SPEC® CFP2006 Result

Acer Incorporated

Gateway GT350 F1 (Intel Xeon E5620)

$SPECfp^{®}\_rate2006 =$ 179

$SPECfp\_rate\_base2006 =$ 174

CPU2006 license: 97	**Test date:** Apr-2011
Test sponsor: Acer Incorporated	**Hardware Availability:** Feb-2011
Tested by: Acer Incorporated	**Software Availability:** Jan-2011

Copies — results chart:

- **410.bwaves**: 8 → 164; 16 → 160
- **416.gamess**: 8 → 168; 16 → 171
- **433.milc**: 16 → 175; 16 → 173
- **434.zeusmp**: 16 → 199
- **435.gromacs**: 16 → 159; 16 → 160
- **436.cactusADM**: 16 → 196
- **437.leslie3d**: 8 → 122; 16 → 116
- **444.namd**: 16 → 151; 16 → 149
- **447.dealII**: 16 → 252; 16 → 269
- **450.soplex**: 8 → 135; 16 → 128
- **453.povray**: 16 → 271; 16 → 231
- **454.calculix**: 16 → 199
- **459.GemsFDTD**: 16 → 109
- **465.tonto**: 16 → 201; 16 → 197
- **470.lbm**: 8 → 245; 16 → 207
- **481.wrf**: 16 → 194
- **482.sphinx3**: 16 → 188; 16 → 180

SPECfp_rate_base2006 = 174

SPECfp_rate2006 = 179

Hardware

CPU Name:	Intel Xeon E5620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.66 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chip
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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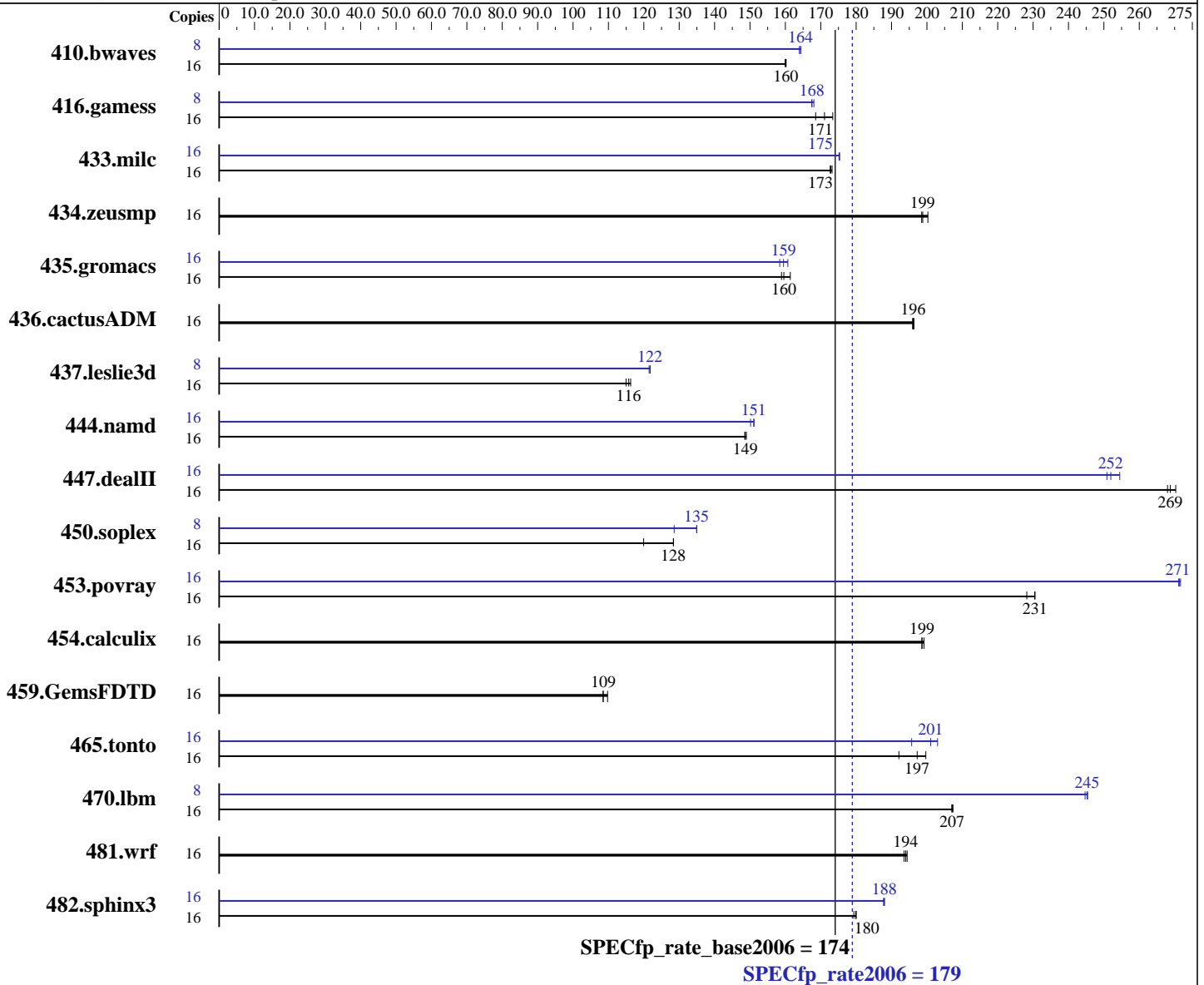SPECfp_rate_base2006 =   174

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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, running at 1066 MHz)
Disk Subsystem:	1 x 500 GB SATA, 7200RPM
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	1357	160	**1358**	**160**	1360	160	8	661	164	**662**	**164**	663	164
416.gamess	16	1807	173	1859	169	**1831**	**171**	8	932	168	**935**	**168**	935	167
433.milc	16	**850**	**173**	848	173	851	173	16	839	175	838	175	**838**	**175**
434.zeusmp	16	727	200	**732**	**199**	733	199	16	727	200	**732**	**199**	733	199
435.gromacs	16	708	161	719	159	**716**	**160**	16	711	161	721	158	**716**	**159**
436.cactusADM	16	**975**	**196**	974	196	976	196	16	**975**	**196**	974	196	976	196
437.leslie3d	16	1308	115	**1299**	**116**	1293	116	8	617	122	**618**	**122**	619	121
444.namd	16	861	149	**863**	**149**	864	149	16	**850**	**151**	849	151	855	150
447.dealII	16	683	268	677	270	**681**	**269**	16	730	251	**726**	**252**	719	254
450.soplex	16	1112	120	**1040**	**128**	1039	128	8	519	129	**495**	**135**	494	135
453.povray	16	369	231	373	228	**369**	**231**	16	**314**	**271**	314	271	313	272
454.calculix	16	663	199	665	199	**665**	**199**	16	663	199	665	199	**665**	**199**
459.GemsFDTD	16	1547	110	**1564**	**109**	1565	108	16	1547	110	**1564**	**109**	1565	108
465.tonto	16	820	192	788	200	**798**	**197**	16	805	196	776	203	**783**	**201**
470.lbm	16	1060	207	**1061**	**207**	1062	207	8	448	245	449	245	**448**	**245**
481.wrf	16	**921**	**194**	919	194	923	194	16	**921**	**194**	919	194	923	194
482.sphinx3	16	**1734**	**180**	1739	179	1732	180	16	1659	188	**1659**	**188**	1661	188

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 -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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 17:39:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 21 June 2011.