



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge T630 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp®\_rate2006 = 787

SPECfp\_rate\_base2006 = 763

CPU2006 license: 55

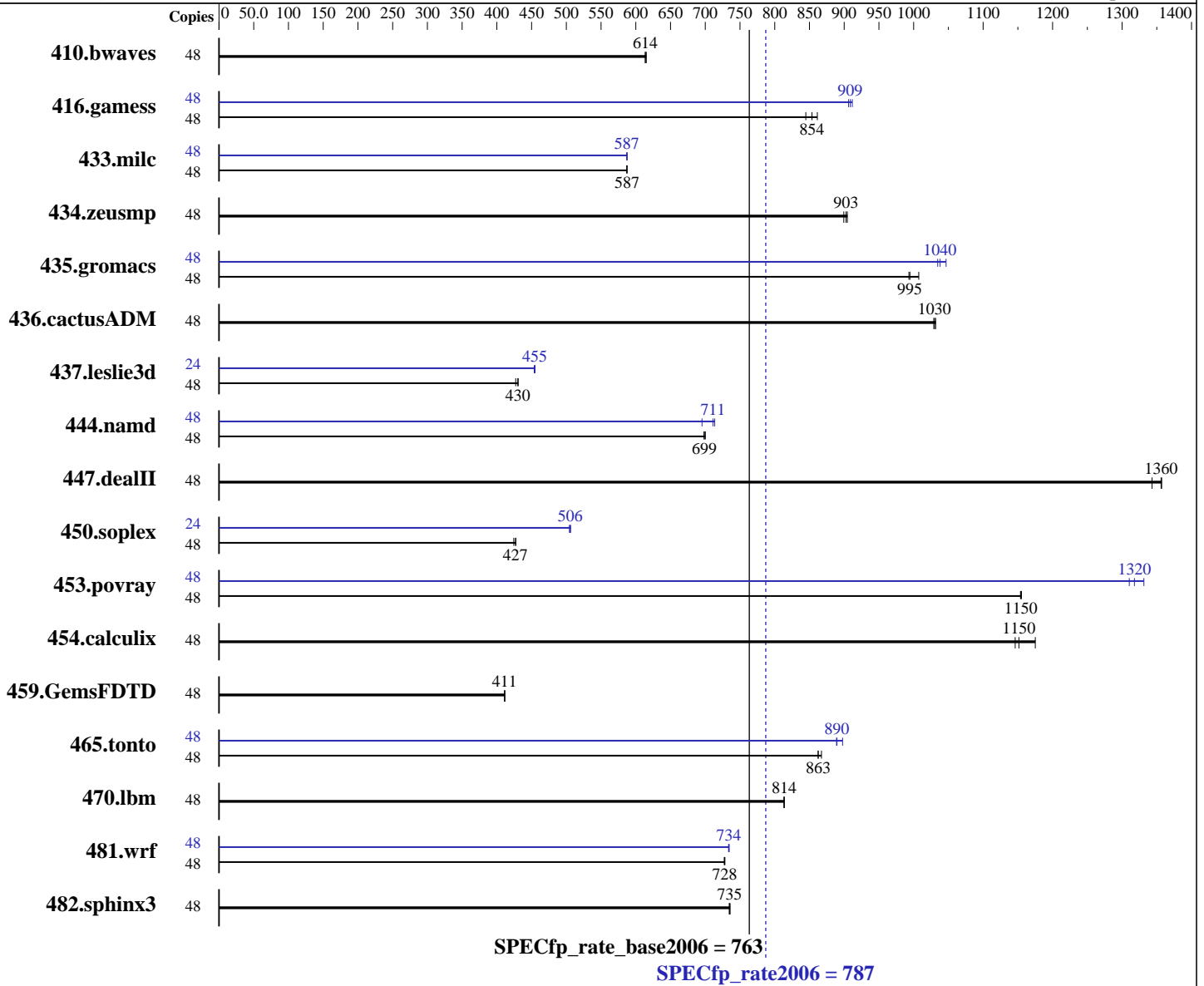
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jun-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



### 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 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: ext2  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge T630 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECfp\_rate2006 = **787**

SPECfp\_rate\_base2006 = **763**

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jun-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 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	48	<b>1063</b>	<b>614</b>	1060	615	1063	614	48	<b>1063</b>	<b>614</b>	1060	615	1063	614
416.gamess	48	1091	861	<b>1101</b>	<b>854</b>	1113	845	48	1031	912	<b>1034</b>	<b>909</b>	1037	906
433.milc	48	<b>750</b>	<b>587</b>	751	587	750	587	48	750	588	751	587	<b>750</b>	<b>587</b>
434.zeusmp	48	483	905	486	899	<b>484</b>	<b>903</b>	48	483	905	486	899	<b>484</b>	<b>903</b>
435.gromacs	48	340	1010	<b>345</b>	<b>995</b>	345	993	48	331	1030	<b>330</b>	<b>1040</b>	327	1050
436.cactusADM	48	557	1030	<b>557</b>	<b>1030</b>	556	1030	48	557	1030	<b>557</b>	<b>1030</b>	556	1030
437.leslie3d	48	1056	427	1048	431	<b>1049</b>	<b>430</b>	24	497	454	<b>496</b>	<b>455</b>	496	455
444.namd	48	<b>551</b>	<b>699</b>	551	698	550	700	48	539	714	<b>541</b>	<b>711</b>	554	695
447.dealII	48	409	1340	<b>405</b>	<b>1360</b>	405	1360	48	409	1340	<b>405</b>	<b>1360</b>	405	1360
450.soplex	48	937	427	943	424	<b>938</b>	<b>427</b>	24	<b>396</b>	<b>506</b>	397	504	395	506
453.povray	48	221	1150	221	1160	<b>221</b>	<b>1150</b>	48	192	1330	195	1310	<b>194</b>	<b>1320</b>
454.calculix	48	<b>344</b>	<b>1150</b>	346	1150	337	1180	48	<b>344</b>	<b>1150</b>	346	1150	337	1180
459.GemsFDTD	48	1238	411	1239	411	<b>1238</b>	<b>411</b>	48	1238	411	1239	411	<b>1238</b>	<b>411</b>
465.tonto	48	545	867	548	862	<b>548</b>	<b>863</b>	48	<b>531</b>	<b>890</b>	526	898	531	889
470.lbm	48	811	814	811	813	<b>811</b>	<b>814</b>	48	811	814	811	813	<b>811</b>	<b>814</b>
481.wrf	48	<b>737</b>	<b>728</b>	737	727	736	728	48	731	734	730	734	<b>730</b>	<b>734</b>
482.sphinx3	48	1271	736	<b>1273</b>	<b>735</b>	1274	735	48	1271	736	<b>1273</b>	<b>735</b>	1274	735

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 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate2006 = 787**

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-2014

**Hardware Availability:** Sep-2014

**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 Fri Jun 27 05:50:21 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 E5-2680 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 : 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 : 15360 KB
```

```
From /proc/meminfo
MemTotal:      264571620 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 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 Jun 26 18:34 last=S
```

```
SPEC is set to: /root/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext2  222G  9.9G  211G   5% /
```

```
Additional information from dmidecode:
BIOS Dell Inc. 0.3.24 06/16/2014
Memory:
8x 002C00B3002C 36ASF2G72PZ-2G1A1 16 GB 2133 MHz
4x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 2133 MHz
Continued on next page
```



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECfp\_rate2006 = 787**

PowerEdge T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test date:** Jun-2014

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2014

**Tested by:** Dell Inc.

**Software Availability:** Sep-2014

## Platform Notes (Continued)

4x 00CE00B300CE M393A2G40DB0-CPB 16 GB 2133 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 T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate2006 = 787**

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-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 (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate2006 = 787**

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-2014

**Hardware Availability:** Sep-2014

**Software Availability:** Sep-2014

## Peak 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
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

```

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 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate2006 = 787**

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-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-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 CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge T630 (Intel Xeon E5-2680 v3,  
2.50 GHz)

**SPECfp\_rate2006 = 787**

**SPECfp\_rate\_base2006 = 763**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Sep 24 16:20:23 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 September 2014.