SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp^{®}2006 =$ 90.2

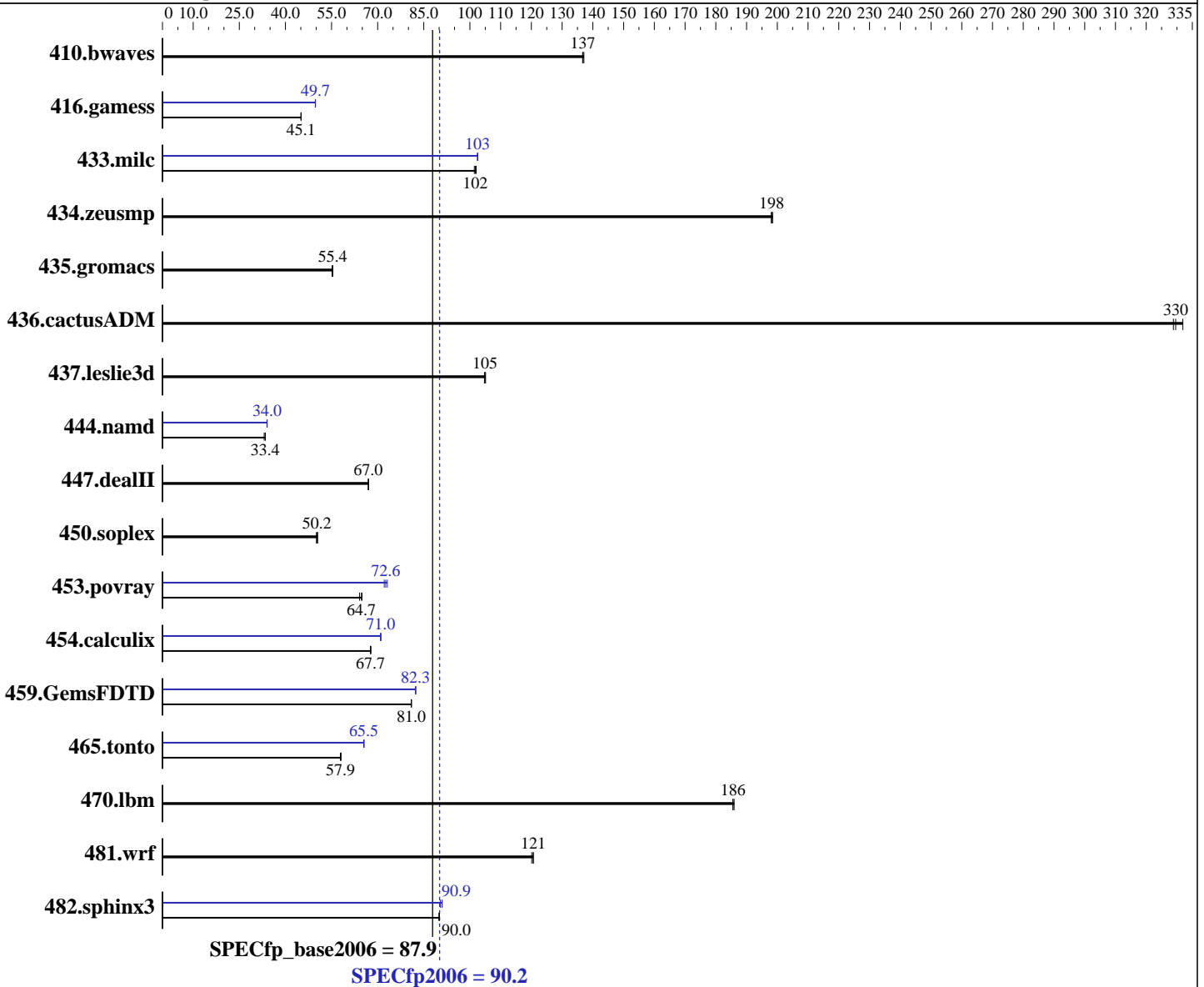$SPECfp\_base2006 =$ 87.9

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

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Mar-2015

Benchmark	Result
410.bwaves	137
416.gamess	49.7 / 45.1
433.milc	103 / 102
434.zeusmp	198
435.gromacs	55.4
436.cactusADM	330
437.leslie3d	105
444.namd	34.0 / 33.4
447.dealII	67.0
450.soplex	50.2
453.povray	72.6 / 64.7
454.calculix	71.0 / 67.7
459.GemsFDTD	82.3 / 81.0
465.tonto	65.5 / 57.9
470.lbm	186
481.wrf	121
482.sphinx3	90.9 / 90.0

SPECfp_base2006 = 87.9
SPECfp2006 = 90.2

Hardware

CPU Name: Intel Xeon E3-1220 v5
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1 chip
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 7.1, Kernel 3.10.0-229.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: xfs
System State: Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp2006 = $ 90.2

$SPECfp_base2006 = $ 87.9

CPU2006 license: 001176	**Test date:**	Jan-2016
Test sponsor: Supermicro	**Hardware Availability:**	Oct-2015
Tested by: Supermicro	**Software Availability:**	Mar-2015

L3 Cache:	8 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	64 GB (4 x 16 GB 2Rx8 PC4-2133P-E)	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	99.4	137	**99.4**	**137**	99.1	137	99.4	137	**99.4**	**137**	99.1	137
416.gamess	435	45.1	**434**	**45.1**	434	45.1	393	49.8	**394**	**49.7**	394	49.7
433.milc	90.0	102	90.5	101	**90.2**	**102**	89.6	102	**89.5**	**103**	89.5	103
434.zeusmp	45.8	198	46.0	198	**45.9**	**198**	45.8	198	46.0	198	**45.9**	**198**
435.gromacs	**129**	**55.4**	129	55.4	129	55.1	**129**	**55.4**	129	55.4	129	55.1
436.cactusADM	36.0	332	**36.3**	**330**	36.3	329	36.0	332	**36.3**	**330**	36.3	329
437.leslie3d	89.4	105	89.7	105	**89.6**	**105**	89.4	105	89.7	105	**89.6**	**105**
444.namd	**240**	**33.4**	240	33.5	242	33.1	236	34.0	**236**	**34.0**	236	34.0
447.dealII	171	67.0	171	67.0	**171**	**67.0**	171	67.0	171	67.0	**171**	**67.0**
450.soplex	165	50.5	**166**	**50.2**	166	50.1	165	50.5	**166**	**50.2**	166	50.1
453.povray	82.0	64.9	83.0	64.1	**82.2**	**64.7**	**73.3**	**72.6**	72.7	73.1	73.7	72.1
454.calculix	122	67.8	122	67.6	**122**	**67.7**	**116**	**71.0**	116	71.1	116	70.9
459.GemsFDTD	131	80.9	**131**	**81.0**	131	81.0	129	82.4	129	82.3	**129**	**82.3**
465.tonto	**170**	**57.9**	170	57.9	169	58.1	150	65.5	150	65.5	**150**	**65.5**
470.lbm	73.9	186	74.1	186	**74.0**	**186**	73.9	186	74.1	186	**74.0**	**186**
481.wrf	**92.6**	**121**	93.0	120	92.6	121	**92.6**	**121**	93.0	120	92.6	121
482.sphinx3	216	90.1	217	89.9	**217**	**90.0**	**214**	**90.9**	214	91.0	216	90.4

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

```
As tested, the system used a Supermicro CSE-113MFAC2-R606CB chassis.
The chassis is configured with 2 PWS-606P-1R redundant power supply, 1 SNK-P0046P heatsink,
as well as 4 FAN-0154L4 middle cooling fan.
 Sysinfo program /home/cpu2006/config/sysinfo.rev6914
 $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
 running on localhost.localdomain Wed Jan 13 04:18:55 2016

 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
```

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp2006 = $ 90.2

$SPECfp_base2006 = $ 87.9

CPU2006 license: 001176		**Test date:**	Jan-2016
Test sponsor:	Supermicro	**Hardware Availability:**	Oct-2015
Tested by:	Supermicro	**Software Availability:**	Mar-2015

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E3-1220 v5 @ 3.00GHz
      1 "physical id"s (chips)
      4 "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 : 4
      siblings  : 4
      physical 0: cores 0 1 2 3
   cache size : 8192 KB

From /proc/meminfo
   MemTotal:       65631332 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.1 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="7.1"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
      ANSI_COLOR="0;31"
      CPE_NAME="cpe:/o:redhat:enterprise_linux:7.1:GA:server"
   redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.1:ga:server

uname -a:
   Linux localhost.localdomain 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29 18:37:38
   EST 2015 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 12 23:36

SPEC is set to: /home/cpu2006
   Filesystem          Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   865G  170G  696G  20% /home
Additional information from dmidecode:

   Warning: Use caution when you interpret this section. The 'dmidecode' program
   reads system data which is "intended to allow hardware to be accurately
   determined", but the intent may not be met, as there are frequent changes to
   hardware, firmware, and the "DMTF SMBIOS" standard.

 BIOS American Megatrends Inc. 1.0a 12/25/2015
 Memory:
   4x Samsung M391A2K43BB1-CPB 16 GB 2 rank 2133 MHz
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp2006 =$ 90.2

$SPECfp\_base2006 =$ 87.9

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

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Mar-2015

Platform Notes (Continued)

```
(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "4"

 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

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

SPECfp2006 = 90.2

SPECfp_base2006 = 87.9

CPU2006 license: 001176		**Test date:**	Jan-2016
Test sponsor:	Supermicro	**Hardware Availability:**	Oct-2015
Tested by:	Supermicro	**Software Availability:**	Mar-2015

Base Portability Flags (Continued)

```
482.sphinx3: -DSPEC_CPU_LP64
```

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
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp2006 =$ 90.2

$SPECfp\_base2006 =$ 87.9

CPU2006 license: 001176		**Test date:**	Jan-2016
Test sponsor:	Supermicro	**Hardware Availability:**	Oct-2015
Tested by:	Supermicro	**Software Availability:**	Mar-2015

Peak Optimization Flags (Continued)

      470.lbm: basepeak = yes

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

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

Supermicro

Supermicro X11SSL-nF motherboard
(X11SSL-nF , Intel Xeon E3-1220 v5)

$SPECfp2006 =$ 90.2

$SPECfp\_base2006 =$ 87.9

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

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Mar-2015

Peak Optimization Flags (Continued)

```
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-revG.20141230.00.html

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-revG.20141230.00.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 Tue Feb 9 17:20:27 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 February 2016.