Dell Inc.

PowerEdge R730 (Intel Xeon E5-2630 v3, 2.40 GHz)

SPECint®2006 = 58.4
SPECint_base2006 = 54.8

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
Test date: Aug-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

CPU Name: Intel Xeon E5-2630 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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
L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)
Disk Subsystem: 1 x 250 GB 7200 RPM SATA
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 11 (x86_64) 3.0.76-0.11-default
Compiler: C/C++: Version 14.0.0.0.080 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0
## SPEC CINT2006 Result

**Dell Inc.**  
PowerEdge R730 (Intel Xeon E5-2630 v3, 2.40 GHz)  

<table>
<thead>
<tr>
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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>266</td>
<td>36.7</td>
<td>266</td>
<td>36.7</td>
<td>267</td>
<td>36.7</td>
<td>227</td>
<td>43.0</td>
<td>228</td>
<td>42.9</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>414</td>
<td>23.3</td>
<td>415</td>
<td>23.3</td>
<td>416</td>
<td>23.2</td>
<td>409</td>
<td>23.6</td>
<td>409</td>
<td>23.6</td>
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<tr>
<td>403.mcf</td>
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<td>32.5</td>
<td>250</td>
<td>32.2</td>
<td>250</td>
<td>32.2</td>
<td>244</td>
<td>33.0</td>
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<tr>
<td>429.gcc</td>
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<td>60.9</td>
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<td>60.8</td>
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<tr>
<td>445.gobmk</td>
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<td>22.7</td>
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<tr>
<td>456.hmmer</td>
<td>145</td>
<td>64.4</td>
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<td>63.9</td>
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<td>64.4</td>
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<tr>
<td>458.sjeng</td>
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<td>387</td>
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<tr>
<td>462.libquantum</td>
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<td>4.64</td>
<td>4460</td>
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<tr>
<td>464.h264ref</td>
<td>526</td>
<td>42.1</td>
<td>522</td>
<td>42.4</td>
<td>522</td>
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<td>42.4</td>
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<tr>
<td>471.omnetpp</td>
<td>227</td>
<td>27.5</td>
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<td>27.5</td>
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<td>40.5</td>
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<tr>
<td>473.astar</td>
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<tr>
<td>483.xalancbmk</td>
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<td>61.5</td>
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<td>112</td>
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</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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### Submit Notes

The config file option 'submit' was used.

### 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  
Execute Disable disabled  
System Profile set to Custom  
CPU Power Management set to Maximum Performance  
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818  
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3ceee98f191  
running on linux-fm7q Tue Aug 26 03:54:37 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 E5-2630 v3 @ 2.40GHz  
2 "physical id"s (chips)  
32 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
SPEC CINT2006 Result

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Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.

cpu cores : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7

cache size : 20480 KB

From /proc/meminfo
MemTotal: 264441052 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-fm7q 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
time Mon Aug 19 09:03:11 UTC 2013
ccab990) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 26 03:52 last=S

SPEC is set to: /root/cpu2006-1.2
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext3 228G 11G 216G 5% /

Additional information from dmidecode:
BIOS Dell Inc. 1.0.3 08/21/2014
Memory:
4x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 1867 MHz
6x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 1867 MHz
6x 00CE00B300CE M393A2G40DB0-CPB 16 GB 1867 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"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:

Continued on next page
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General Notes (Continued)

- 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

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
C++ benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
  -Wl,-z,muldefs -L/sh -lsmartheap64

Base Other Flags

C benchmarks:
  - 403.gcc: -Dalloca=_alloca
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Peak Compiler Invocation

C benchmarks (except as noted below):
  icc  -m64
  400.perlbench: icc -m32
  445.gobmk: icc -m32

C++ benchmarks (except as noted below):
  icpc  -m64
  471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32  
401.bzip2: -DSPEC_CPU_LP64  
403.gcc: -DSPEC_CPU_LP64  
429.mcf: -DSPEC_CPU_LP64  
456.hmmer: -DSPEC_CPU_LP64  
458.sjeng: -DSPEC_CPU_LP64  
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX  
464.h264ref: -DSPEC_CPU_LP64  
473.astar: -DSPEC_CPU_LP64  
483.xalancbmk: -DSPEC_CPU_LP64 -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)  
                     -opt-prefetch -ansi-alias

Continued on next page
Dell Inc.
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Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -03 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

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-revD.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-revD.xml

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

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