



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Dell Inc.

### SPECfp<sup>®</sup>\_rate2006 = 172

### PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

### SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

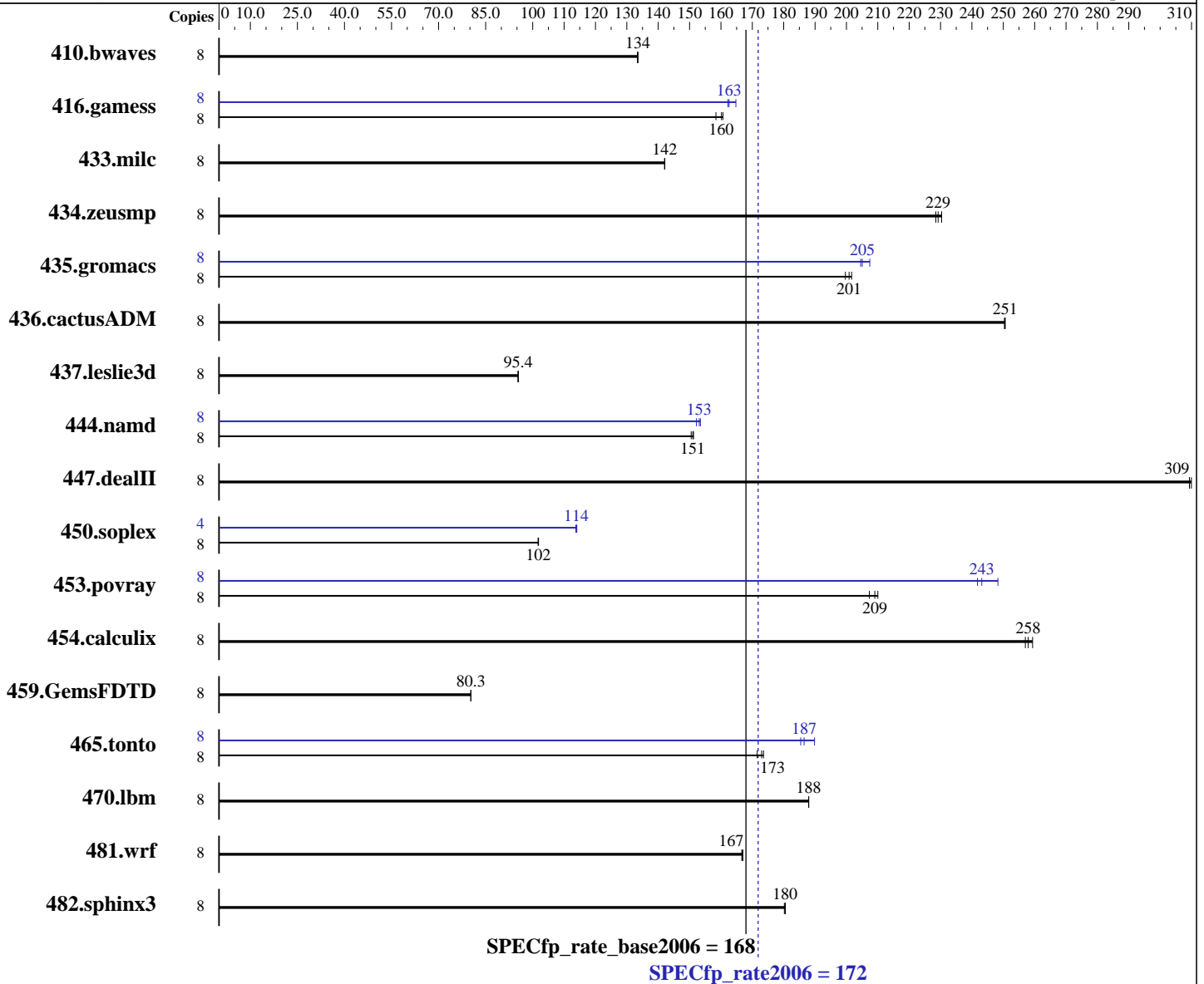
Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-2015



#### Hardware

CPU Name: Intel Xeon E3-1260L v5  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 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 16.0.0.101 of Intel C++ Studio XE  
 for Linux;  
 Fortran: Version 16.0.0.101 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 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-2015

L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2133P-U)  
Disk Subsystem: 1 x 500 GB 7200 RPM 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	8	<b>814</b>	<b>134</b>	815	133	814	134	8	<b>814</b>	<b>134</b>	815	133	814	134
416.gamess	8	975	161	<b>978</b>	<b>160</b>	989	158	8	966	162	<b>963</b>	<b>163</b>	951	165
433.milc	8	<b>517</b>	<b>142</b>	517	142	517	142	8	<b>517</b>	<b>142</b>	517	142	517	142
434.zeusmp	8	<b>318</b>	<b>229</b>	316	230	319	228	8	<b>318</b>	<b>229</b>	316	230	319	228
435.gromacs	8	283	202	286	200	<b>284</b>	<b>201</b>	8	279	205	<b>279</b>	<b>205</b>	275	207
436.cactusADM	8	<b>382</b>	<b>251</b>	382	251	382	250	8	<b>382</b>	<b>251</b>	382	251	382	250
437.leslie3d	8	<b>788</b>	<b>95.4</b>	789	95.3	788	95.4	8	<b>788</b>	<b>95.4</b>	789	95.3	788	95.4
444.namd	8	424	151	426	151	<b>425</b>	<b>151</b>	8	<b>419</b>	<b>153</b>	422	152	418	153
447.dealII	8	<b>296</b>	<b>309</b>	295	310	296	309	8	<b>296</b>	<b>309</b>	295	310	296	309
450.soplex	8	655	102	<b>655</b>	<b>102</b>	656	102	4	<b>293</b>	<b>114</b>	292	114	293	114
453.povray	8	<b>204</b>	<b>209</b>	203	210	205	207	8	176	242	171	248	<b>175</b>	<b>243</b>
454.calculix	8	254	259	<b>256</b>	<b>258</b>	257	257	8	254	259	<b>256</b>	<b>258</b>	257	257
459.GemsFDTD	8	1057	80.3	1058	80.3	<b>1057</b>	<b>80.3</b>	8	1057	80.3	1058	80.3	<b>1057</b>	<b>80.3</b>
465.tonto	8	<b>455</b>	<b>173</b>	459	172	454	174	8	425	185	<b>422</b>	<b>187</b>	415	190
470.lbm	8	<b>585</b>	<b>188</b>	585	188	585	188	8	<b>585</b>	<b>188</b>	585	188	585	188
481.wrf	8	<b>535</b>	<b>167</b>	535	167	536	167	8	<b>535</b>	<b>167</b>	535	167	536	167
482.sphinx3	8	864	181	<b>864</b>	<b>180</b>	865	180	8	864	181	<b>864</b>	<b>180</b>	865	180

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:  
Virtualization Technology disabled  
System Profile set to Performance

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-2015

## Platform Notes (Continued)

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on linux-16fb Mon Sep 21 11:08:52 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 E3-1260L v5 @ 2.90GHz
    1 "physical id"s (chips)
    8 "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
  cache size : 8192 KB
```

```
From /proc/meminfo
  MemTotal:      66066084 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-16fb 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 Sep 21 02:01
```

SPEC is set to: /root/cpu2006-1.2

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-2015

## Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	ext4	451G	8.4G	442G	2%	/

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. 0.3.16 09/09/2015

Memory:

```
1x 00AD00000000 HMA82GU7MFR8N-TF 16 GB 2 rank 2133 MHz
2x 00AD0000020B HMA82GU7MFR8N-TF 16 GB 2 rank 2133 MHz
1x 00AD00000800 HMA82GU7MFR8N-TF 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 Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

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 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-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/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-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  
 450.soplex: -D\_FILE\_OFFSET\_BITS=64  
 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: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
 -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
 -par-num-threads=1(pass 1) -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

Dell Inc.

SPECfp\_rate2006 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test date: Sep-2015

Test sponsor: Dell Inc.

Hardware Availability: Nov-2015

Tested by: Dell Inc.

Software Availability: Sep-2015

## Peak Optimization Flags (Continued)

450.soplex: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -opt-mem-layout-trans=3(pass 2)  
-prof-use(pass 2) -opt-malloc-options=3

453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -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:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -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:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -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: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.20151006.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.20151006.xml>



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 172

PowerEdge T330 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp\_rate\_base2006 = 168

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2015

Hardware Availability: Nov-2015

Software Availability: Sep-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Tue Nov 17 19:16:29 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 17 November 2015.