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

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp^{®}\_rate2006 = \quad 694$

$SPECfp\_rate\_base2006 = \quad 677$
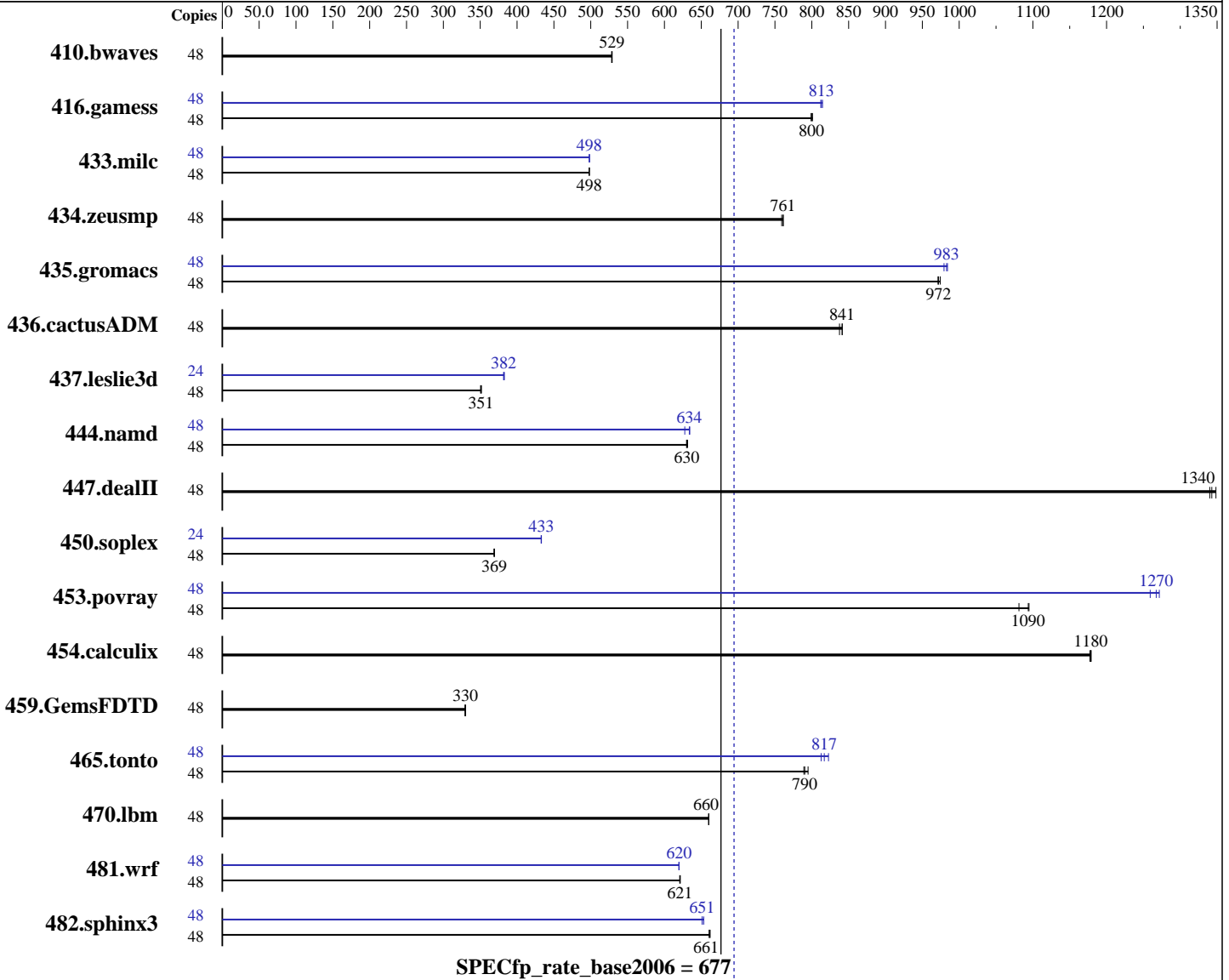
CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

	Copies	
410.bwaves	48	529
416.gamess	48 / 48	813 / 800
433.milc	48 / 48	498 / 498
434.zeusmp	48	761
435.gromacs	48 / 48	983 / 972
436.cactusADM	48	841
437.leslie3d	24 / 48	382 / 351
444.namd	48 / 48	634 / 630
447.dealII	48	1340
450.soplex	24 / 48	433 / 369
453.povray	48 / 48	1270 / 1090
454.calculix	48	1180
459.GemsFDTD	48	330
465.tonto	48 / 48	817 / 790
470.lbm	48	660
481.wrf	48 / 48	620 / 621
482.sphinx3	48 / 48	651 / 661

SPECfp_rate_base2006 = 677

SPECfp_rate2006 = 694

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, 2 threads/core
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 (Santiago) 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:	No
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp_rate2006 = $ 694

$SPECfp_rate_base2006 = $ 677

CPU2006 license: 001176	**Test date:** Nov-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	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	2 x 100 GB SATAIII SSD as RAID-0	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	48	1235	528	**1234**	**529**	1233	529	48	1235	528	**1234**	**529**	1233	529
416.gamess	48	1176	799	**1175**	**800**	1173	801	48	**1156**	**813**	1154	815	1157	812
433.milc	48	**885**	**498**	885	498	885	498	48	885	498	885	498	**885**	**498**
434.zeusmp	48	574	761	575	759	**574**	**761**	48	574	761	575	759	**574**	**761**
435.gromacs	48	**353**	**972**	352	974	353	971	48	348	984	**349**	**983**	350	979
436.cactusADM	48	682	841	**682**	**841**	685	838	48	682	841	**682**	**841**	685	838
437.leslie3d	48	1283	352	**1285**	**351**	1287	350	24	589	383	**591**	**382**	591	382
444.namd	48	**611**	**630**	610	631	611	630	48	613	628	607	634	**607**	**634**
447.dealII	48	**409**	**1340**	410	1340	407	1350	48	**409**	**1340**	410	1340	407	1350
450.soplex	48	1084	369	**1085**	**369**	1086	369	24	462	433	462	433	**462**	**433**
453.povray	48	233	1090	236	1080	**233**	**1090**	48	**201**	**1270**	203	1260	201	1270
454.calculix	48	336	1180	**336**	**1180**	336	1180	48	336	1180	**336**	**1180**	336	1180
459.GemsFDTD	48	**1545**	**330**	1543	330	1546	329	48	**1545**	**330**	1543	330	1546	329
465.tonto	48	594	795	**598**	**790**	598	789	48	581	813	**578**	**817**	574	823
470.lbm	48	999	660	999	660	**999**	**660**	48	999	660	999	660	**999**	**660**
481.wrf	48	864	621	**863**	**621**	863	621	48	865	620	865	620	**865**	**620**
482.sphinx3	48	1416	661	1413	662	**1415**	**661**	48	1437	651	**1437**	**651**	1432	653

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl 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

Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Thu Nov 28 17:43:37 2013

Continued on next page

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp\_rate2006 =$ 694

$SPECfp\_rate\_base2006 =$ 677

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

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

Platform Notes (Continued)

```
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
      2 "physical id"s (chips)
      48 "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  : 24
      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:      132261624 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*
   mrg-realtime-release: Red Hat MRG Realtime release 2.3.0
   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 localhost.localdomain 2.6.32-358.18.1.el6.x86_64 #1 SMP Wed Aug 28
   09:02:47 CEST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 28 17:38

SPEC is set to: /home/cpu2006
   Filesystem     Type     Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_home
                  ext4     121G  4.4G  111G   4% /home

Additional information from dmidecode:
  BIOS American Megatrends Inc. 3.0b.T201311141748 11/14/2013
  Memory:
   16x    8 GB
   16x Hynix Semiconductor HMT31GR7EFR4C-RD 8 GB 1866 MHz 2 rank

(End of data from sysinfo program)
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp_rate2006 = $ 694

$SPECfp_rate_base2006 = $ 677

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

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

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

 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
 Filesystem page cache cleared with:
 echo 1>        /proc/sys/vm/drop_caches
 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
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp_rate2006 = $ 694

$SPECfp_rate_base2006 = $ 677

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

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

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

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc     -m64
```

```
482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc    -m64
```

```
450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc     -m64 ifort -m64
```

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
  453.povray: -DSPEC_CPU_LP64
```

Continued on next page

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp\_rate2006 = \quad 694$

$SPECfp\_rate\_base2006 = \quad 677$

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

Peak Portability Flags (Continued)

```
   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
```

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

      470.lbm: basepeak = yes

   482.sphinx3: -xAVX -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
               -unroll2
```

C++ benchmarks:

```
     444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -fno-alias -auto-ilp32

    447.dealII: basepeak = yes

    450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -opt-malloc-options=3

    453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch
```

Supermicro

SuperServer 6072R-WRF
(X9DRW-iF, Intel Xeon E5-2697 v2, 2.70 GHz)

$SPECfp_rate2006 = $ 694

$SPECfp_rate_base2006 = $ 677

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

Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -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: -xAVX -ipo -O3 -no-prec-div -auto-ilp32

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-revB.20130719.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-revB.20130719.xml

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 19:30:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 December 2013.