SPEC® CFP2006 Result

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

SPECfp®_rate2006 = 370

SPECfp_rate_base2006 = 361
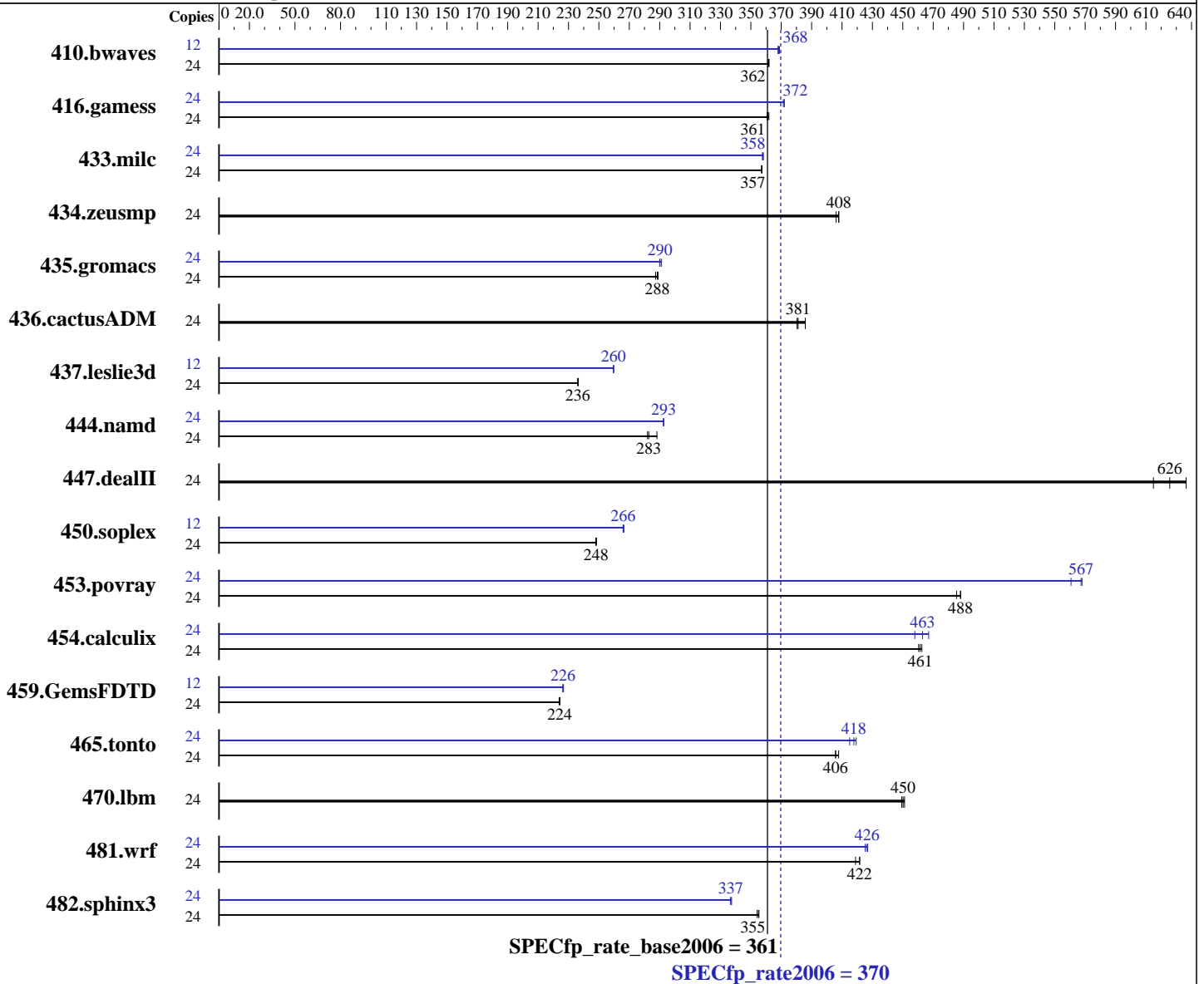
CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Oct-2011

Copies

Benchmark	Copies	Result
410.bwaves	12	368
	24	362
416.gamess	24	372
	24	361
433.milc	24	358
	24	357
434.zeusmp	24	408
435.gromacs	24	290
	24	288
436.cactusADM	24	381
437.leslie3d	12	260
	24	236
444.namd	24	293
	24	283
447.dealII	24	626
450.soplex	12	266
	24	248
453.povray	24	567
	24	488
454.calculix	24	463
	24	461
459.GemsFDTD	12	226
	24	224
465.tonto	24	418
	24	406
470.lbm	24	450
481.wrf	24	426
	24	422
482.sphinx3	24	337
	24	355

SPECfp_rate_base2006 = 361

SPECfp_rate2006 = 370

Hardware

CPU Name: Intel Xeon E5-2640

CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz

CPU MHz: 2500

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: Red Hat Enterprise Linux Server release 6.1 2.6.32-131.0.15.el6.x86_64

Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux

Auto Parallel: No

File System: ext3

System State: Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

SPECfp_rate2006 =	370
SPECfp_rate_base2006 =	361

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

Test date: May-2012
Hardware Availability: May-2012
Software Availability: Oct-2011

L3 Cache:	15 MB I+D on chip per chip	Base Pointers:	32/64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	128 GB (16 x 8 GB 2Rx4 PC3L-10600R-9, ECC)	Other Software:	None
Disk Subsystem:	1 x 2 TB SAS, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	**902**	**362**	901	362	903	361	12	443	368	442	369	**443**	**368**
416.gamess	24	**1301**	**361**	1299	362	1303	361	24	**1263**	**372**	1265	371	1263	372
433.milc	24	**617**	**357**	617	357	617	357	24	615	358	**615**	**358**	616	358
434.zeusmp	24	**535**	**408**	538	406	535	408	24	**535**	**408**	538	406	535	408
435.gromacs	24	593	289	**594**	**288**	596	287	24	588	291	591	290	**590**	**290**
436.cactusADM	24	**753**	**381**	754	380	743	386	24	**753**	**381**	754	380	743	386
437.leslie3d	24	956	236	**955**	**236**	954	236	12	**434**	**260**	434	260	435	259
444.namd	24	683	282	**681**	**283**	668	288	24	658	292	658	293	**658**	**293**
447.dealII	24	431	636	**439**	**626**	446	615	24	431	636	**439**	**626**	446	615
450.soplex	24	806	248	**807**	**248**	807	248	12	376	266	376	266	**376**	**266**
453.povray	24	262	488	263	485	**262**	**488**	24	228	561	225	568	**225**	**567**
454.calculix	24	**429**	**461**	430	460	428	463	24	424	467	**428**	**463**	432	458
459.GemsFDTD	24	1138	224	**1135**	**224**	1135	224	12	**562**	**226**	562	227	563	226
465.tonto	24	579	408	582	406	**582**	**406**	24	563	419	**565**	**418**	569	415
470.lbm	24	731	451	**732**	**450**	734	449	24	731	451	**732**	**450**	734	449
481.wrf	24	636	422	**636**	**422**	640	419	24	628	427	630	425	**629**	**426**
482.sphinx3	24	**1318**	**355**	1316	355	1321	354	24	**1389**	**337**	1387	337	1390	337

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl 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.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Wed May 9 22:58:51 2012

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

$SPECfp\_rate2006 =$ 370

$SPECfp\_rate\_base2006 =$ 361

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

Test date: May-2012
Hardware Availability: May-2012
Software Availability: Oct-2011

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 E5-2640 0 @ 2.50GHz
      2 "physical id"s (chips)
     24 "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 : 6
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       132140812 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.1 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
   15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 9 10:30 last=5

SPEC is set to: /usr/cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_root
                  ext3    962G   84G  830G  10% /

Additional information from dmidecode:
  Memory:
   8x Hynix Semiconductor HMT31GR7BFR4A-H9 8 GB 1333 MHz 1 rank
   8x Hynix Semiconductor HMT31GR7CFR4A-H9 8 GB 1333 MHz 1 rank

(End of data from sysinfo program)
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

$SPECfp_rate2006 = $ 370

$SPECfp_rate_base2006 = $ 361

CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Oct-2011

General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages disabled with:
 echo never  > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1>        /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

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
```

SPEC CFP2006 Result

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

$SPECfp_rate2006 = $ 370

$SPECfp_rate_base2006 = $ 361

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

Test date: May-2012
Hardware Availability: May-2012
Software Availability: Oct-2011

Base Optimization Flags

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

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

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

Benchmarks using both Fortran and C:
```
-xAVX -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
```

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

SPECfp_rate2006 = 370

SPECfp_rate_base2006 = 361

CPU2006 license: 97		**Test date:**	May-2012
Test sponsor: Acer Incorporated		**Hardware Availability:**	May-2012
Tested by: Acer Incorporated		**Software Availability:**	Oct-2011

Peak Portability Flags (Continued)

```
454.calculix: -DSPEC_CPU_LP64 -nofor_main
   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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
          -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
          -opt-mem-layout-trans=3

 470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2
```

C++ benchmarks:

```
444.namd: -xAVX(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: basepeak = yes

450.soplex: -xAVX(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

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

```
410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: -xAVX(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
```

Acer Incorporated

Acer AT350 F2 (Xeon E5-2640)

$SPECfp\_rate2006 =$ 370

$SPECfp\_rate\_base2006 =$ 361

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

Test date: May-2012
Hardware Availability: May-2012
Software Availability: Oct-2011

Peak Optimization Flags (Continued)

```
465.tonto: -xAVX(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: -xAVX(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 -opt-mem-layout-trans=3
```

```
436.cactusADM: basepeak = yes
```

```
454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
              -opt-mem-layout-trans=3
```

```
481.wrf: Same as 454.calculix
```

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml`

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 05:40:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 June 2012.