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

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

$SPECfp^{®}2006 =$ 103

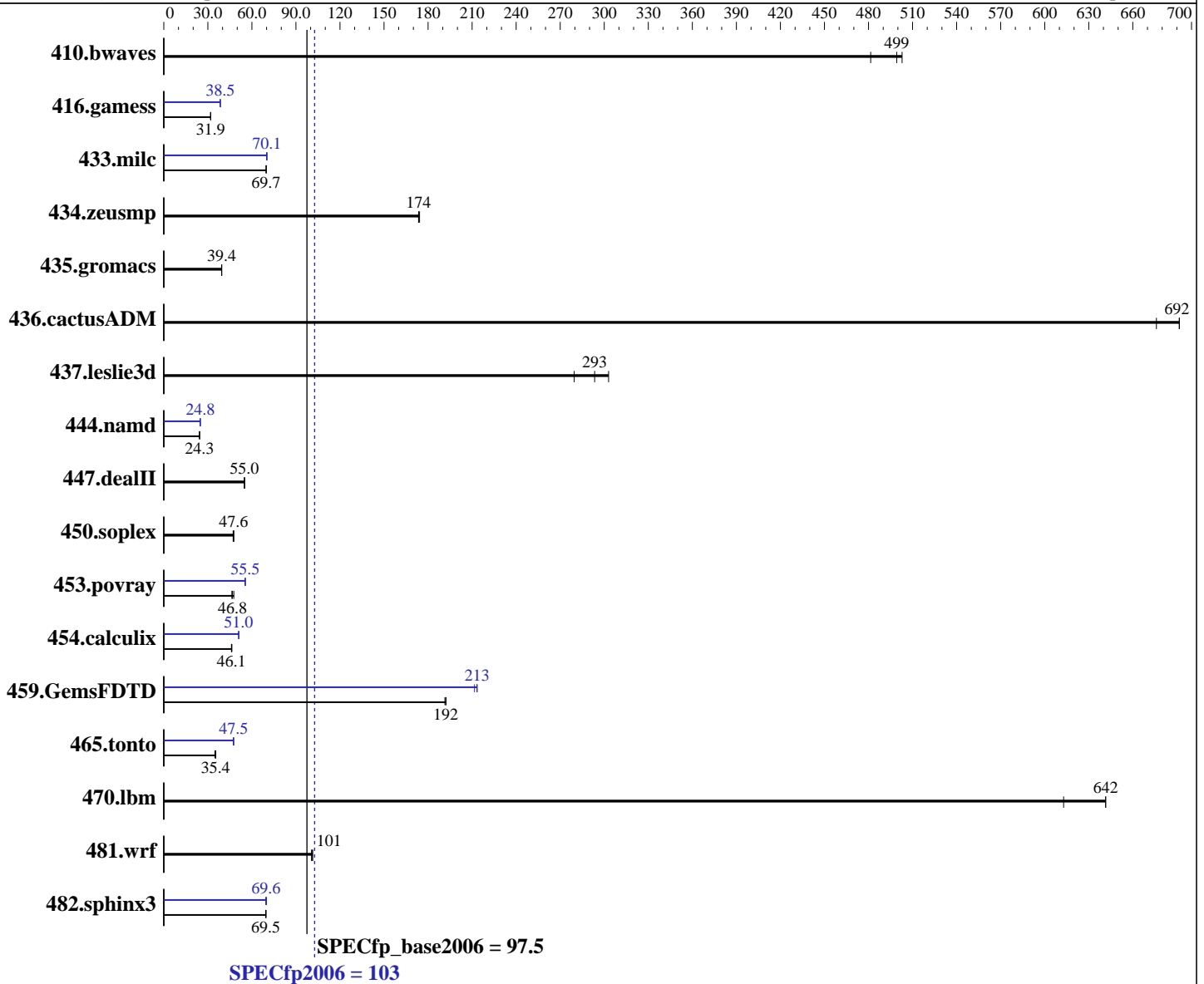$SPECfp\_base2006 =$ 97.5

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

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

410.bwaves	499
416.gamess	38.5 / 31.9
433.milc	70.1 / 69.7
434.zeusmp	174
435.gromacs	39.4
436.cactusADM	692
437.leslie3d	293
444.namd	24.8 / 24.3
447.dealII	55.0
450.soplex	47.6
453.povray	55.5 / 46.8
454.calculix	51.0 / 46.1
459.GemsFDTD	213 / 192
465.tonto	47.5 / 35.4
470.lbm	642
481.wrf	101
482.sphinx3	69.6 / 69.5

SPECfp_base2006 = 97.5
SPECfp2006 = 103

Hardware

CPU Name:	Intel Xeon E5-2697 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz:	2700
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 6.4, Kernel 2.6.32-358.18.1.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 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

$SPECfp2006 =$ 103

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

$SPECfp\_base2006 =$ 97.5

CPU2006 license: 001176	**Test date:** Oct-2013
Test sponsor: Supermicro	**Hardware Availability:** Sep-2013
Tested by: Supermicro	**Software Availability:** Sep-2013

L3 Cache:	30 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 2Rx8 PC3-14900R-13, ECC)	Other Software:	None
Disk Subsystem:	1 x 500 GB SATA II, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**27.2**	**499**	27.0	503	28.2	481	**27.2**	**499**	27.0	503	28.2	481
416.gamess	613	31.9	**614**	**31.9**	614	31.9	509	38.5	**509**	**38.5**	509	38.5
433.milc	132	69.7	131	69.8	**132**	**69.7**	131	70.1	131	70.3	**131**	**70.1**
434.zeusmp	52.2	174	**52.4**	**174**	52.4	174	52.2	174	**52.4**	**174**	52.4	174
435.gromacs	**181**	**39.4**	181	39.5	181	39.4	**181**	**39.4**	181	39.5	181	39.4
436.cactusADM	17.7	676	**17.3**	**692**	17.3	692	17.7	676	**17.3**	**692**	17.3	692
437.leslie3d	33.6	280	31.0	303	**32.0**	**293**	33.6	280	31.0	303	**32.0**	**293**
444.namd	329	24.4	**330**	**24.3**	330	24.3	323	24.8	**323**	**24.8**	323	24.8
447.dealII	208	54.9	208	55.0	**208**	**55.0**	208	54.9	208	55.0	**208**	**55.0**
450.soplex	**175**	**47.6**	175	47.7	177	47.2	**175**	**47.6**	175	47.7	177	47.2
453.povray	115	46.4	**114**	**46.8**	112	47.7	95.8	55.6	**95.9**	**55.5**	96.0	55.4
454.calculix	178	46.4	179	46.1	**179**	**46.1**	162	51.0	162	51.0	162	51.0
459.GemsFDTD	55.4	191	**55.2**	**192**	55.2	192	50.1	212	49.7	213	**49.7**	**213**
465.tonto	278	35.4	**278**	**35.4**	283	34.8	208	47.3	**207**	**47.5**	207	47.6
470.lbm	22.4	613	**21.4**	**642**	21.4	642	22.4	613	**21.4**	**642**	21.4	642
481.wrf	**110**	**101**	110	101	111	101	**110**	**101**	110	101	111	101
482.sphinx3	**280**	**69.5**	280	69.6	281	69.4	279	69.9	**280**	**69.6**	280	69.5

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

```
Disable Hyper-threading, C1E Support, DRAM RAPL Mode, Demand Scrub, Double Refresh.
Set Package C-state Limit to C0
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
OMP_NUM_THREADS = "24"
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

$SPECfp2006 = $ 103

$SPECfp_base2006 = $ 97.5

CPU2006 license: 001176	**Test date:** Oct-2013
Test sponsor: Supermicro	**Hardware Availability:** Sep-2013
Tested by: Supermicro	**Software Availability:** Sep-2013

General Notes (Continued)

```
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
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
```

Base Optimization Flags

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

Continued on next page

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

SPECfp2006 =   103

SPECfp_base2006 =   97.5

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013

Base Optimization Flags (Continued)

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

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

Benchmarks using both Fortran and C:
```
-xAVX -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: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel`

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`

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 103

$SPECfp\_base2006 =$ 97.5

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

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

Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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: basepeak = yes

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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(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: -xAVX -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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.xml

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

SPECfp2006 = 103

SPECfp_base2006 = 97.5

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

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

SPEC and SPECfp are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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 19:59:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 February 2014.