



SPEC[®] CFP2006 Result

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Acer Incorporated

SPECfp[®]2006 = 44.7

Acer AB2x280 F1 (Intel Xeon X5670, 2.93 GHz)

SPECfp_base2006 = 42.1

CPU2006 license: 97

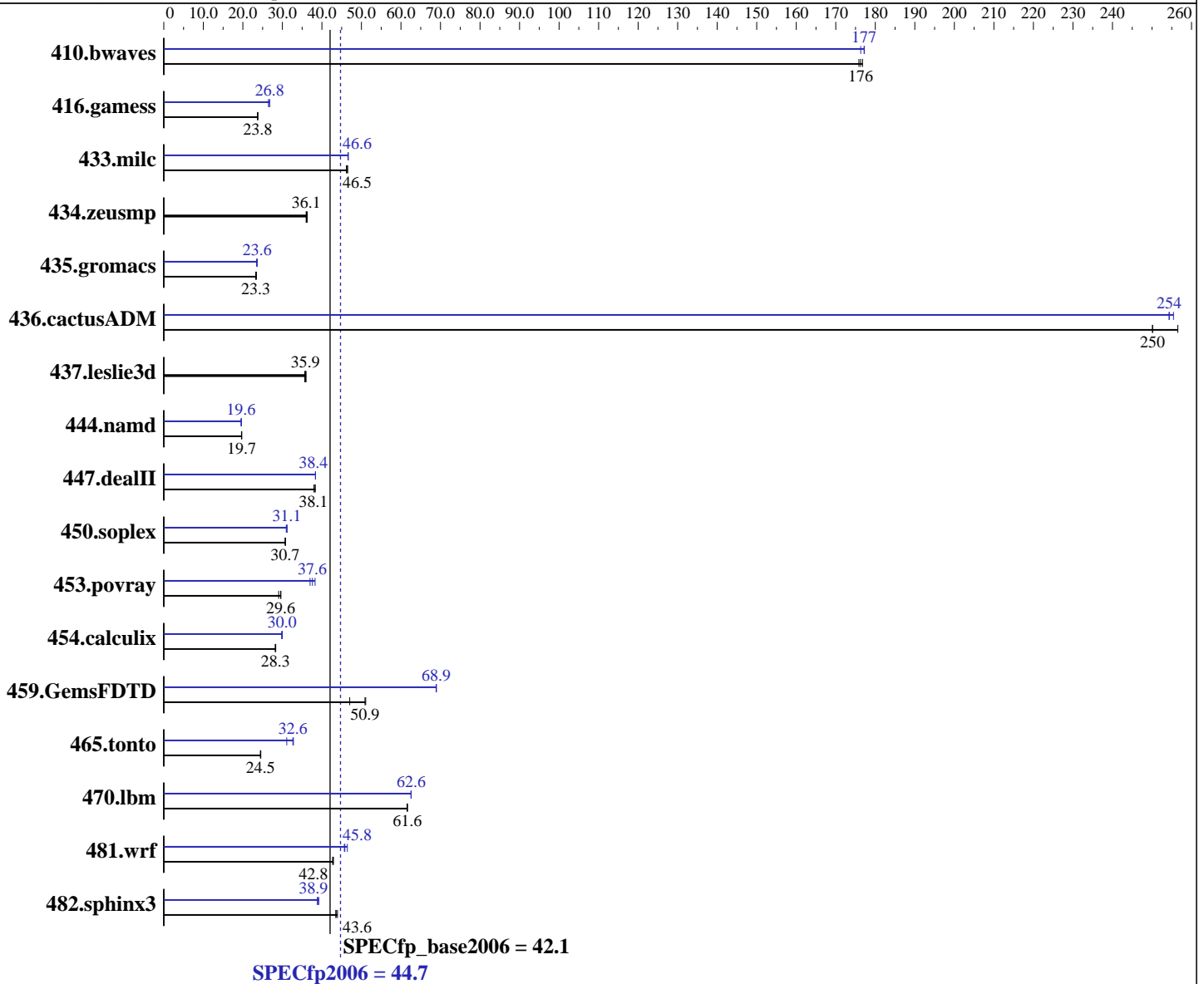
Test date: Feb-2009

Test sponsor: Acer Incorporated

Hardware Availability: Sep-2010

Tested by: Acer Incorporated

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X5670
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 48 GB (6 x 8 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 | 77.3 | 176 | <u>77.1</u> | <u>176</u> | 76.9 | 177 | 77.1 | 176 | 76.7 | 177 | <u>76.7</u> | <u>177</u> |
| 416.gamess | 823 | 23.8 | <u>824</u> | <u>23.8</u> | 826 | 23.7 | 740 | 26.5 | <u>732</u> | <u>26.8</u> | 731 | 26.8 |
| 433.milc | 199 | 46.2 | 197 | 46.5 | <u>198</u> | <u>46.5</u> | 197 | 46.6 | <u>197</u> | <u>46.6</u> | 197 | 46.7 |
| 434.zeusmp | <u>252</u> | <u>36.1</u> | 253 | 36.0 | 251 | 36.3 | <u>252</u> | <u>36.1</u> | 253 | 36.0 | 251 | 36.3 |
| 435.gromacs | <u>307</u> | <u>23.3</u> | 307 | 23.3 | 305 | 23.4 | <u>302</u> | <u>23.6</u> | 302 | 23.6 | 304 | 23.5 |
| 436.cactusADM | 47.8 | 250 | <u>47.8</u> | <u>250</u> | 46.6 | 257 | 46.8 | 255 | 47.0 | 254 | <u>47.0</u> | <u>254</u> |
| 437.leslie3d | 264 | 35.6 | <u>262</u> | <u>35.9</u> | 261 | 36.0 | 264 | 35.6 | <u>262</u> | <u>35.9</u> | 261 | 36.0 |
| 444.namd | <u>407</u> | <u>19.7</u> | 407 | 19.7 | 408 | 19.7 | <u>409</u> | <u>19.6</u> | 409 | 19.6 | 409 | 19.6 |
| 447.dealII | <u>300</u> | <u>38.1</u> | 301 | 38.0 | 298 | 38.3 | <u>298</u> | <u>38.4</u> | 298 | 38.4 | 298 | 38.4 |
| 450.soplex | <u>271</u> | <u>30.7</u> | 272 | 30.7 | 271 | 30.8 | 268 | 31.2 | 269 | 31.0 | <u>268</u> | <u>31.1</u> |
| 453.povray | <u>180</u> | <u>29.6</u> | 183 | 29.1 | 180 | 29.6 | <u>141</u> | <u>37.6</u> | 144 | 37.0 | 139 | 38.3 |
| 454.calculix | 293 | 28.2 | <u>292</u> | <u>28.3</u> | 291 | 28.3 | 275 | 30.0 | <u>275</u> | <u>30.0</u> | 277 | 29.8 |
| 459.GemsFDTD | <u>208</u> | <u>50.9</u> | 226 | 47.0 | 208 | 51.1 | 154 | 68.9 | <u>154</u> | <u>68.9</u> | 154 | 69.0 |
| 465.tonto | 403 | 24.4 | 401 | 24.5 | <u>402</u> | <u>24.5</u> | 316 | 31.1 | <u>301</u> | <u>32.6</u> | 300 | 32.8 |
| 470.lbm | <u>223</u> | <u>61.6</u> | 223 | 61.6 | 223 | 61.5 | 220 | 62.5 | <u>220</u> | <u>62.6</u> | 220 | 62.6 |
| 481.wrf | 261 | 42.7 | 260 | 42.9 | <u>261</u> | <u>42.8</u> | <u>244</u> | <u>45.8</u> | 245 | 45.7 | 241 | 46.4 |
| 482.sphinx3 | 444 | 43.9 | 448 | 43.5 | <u>447</u> | <u>43.6</u> | 502 | 38.8 | 497 | 39.2 | <u>501</u> | <u>38.9</u> |

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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