



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DR-C-T4+, Intel Xeon E5-2670 v3)

SPECfp[®]_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

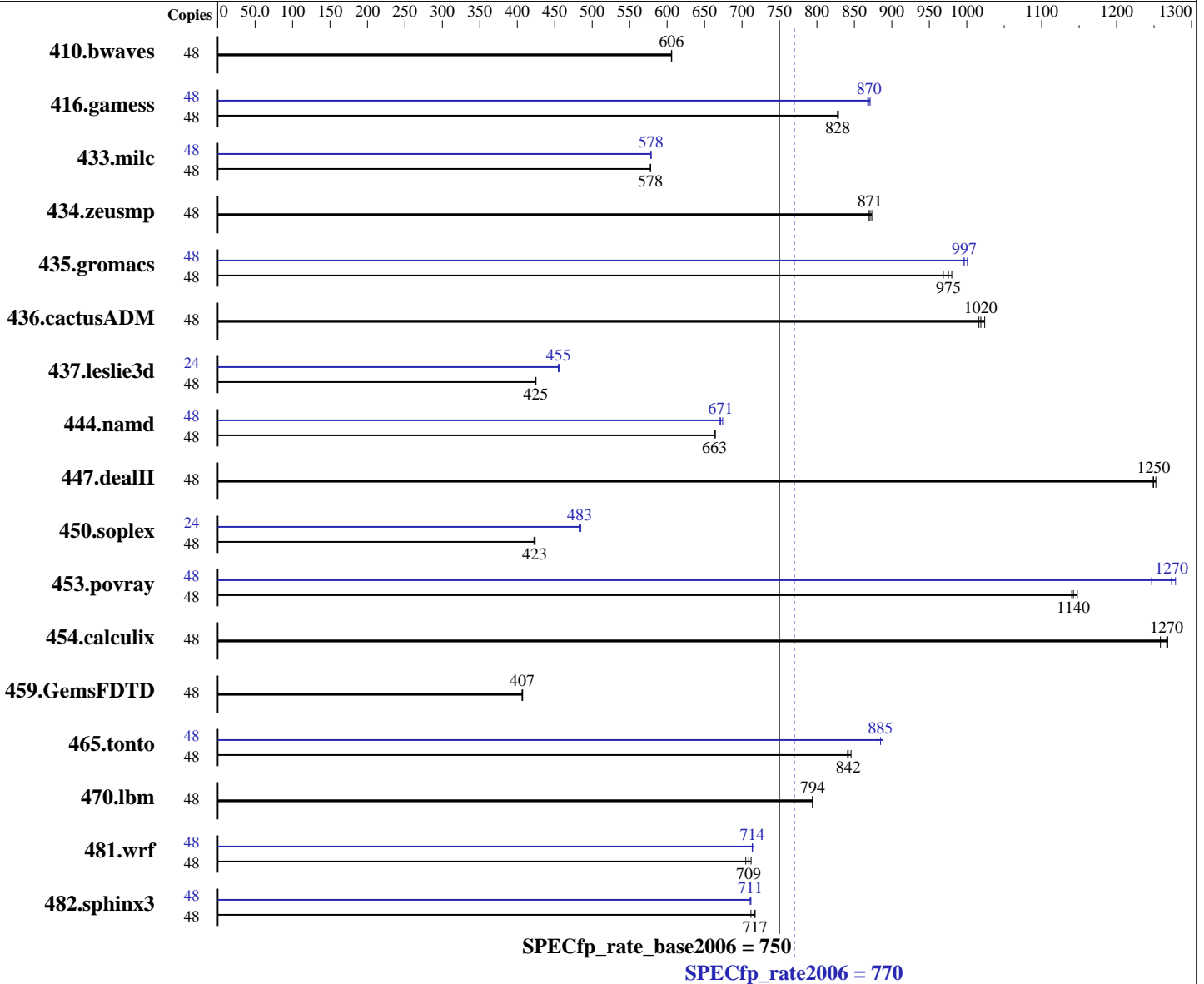
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2670 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
 CPU MHz: 2300
 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 7.0, Kernel 3.10.0-123.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: No
 File System: ext4
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DR-C-T4+, Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 1000 GB SATA III, 7200 RPM
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	48	1077	606	<u>1076</u>	<u>606</u>	1076	606	48	1077	606	<u>1076</u>	<u>606</u>	1076	606
416.gamess	48	1134	829	1136	828	<u>1135</u>	<u>828</u>	48	1079	871	<u>1081</u>	<u>870</u>	1083	868
433.milc	48	762	578	763	578	<u>763</u>	<u>578</u>	48	<u>762</u>	<u>578</u>	762	579	762	578
434.zeusmp	48	<u>502</u>	<u>871</u>	503	869	500	873	48	<u>502</u>	<u>871</u>	503	869	500	873
435.gromacs	48	350	980	354	969	<u>351</u>	<u>975</u>	48	342	1000	<u>344</u>	<u>997</u>	344	995
436.cactusADM	48	<u>563</u>	<u>1020</u>	560	1020	564	1020	48	<u>563</u>	<u>1020</u>	560	1020	564	1020
437.leslie3d	48	<u>1063</u>	<u>425</u>	1062	425	1063	424	24	495	456	496	455	<u>496</u>	<u>455</u>
444.namd	48	579	664	<u>580</u>	<u>663</u>	581	663	48	<u>573</u>	<u>671</u>	571	674	575	670
447.dealII	48	440	1250	<u>440</u>	<u>1250</u>	438	1250	48	440	1250	<u>440</u>	<u>1250</u>	438	1250
450.soplex	48	944	424	<u>946</u>	<u>423</u>	948	422	24	<u>414</u>	<u>483</u>	415	483	413	485
453.povray	48	223	1150	<u>224</u>	<u>1140</u>	224	1140	48	205	1250	<u>201</u>	<u>1270</u>	200	1280
454.calculix	48	315	1260	312	1270	<u>313</u>	<u>1270</u>	48	315	1260	312	1270	<u>313</u>	<u>1270</u>
459.GemsFDTD	48	<u>1252</u>	<u>407</u>	1253	406	1251	407	48	<u>1252</u>	<u>407</u>	1253	406	1251	407
465.tonto	48	<u>561</u>	<u>842</u>	559	846	562	841	48	<u>534</u>	<u>885</u>	536	881	532	888
470.lbm	48	831	794	830	795	<u>830</u>	<u>794</u>	48	831	794	830	795	<u>830</u>	<u>794</u>
481.wrf	48	760	705	753	712	<u>756</u>	<u>709</u>	48	749	716	<u>751</u>	<u>714</u>	751	714
482.sphinx3	48	<u>1304</u>	<u>717</u>	1314	712	1304	717	48	1318	710	<u>1316</u>	<u>711</u>	1314	712

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 Settings:
COD Enable = Enabled
Early Snoop = Disabled

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DRC-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Platform Notes (Continued)

Enforce POR = Disabled
Sysinfo program /home/SPEC2K6/SPEC2006-V12/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on 129-129.hnet Sat Dec 20 05:50:05 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 E5-2670 v3 @ 2.30GHz
 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:      263865740 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

```
uname -a:
Linux 129-129.hnet 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Dec 19 17:47

```
SPEC is set to: /home/SPEC2K6/SPEC2006-V12
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  837G   49G  746G   7% /home
Additional information from dmidecode:
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DRC-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

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

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

Platform Notes (Continued)

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 08/29/2014

Memory:

8x NO DIMM NO DIMM

16x Samsung (date:14/24) M393A2G40DB0-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 = "/home/SPEC2K6/SPEC2006-V12/libs/32:/home/SPEC2K6/SPEC2006-V12/libs/64:/home/SPEC2K6/SPEC2006-V12/sh"

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DR-C-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

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

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

Base Portability Flags (Continued)

```
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:
-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/composer_xe_2015/lib/ia32

Fortran benchmarks:
ifort -m64

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



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DRC-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

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
482.sphinx3: -DSPEC_CPU_LP64

```

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

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
            -unroll2

```

C++ benchmarks:

```

444.namd: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DRC-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

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

459.GemsFDTD: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(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: -xCORE-AVX2 -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-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>



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048R-C1RT4+
(X10DRC-T4+ , Intel Xeon E5-2670 v3)

SPECfp_rate2006 = 770

SPECfp_rate_base2006 = 750

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

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 Wed Jan 14 10:28:37 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 January 2015.