



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp[®]_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

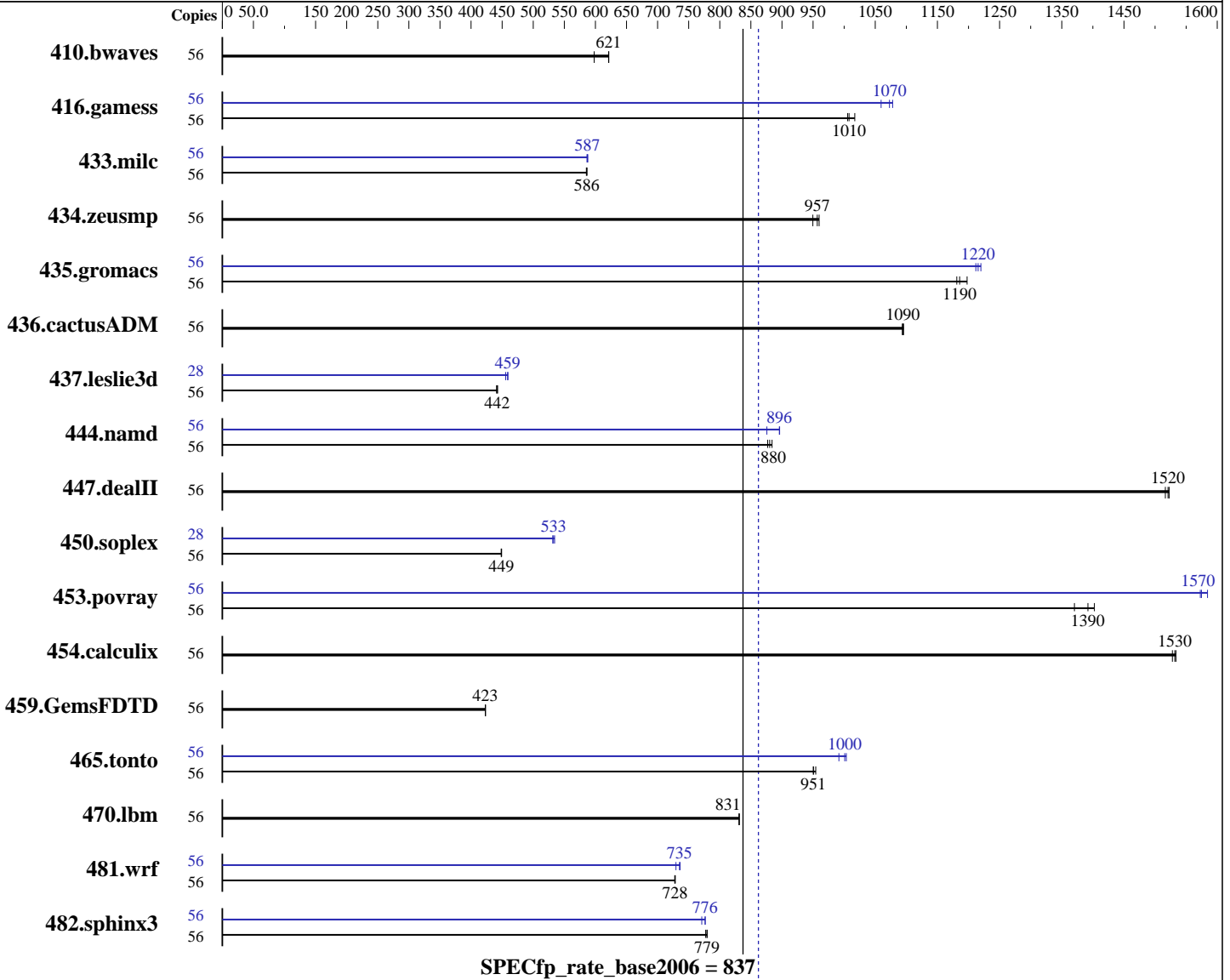
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2697 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 28 cores, 2 chips, 14 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 3.10.0-123.9.3.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: xfs
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

L3 Cache: 35 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 200 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	56	1224	622	<u>1225</u>	<u>621</u>	1273	598	56	1224	622	<u>1225</u>	<u>621</u>	1273	598
416.gamess	56	1078	1020	1090	1010	<u>1088</u>	<u>1010</u>	56	1035	1060	1017	1080	<u>1022</u>	<u>1070</u>
433.milc	56	878	585	877	586	<u>877</u>	<u>586</u>	56	875	588	877	586	<u>876</u>	<u>587</u>
434.zeusmp	56	537	950	531	960	<u>533</u>	<u>957</u>	56	537	950	531	960	<u>533</u>	<u>957</u>
435.gromacs	56	<u>337</u>	<u>1190</u>	334	1200	339	1180	56	330	1210	<u>329</u>	<u>1220</u>	328	1220
436.cactusADM	56	611	1100	<u>611</u>	<u>1090</u>	612	1090	56	611	1100	<u>611</u>	<u>1090</u>	612	1090
437.leslie3d	56	1194	441	<u>1191</u>	<u>442</u>	1189	443	28	573	459	578	456	<u>574</u>	<u>459</u>
444.namd	56	508	884	<u>510</u>	<u>880</u>	512	877	56	<u>501</u>	<u>896</u>	513	876	501	896
447.dealII	56	422	1520	421	1520	<u>421</u>	<u>1520</u>	56	422	1520	421	1520	<u>421</u>	<u>1520</u>
450.soplex	56	1041	449	<u>1041</u>	<u>449</u>	1040	449	28	437	534	439	531	<u>438</u>	<u>533</u>
453.povray	56	212	1400	<u>214</u>	<u>1390</u>	217	1370	56	<u>189</u>	<u>1570</u>	188	1580	189	1570
454.calculix	56	<u>302</u>	<u>1530</u>	302	1530	301	1530	56	<u>302</u>	<u>1530</u>	302	1530	301	1530
459.GemsFDTD	56	1405	423	1404	423	<u>1405</u>	<u>423</u>	56	1405	423	1404	423	<u>1405</u>	<u>423</u>
465.tonto	56	<u>580</u>	<u>951</u>	577	954	580	950	56	<u>551</u>	<u>1000</u>	549	1000	556	992
470.lbm	56	926	831	926	831	<u>926</u>	<u>831</u>	56	926	831	926	831	<u>926</u>	<u>831</u>
481.wrf	56	<u>859</u>	<u>728</u>	860	728	859	728	56	850	736	<u>851</u>	<u>735</u>	857	730
482.sphinx3	56	1400	780	<u>1401</u>	<u>779</u>	1404	777	56	1405	777	1416	771	<u>1406</u>	<u>776</u>

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:
Enforce POR = Disabled
Memory Frequency = 2133

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

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

Test date: Mar-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Platform Notes (Continued)

Early Snoop = Disable
COD Enable = Enable
As tested, the system used a Supermicro SuperChassis 743TQ-865B-SQ chassis.
The chassis is configured with a PWS-865-PQ power supply, 2 SNK-P0050AP4 heatsink,
as well as 2 FAN-0104L4 chassis fan & 1 FAN-0103L4 rear cooling fan.
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on X10DAL-01 Mon Mar 23 20:10:35 2015

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 v3 @ 2.60GHz
 2 "physical id"s (chips)
 56 "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 : 7
  siblings  : 14
  physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 17920 KB
```

```
From /proc/meminfo
MemTotal:      131738332 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 X10DAL-01 3.10.0-123.9.3.el7.x86_64 #1 SMP Thu Oct 30 00:16:40 EDT 2014
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Mar 23 20:09

SPEC is set to: /usr/cpu2006

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

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

Test date: Mar-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xfs	183G	107G	76G	59%	/

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. 1.0 03/06/2015

Memory:

8x Samsung (date:14/5q) 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 = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Base Portability Flags (Continued)

```

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:

```

-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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Peak Compiler Invocation (Continued)

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
 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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Supermicro

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

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

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

Supermicro motherboard X10DAL-i
(X10DAL-i , Intel Xeon E5-2697 v3)

SPECfp_rate2006 = 862

SPECfp_rate_base2006 = 837

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2015

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 Tue Jun 30 16:17:44 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 June 2015.