



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R730 (Intel Xeon E5-2623 v3, 3.00 GHz)

**SPECfp<sup>®</sup>\_rate2006 = 384**

**SPECfp\_rate\_base2006 = 376**

CPU2006 license: 55

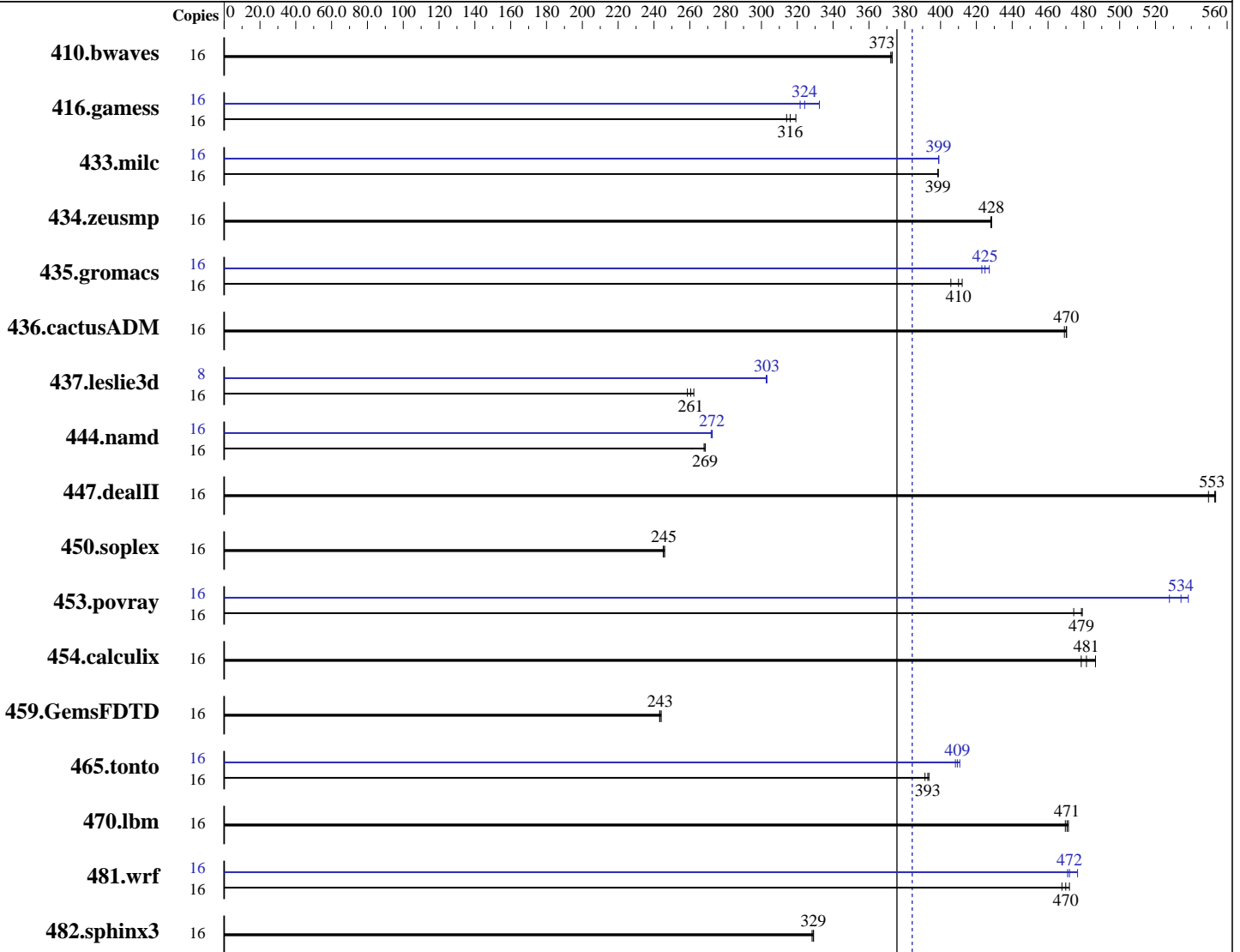
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



**SPECfp\_rate\_base2006 = 376**

**SPECfp\_rate2006 = 384**

### Hardware

CPU Name: Intel Xeon E5-2623 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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 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: No  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R730 (Intel Xeon E5-2623 v3, 3.00 GHz)

SPECfp\_rate2006 = 384

SPECfp\_rate\_base2006 = 376

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jul-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

L3 Cache: 10 MB I+D on chip per chip  
Other Cache: None  
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)  
Disk Subsystem: 1 x 300 GB 15000 RPM SAS  
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	16	583	373	584	372	<b>583</b>	<b>373</b>	16	583	373	584	372	<b>583</b>	<b>373</b>
416.gamess	16	981	319	<b>991</b>	<b>316</b>	998	314	16	943	332	974	322	<b>967</b>	<b>324</b>
433.milc	16	369	399	<b>368</b>	<b>399</b>	368	399	16	368	399	368	399	<b>368</b>	<b>399</b>
434.zeusmp	16	340	428	<b>340</b>	<b>428</b>	340	428	16	340	428	<b>340</b>	<b>428</b>	340	428
435.gromacs	16	277	412	<b>279</b>	<b>410</b>	282	406	16	267	427	<b>269</b>	<b>425</b>	270	423
436.cactusADM	16	<b>407</b>	<b>470</b>	406	470	408	469	16	<b>407</b>	<b>470</b>	406	470	408	469
437.leslie3d	16	<b>577</b>	<b>261</b>	581	259	573	262	8	<b>248</b>	<b>303</b>	248	303	248	303
444.namd	16	479	268	478	269	<b>478</b>	<b>269</b>	16	471	273	<b>471</b>	<b>272</b>	472	272
447.dealII	16	333	550	<b>331</b>	<b>553</b>	331	554	16	333	550	<b>331</b>	<b>553</b>	331	554
450.soplex	16	542	246	<b>544</b>	<b>245</b>	544	245	16	542	246	<b>544</b>	<b>245</b>	544	245
453.povray	16	179	474	178	479	<b>178</b>	<b>479</b>	16	<b>159</b>	<b>534</b>	158	538	161	528
454.calculix	16	<b>274</b>	<b>481</b>	271	487	276	479	16	<b>274</b>	<b>481</b>	271	487	276	479
459.GemsFDTD	16	696	244	698	243	<b>697</b>	<b>243</b>	16	696	244	698	243	<b>697</b>	<b>243</b>
465.tonto	16	<b>401</b>	<b>393</b>	400	394	402	391	16	383	411	<b>385</b>	<b>409</b>	386	408
470.lbm	16	468	470	<b>467</b>	<b>471</b>	466	471	16	468	470	<b>467</b>	<b>471</b>	466	471
481.wrf	16	379	472	<b>380</b>	<b>470</b>	382	468	16	375	476	<b>379</b>	<b>472</b>	380	471
482.sphinx3	16	948	329	950	328	<b>948</b>	<b>329</b>	16	948	329	950	328	<b>948</b>	<b>329</b>

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 Early Snoop  
Virtualization Technology disabled

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECfp\_rate2006 = 384**

PowerEdge R730 (Intel Xeon E5-2623 v3, 3.00 GHz)

**SPECfp\_rate\_base2006 = 376**

**CPU2006 license:** 55

**Test date:** Jul-2014

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2014

**Tested by:** Dell Inc.

**Software Availability:** Sep-2014

## Platform Notes (Continued)

```

Execute Disable disabled
System Profile set to Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux-fm7q Wed Jul 2 15:28:32 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 E5-2623 v3 @ 3.00GHz
 2 "physical id"s (chips)
 16 "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 : 4
  siblings  : 8
  physical 0: cores 0 1 2 3
  physical 1: cores 0 1 2 3
cache size : 10240 KB

```

```

From /proc/meminfo
MemTotal:      264441052 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-fm7q 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 Jul 2 05:56 last=S
```

```

SPEC is set to: /root/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext3  228G   10G  217G   5% /

```

Additional information from dmidecode:

```

BIOS Dell Inc. 0.3.23 06/006/2014
Memory:
4x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 1866 MHz
6x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 1866 MHz
Continued on next page

```



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECfp\_rate2006 = 384**

PowerEdge R730 (Intel Xeon E5-2623 v3,  
3.00 GHz)

**SPECfp\_rate\_base2006 = 376**

**CPU2006 license:** 55

**Test date:** Jul-2014

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2014

**Tested by:** Dell Inc.

**Software Availability:** Sep-2014

## Platform Notes (Continued)

6x 00CE00B300CE M393A2G40DB0-CPB 16 GB 1866 MHz  
8x Not Specified Not Specified

(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 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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R730 (Intel Xeon E5-2623 v3,  
3.00 GHz)

**SPECfp\_rate2006 = 384**

**SPECfp\_rate\_base2006 = 376**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jul-2014

**Hardware Availability:** Sep-2014

**Software Availability:** Sep-2014

## Base Portability Flags (Continued)

```

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:

```

icpc -m64

```

Fortran benchmarks:

```

ifort -m64

```

Benchmarks using both Fortran and C:

```

icc -m64 ifort -m64

```

## Peak Portability Flags

Same as Base Portability Flags



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECfp\_rate2006 = 384**

PowerEdge R730 (Intel Xeon E5-2623 v3,  
3.00 GHz)

**SPECfp\_rate\_base2006 = 376**

**CPU2006 license:** 55

**Test date:** Jul-2014

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2014

**Tested by:** Dell Inc.

**Software Availability:** Sep-2014

## 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

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)  
-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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R730 (Intel Xeon E5-2623 v3,  
3.00 GHz)

**SPECfp\_rate2006 = 384**

**SPECfp\_rate\_base2006 = 376**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jul-2014

**Hardware Availability:** Sep-2014

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

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-ic14.0-official-linux64-revC.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-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Sep 24 16:20:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 September 2014.