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

Supermicro

Supermicro
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp^{®}2006 =$ 102

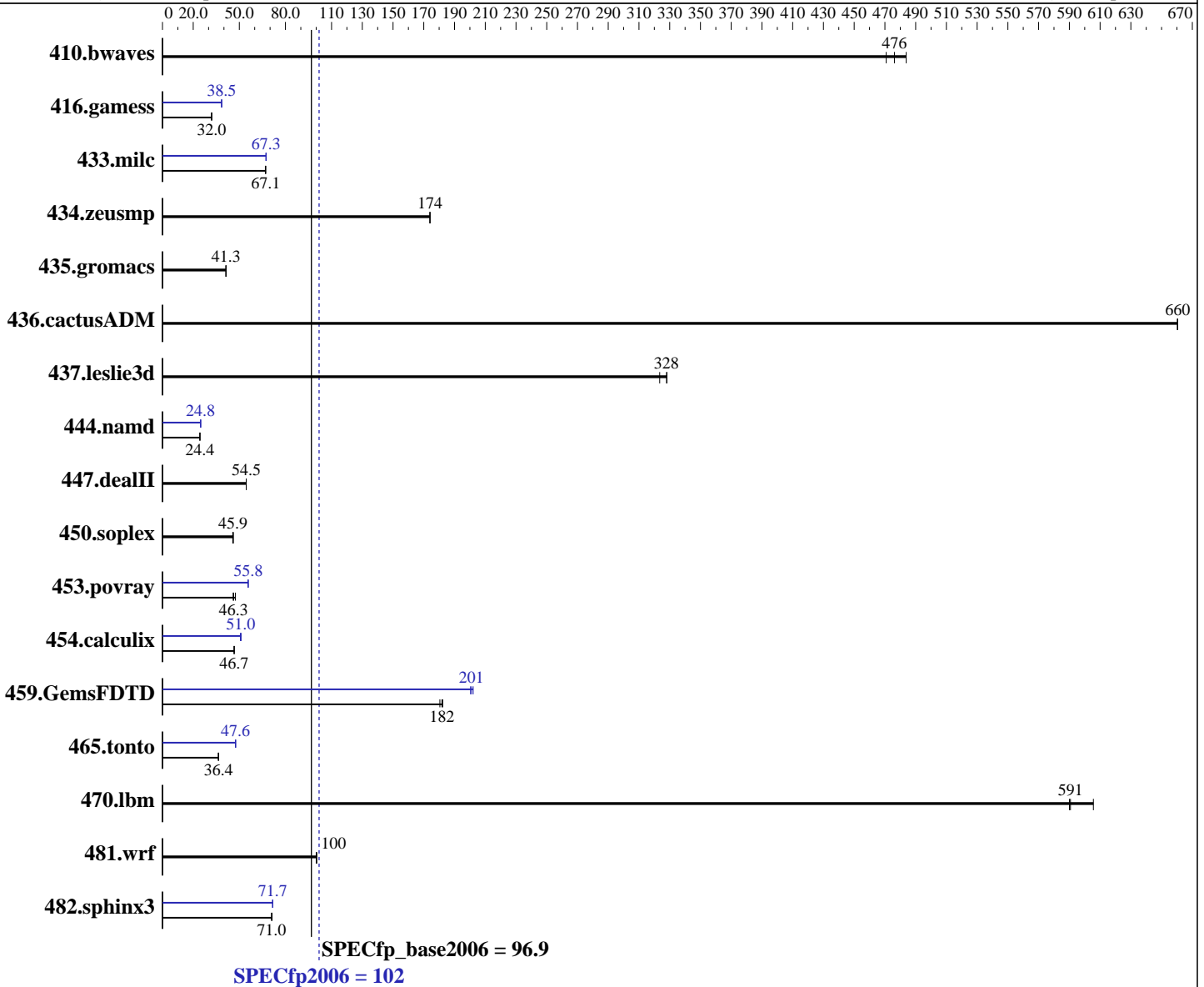$SPECfp\_base2006 =$ 96.9

CPU2006 license: 001176   **Test date:** Oct-2013

Test sponsor: Supermicro   **Hardware Availability:** Oct-2013

Tested by: Supermicro   **Software Availability:** Sep-2013

Benchmark	Peak	Base
410.bwaves		476
416.gamess	38.5	32.0
433.milc	67.3	67.1
434.zeusmp		174
435.gromacs		41.3
436.cactusADM		660
437.leslie3d		328
444.namd	24.8	24.4
447.dealII		54.5
450.soplex		45.9
453.povray	55.8	46.3
454.calculix	51.0	46.7
459.GemsFDTD	201	182
465.tonto	47.6	36.4
470.lbm		591
481.wrf		100
482.sphinx3	71.7	71.0

SPECfp_base2006 = 96.9

SPECfp2006 = 102

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

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

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/

Page 1

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 102

$SPECfp\_base2006 =$ 96.9

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

L3 Cache:	30 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)	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	28.1	484	**28.5**	**476**	28.9	471	28.1	484	**28.5**	**476**	28.9	471
416.gamess	**612**	**32.0**	613	32.0	612	32.0	509	38.5	508	38.5	**509**	**38.5**
433.milc	**137**	**67.1**	137	66.9	137	67.2	136	67.3	**136**	**67.3**	136	67.5
434.zeusmp	52.3	174	52.3	174	**52.3**	**174**	52.3	174	52.3	174	**52.3**	**174**
435.gromacs	**173**	**41.3**	173	41.2	173	41.4	**173**	**41.3**	173	41.2	173	41.4
436.cactusADM	18.1	660	18.1	660	**18.1**	**660**	18.1	660	18.1	660	**18.1**	**660**
437.leslie3d	28.6	328	29.1	323	**28.7**	**328**	28.6	328	29.1	323	**28.7**	**328**
444.namd	329	24.4	**329**	**24.4**	329	24.4	**323**	**24.8**	323	24.8	323	24.8
447.dealII	210	54.5	**210**	**54.5**	210	54.5	210	54.5	**210**	**54.5**	210	54.5
450.soplex	181	46.1	**182**	**45.9**	182	45.7	181	46.1	**182**	**45.9**	182	45.7
453.povray	**115**	**46.3**	112	47.5	116	46.0	95.6	55.7	**95.4**	**55.8**	95.4	55.8
454.calculix	177	46.5	**177**	**46.7**	177	46.7	163	50.7	161	51.1	**162**	**51.0**
459.GemsFDTD	**58.4**	**182**	58.2	182	58.8	180	52.5	202	52.9	200	**52.8**	**201**
465.tonto	**270**	**36.4**	270	36.5	271	36.3	207	47.5	207	47.6	**207**	**47.6**
470.lbm	23.3	590	22.7	606	**23.3**	**591**	23.3	590	22.7	606	**23.3**	**591**
481.wrf	**112**	**100**	111	100	112	100	**112**	**100**	111	100	112	100
482.sphinx3	**274**	**71.0**	275	70.9	273	71.3	272	71.7	272	71.7	**272**	**71.7**

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

    Sysinfo program /root/cpu2006/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on 185-211.jnet Tue Oct 29 23:51:11 2013

    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 E5-2697 v2 @ 2.70GHz

Supermicro

Supermicro
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 102

$SPECfp\_base2006 =$ 96.9

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

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

Platform Notes (Continued)

```
     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 : 12
     siblings  : 12
     physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
     physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  cache size : 30720 KB

From /proc/meminfo
  MemTotal:        132122796 kB
  HugePages_Total:        0
  Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
  Linux 185-211.jnet 2.6.32-358.18.1.el6.x86_64 #1 SMP Fri Aug 2 17:04:38 EDT
  2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 28 10:40

SPEC is set to: /root/cpu2006
  Filesystem     Type    Size   Used Avail Use% Mounted on
  /dev/sda3      ext4    385G   288G   78G  79% /

Additional information from dmidecode:
  BIOS American Megatrends Inc. 3.0a 09/03/2013
  Memory:
   8x   16 GB
   8x Samsung M393B2G70BH0- 16 GB 1866 MHz 1 rank

(End of data from sysinfo program)
```

General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
```

Supermicro

Supermicro
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 102

$SPECfp\_base2006 =$ 96.9

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

General Notes (Continued)

```
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>
disabled hyper-threading in OS using CPU hotplugging
```

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
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 102

$SPECfp\_base2006 =$ 96.9

CPU2006 license:	001176	**Test date:**	Oct-2013
Test sponsor:	Supermicro	**Hardware Availability:**	Oct-2013
Tested by:	Supermicro	**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
(X9DRL-3F , Intel Xeon E5-2697 v2)

$SPECfp2006 =$ 102

$SPECfp\_base2006 =$ 96.9

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

Test date: Oct-2013
Hardware Availability: Oct-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/Supermicro-Platform-Settings-V1.2-revB.20130719.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro
(X9DRL-3F , Intel Xeon E5-2697 v2)

	SPECfp2006 =	102
	SPECfp_base2006 =	96.9

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 17:21:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 December 2013.