SPEC® CFP2006 Result

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

$SPECfp®\_rate2006 = 351$

$SPECfp\_rate\_base2006 = 344$

CPU2006 license: 001176	**Test date:** Apr-2012
Test sponsor: Supermicro	**Hardware Availability:** Mar-2012
Tested by: Supermicro	**Software Availability:** Dec-2011

Copies 0 20.0 50.0 80.0 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 590

Benchmark	Copies	Result
410.bwaves	12	361
	24	356
416.gamess	24	344
	24	334
433.milc	24	353
	24	353
434.zeusmp	24	382
435.gromacs	24	268
	24	268
436.cactusADM	24	359
437.leslie3d	12	254
	24	233
444.namd	24	269
	24	266
447.dealII	24	589
450.soplex	12	252
	24	241
453.povray	24	527
	24	453
454.calculix	24	429
	24	430
459.GemsFDTD	12	222
	24	218
465.tonto	24	395
	24	383
470.lbm	24	438
481.wrf	24	419
	24	414
482.sphinx3	24	316
	24	337

SPECfp_rate_base2006 = 344

SPECfp_rate2006 = 351

Hardware

CPU Name:	Intel Xeon E5-2630
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2300
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 6.2, Kernel 2.6.32-220.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

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

$SPECfp_rate2006 = $ 351

$SPECfp_rate_base2006 = $ 344
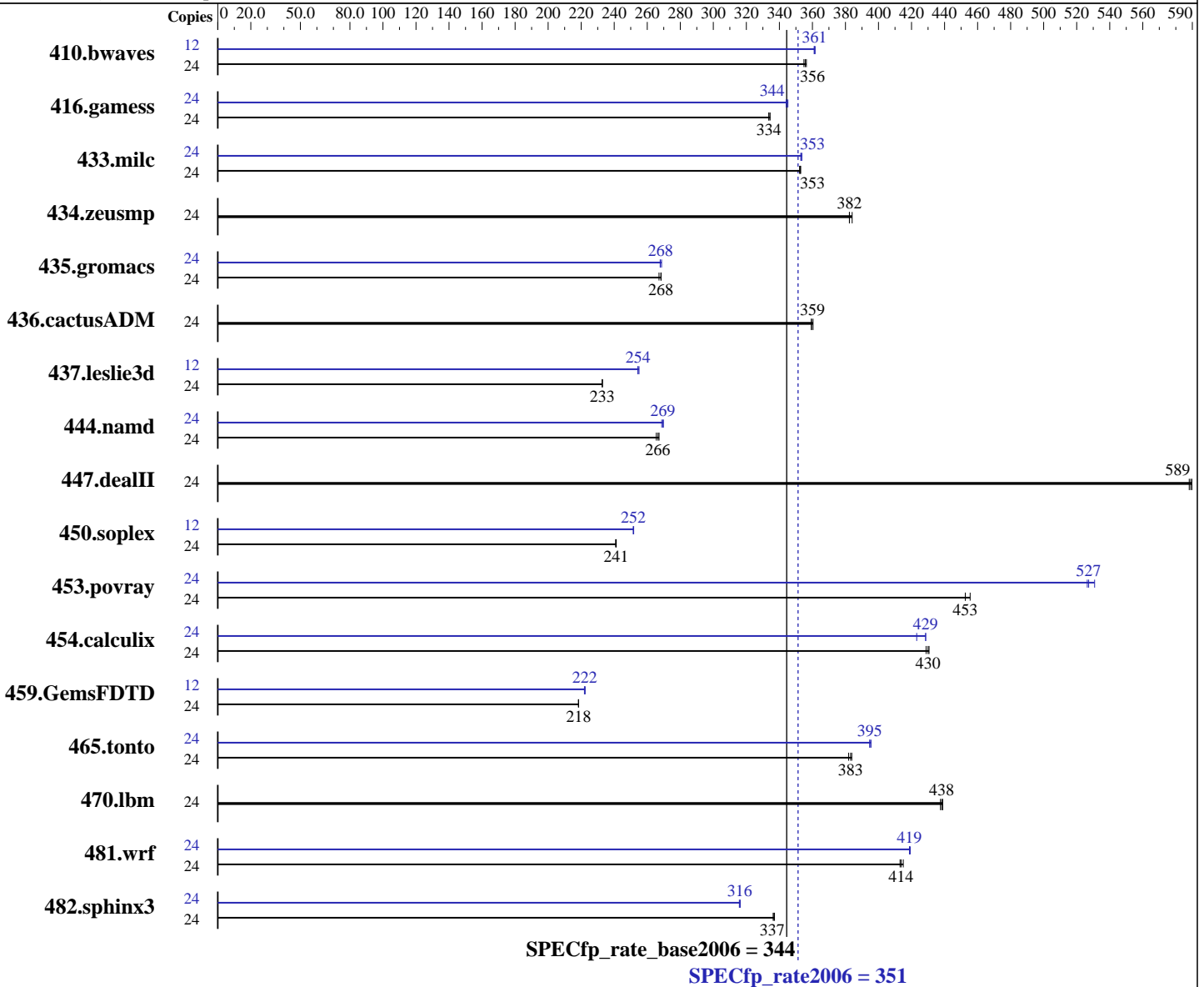
CPU2006 license: 001176		**Test date:** Apr-2012
Test sponsor: Supermicro		**Hardware Availability:** Mar-2012
Tested by: Supermicro		**Software Availability:** Dec-2011

L3 Cache:	15 MB I+D on chip per chip	Base Pointers:	32/64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)	Other Software:	None
Disk Subsystem:	1 x 2 TB SATA II, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	**917**	**356**	915	356	919	355	12	452	361	451	362	**452**	**361**
416.gamess	24	1409	334	**1408**	**334**	1405	334	24	**1365**	**344**	1366	344	1361	345
433.milc	24	**625**	**353**	626	352	624	353	24	**624**	**353**	623	354	624	353
434.zeusmp	24	571	382	569	384	**571**	**382**	24	571	382	569	384	**571**	**382**
435.gromacs	24	**639**	**268**	639	268	641	267	24	638	269	**639**	**268**	640	268
436.cactusADM	24	798	359	**798**	**359**	796	360	24	798	359	**798**	**359**	796	360
437.leslie3d	24	**969**	**233**	969	233	969	233	12	442	255	**443**	**254**	444	254
444.namd	24	720	267	725	265	**722**	**266**	24	**714**	**269**	716	269	713	270
447.dealII	24	**466**	**589**	467	588	466	590	24	**466**	**589**	467	588	466	590
450.soplex	24	830	241	**830**	**241**	831	241	12	**398**	**252**	397	252	398	252
453.povray	24	280	455	282	453	**282**	**453**	24	243	526	**242**	**527**	241	531
454.calculix	24	460	431	**460**	**430**	462	429	24	**462**	**429**	468	423	462	429
459.GemsFDTD	24	**1166**	**218**	1166	218	1166	218	12	574	222	572	222	**573**	**222**
465.tonto	24	618	382	615	384	**616**	**383**	24	598	395	597	395	**598**	**395**
470.lbm	24	751	439	**752**	**438**	754	438	24	751	439	**752**	**438**	754	438
481.wrf	24	646	415	**648**	**414**	649	413	24	**640**	**419**	640	419	639	419
482.sphinx3	24	**1389**	**337**	1391	336	1388	337	24	1479	316	1481	316	**1480**	**316**

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"

General Notes

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

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

$SPECfp\_rate2006 = 351$

$SPECfp\_rate\_base2006 = 344$

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

General Notes (Continued)

```
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

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

$SPECfp_rate2006 = $ 351

$SPECfp_rate_base2006 = $ 344

CPU2006 license: 001176		**Test date:**	Apr-2012
Test sponsor:	Supermicro	**Hardware Availability:**	Mar-2012
Tested by:	Supermicro	**Software Availability:**	Dec-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
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

SPECfp_rate2006 =   351

SPECfp_rate_base2006 =   344

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-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
```

SPEC CFP2006 Result

Supermicro

SuperServer 7047R-TXRF (X9DRX+-F, Intel Xeon E5-2630)

$SPECfp_rate2006 = $ 351

$SPECfp_rate_base2006 = $ 344

CPU2006 license: 001176		**Test date:**	Apr-2012
Test sponsor:	Supermicro	**Hardware Availability:**	Mar-2012
Tested by:	Supermicro	**Software Availability:**	Dec-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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.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 05:11:54 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 May 2012.