SPEC® CFP2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp^{®}2006 = $ 92.8
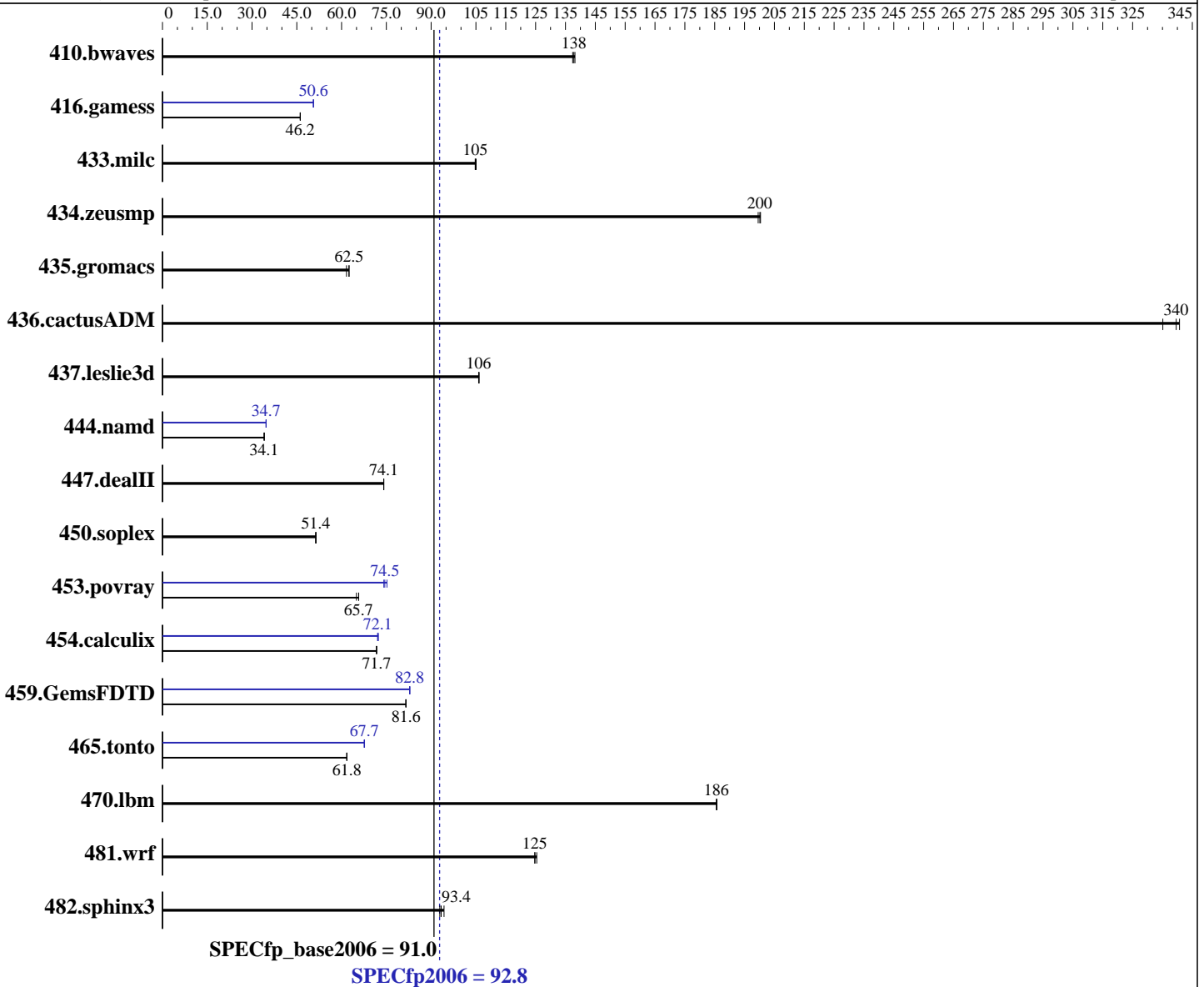
$SPECfp_base2006 = $ 91.0

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Sep-2015

Software Availability: Sep-2015

410.bwaves 138
416.gamess 50.6 / 46.2
433.milc 105
434.zeusmp 200
435.gromacs 62.5
436.cactusADM 340
437.leslie3d 106
444.namd 34.7 / 34.1
447.dealII 74.1
450.soplex 51.4
453.povray 74.5 / 65.7
454.calculix 72.1 / 71.7
459.GemsFDTD 82.8 / 81.6
465.tonto 67.7 / 61.8
470.lbm 186
481.wrf 125
482.sphinx3 93.4

SPECfp_base2006 = 91.0
SPECfp2006 = 92.8

Hardware

CPU Name:	Intel Core i7-6700T
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2800
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 16.0.0.101 of Intel C++ Studio XE for Linux; Fortran: Version 16.0.0.101 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

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

SPECfp2006 =	92.8
SPECfp_base2006 =	91.0

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

Test date: Jan-2016
Hardware Availability: Sep-2015
Software Availability: Sep-2015

L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (4 x 16 GB 2Rx8 PC4-2133P-E)
Disk Subsystem:	1 x 1000 GB SATA III, 7200 RPM
Other Hardware:	None

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

Results Table

Benchmark	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**98.6**	**138**	98.9	137	98.3	138	**98.6**	**138**	98.9	137	98.3	138
416.gamess	424	46.2	424	46.2	**424**	**46.2**	387	50.5	387	50.6	**387**	**50.6**
433.milc	**87.6**	**105**	87.6	105	87.4	105	**87.6**	**105**	87.6	105	87.4	105
434.zeusmp	**45.5**	**200**	45.6	200	45.4	200	**45.5**	**200**	45.6	200	45.4	200
435.gromacs	**114**	**62.5**	116	61.6	114	62.5	**114**	**62.5**	116	61.6	114	62.5
436.cactusADM	35.1	341	**35.2**	**340**	35.7	335	35.1	341	**35.2**	**340**	35.7	335
437.leslie3d	**88.7**	**106**	88.6	106	88.7	106	**88.7**	**106**	88.6	106	88.7	106
444.namd	235	34.1	**235**	**34.1**	235	34.1	231	34.7	231	34.7	**231**	**34.7**
447.dealII	**154**	**74.1**	154	74.1	154	74.1	**154**	**74.1**	154	74.1	154	74.1
450.soplex	163	51.3	162	51.5	**162**	**51.4**	163	51.3	162	51.5	**162**	**51.4**
453.povray	81.9	65.0	80.9	65.7	**80.9**	**65.7**	70.7	75.2	**71.4**	**74.5**	71.7	74.2
454.calculix	**115**	**71.7**	115	71.8	115	71.7	114	72.3	114	72.1	**114**	**72.1**
459.GemsFDTD	**130**	**81.6**	130	81.5	130	81.6	128	82.9	128	82.8	**128**	**82.8**
465.tonto	**159**	**61.8**	159	61.7	159	61.8	145	67.7	**145**	**67.7**	146	67.6
470.lbm	**74.0**	**186**	74.0	186	74.0	186	**74.0**	**186**	74.0	186	74.0	186
481.wrf	89.1	125	89.5	125	**89.5**	**125**	89.1	125	89.5	125	**89.5**	**125**
482.sphinx3	207	94.3	**209**	**93.4**	210	92.9	207	94.3	**209**	**93.4**	210	92.9

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 = Disabled
    Sysinfo program /home/cpu2006/config/sysinfo.rev6914
    $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
    running on localhost.localdomain Tue Jan 12 06:23:59 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

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp2006 =$ 92.8

$SPECfp\_base2006 =$ 91.0

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

Test date: Jan-2016
Hardware Availability: Sep-2015
Software Availability: Sep-2015

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Core(TM) i7-6700T CPU @ 2.80GHz
      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:       65581696 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 01:52

SPEC is set to: /home/cpu2006
   Filesystem             Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   850G  5.1G  845G   1% /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 12/01/2015
  Memory:
  4x Samsung M391A2K43BB1-CPB 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)
```

SPEC CFP2006 Result

Supermicro

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp2006 =$ 92.8

$SPECfp\_base2006 =$ 91.0

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

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 Intel Core i5-4670K CPU + 32GB
 memory using RedHat EL 7.1
 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
```

Supermicro

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp2006 =$ 92.8

$SPECfp\_base2006 =$ 91.0

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Sep-2015

Software Availability: Sep-2015

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: `basepeak = yes`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

Supermicro

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp2006 = $ 92.8

$SPECfp_base2006 = $ 91.0

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

Test date: Jan-2016
Hardware Availability: Sep-2015
Software Availability: Sep-2015

Peak Optimization Flags (Continued)

444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -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:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -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

SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperWorkstation 5039A-iL
(X11SAE , Intel Core i7-6700T)

$SPECfp2006 = 92.8$

$SPECfp\_base2006 = 91.0$

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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.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 17:20:43 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 February 2016.