



# SPEC® CFP2006 Result

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## Acer Incorporated

## SPECfp®\_rate2006 = 187

## Acer AR360 F1 (Intel Xeon E5640)

## SPECfp\_rate\_base2006 = 182

CPU2006 license: 97

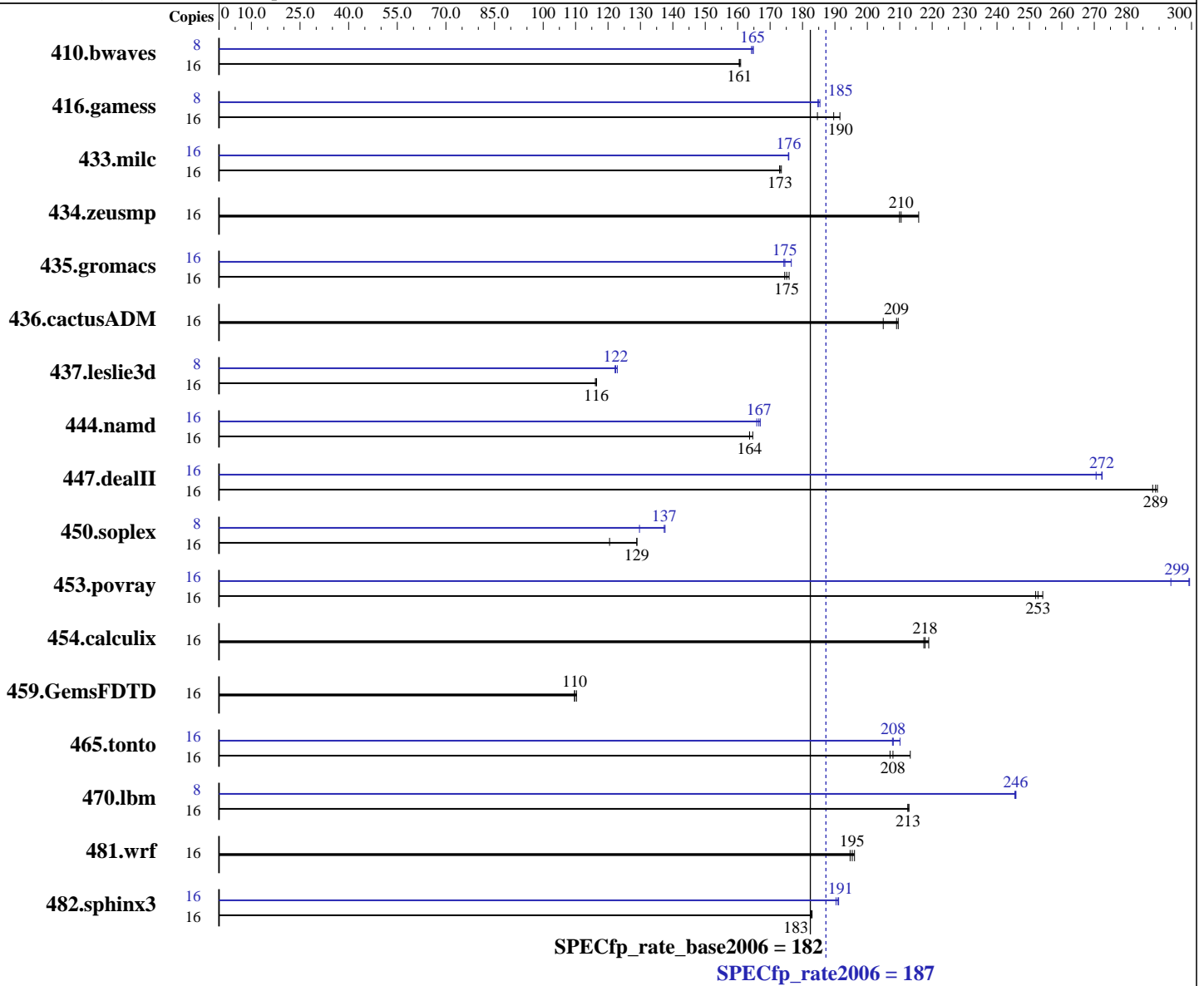
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2011

Hardware Availability: Mar-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2667  
 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) SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

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L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (12 x 4 GB 2Rx8 PC3-10600R-9, ECC)  
Disk Subsystem: 1 x 300 GB SATA, 10000 RPM  
Other Hardware: None

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

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1351	161	<b><u>1354</u></b>	<b><u>161</u></b>	1355	160	8	660	165	<b><u>660</u></b>	<b><u>165</u></b>	662	164
416.gamess	16	1636	192	<b><u>1652</u></b>	<b><u>190</u></b>	1697	185	8	<b><u>847</u></b>	<b><u>185</u></b>	848	185	845	185
433.milc	16	847	173	849	173	<b><u>849</u></b>	<b><u>173</u></b>	16	836	176	836	176	<b><u>836</u></b>	<b><u>176</u></b>
434.zeusmp	16	675	216	694	210	<b><u>692</u></b>	<b><u>210</u></b>	16	675	216	694	210	<b><u>692</u></b>	<b><u>210</u></b>
435.gromacs	16	650	176	655	175	<b><u>652</u></b>	<b><u>175</u></b>	16	647	177	656	174	<b><u>654</u></b>	<b><u>175</u></b>
436.cactusADM	16	912	210	<b><u>915</u></b>	<b><u>209</u></b>	933	205	16	912	210	<b><u>915</u></b>	<b><u>209</u></b>	933	205
437.leslie3d	16	<b><u>1292</u></b>	<b><u>116</u></b>	1295	116	1291	116	8	<b><u>615</u></b>	<b><u>122</u></b>	615	122	612	123
444.namd	16	779	165	<b><u>784</u></b>	<b><u>164</u></b>	784	164	16	<b><u>771</u></b>	<b><u>167</u></b>	773	166	768	167
447.dealII	16	632	289	636	288	<b><u>634</u></b>	<b><u>289</u></b>	16	677	271	672	272	<b><u>672</u></b>	<b><u>272</u></b>
450.soplex	16	1108	120	1035	129	<b><u>1035</u></b>	<b><u>129</u></b>	8	514	130	<b><u>486</u></b>	<b><u>137</u></b>	485	138
453.povray	16	335	254	338	252	<b><u>337</u></b>	<b><u>253</u></b>	16	<b><u>284</u></b>	<b><u>299</u></b>	284	299	290	294
454.calculix	16	603	219	607	217	<b><u>606</u></b>	<b><u>218</u></b>	16	603	219	607	217	<b><u>606</u></b>	<b><u>218</u></b>
459.GemsFDTD	16	1539	110	<b><u>1547</u></b>	<b><u>110</u></b>	1548	110	16	1539	110	<b><u>1547</u></b>	<b><u>110</u></b>	1548	110
465.tonto	16	761	207	<b><u>757</u></b>	<b><u>208</u></b>	738	213	16	758	208	749	210	<b><u>757</u></b>	<b><u>208</u></b>
470.lbm	16	1033	213	1035	212	<b><u>1034</u></b>	<b><u>213</u></b>	8	448	246	447	246	<b><u>447</u></b>	<b><u>246</u></b>
481.wrf	16	<b><u>915</u></b>	<b><u>195</u></b>	918	195	912	196	16	<b><u>915</u></b>	<b><u>195</u></b>	918	195	912	196
482.sphinx3	16	1707	183	<b><u>1706</u></b>	<b><u>183</u></b>	1704	183	16	1638	190	1631	191	<b><u>1633</u></b>	<b><u>191</u></b>

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 used to set environment stack size  
Large pages were disabled for this run

## Platform Notes

BIOS Settings:  
Fan speed = full speed (Default = Balanced)  
Data Reuse = Disabled (Default = Enabled)



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## General Notes

Binaries compiled on RHEL5.5

This result was measured on the Gateway GR380 F1.

The Acer AR360 F1, AR380 F1, Gateway GR360 F1 are electronically equivalent

## 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 -ansi-alias

C++ benchmarks:

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

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## Base Optimization Flags (Continued)

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

## 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 -nofor\_main  
 436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
 437.leslie3d: -DSPEC\_CPU\_LP64  
 444.namd: -DSPEC\_CPU\_LP64  
 447.deallI: -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



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## 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) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-ansi-alias -opt-prefetch -static -auto-ilp32

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

C++ benchmarks:

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

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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## Peak Optimization Flags (Continued)

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) -prof-use(pass 2) -opt-prefetch  
-static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Acer-platform-linux64-revA.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Acer-platform-linux64-revA.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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