SPEC® CFP2006 Result
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Acer Incorporated

$SPECfp^{®}2006 =$ 40.7

Gateway GR160 F1 (Intel Xeon X5570)

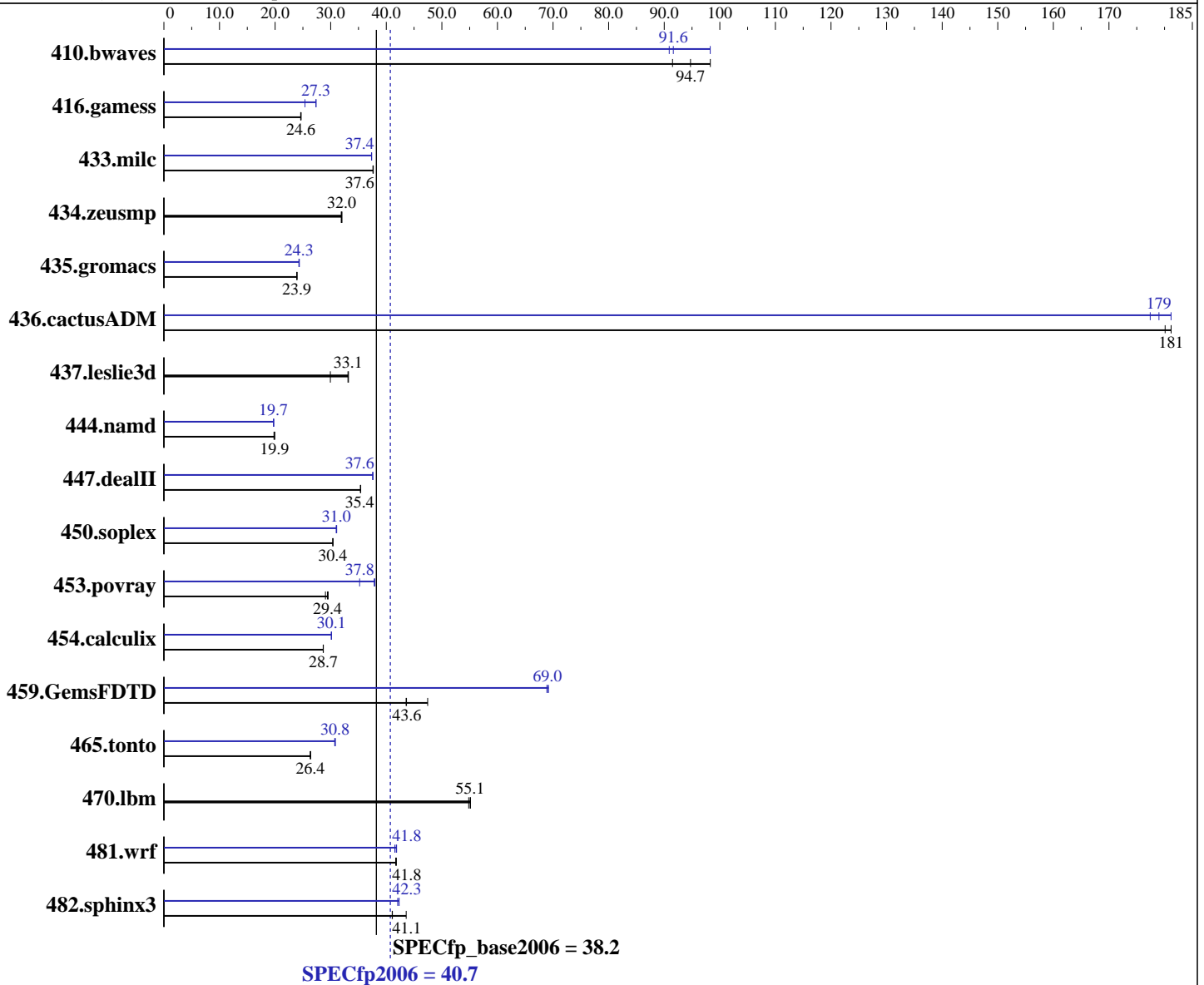$SPECfp\_base2006 =$ 38.2

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

Test date: Dec-2009
Hardware Availability: Jan-2010
Software Availability: Feb-2009

Benchmark results (blue bars = peak, black bars = base):

Benchmark	Peak	Base
410.bwaves	91.6	94.7
416.gamess	27.3	24.6
433.milc	37.4	37.6
434.zeusmp		32.0
435.gromacs	24.3	23.9
436.cactusADM	179	181
437.leslie3d		33.1
444.namd	19.7	19.9
447.dealII	37.6	35.4
450.soplex	31.0	30.4
453.povray	37.8	29.4
454.calculix	30.1	28.7
459.GemsFDTD	69.0	43.6
465.tonto	30.8	26.4
470.lbm		55.1
481.wrf	41.8	41.8
482.sphinx3	42.3	41.1

SPECfp_base2006 = 38.2
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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

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) Kernel 2.6.27.19-5
Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel: Yes
File System: ReiserFS
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB DDR3-1333 RDIMM)
Disk Subsystem:	160 GB SATA II, 5400 RPM
Other Hardware:	None

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**143**	**94.7**	138	98.3	149	91.5	150	90.9	**148**	**91.6**	138	98.3
416.gamess	793	24.7	**795**	**24.6**	796	24.6	715	27.4	772	25.4	**716**	**27.3**
433.milc	244	37.7	**244**	**37.6**	244	37.6	246	37.4	246	37.3	**246**	**37.4**
434.zeusmp	285	31.9	**285**	**32.0**	284	32.0	285	31.9	**285**	**32.0**	284	32.0
435.gromacs	298	24.0	**299**	**23.9**	299	23.9	**294**	**24.3**	294	24.3	293	24.4
436.cactusADM	66.4	180	66.0	181	**66.0**	**181**	67.4	177	**66.8**	**179**	66.0	181
437.leslie3d	**284**	**33.1**	283	33.2	314	29.9	**284**	**33.1**	283	33.2	314	29.9
444.namd	405	19.8	**403**	**19.9**	403	19.9	**406**	**19.7**	406	19.7	407	19.7
447.dealII	324	35.4	323	35.4	**324**	**35.4**	**304**	**37.6**	304	37.6	304	37.6
450.soplex	274	30.4	274	30.4	**274**	**30.4**	268	31.1	**269**	**31.0**	269	31.0
453.povray	**181**	**29.4**	180	29.5	183	29.1	**141**	**37.8**	151	35.2	140	38.0
454.calculix	288	28.7	288	28.7	**288**	**28.7**	274	30.1	274	30.1	**274**	**30.1**
459.GemsFDTD	**243**	**43.6**	244	43.6	224	47.4	153	69.2	154	68.9	**154**	**69.0**
465.tonto	373	26.4	374	26.3	**373**	**26.4**	319	30.8	**320**	**30.8**	320	30.7
470.lbm	**249**	**55.1**	251	54.8	249	55.2	**249**	**55.1**	251	54.8	249	55.2
481.wrf	268	41.7	267	41.8	**267**	**41.8**	269	41.5	**267**	**41.8**	267	41.9
482.sphinx3	475	41.1	**474**	**41.1**	447	43.6	464	42.0	461	42.3	**461**	**42.3**

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M

This result was measured on the Gateway GR160 F1.
The Acer AR160 F1 and Gateway GR160 F1 are electronically equivalent.
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
```
icpc
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icc ifort
```

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 -parallel -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

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Peak Compiler Invocation

C benchmarks (except as noted below):
       icc

       482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
       icpc

        450.soplex: `icpc -m32`

Fortran benchmarks:
       ifort

Benchmarks using both Fortran and C:
       icc ifort

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`

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`

        470.lbm: basepeak = yes

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

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Peak Optimization Flags (Continued)

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.dealII: -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- -opt-prefetch

    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
                -parallel

    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: basepeak = yes

    437.leslie3d: basepeak = yes

    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 -opt-prefetch -parallel

    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

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

    436.cactusADM: -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 -opt-prefetch -parallel -auto-ilp32

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Peak Optimization Flags (Continued)

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
            -parallel -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revF.20100201.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revF.20100201.xml

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