SPEC® CFP2006 Result
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Acer Incorporated

Altos T310 F3 (Intel Xeon E3-1220 v3)

$SPECfp®\_rate2006 =$ 136

$SPECfp\_rate\_base2006 =$ 133
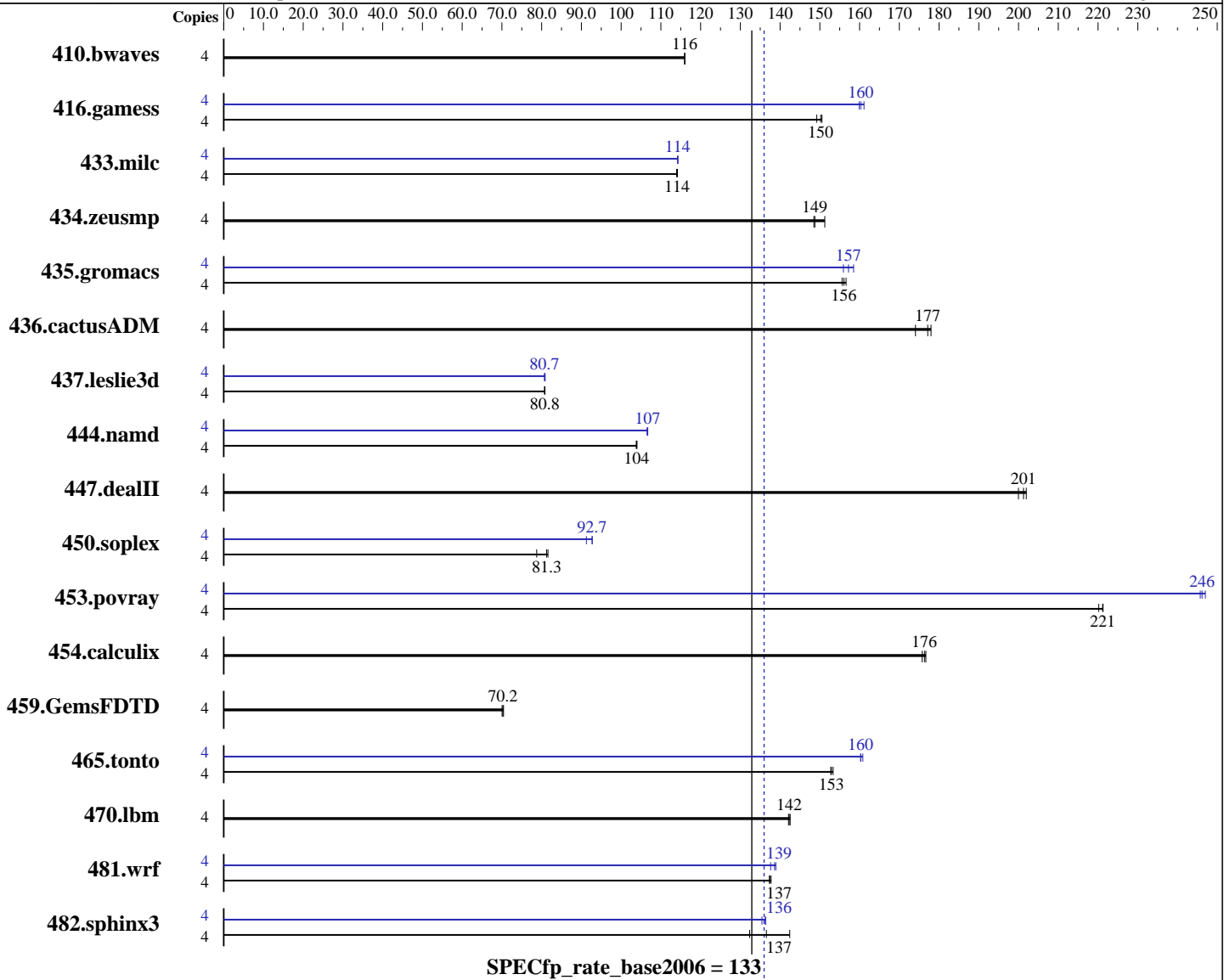
CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Aug-2013

Benchmark	Copies	Result
410.bwaves	4	116
416.gamess	4	160
	4	150
433.milc	4	114
	4	114
434.zeusmp	4	149
435.gromacs	4	157
	4	156
436.cactusADM	4	177
437.leslie3d	4	80.7
	4	80.8
444.namd	4	107
	4	104
447.dealII	4	201
450.soplex	4	92.7
	4	81.3
453.povray	4	246
	4	221
454.calculix	4	176
459.GemsFDTD	4	70.2
465.tonto	4	160
	4	153
470.lbm	4	142
481.wrf	4	139
	4	137
482.sphinx3	4	136
	4	137

SPECfp_rate_base2006 = 133

SPECfp_rate2006 = 136

Hardware

CPU Name: Intel Xeon E3-1220 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 3100
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1 chip
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: Red Hat Enterprise Linux Server release 6.4 (Santiago)
2.6.32-358.el6.x86_64
Compiler: C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32-bit

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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (2 x 8 GB 2Rx4 PC3L-12800E-11, ECC)
Disk Subsystem:	1 x 500 GB SATA, 7200 RPM
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	4	469	116	469	116	**469**	**116**	4	469	116	469	116	**469**	**116**
416.gamess	4	**521**	**150**	525	149	520	151	4	490	160	**489**	**160**	486	161
433.milc	4	322	114	322	114	**322**	**114**	4	321	114	**321**	**114**	321	114
434.zeusmp	4	241	151	**245**	**149**	245	149	4	241	151	**245**	**149**	245	149
435.gromacs	4	182	157	184	156	**183**	**156**	4	183	156	180	158	**182**	**157**
436.cactusADM	4	269	178	**270**	**177**	275	174	4	269	178	**270**	**177**	275	174
437.leslie3d	4	465	80.8	**465**	**80.8**	466	80.7	4	466	80.7	465	80.9	**466**	**80.7**
444.namd	4	309	104	308	104	**309**	**104**	4	301	107	301	107	**301**	**107**
447.dealII	4	227	202	229	200	**227**	**201**	4	227	202	229	200	**227**	**201**
450.soplex	4	409	81.6	**411**	**81.3**	424	78.7	4	**360**	**92.7**	360	92.7	366	91.3
453.povray	4	**96.2**	**221**	96.2	221	96.7	220	4	86.2	247	86.6	246	**86.4**	**246**
454.calculix	4	**187**	**176**	187	177	188	176	4	**187**	**176**	187	177	188	176
459.GemsFDTD	4	606	70.0	**604**	**70.2**	603	70.4	4	606	70.0	**604**	**70.2**	603	70.4
465.tonto	4	**257**	**153**	257	153	258	153	4	**246**	**160**	245	161	246	160
470.lbm	4	**386**	**142**	386	143	387	142	4	**386**	**142**	386	143	387	142
481.wrf	4	**325**	**137**	324	138	325	137	4	**322**	**139**	325	138	322	139
482.sphinx3	4	**571**	**137**	547	142	589	132	4	**572**	**136**	576	135	572	136

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

Submit Notes

    The taskset mechanism was used to bind copies to processors. The config file option 'submit'
    was used to generate taskset commands to bind each copy to a specific processor.
    For details, please see the config file.

Operating System Notes

    Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

    Sysinfo program /usr/cpu2006/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on localhost.localdomain Mon Sep 9 19:22:45 2013

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Platform Notes (Continued)

```
This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E3-1220 v3 @ 3.10GHz
      1 "physical id"s (chips)
      4 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 4
      siblings  : 4
      physical 0: cores 0 1 2 3
   cache size : 8192 KB

From /proc/meminfo
   MemTotal:       16282748 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41
   EST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 5 19:26

SPEC is set to: /usr/cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_root
                  ext3     50G   13G   34G  28% /

Additional information from dmidecode:
  BIOS Acer P01 08/26/2013
  Memory:
   2x    8 GB
   2x Hynix/Hyundai HMT41GU7AFR8A-PB 8 GB 1600 MHz 2 rank
   2x [Empty] [Empty]

(End of data from sysinfo program)
```

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General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
    -ansi-alias -opt-mem-layout-trans=3
```

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

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`

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Peak Portability Flags (Continued)

```
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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
          -O3(pass 2) -no-prec-div(pass 2)
          -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -static
          -auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
             -unroll2
```

C++ benchmarks:

```
444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
          -O3(pass 2) -no-prec-div(pass 2)
          -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -fno-alias
          -auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2)
            -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
            -opt-malloc-options=3

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2)
            -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -unroll4
            -ansi-alias
```

Fortran benchmarks:

```
410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(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
```

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Peak Optimization Flags (Continued)

437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(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

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-prefetch -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xCORE-AVX2 -ipo -O3 -no-prec-div -static -auto-ilp32

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130716.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.xml
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130716.xml

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

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