**Dell Inc.**  
PowerEdge R530 (Intel Xeon E5-2603 v3, 1.60 GHz)  

<table>
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**CPU Name:** Intel Xeon E5-2603 v3  
**CPU Characteristics:**  
- CPU MHz: 1600  
- FPU: Integrated  
- CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip  
- Primary Cache: 32 KB I + 32 KB D on chip per core  
- Secondary Cache: 256 KB I+D on chip per core  
- L3 Cache: 15 MB I+D on chip per chip  
- Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)  
- Disk Subsystem: 1 x 300 GB 10000 RPM SAS  
- Other Hardware: None  

**Software**  
**Operating System:** Red Hat Enterprise Linux Server release 6.5 (Santiago)  
**Compiler:** C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
**Auto Parallel:** No  
**File System:** ext4  
**System State:** Run level 3 (multi-user)  
**Base Pointers:** 32-bit  
**Peak Pointers:** 32/64-bit  
**Other Software:** Microquill SmartHeap V10.0
Dell Inc.

PowerEdge R530 (Intel Xeon E5-2603 v3, 1.60 GHz)

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

SPEC CINT2006 Result

SPECint_rate2006 = 275
SPECint_rate_base2006 = 266

Results Table

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</table>

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
Execute Disable disabled
System Profile set to Custom
Memory Patrol Scrub set to Disabled
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Tue Oct 21 09:44:03 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 E5-2603 v3 @ 1.60GHz
  2 "physical id"s (chips)
Dell Inc.

PowerEdge R530 (Intel Xeon E5-2603 v3, 1.60 GHz)

SPECint\_rate\_2006 = 275
SPECint\_rate\_base\_2006 = 266

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

Software Availability: Jan-2014

Platform Notes (Continued)

12 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
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: 132054904 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/redhat-release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
Linux localhost.localdomain 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54
EST 2013 x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Oct 21 09:39

SPEC is set to: /root/cpu2006-1.2

Additional information from dmidecode:
BIOS Dell Inc. 1.0.0 10/15/2014
Memory:
4x 000000000000 Not Specified 1600 MHz 1 rank
8x 002C00B3002C 36ASP2G72PZ-2G1A2 16 GB 1600 MHz 2 rank

(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/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:

Continued on next page
## SPEC CINT2006 Result

### Dell Inc.

**PowerEdge R530 (Intel Xeon E5-2603 v3, 1.60 GHz)**

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**Tested by:** Dell Inc.  
**Test date:** Oct-2014  
**Hardware Availability:** Dec-2014  
**Software Availability:** Jan-2014

### General Notes (Continued)

```
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numaclt i.e.:  
numactl --interleave=all runspec <etc>
```

### Base Compiler Invocation

- **C benchmarks:**
  - icc  -m32

- **C++ benchmarks:**
  - icpc  -m32

### Base Portability Flags

- 400.perlbench: -DSPEC_CPU_LINUX_IA32
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX

### Base Optimization Flags

- **C benchmarks:**
  -xCORE-AVX2  -ipo  -O3  -no-prec-div  -opt-prefetch  
  -opt-mem-layout-trans=3

- **C++ benchmarks:**
  -xCORE-AVX2  -ipo  -O3  -no-prec-div  -opt-prefetch  
  -opt-mem-layout-trans=3  -Wl,-z,muldefs -L/sh -lsmartheap

### Base Other Flags

- **C benchmarks:**
  - 403.gcc: -Dalloca=_alloca

### Peak Compiler Invocation

- **C benchmarks (except as noted below):**
  - icc  -m32

  - 400.perlbench: icc  -m64

Continued on next page
Peak Compiler Invocation (Continued)

401.bzip2: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: basepeak = yes

458.sjeng: -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-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

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Dell Inc.
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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revE.xml

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For other inquiries, please contact webmaster@spec.org.

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