SPEC® CFP2006 Result

Supermicro

$SPECfp^®\_rate2006 = 456$

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp\_rate\_base2006 = 442$

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

SPECfp_rate_base2006 = 442

SPECfp_rate2006 = 456
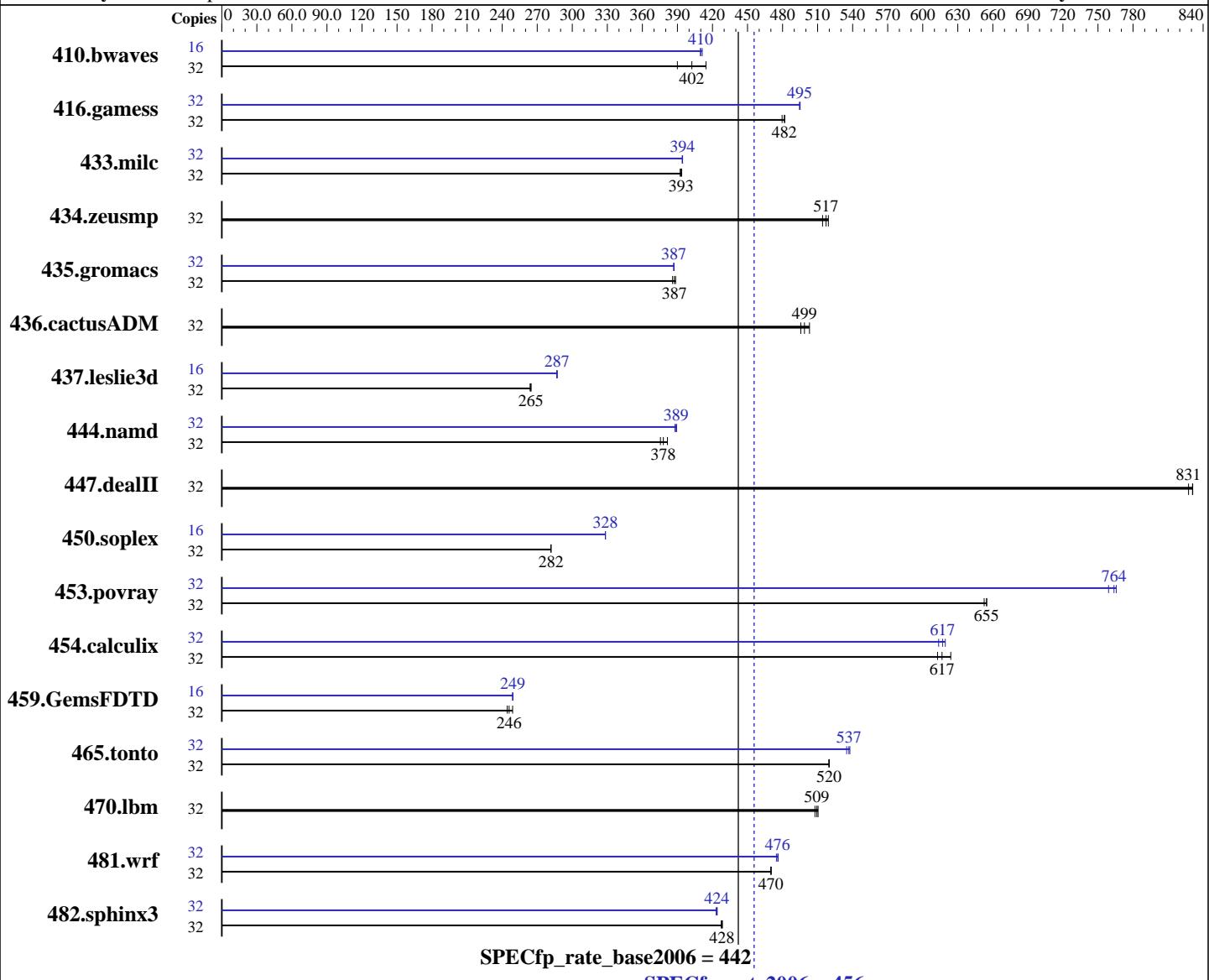
Hardware

CPU Name:	Intel Xeon E5-2665
CPU Characteristics:	Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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, Kernel 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:	ext4
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp_rate2006 = $ 456

$SPECfp_rate_base2006 = $ 442

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

L3 Cache:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 500 GB SATA II, 7200 RPM
Other Hardware:	None

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

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	**1081**	**402**	1049	414	1115	390	16	**530**	**410**	529	411	531	410
416.gamess	32	**1301**	**482**	1306	480	1300	482	32	1266	495	1267	495	**1267**	**495**
433.milc	32	746	394	749	392	**747**	**393**	32	745	394	**745**	**394**	745	394
434.zeusmp	32	561	519	566	514	**563**	**517**	32	561	519	566	514	**563**	**517**
435.gromacs	32	588	388	592	386	**590**	**387**	32	591	387	**590**	**387**	590	387
436.cactusADM	32	772	496	**767**	**499**	760	503	32	772	496	**767**	**499**	760	503
437.leslie3d	32	**1137**	**265**	1136	265	1140	264	16	524	287	**524**	**287**	525	287
444.namd	32	684	375	673	381	**679**	**378**	32	662	388	659	389	**660**	**389**
447.dealII	32	440	831	442	828	**441**	**831**	32	440	831	442	828	**441**	**831**
450.soplex	32	947	282	**947**	**282**	948	282	16	**406**	**328**	406	328	406	328
453.povray	32	261	653	260	655	**260**	**655**	32	222	766	**223**	**764**	224	759
454.calculix	32	423	624	**428**	**617**	431	613	32	430	614	426	619	**428**	**617**
459.GemsFDTD	32	1390	244	**1381**	**246**	1364	249	16	682	249	681	249	**681**	**249**
465.tonto	32	606	520	606	520	**606**	**520**	32	589	535	586	538	**587**	**537**
470.lbm	32	861	510	**863**	**509**	866	508	32	861	510	**863**	**509**	866	508
481.wrf	32	761	470	760	470	**760**	**470**	32	750	476	753	475	**751**	**476**
482.sphinx3	32	1455	429	1459	428	**1457**	**428**	32	1471	424	1474	423	**1471**	**424**

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 = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp_rate2006 = $ 456

$SPECfp_rate_base2006 = $ 442

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

Supermicro

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp_rate2006 = $ 456

$SPECfp_rate_base2006 = $ 442

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

Continued on next page

Supermicro

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp_rate2006 = $ 456

$SPECfp_rate_base2006 = $ 442

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

Supermicro

SuperServer 6027TR-HTRF (X9DRT-HF, Intel E5-2665)

$SPECfp\_rate2006 =$ 456

$SPECfp\_rate\_base2006 =$ 442

CPU2006 license: 001176		**Test date:**	Mar-2012
Test sponsor:	Supermicro	**Hardware Availability:**	Mar-2012
Tested by:	Supermicro	**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 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 07:50:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 April 2012.