SPEC® CFP2006 Result
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Acer Incorporated

Acer AT350 F1 (Intel Xeon E5645)

$SPECfp^®\_rate2006 =$ 214

SPECfp_rate_base2006 = 210

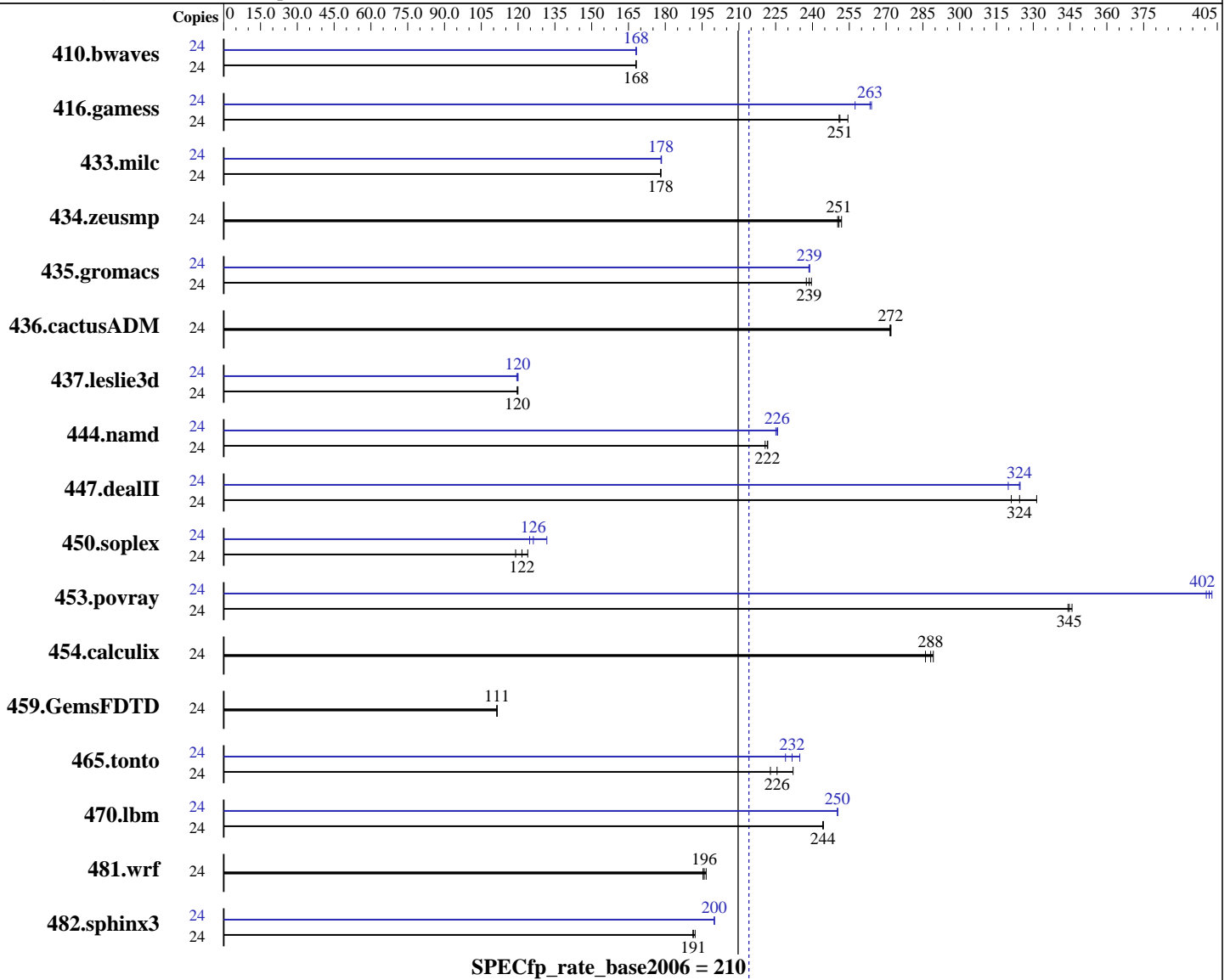**CPU2006 license:** 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

Test date: May-2011
Hardware Availability: Feb-2011
Software Availability: Jan-2011

Copies	Benchmark	Value (blue)	Value (black)
24 / 24	410.bwaves	168	168
24 / 24	416.gamess	263	251
24 / 24	433.milc	178	178
24	434.zeusmp		251
24 / 24	435.gromacs	239	239
24	436.cactusADM		272
24 / 24	437.leslie3d	120	120
24 / 24	444.namd	226	222
24 / 24	447.dealII	324	324
24 / 24	450.soplex	126	122
24 / 24	453.povray	402	345
24	454.calculix		288
24	459.GemsFDTD		111
24 / 24	465.tonto	232	226
24 / 24	470.lbm	250	244
24	481.wrf		196
24 / 24	482.sphinx3	200	191

SPECfp_rate_base2006 = 210

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Hardware

CPU Name: Intel Xeon E5645
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2400
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

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

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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, 7200 RPM SATA HDD
Other Hardware:	None

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

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	24	**1940**	**168**	1941	168	1940	168	24	1939	168	1941	168	**1940**	**168**
416.gamess	24	**1871**	**251**	1873	251	1847	254	24	**1784**	**263**	1826	257	1780	264
433.milc	24	1236	178	1237	178	**1237**	**178**	24	1234	178	**1236**	**178**	1236	178
434.zeusmp	24	867	252	**871**	**251**	873	250	24	867	252	**871**	**251**	873	250
435.gromacs	24	715	240	**718**	**239**	722	237	24	717	239	**718**	**239**	718	239
436.cactusADM	24	1056	272	**1055**	**272**	1054	272	24	1056	272	**1055**	**272**	1054	272
437.leslie3d	24	1886	120	1881	120	**1884**	**120**	24	1889	119	**1882**	**120**	1880	120
444.namd	24	**869**	**222**	872	221	868	222	24	852	226	855	225	**853**	**226**
447.dealII	24	855	321	**846**	**324**	829	331	24	**847**	**324**	846	325	859	320
450.soplex	24	1682	119	**1647**	**122**	1615	124	24	1605	125	**1586**	**126**	1520	132
453.povray	24	**370**	**345**	369	346	371	344	24	319	401	317	403	**318**	**402**
454.calculix	24	684	289	692	286	**687**	**288**	24	684	289	692	286	**687**	**288**
459.GemsFDTD	24	2288	111	**2285**	**111**	2284	111	24	2288	111	**2285**	**111**	2284	111
465.tonto	24	1060	223	1018	232	**1047**	**226**	24	1031	229	**1019**	**232**	1006	235
470.lbm	24	1349	244	**1350**	**244**	1350	244	24	**1318**	**250**	1318	250	1318	250
481.wrf	24	**1369**	**196**	1372	195	1363	197	24	**1369**	**196**	1372	195	1363	197
482.sphinx3	24	**2443**	**191**	2446	191	2434	192	24	2339	200	**2339**	**200**	2338	200

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.
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