



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp[®]_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

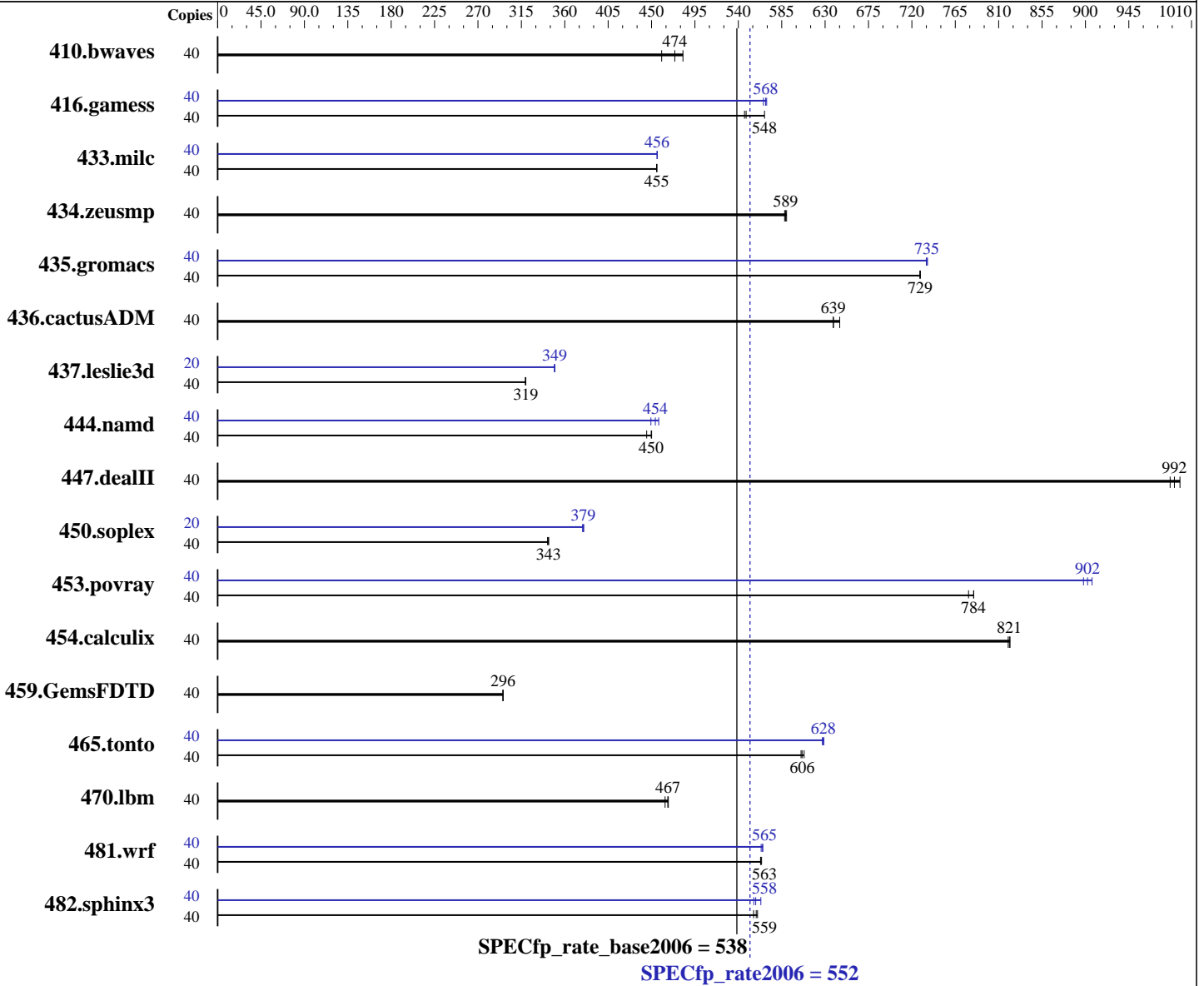
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2660 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 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, Kernel 2.6.32-358.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
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

L3 Cache: 25 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 1 TB SATA II, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	40	1126	483	1180	461	1146	474	40	1126	483	1180	461	1146	474
416.gamess	40	1429	548	1433	546	1381	567	40	1378	568	1375	569	1384	566
433.milc	40	806	455	806	456	807	455	40	806	456	805	456	806	456
434.zeusmp	40	618	589	617	590	619	588	40	618	589	617	590	619	588
435.gromacs	40	392	729	392	728	392	729	40	388	735	389	735	388	736
436.cactusADM	40	741	645	748	639	749	638	40	741	645	748	639	749	638
437.leslie3d	40	1178	319	1177	319	1176	320	20	538	349	538	349	537	350
444.namd	40	713	450	721	445	713	450	40	707	454	701	457	714	449
447.dealII	40	463	988	461	992	459	998	40	463	988	461	992	459	998
450.soplex	40	972	343	975	342	972	343	20	441	378	439	380	440	379
453.povray	40	271	784	271	784	273	779	40	236	902	237	898	235	907
454.calculix	40	402	821	402	820	402	822	40	402	821	402	820	402	822
459.GemsFDTD	40	1434	296	1434	296	1434	296	40	1434	296	1434	296	1434	296
465.tonto	40	647	608	649	606	651	605	40	627	628	626	629	628	627
470.lbm	40	1177	467	1184	464	1176	467	40	1177	467	1184	464	1176	467
481.wrf	40	792	564	794	563	793	563	40	790	565	793	564	791	565
482.sphinx3	40	1392	560	1403	556	1396	559	40	1397	558	1402	556	1384	563

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

BIOS Configuration:
Disable C1E Support, DRAM RAPL Mode, Demand Scrub, Double Refresh.
Set Package C-state Limit to C0

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

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

Test date: Jun-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Platform Notes (Continued)

```
Sysinfo program /usr/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on 194-195.jnet Thu Jun 5 13:48:00 2014
```

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 E5-2660 v2 @ 2.20GHz
 2 "physical id"s (chips)
 40 "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 : 10
  siblings  : 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB
```

```
From /proc/meminfo
MemTotal:      132121112 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 194-195.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 Jun 5 00:25
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda2       ext4      1.3T  428G  833G  34% /
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. 3.0a 12/06/2013
Memory:
 8x 16 GB
 1x DimmA2_Manufacturer DimmA2_PartNumber
 1x DimmA3_Manufacturer DimmA3_PartNumber
 1x DimmB2_Manufacturer DimmB2_PartNumber
 1x DimmB3_Manufacturer DimmB3_PartNumber
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

Platform Notes (Continued)

```

1x DimmC2_Manufacturer DimmC2_PartNumber
1x DimmC3_Manufacturer DimmC3_PartNumber
1x DimmD2_Manufacturer DimmD2_PartNumber
1x DimmD3_Manufacturer DimmD3_PartNumber
1x DimmE2_Manufacturer DimmE2_PartNumber
1x DimmE3_Manufacturer DimmE3_PartNumber
1x DimmF2_Manufacturer DimmF2_PartNumber
1x DimmF3_Manufacturer DimmF3_PartNumber
1x DimmG2_Manufacturer DimmG2_PartNumber
1x DimmG3_Manufacturer DimmG3_PartNumber
1x DimmH2_Manufacturer DimmH2_PartNumber
1x DimmH3_Manufacturer DimmH3_PartNumber
8x Hynix Semiconductor HMT42GR7AFR4C-RD 16 GB 1866 MHz 2 rank

```

(End of data from sysinfo program)
Only 8 DIMMs are installed. Please ignore extra info above.

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 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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

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:

```

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3

```

C++ benchmarks:

```

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -ansi-alias
-opt-mem-layout-trans=3

```

Fortran benchmarks:

```

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch

```

Benchmarks using both Fortran and C:

```

-xSSE4.2 -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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

Peak Compiler Invocation (Continued)

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
 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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
 -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+, Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

447.dealIII: basepeak = yes

450.soplex: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -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-revC.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.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-revC.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 2027R-72RFTP+
(X9DRW-7TPF+ , Intel Xeon E5-2660 v2)

SPECfp_rate2006 = 552

SPECfp_rate_base2006 = 538

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

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 Fri Jul 25 00:20:10 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 July 2014.