SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

Acer AT350 F1 (Intel Xeon X5672)

$SPECfp®\_rate2006 = 225$

$SPECfp\_rate\_base2006 = 219$

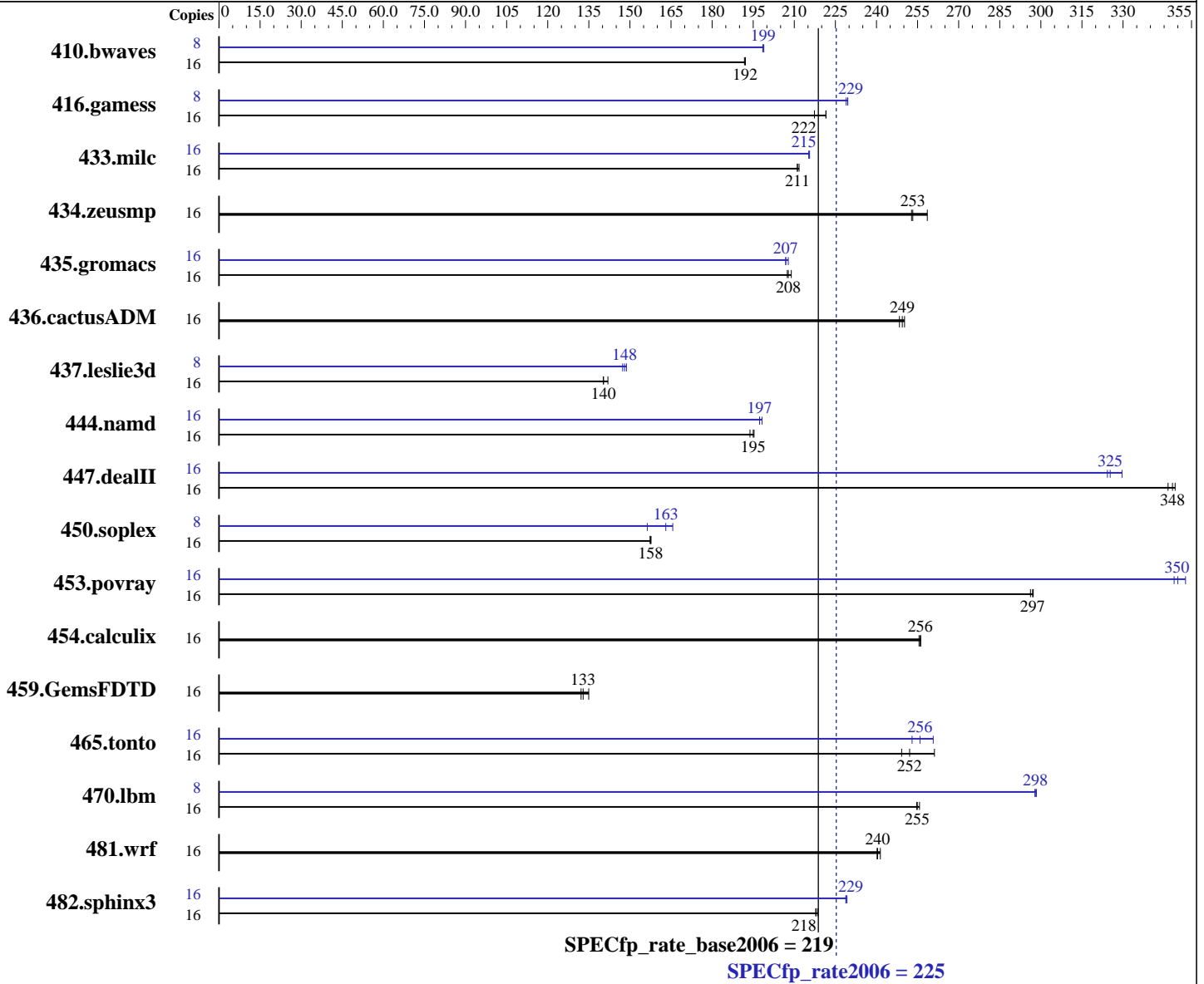**CPU2006 license:** 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

Test date: Apr-2011
Hardware Availability: Mar-2010
Software Availability: Nov-2010

Copies — scale: 0 15.0 30.0 45.0 60.0 75.0 90.0 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 355

Benchmark	Copies	Result
410.bwaves	8	199
	16	192
416.gamess	8	229
	16	222
433.milc	16	215
	16	211
434.zeusmp	16	253
435.gromacs	16	207
	16	208
436.cactusADM	16	249
437.leslie3d	8	148
	16	140
444.namd	16	197
	16	195
447.dealII	16	325
	16	348
450.soplex	8	163
	16	158
453.povray	16	350
	16	297
454.calculix	16	256
459.GemsFDTD	16	133
465.tonto	16	256
	16	252
470.lbm	8	298
	16	255
481.wrf	16	240
482.sphinx3	16	229
	16	218

SPECfp_rate_base2006 = 219

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Hardware

CPU Name: Intel Xeon X5672
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 3200
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

Continued on next page

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

Continued on next page

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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 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	16	**1132**	**192**	1132	192	1134	192	8	**547**	**199**	547	199	548	199
416.gamess	16	1441	217	**1414**	**222**	1414	222	8	684	229	682	230	**683**	**229**
433.milc	16	694	212	**696**	**211**	696	211	16	**682**	**215**	682	215	681	216
434.zeusmp	16	563	259	**575**	**253**	576	253	16	563	259	**575**	**253**	576	253
435.gromacs	16	547	209	**550**	**208**	551	207	16	**552**	**207**	550	208	552	207
436.cactusADM	16	770	248	764	250	**767**	**249**	16	770	248	764	250	**767**	**249**
437.leslie3d	16	**1072**	**140**	1072	140	1059	142	8	510	147	**508**	**148**	506	149
444.namd	16	**658**	**195**	657	195	662	194	16	**650**	**197**	650	197	647	198
447.dealII	16	528	346	**526**	**348**	524	349	16	555	330	**563**	**325**	564	324
450.soplex	16	**847**	**158**	846	158	848	157	8	**409**	**163**	427	156	403	166
453.povray	16	287	296	**287**	**297**	286	297	16	**243**	**350**	244	349	241	353
454.calculix	16	**516**	**256**	517	256	515	256	16	**516**	**256**	517	256	515	256
459.GemsFDTD	16	1258	135	**1277**	**133**	1284	132	16	1258	135	**1277**	**133**	1284	132
465.tonto	16	632	249	603	261	**625**	**252**	16	**615**	**256**	622	253	604	261
470.lbm	16	860	256	**862**	**255**	863	255	8	**369**	**298**	368	298	369	298
481.wrf	16	740	241	**743**	**240**	744	240	16	740	241	**743**	**240**	744	240
482.sphinx3	16	1427	219	**1431**	**218**	1432	218	16	1360	229	**1362**	**229**	1363	229

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 GT350 F1.
The 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 -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-Intel-Linux-Settings-flags.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-Intel-Linux-Settings-flags.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml

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