



# SPEC® CFP2006 Result

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Acer Incorporated

**SPECfp®\_rate2006 = 218**

Gateway GT350 F1 (Intel Xeon E5649)

**SPECfp\_rate\_base2006 = 214**

CPU2006 license: 97

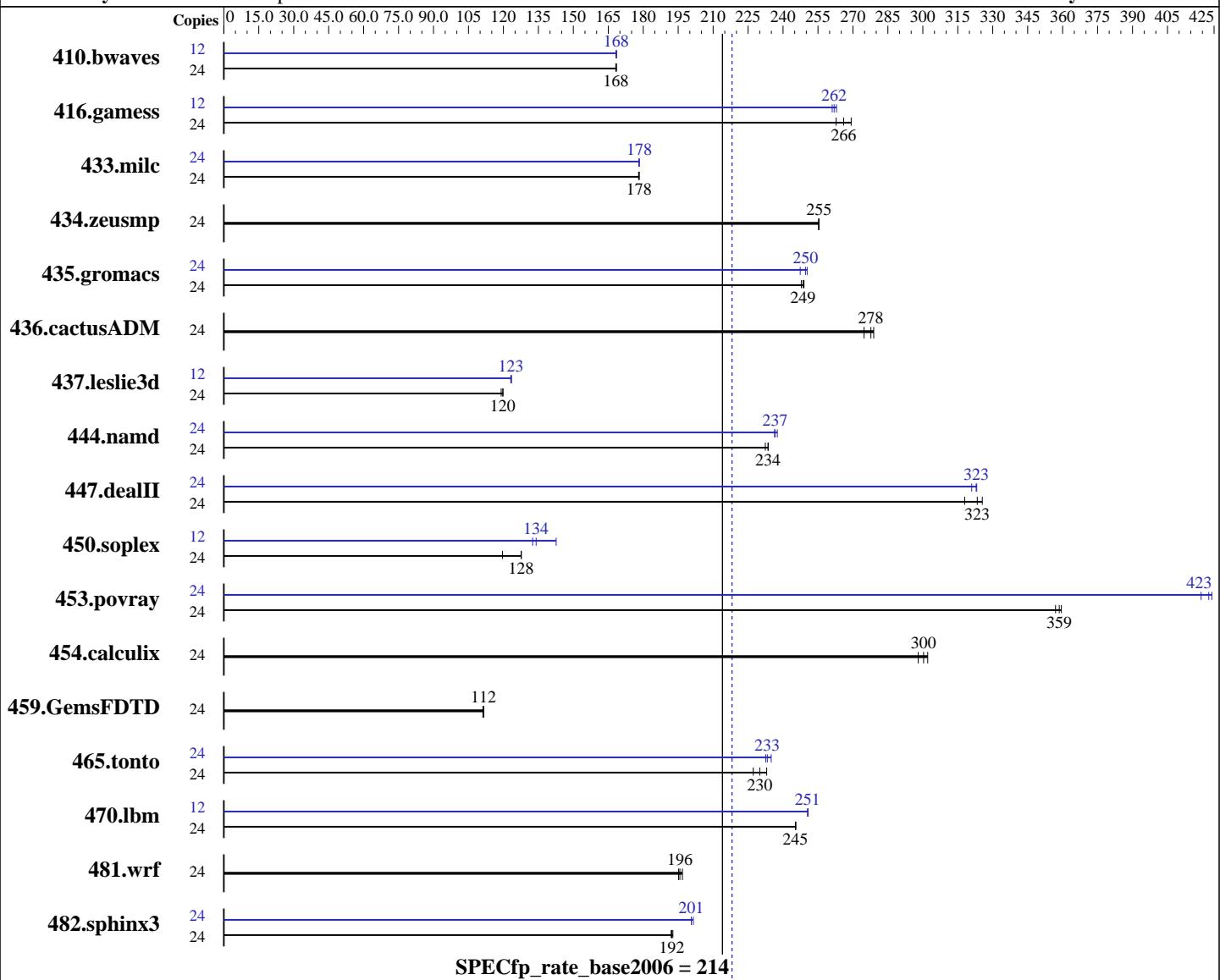
Test date: May-2011

Test sponsor: Acer Incorporated

Hardware Availability: Feb-2011

Tested by: Acer Incorporated

Software Availability: Jan-2011



## Hardware

CPU Name: Intel Xeon E5649  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2533  
 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

## 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 PC3-1066R-9 ECC)  
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM SATA HDD  
 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	24	1935	169	<b>1938</b>	<b>168</b>	1939	168	12	<b>968</b>	<b>168</b>	967	169	969	168
416.gamess	24	1788	263	1745	269	<b>1766</b>	<b>266</b>	12	<b>897</b>	<b>262</b>	900	261	894	263
433.milc	24	1236	178	1238	178	<b>1237</b>	<b>178</b>	24	1236	178	<b>1236</b>	<b>178</b>	1236	178
434.zeusmp	24	856	255	855	255	<b>855</b>	<b>255</b>	24	856	255	855	255	<b>855</b>	<b>255</b>
435.gromacs	24	688	249	<b>689</b>	<b>249</b>	691	248	24	<b>686</b>	<b>250</b>	684	250	693	247
436.cactusADM	24	1028	279	<b>1033</b>	<b>278</b>	1044	275	24	1028	279	<b>1033</b>	<b>278</b>	1044	275
437.leslie3d	24	1895	119	<b>1885</b>	<b>120</b>	1883	120	12	<b>915</b>	<b>123</b>	916	123	914	123
444.namd	24	828	232	<b>824</b>	<b>234</b>	824	234	24	810	238	<b>814</b>	<b>237</b>	814	236
447.dealII	24	<b>849</b>	<b>323</b>	843	326	863	318	24	<b>850</b>	<b>323</b>	855	321	850	323
450.soplex	24	1674	120	1567	128	<b>1569</b>	<b>128</b>	12	<b>755</b>	<b>133</b>	<b>747</b>	<b>134</b>	702	143
453.povray	24	358	357	<b>356</b>	<b>359</b>	355	359	24	301	424	304	419	<b>302</b>	<b>423</b>
454.calculix	24	655	302	<b>659</b>	<b>300</b>	664	298	24	<b>655</b>	302	<b>659</b>	<b>300</b>	664	298
459.GemsFDTD	24	2291	111	<b>2284</b>	<b>112</b>	2282	112	24	2291	111	<b>2284</b>	<b>112</b>	2282	112
465.tonto	24	<b>1027</b>	<b>230</b>	1039	227	1014	233	24	<b>1012</b>	<b>233</b>	1005	235	1015	233
470.lbm	24	1343	246	<b>1344</b>	<b>245</b>	1344	245	12	<b>658</b>	<b>251</b>	658	251	657	251
481.wrf	24	1362	197	<b>1370</b>	<b>196</b>	1374	195	24	1362	197	<b>1370</b>	<b>196</b>	1374	195
482.sphinx3	24	2436	192	<b>2433</b>	<b>192</b>	2427	193	24	<b>2331</b>	<b>201</b>	<b>2331</b>	<b>201</b>	2321	201

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 Gateway GT350 F1

Acer AT350 F1 is 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.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



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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 -unroll12

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/libhugetlbfss/ -Wl,-hugetlbfss-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) -unroll14 -ansi-alias  
-B /usr/share/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-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) -unroll12  
-inline-level=0 -scalar-rep -static

434.zeusmp: basepeak = yes

437.leslie3d: -xsse4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-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) -unroll14 -auto  
-inline-alloc -opt-malloc-options=3  
-B /usr/share/libhugetlbfss/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfss-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/Intel-ic12.0-linux64-revB.html>  
<http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.html>

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

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

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

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