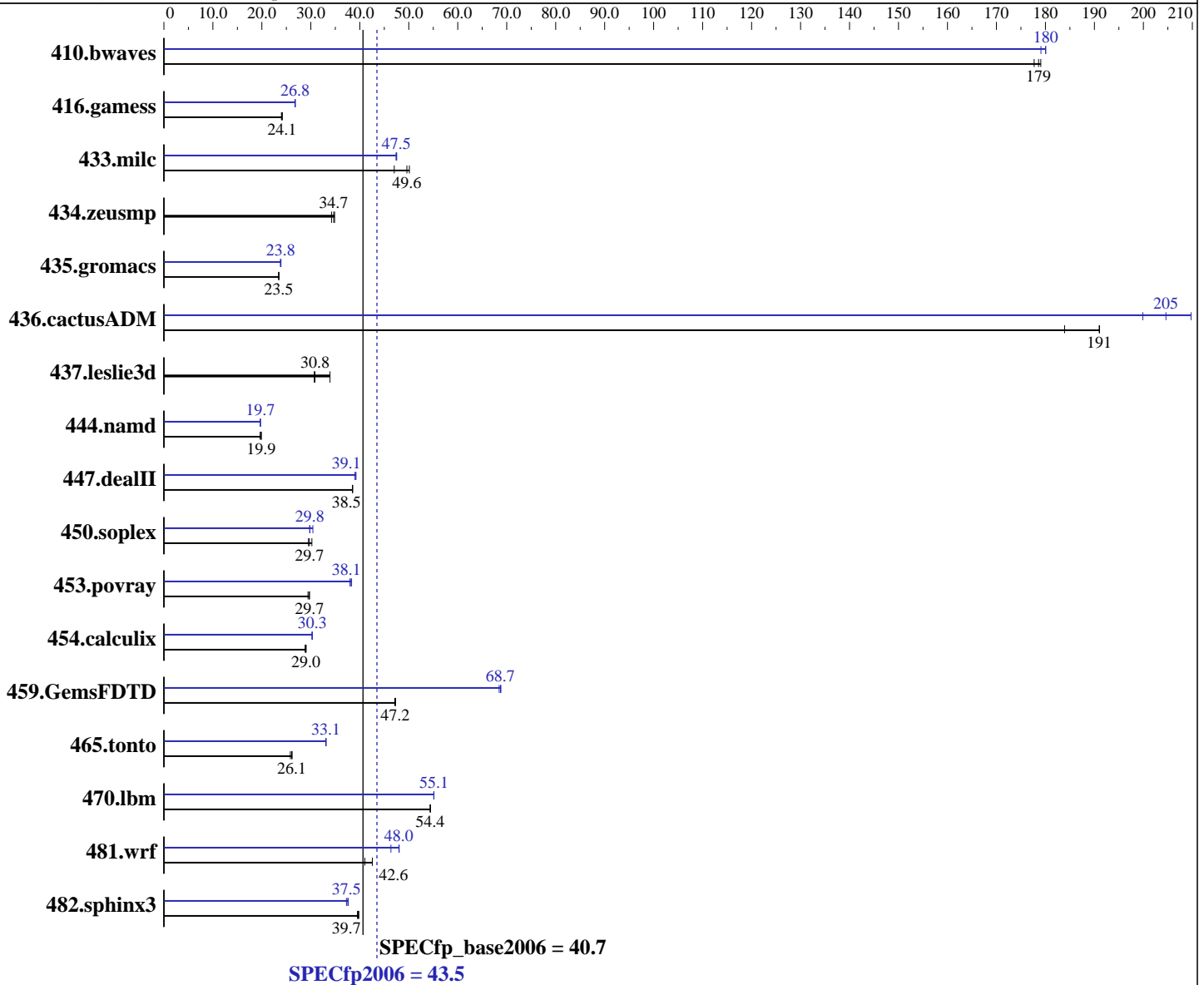
Test date: May-2010

Test sponsor: Acer Incorporated

Hardware Availability: Sep-2010

Tested by: Acer Incorporated

Software Availability: Jan-2010



### 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 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: 8 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 500 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	76.5	178	75.9	179	<b><u>76.1</u></b>	<b><u>179</u></b>	75.9	179	75.5	180	<b><u>75.5</u></b>	<b><u>180</u></b>
416.gamess	<b><u>812</u></b>	<b><u>24.1</u></b>	816	24.0	810	24.2	732	26.8	<b><u>731</u></b>	<b><u>26.8</u></b>	730	26.8
433.milc	183	50.1	<b><u>185</u></b>	<b><u>49.6</u></b>	195	47.0	193	47.5	<b><u>193</u></b>	<b><u>47.5</u></b>	194	47.4
434.zeusmp	261	34.9	<b><u>262</u></b>	<b><u>34.7</u></b>	266	34.2	261	34.9	<b><u>262</u></b>	<b><u>34.7</u></b>	266	34.2
435.gromacs	<b><u>304</u></b>	<b><u>23.5</u></b>	304	23.5	305	23.4	<b><u>299</u></b>	<b><u>23.8</u></b>	300	23.8	299	23.9
436.cactusADM	62.5	191	<b><u>62.6</u></b>	<b><u>191</u></b>	65.0	184	59.8	200	57.0	210	<b><u>58.4</u></b>	<b><u>205</u></b>
437.leslie3d	277	33.9	306	30.7	<b><u>305</u></b>	<b><u>30.8</u></b>	277	33.9	306	30.7	<b><u>305</u></b>	<b><u>30.8</u></b>
444.namd	403	19.9	<b><u>404</u></b>	<b><u>19.9</u></b>	408	19.6	407	19.7	<b><u>407</u></b>	<b><u>19.7</u></b>	407	19.7
447.dealII	297	38.5	297	38.5	<b><u>297</u></b>	<b><u>38.5</u></b>	293	39.0	292	39.2	<b><u>293</u></b>	<b><u>39.1</u></b>
450.soplex	<b><u>281</u></b>	<b><u>29.7</u></b>	283	29.5	276	30.2	<b><u>280</u></b>	<b><u>29.8</u></b>	280	29.8	274	30.4
453.povray	179	29.7	181	29.4	<b><u>179</u></b>	<b><u>29.7</u></b>	140	38.0	<b><u>140</u></b>	<b><u>38.1</u></b>	139	38.3
454.calculix	286	28.8	284	29.0	<b><u>285</u></b>	<b><u>29.0</u></b>	<b><u>272</u></b>	<b><u>30.3</u></b>	272	30.3	273	30.2
459.GemsFDTD	225	47.1	<b><u>225</u></b>	<b><u>47.2</u></b>	224	47.3	154	68.8	<b><u>154</u></b>	<b><u>68.7</u></b>	155	68.5
465.tonto	381	25.8	<b><u>377</u></b>	<b><u>26.1</u></b>	376	26.2	297	33.1	298	33.1	<b><u>297</u></b>	<b><u>33.1</u></b>
470.lbm	253	54.4	252	54.4	<b><u>253</u></b>	<b><u>54.4</u></b>	249	55.1	249	55.1	<b><u>249</u></b>	<b><u>55.1</u></b>
481.wrf	272	41.0	<b><u>262</u></b>	<b><u>42.6</u></b>	262	42.6	241	46.4	233	48.0	<b><u>233</u></b>	<b><u>48.0</u></b>
482.sphinx3	490	39.8	493	39.5	<b><u>491</u></b>	<b><u>39.7</u></b>	523	37.3	518	37.6	<b><u>519</u></b>	<b><u>37.5</u></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 stack size to unlimited prior to run  
 OMP\_NUM\_THREADS set to number of cores  
 KMP\_AFFINITY set to granularity=fine,scatter  
 KMP\_STACKSIZE set to 200M

## Platform Notes

Fan speed set to full Speed (ie. Enterprise Blade mode) with Smart Blade Console through CMM (Chassis Management Module)



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## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

The Acer AB2x280 F1, and Gateway GB2x280 F1 are electronically equivalent.  
This result was measured on Gateway GB2x280 F1.

## 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

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## Base Optimization Flags (Continued)

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`

## 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`

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## Peak Optimization Flags (Continued)

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

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



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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>

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

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

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