



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp[®]_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

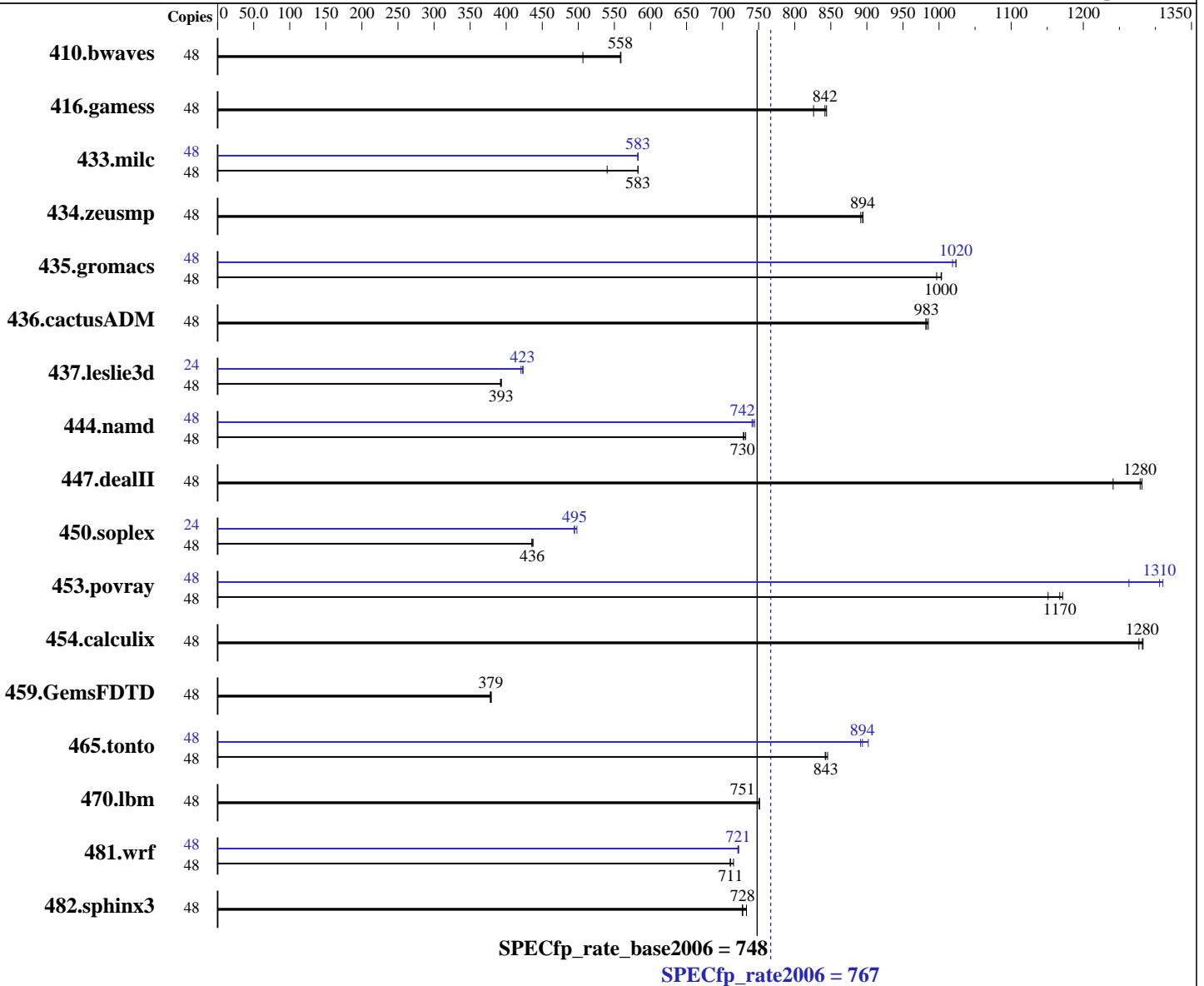
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jan-2015

Hardware Availability: Apr-2015

Software Availability: Apr-2015



Hardware

CPU Name: Intel Xeon E5-2680 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 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: SUSE Linux Enterprise Server 12
 3.12.28-4-default
 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

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

L3 Cache: 30 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 SSD SATA
 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	1288	506	1167	559	1168	558	48	1288	506	1167	559	1168	558
416.gamess	48	1113	844	1116	842	1138	826	48	1113	844	1116	842	1138	826
433.milc	48	816	540	756	583	756	583	48	756	583	756	583	757	582
434.zeusmp	48	488	894	490	892	488	895	48	488	894	490	892	488	895
435.gromacs	48	342	1000	342	1000	344	997	48	335	1020	335	1020	336	1020
436.cactusADM	48	582	985	584	983	584	982	48	582	985	584	983	584	982
437.leslie3d	48	1147	393	1149	393	1151	392	24	534	423	537	420	533	423
444.namd	48	526	732	528	730	528	729	48	517	744	520	741	519	742
447.dealII	48	429	1280	429	1280	442	1240	48	429	1280	429	1280	442	1240
450.soplex	48	916	437	919	436	918	436	24	402	498	405	494	405	495
453.povray	48	222	1150	218	1170	219	1170	48	202	1260	196	1310	195	1310
454.calculix	48	309	1280	310	1280	309	1280	48	309	1280	310	1280	309	1280
459.GemsFDTD	48	1345	379	1348	378	1342	379	48	1345	379	1348	378	1342	379
465.tonto	48	561	842	560	843	559	846	48	530	891	528	894	524	902
470.lbm	48	879	751	878	751	879	751	48	879	751	878	751	879	751
481.wrf	48	754	711	755	711	750	715	48	743	721	743	721	742	722
482.sphinx3	48	1276	733	1286	727	1285	728	48	1276	733	1286	727	1285	728

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:
Snoop Mode set to Cluster on Die
Virtualization Technology disabled

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

Platform Notes (Continued)

System Profile set to Custom
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 # \$ e3fbb8667b5a285932ceab81e28219e1
running on linux-lwp1 Sun Jan 18 00:00:10 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 E5-2680 v3 @ 2.50GHz
 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 : 6
siblings : 12
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 : 15360 KB
```

```
From /proc/meminfo
MemTotal: 132186508 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12
```

```
From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 0
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12"
VERSION_ID="12"
PRETTY_NAME="SUSE Linux Enterprise Server 12"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12"
```

```
uname -a:
Linux linux-lwp1 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jan 17 12:43
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

Platform Notes (Continued)

SPEC is set to: /root/cpu2006-1.2

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	ext4	176G	8.6G	166G	5%	/

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 Dell Inc. 0.4.0 01/08/2015

Memory:

8x 00CE00B300CE 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 = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/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



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

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:

```

-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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

Peak Compiler Invocation (Continued)

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
 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: basepeak = yes

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

Peak Optimization Flags (Continued)

447.dealIII: 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) -unroll14
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

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) -unroll14
-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/Dell-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-ic15.0-official-linux64.xml>

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



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 767

PowerEdge FC430 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp_rate_base2006 = 748

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jan-2015

Hardware Availability: Apr-2015

Software Availability: Apr-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 Wed Apr 8 11:04:19 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 April 2015.