



# SPEC® CFP2006 Result

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## Acer Incorporated

## SPECfp®\_rate2006 = 199

## Acer AR380 F1 (Intel Xeon X5570)

## SPECfp\_rate\_base2006 = 194

CPU2006 license: 97

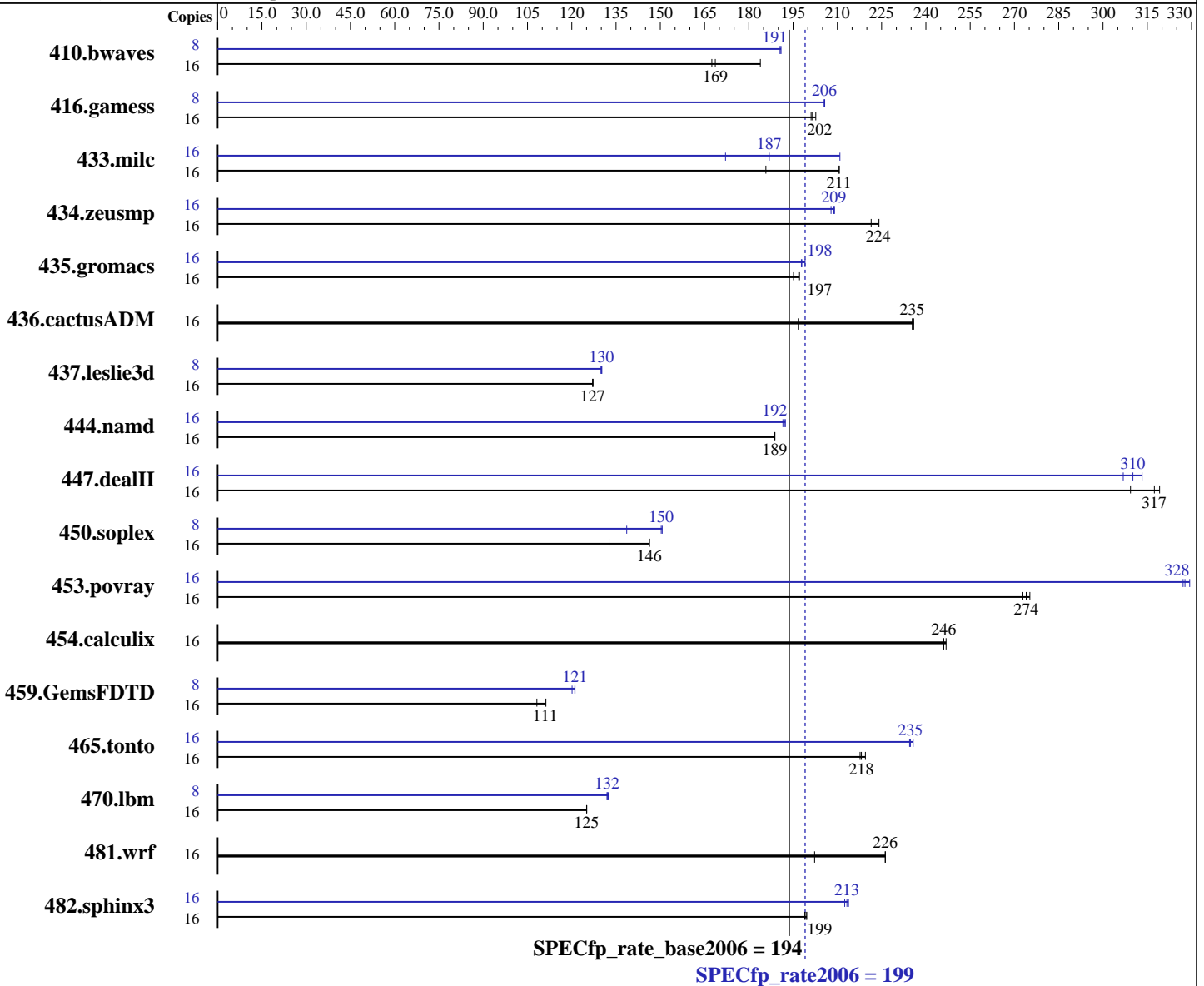
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jan-2010

Hardware Availability: Jan-2010

Software Availability: Oct-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 11 (x86\_64)  
 Kernel 2.6.27.19-5  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1  
 Build 20091012 Package ID: l\_cproc\_p\_11.1.059, l\_cprof\_p\_11.1.059  
 Auto Parallel: No  
 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 4GB DDR3-1333 RDIMM)  
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM  
Other Hardware: None

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

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	<u>1289</u>	<u>169</u>	1182	184	1298	167	8	<u>570</u>	<u>191</u>	569	191	571	190
416.gamess	16	1558	201	<u>1554</u>	<u>202</u>	1546	203	8	761	206	762	206	<u>762</u>	<u>206</u>
433.milc	16	791	186	<u>697</u>	<u>211</u>	697	211	16	697	211	<u>786</u>	<u>187</u>	853	172
434.zeusmp	16	<u>650</u>	<u>224</u>	657	221	650	224	16	<u>697</u>	<u>209</u>	697	209	700	208
435.gromacs	16	<u>580</u>	<u>197</u>	585	195	579	197	16	<u>577</u>	<u>198</u>	578	198	574	199
436.cactusADM	16	972	197	811	236	<u>812</u>	<u>235</u>	16	972	197	811	236	<u>812</u>	<u>235</u>
437.leslie3d	16	1183	127	<u>1183</u>	<u>127</u>	1184	127	8	<u>578</u>	<u>130</u>	580	130	578	130
444.namd	16	679	189	<u>680</u>	<u>189</u>	681	189	16	670	192	667	192	<u>668</u>	<u>192</u>
447.dealII	16	592	309	573	319	<u>577</u>	<u>317</u>	16	<u>590</u>	<u>310</u>	596	307	584	313
450.soplex	16	1006	133	912	146	<u>912</u>	<u>146</u>	8	481	139	<u>444</u>	<u>150</u>	443	151
453.povray	16	312	273	309	275	<u>311</u>	<u>274</u>	16	<u>260</u>	<u>328</u>	258	329	260	327
454.calculix	16	535	247	<u>536</u>	<u>246</u>	537	246	16	535	247	<u>536</u>	<u>246</u>	537	246
459.GemsFDTD	16	1569	108	<u>1529</u>	<u>111</u>	1526	111	8	701	121	<u>701</u>	<u>121</u>	707	120
465.tonto	16	723	218	717	220	<u>722</u>	<u>218</u>	16	668	236	671	234	<u>671</u>	<u>235</u>
470.lbm	16	1758	125	<u>1758</u>	<u>125</u>	1759	125	8	830	132	833	132	<u>833</u>	<u>132</u>
481.wrf	16	883	202	<u>790</u>	<u>226</u>	790	226	16	883	202	<u>790</u>	<u>226</u>	790	226
482.sphinx3	16	1567	199	<u>1564</u>	<u>199</u>	1562	200	16	1468	212	1459	214	<u>1462</u>	<u>213</u>

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was set for stacksize unlimited

## General Notes

This result was measured on the Gateway GR380 F1.  
The Acer AR380 F1 and Gateway GR380 F1 are electronically equivalent.



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## 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  
436.cactusADM: -DSPEC\_CPU\_LP64  
437.lelie3d: -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  
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

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

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## Base Optimization Flags (Continued)

435.gromacs: -xSSE4.2 -ipo -O3 -no-prec-div -static -nofor\_main(\*)

436.cactusADM: Same as 435.gromacs

454.calculix: Same as 435.gromacs

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static

(\*) Indicates an optimization flag that was found in a portability variable.

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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  
 436.cactusADM: -DSPEC\_CPU\_LP64  
 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  
 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



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**Test date:** Jan-2010

**Hardware Availability:** Jan-2010

**Software Availability:** Oct-2009

## 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 -opt-prefetch

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)  
-opt-malloc-options=3 -ansi-alias -auto-ilp32

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

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

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: -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)

437.leslie3d: -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 -opt-prefetch

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

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## Peak Optimization Flags (Continued)

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 -inline-calloc -opt-malloc-options=3

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 -nofor\_main(\*)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

(\*) Indicates an optimization flag that was found in a portability variable.

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20091208.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20091208.xml>

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

Tested with SPEC CPU2006 v1.1.

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