SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

$SPECfp^{®}2006 = $ 111

SuperServer 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp_base2006 = $ 106
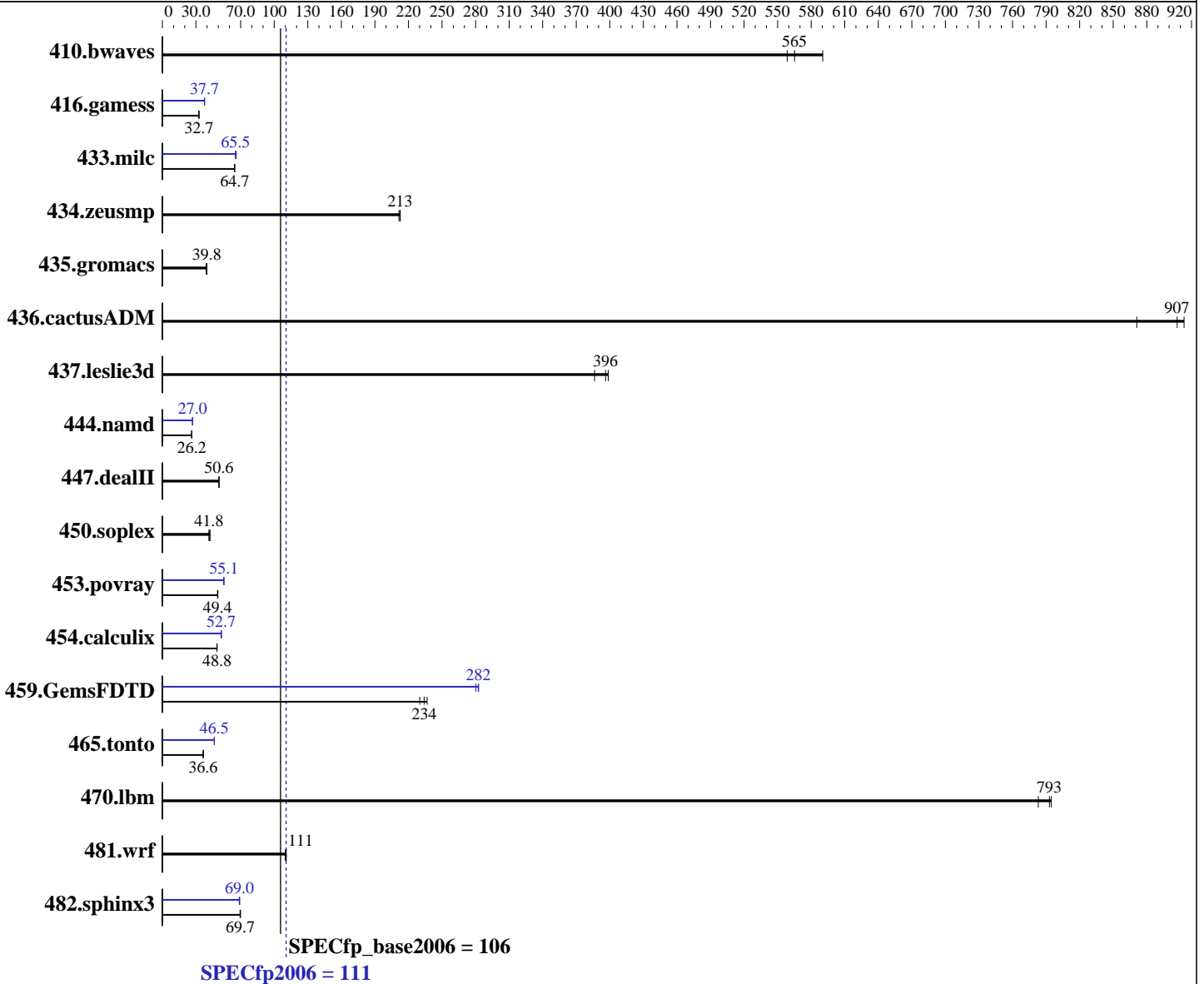
CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Oct-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

410.bwaves 565
416.gamess 37.7 / 32.7
433.milc 65.5 / 64.7
434.zeusmp 213
435.gromacs 39.8
436.cactusADM 907
437.leslie3d 396
444.namd 27.0 / 26.2
447.dealII 50.6
450.soplex 41.8
453.povray 55.1 / 49.4
454.calculix 52.7 / 48.8
459.GemsFDTD 282 / 234
465.tonto 46.5 / 36.6
470.lbm 793
481.wrf 111
482.sphinx3 69.0 / 69.7

SPECfp_base2006 = 106
SPECfp2006 = 111

Hardware

CPU Name:	Intel Xeon E5-2670 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip
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 7.0, Kernel 3.10.0-123.el7.x86_64
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux; Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
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 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp2006 =$ 111

$SPECfp\_base2006 =$ 106

CPU2006 license: 001176	**Test date:** Oct-2014
Test sponsor: Supermicro	**Hardware Availability:** Sep-2014
Tested by: Supermicro	**Software Availability:** Sep-2014

L3 Cache:	30 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)	Other Software:	None
Disk Subsystem:	1 x 1000 GB SATA III, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24.3	559	**24.0**	**565**	23.0	590	24.3	559	**24.0**	**565**	23.0	590
416.gamess	**599**	**32.7**	599	32.7	599	32.7	519	37.7	520	37.6	**519**	**37.7**
433.milc	**142**	**64.7**	142	64.4	142	64.7	139	66.1	141	65.3	**140**	**65.5**
434.zeusmp	43.0	211	42.8	213	**42.8**	**213**	43.0	211	42.8	213	**42.8**	**213**
435.gromacs	179	39.8	**179**	**39.8**	182	39.2	179	39.8	**179**	**39.8**	182	39.2
436.cactusADM	13.1	913	**13.2**	**907**	13.7	871	13.1	913	**13.2**	**907**	13.7	871
437.leslie3d	23.6	399	24.3	386	**23.7**	**396**	23.6	399	24.3	386	**23.7**	**396**
444.namd	306	26.2	**306**	**26.2**	306	26.2	298	27.0	**298**	**27.0**	298	26.9
447.dealII	226	50.5	**226**	**50.6**	226	50.6	226	50.5	**226**	**50.6**	226	50.6
450.soplex	**200**	**41.8**	196	42.7	200	41.7	**200**	**41.8**	196	42.7	200	41.7
453.povray	**108**	**49.4**	108	49.4	107	49.6	**96.6**	**55.1**	97.2	54.7	96.5	55.1
454.calculix	169	48.9	**169**	**48.8**	169	48.8	**157**	**52.7**	157	52.7	157	52.6
459.GemsFDTD	44.8	237	**45.3**	**234**	46.1	230	37.5	283	37.9	280	**37.6**	**282**
465.tonto	**269**	**36.6**	268	36.7	270	36.4	212	46.4	**212**	**46.5**	212	46.5
470.lbm	**17.3**	**793**	17.3	795	17.5	783	**17.3**	**793**	17.3	795	17.5	783
481.wrf	101	111	102	110	**101**	**111**	101	111	102	110	**101**	**111**
482.sphinx3	**280**	**69.7**	279	69.8	281	69.4	282	69.1	284	68.7	**283**	**69.0**

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

Operating System Notes

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

Platform Notes

```
BIOS Settings:
Hyper-Threading (All) = Disable
Early Snoop = Disable
Enforce POR = Disabled
```

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp2006 =$ 111

$SPECfp\_base2006 =$ 106

CPU2006 license: 001176		**Test date:**	Oct-2014
Test sponsor:	Supermicro	**Hardware Availability:**	Sep-2014
Tested by:	Supermicro	**Software Availability:**	Sep-2014

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/home/spec2k6/SPEC2006-V12/libs/32:/home/spec2k6/SPEC2006-V12/libs/64:/home/spec2k6/SPEC2006-V12/sh"
OMP_NUM_THREADS = "24"

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/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
```

SPEC CFP2006 Result

Supermicro

SuperServer 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp2006 =$ 111

$SPECfp\_base2006 =$ 106

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
```

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

Benchmarks using both Fortran and C:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias
```

Peak Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Peak Portability Flags

```
Same as Base Portability Flags
```

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) -prof-use(pass 2)
              -auto-ilp32 -ansi-alias

    470.lbm: basepeak = yes

    482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
              -parallel
```

Continued on next page

Supermicro

SuperServer 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp2006 =$ 111

$SPECfp\_base2006 =$ 106

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

Test date: Oct-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Peak Optimization Flags (Continued)

C++ benchmarks:

    444.namd: `-xCORE-AVX2(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: `basepeak = yes`

    453.povray: `-xCORE-AVX2(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: `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-`

    434.zeusmp: `basepeak = yes`

    437.leslie3d: `basepeak = yes`

    459.GemsFDTD: `-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 -opt-prefetch -parallel`

    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)`
               `-inline-calloc -opt-malloc-options=3 -auto -unroll4`

Benchmarks using both Fortran and C:

    435.gromacs: `basepeak = yes`

    436.cactusADM: `basepeak = yes`

    454.calculix: `-xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias`

    481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.html

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6028TP-HTR
(X10DRT-P , Intel Xeon E5-2670 v3)

$SPECfp2006 =$ 111

$SPECfp\_base2006 =$ 106

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.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 Wed Nov 5 10:24:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 November 2014.