



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3, 1.60 GHz)

SPECfp®2006 = 55.9

SPECfp_base2006 = 54.0

CPU2006 license: 55

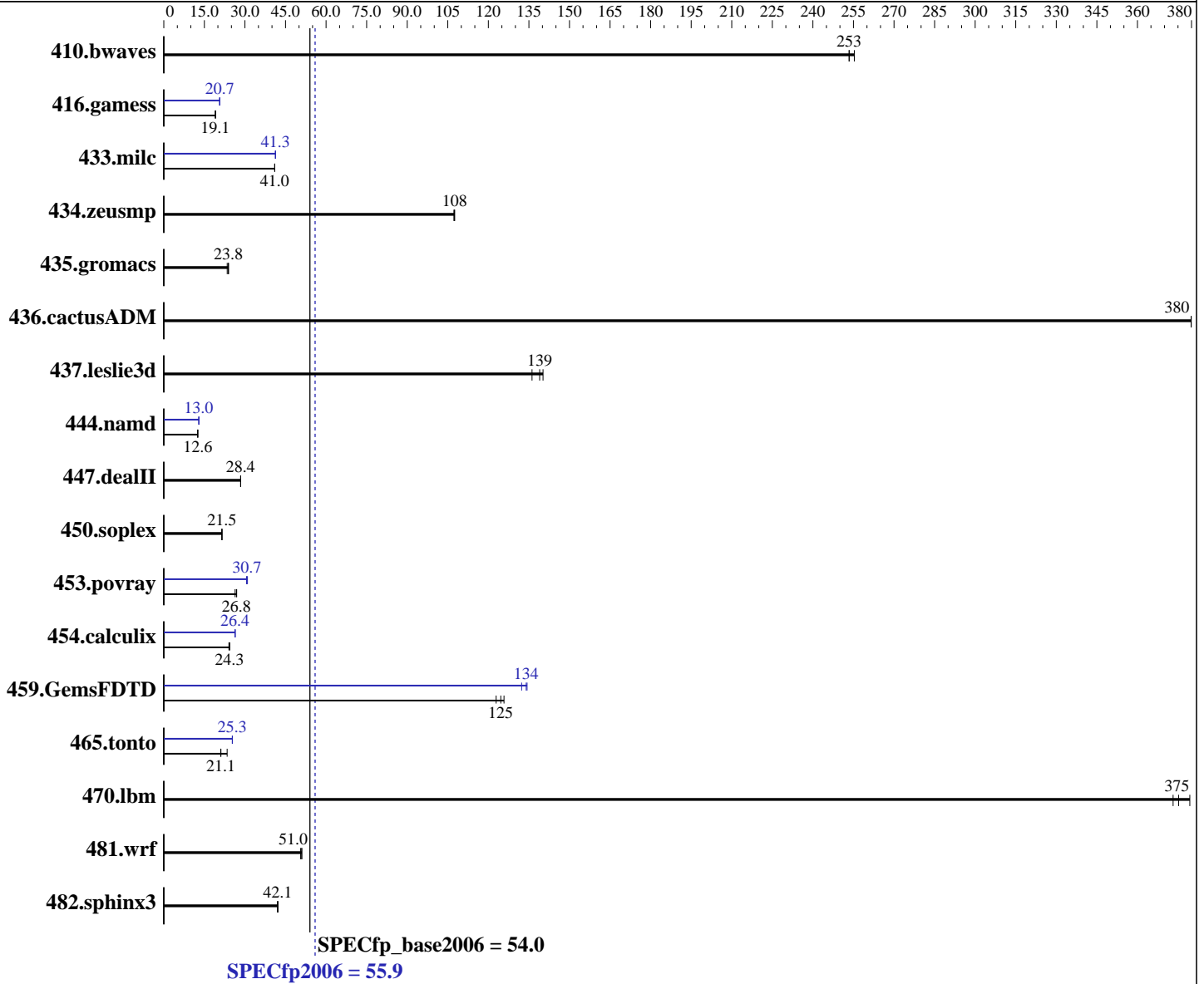
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware	
CPU Name:	Intel Xeon E5-2603 v3
CPU Characteristics:	
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip
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

Software	
Operating System:	SUSE Linux Enterprise Server 11 (x86_64) 3.0.76-0.11-default
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:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)

Continued on next page

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3, 1.60 GHz)

SPECfp2006 = **55.9**

SPECfp_base2006 = **54.0**

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 192 GB (8 x 16 GB, 8 x 8 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem: 1 x 1000 GB 7200 RPM SATA
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>53.6</u>	<u>253</u>	53.6	253	53.2	255	<u>53.6</u>	<u>253</u>	53.6	253	53.2	255
416.gamess	<u>1026</u>	<u>19.1</u>	1027	19.1	1024	19.1	944	20.7	<u>946</u>	<u>20.7</u>	951	20.6
433.milc	224	41.0	224	41.0	<u>224</u>	<u>41.0</u>	<u>222</u>	<u>41.3</u>	222	41.3	223	41.3
434.zeusmp	84.8	107	<u>84.6</u>	<u>108</u>	84.6	108	84.8	107	<u>84.6</u>	<u>108</u>	84.6	108
435.gromacs	298	24.0	<u>300</u>	<u>23.8</u>	305	23.4	298	24.0	<u>300</u>	<u>23.8</u>	305	23.4
436.cactusADM	31.5	380	<u>31.5</u>	<u>380</u>	31.5	380	31.5	380	<u>31.5</u>	<u>380</u>	31.5	380
437.leslie3d	69.0	136	67.0	140	<u>67.6</u>	<u>139</u>	69.0	136	67.0	140	<u>67.6</u>	<u>139</u>
444.namd	639	12.5	639	12.6	<u>639</u>	<u>12.6</u>	619	13.0	<u>619</u>	<u>13.0</u>	619	13.0
447.dealII	402	28.4	403	28.4	<u>402</u>	<u>28.4</u>	402	28.4	403	28.4	<u>402</u>	<u>28.4</u>
450.soplex	<u>388</u>	<u>21.5</u>	389	21.4	387	21.5	<u>388</u>	<u>21.5</u>	389	21.4	387	21.5
453.povray	<u>198</u>	<u>26.8</u>	202	26.4	197	27.0	<u>173</u>	<u>30.7</u>	172	30.9	174	30.6
454.calculix	338	24.4	343	24.1	<u>340</u>	<u>24.3</u>	<u>313</u>	<u>26.4</u>	313	26.4	313	26.4
459.GemsFDTD	<u>85.1</u>	<u>125</u>	84.3	126	86.3	123	80.2	132	79.0	134	<u>79.2</u>	<u>134</u>
465.tonto	468	21.0	<u>466</u>	<u>21.1</u>	420	23.4	389	25.3	<u>388</u>	<u>25.3</u>	388	25.4
470.lbm	<u>36.6</u>	<u>375</u>	36.2	379	36.8	373	<u>36.6</u>	<u>375</u>	36.2	379	36.8	373
481.wrf	221	50.6	219	51.0	<u>219</u>	<u>51.0</u>	221	50.6	219	51.0	<u>219</u>	<u>51.0</u>
482.sphinx3	462	42.2	<u>463</u>	<u>42.1</u>	463	42.1	462	42.2	<u>463</u>	<u>42.1</u>	463	42.1

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS settings:

Snoop Mode set to Home Snoop

Virtualization Technology disabled

Execute Disable disabled

System Profile set to Custom

CPU Power Management set to Maximum Performance

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818

\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191

running on linux-khqw Thu Sep 11 01:48:20 2014

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 2



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 55.9

PowerEdge R730 (Intel Xeon E5-2603 v3, 1.60 GHz)

SPECfp_base2006 = 54.0

CPU2006 license: 55

Test date: Sep-2014

Test sponsor: Dell Inc.

Hardware Availability: Sep-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

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 E5-2603 v3 @ 1.60GHz
 2 "physical id"s (chips)
 12 "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  : 6
  physical 0: cores 0 1 2 3 4 5
  physical 1: cores 0 1 2 3 4 5
 cache size : 15360 KB

```

```

From /proc/meminfo
MemTotal:      198249732 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 3

```

```

uname -a:
Linux linux-khqw 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
(ccab990) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Sep 10 15:05 last=S

```

SPEC is set to: /root/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext3  915G   10G  905G   2% /

```

Additional information from dmidecode:

```

BIOS Dell Inc. 1.0.4 08/28/2014
Memory:
1x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 1600 MHz
5x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 1600 MHz
8x 00CE00B300CE M393A1G43DB0-CPB 8 GB 1600 MHz
2x 00CE00B300CE M393A2G40DB0-CPB 16 GB 1600 MHz
8x Not Specified Not Specified

```

(End of data from sysinfo program)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3,
1.60 GHz)

SPECfp2006 = 55.9

SPECfp_base2006 = 54.0

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

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"
OMP_NUM_THREADS = "12"
```

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/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

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3,
1.60 GHz)

SPECfp2006 = 55.9

SPECfp_base2006 = 54.0

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

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) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3,
1.60 GHz)

SPECfp2006 = 55.9

SPECfp_base2006 = 54.0

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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/Dell-Platform-Settings-V1.2-revD.html>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R730 (Intel Xeon E5-2603 v3,
1.60 GHz)

SPECfp2006 = 55.9

SPECfp_base2006 = 54.0

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

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/Dell-Platform-Settings-V1.2-revD.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 Wed Oct 8 19:41:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 October 2014.