



SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp®_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

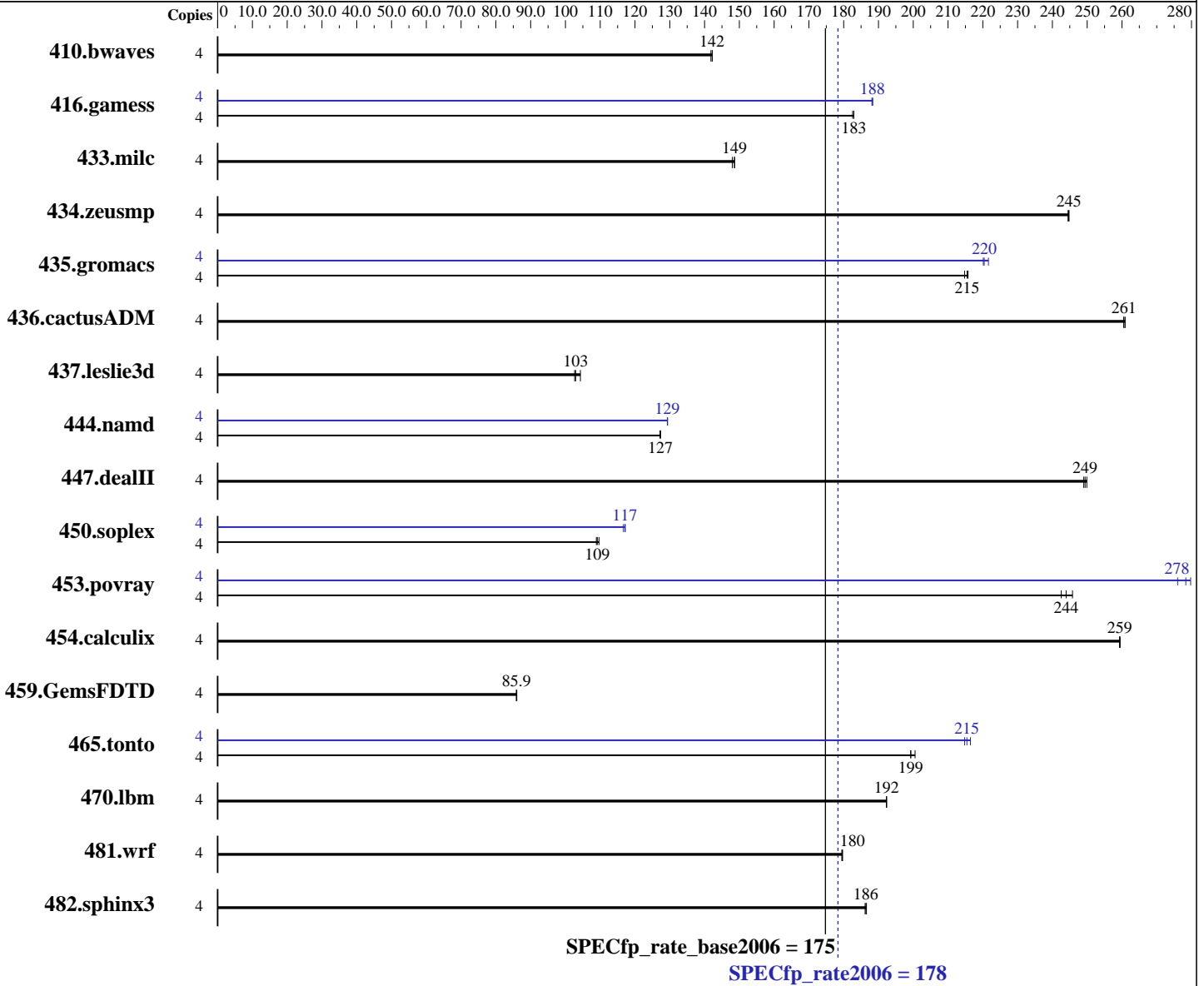
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015



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 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: No
 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 X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (2 x 16 GB 2Rx8 PC4-2133P-E)
Disk Subsystem: 1 x 400 GB SATA III SSD
Other Hardware: None

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

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|-------------|-------------|------------|------------|------------|------------|--------|------------|-------------|-------------|------------|------------|------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 4 | 382 | 142 | 383 | 142 | 382 | 142 | 4 | 382 | 142 | 383 | 142 | 382 | 142 |
| 416.gamess | 4 | 428 | 183 | 428 | 183 | 429 | 183 | 4 | 416 | 188 | 416 | 188 | 416 | 188 |
| 433.milc | 4 | 247 | 149 | 248 | 148 | 247 | 149 | 4 | 247 | 149 | 248 | 148 | 247 | 149 |
| 434.zeusmp | 4 | 149 | 244 | 149 | 245 | 149 | 245 | 4 | 149 | 244 | 149 | 245 | 149 | 245 |
| 435.gromacs | 4 | 133 | 215 | 133 | 215 | 132 | 216 | 4 | 130 | 220 | 129 | 222 | 130 | 220 |
| 436.cactusADM | 4 | 183 | 261 | 183 | 261 | 183 | 261 | 4 | 183 | 261 | 183 | 261 | 183 | 261 |
| 437.leslie3d | 4 | 365 | 103 | 360 | 104 | 366 | 103 | 4 | 365 | 103 | 360 | 104 | 366 | 103 |
| 444.namd | 4 | 252 | 127 | 252 | 127 | 252 | 127 | 4 | 248 | 129 | 248 | 129 | 248 | 129 |
| 447.dealII | 4 | 184 | 249 | 183 | 250 | 183 | 249 | 4 | 184 | 249 | 183 | 250 | 183 | 249 |
| 450.soplex | 4 | 306 | 109 | 306 | 109 | 304 | 110 | 4 | 285 | 117 | 286 | 117 | 285 | 117 |
| 453.povray | 4 | 87.2 | 244 | 86.6 | 246 | 87.7 | 243 | 4 | 77.1 | 276 | 76.4 | 278 | 76.1 | 280 |
| 454.calculix | 4 | 127 | 259 | 127 | 259 | 127 | 259 | 4 | 127 | 259 | 127 | 259 | 127 | 259 |
| 459.GemsFDTD | 4 | 494 | 85.9 | 493 | 86.0 | 494 | 85.9 | 4 | 494 | 85.9 | 493 | 86.0 | 494 | 85.9 |
| 465.tonto | 4 | 196 | 201 | 198 | 199 | 198 | 199 | 4 | 182 | 216 | 183 | 215 | 183 | 215 |
| 470.lbm | 4 | 286 | 192 | 286 | 192 | 286 | 192 | 4 | 286 | 192 | 286 | 192 | 286 | 192 |
| 481.wrf | 4 | 249 | 180 | 249 | 180 | 249 | 179 | 4 | 249 | 180 | 249 | 180 | 249 | 179 |
| 482.sphinx3 | 4 | 419 | 186 | 418 | 186 | 418 | 187 | 4 | 419 | 186 | 418 | 186 | 418 | 187 |

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

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

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.

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

Platform Notes (Continued)

```
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on X10SRA-01 Sat Jan 23 12:15:21 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>

```
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:      32768808 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 X10SRA-01 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 22 22:15
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       xfs   183G  9.3G  174G   6% /
```

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
Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

Platform Notes (Continued)

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. 1.0b 12/22/2015

Memory:

2x Not Specified Not Specified

2x Samsung M391A2K43BB1-CPB 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

Base Portability Flags (Continued)

```

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:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

C++ benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Fortran benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

```

Benchmarks using both Fortran and C:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Peak Compiler Invocation

C benchmarks:

```

icc -m64

```

C++ benchmarks (except as noted below):

```

icpc -m64

```

```

450.soplex: icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

```

Fortran benchmarks:

```

ifort -m64

```

Benchmarks using both Fortran and C:

```

icc -m64 ifort -m64

```



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

Peak 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: -D_FILE_OFFSET_BITS=64
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

```

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

```

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) -opt-mem-layout-trans=3(pass 2)
         -prof-use(pass 2) -fno-alias -auto-ilp32

```

447.dealII: basepeak = yes

```

450.soplex: -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) -opt-mem-layout-trans=3(pass 2)
           -prof-use(pass 2) -opt-malloc-options=3

```

```

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) -opt-mem-layout-trans=3(pass 2)
           -prof-use(pass 2) -unroll4 -ansi-alias

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

Peak Optimization Flags (Continued)

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: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: -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) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-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>



SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1220 v5)

SPECfp_rate2006 = 178

SPECfp_rate_base2006 = 175

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jan-2016

Hardware Availability: Oct-2015

Software Availability: Sep-2015

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 Tue Feb 9 17:20:57 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 February 2016.