**Dell Inc.**

PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

### SPEC® CFP2006 Result

**SPECfp®2006 = 97.1**

**SPECfp_base2006 = 94.8**

<table>
<thead>
<tr>
<th>Benchmark</th>
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</tr>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>55.5</td>
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<tr>
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<td>49.3</td>
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<tr>
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<tr>
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<td>436.cactusADM</td>
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<tr>
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<tr>
<td>444.namd</td>
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<tr>
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<td>125</td>
</tr>
<tr>
<td>482.sphinx3</td>
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</tr>
</tbody>
</table>

### 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

### 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:** Yes
- **File System:** ext4
- **System State:** Run level 3 multi-user
Dell Inc.

PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp2006 = 97.1
SPECfp_base2006 = 94.8

CPU2006 license: 55
Test sponsor: Dell Inc.
 Tested by: Dell Inc.
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: 64-bit
Peak Pointers: 32/64-bit

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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</tr>
</tbody>
</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:
Virtualization Technology disabled
System Profile set to Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1
running on linux-8px2 Mon Oct  5 13:20:21 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
Continued on next page
Dell Inc.

PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp2006 = 97.1
SPECfp_base2006 = 94.8

Platform Notes (Continued)

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.
uname -a:
Linux linux-8px2 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 Oct 5 09:09

SPEC is set to: /root/cpu2006-1.2
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 451G 11G 440G 3% /

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
Continued on next page
**SPEC CFP2006 Result**

Dell Inc.

PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

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**CPU2006 license:** 55  
**Test date:** Oct-2015  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Hardware Availability:** Nov-2015  
**Software Availability:** Sep-2015

---

**Platform Notes (Continued)**

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:  
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 = "4"

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

---

**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
```

Continued on next page.
Dell Inc. PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

**SPEC CFP2006 Result**

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### SPECfp2006 = 97.1

### SPECfp_base2006 = 94.8

#### Base Portability Flags (Continued)

- 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
- -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
Dell Inc.
PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp2006 = 97.1
SPECfp_base2006 = 94.8

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

Test date: Oct-2015
Hardware Availability: Nov-2015
Software Availability: Sep-2015

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) -prof-use(pass 2) -fno-alias
-auto-ilp32
447.dealII: basepeak = yes
450.soplex: basepeak = yes
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) -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: -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 -opt-prefetch -parallel
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) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:
Dell Inc. PowerEdge R230 (Intel Xeon E3-1260L v5, 2.90 GHz)

SPECfp2006 = 97.1
SPECfp_base2006 = 94.8

Peak Optimization Flags (Continued)

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-ic16.0-official-linux64.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

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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.
Report generated on Tue Nov 17 19:16:08 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 November 2015.