# SPEC® CFP2006 Result

**Dell Inc.**

PowerEdge FC430 (Intel Xeon E5-2609 v3, 1.90 GHz)  

<table>
<thead>
<tr>
<th>SPECfp2006</th>
<th>57.4</th>
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<tbody>
<tr>
<td>SPECfp_base2006</td>
<td>55.8</td>
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**CPU2006 license:** 55  
**Test date:** Jan-2015  
**Hardware Availability:** Apr-2015  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Software Availability:** Apr-2015

### Hardware

<table>
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<tr>
<td>410.bwaves</td>
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<tr>
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<td>45.3</td>
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<td>454.calculix</td>
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<td>459.GemsFDTD</td>
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<td>481.wrf</td>
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<td>482.sphinx3</td>
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### Software

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Operating System</td>
<td>SUSE Linux Enterprise Server 12 3.12.28-4-default</td>
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<tr>
<td>Compiler</td>
<td>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</td>
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<tr>
<td>Auto Parallel</td>
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<td>File System</td>
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<tr>
<td>System State</td>
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</tbody>
</table>
Dell Inc.

PowerEdge FC430 (Intel Xeon E5-2609 v3, 1.90 GHz)

SPEC CFP2006 Result

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Dell Inc.

PowerEdge FC430 (Intel Xeon E5-2609 v3, 1.90 GHz)

SPECfp2006 = 57.4
SPECfp_base2006 = 55.8

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem: 1 x 200 GB SSD SATA
Other Hardware: None

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

Results Table

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<th>Seconds</th>
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<th>Seconds</th>
<th>Ratio</th>
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<td>47.4</td>
</tr>
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</table>

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
System Profile set to Custom
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #" e3fbb8667b5a285932ceab81e28219e1
running on linux-ny5m Wed Jan 28 04:48:51 2015

This section contains SUT (System Under Test) info as seen by
Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Dell Inc.  
PowerEdge FC430 (Intel Xeon E5-2609 v3, 1.90 GHz)  

SPECfp2006 =  57.4  
SPECfp_base2006 =  55.8  

CPU2006 license: 55  
Test sponsor: Dell Inc.  
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CPU2006 license: 55  
Test date: Jan-2015  
Hardware Availability: Apr-2015  
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Platform Notes (Continued)

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 E5-2609 v3 @ 1.90GHz
  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: 132187000 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-ny5m 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 27 19:45

SPEC is set to: /root/cpu2006-1.2
  Filesystem   Type  Size  Used Avail Use% Mounted on
  /dev/sda2    ext4  176G  11G  165G  6% /

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Platform Notes (Continued)

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:
4x 002C00B3002C 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1600 MHz
4x 00CE00B300CE M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1600 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"
OMP_NUM_THREADS = "6"

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

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
### Dell Inc.

**PowerEdge FC430 (Intel Xeon E5-2609 v3, 1.90 GHz)**

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#### Base Portability Flags (Continued)

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<tbody>
<tr>
<td>-DSPEC_CPU_LP64</td>
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<tr>
<td>-nofor_main</td>
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</table>

- 435.gromacs:  
- 436.cactusADM:  
- 437.leslie3d:  
- 444.namd:  
- 447.dealII:  
- 450.soplex:  
- 453.povray:  
- 454.calculix:  
- 459.GemsFDTD:  
- 463.tonto:  
- 470.lbm:  
- 481.wrf:  
- 482.sphinx3:  

#### 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
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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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilk32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -03 -no-prec-div -unroll2 -ansi-alias
-parallel

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

503.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(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

503.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Continued on next page
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Peak Optimization Flags (Continued)

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-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

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For questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.  
Originally published on 16 April 2015.