**SPEC® CINT2006 Result**

**Dell Inc.**

PowerEdge R630 (Intel Xeon E5-2683 v3, 2.00 GHz)

| SPECint_rate2006 | 1080 |
| SPECint_rate_base2006 | 1050 |

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

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating System:</strong></td>
<td>SUSE Linux Enterprise Server 11 (x86_64) 3.0.76-0.11-default</td>
</tr>
<tr>
<td><strong>Compiler:</strong></td>
<td>C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td><strong>Auto Parallel:</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>File System:</strong></td>
<td>ext2</td>
</tr>
<tr>
<td><strong>System State:</strong></td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>Base Pointers:</strong></td>
<td>32-bit</td>
</tr>
<tr>
<td><strong>Peak Pointers:</strong></td>
<td>32/64-bit</td>
</tr>
<tr>
<td><strong>Other Software:</strong></td>
<td>Microquill SmartHeap V10.0</td>
</tr>
<tr>
<td><strong>Memory:</strong></td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2133M-R)</td>
</tr>
<tr>
<td><strong>Disk Subsystem:</strong></td>
<td>1 x 1000 GB 7200 RPM SATA</td>
</tr>
<tr>
<td><strong>Other Hardware:</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

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**SPECint_rate2006 = 1080**

**SPECint_rate_base2006 = 1050**
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Base</td>
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<tr>
<td>400.perlbench</td>
<td>56</td>
<td>668</td>
<td>819</td>
<td>679</td>
<td>806</td>
<td>678</td>
<td>807</td>
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<tr>
<td>401.bzip2</td>
<td>56</td>
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<td>530</td>
<td>1016</td>
<td>532</td>
<td>1018</td>
<td>531</td>
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<td>403.gcc</td>
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<td>563</td>
<td>801</td>
<td>565</td>
<td>799</td>
<td>560</td>
<td>804</td>
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<td>429.mcf</td>
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<td>350</td>
<td>1460</td>
<td>351</td>
<td>1460</td>
<td>353</td>
<td>1450</td>
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<td>445.gobmk</td>
<td>56</td>
<td>824</td>
<td>713</td>
<td>825</td>
<td>712</td>
<td>826</td>
<td>711</td>
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<td>456.hmmer</td>
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<td>366</td>
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<td>365</td>
<td>1430</td>
<td>365</td>
<td>1430</td>
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<td>458.sjeng</td>
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<td>892</td>
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<tr>
<td>462.libquantum</td>
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<td>119</td>
<td>9750</td>
<td>118</td>
<td>9800</td>
<td>119</td>
<td>9760</td>
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<td>464.h264ref</td>
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<td>1210</td>
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<td>1200</td>
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<td>471.omnetpp</td>
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<td>473.astar</td>
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<td>570</td>
<td>694</td>
<td>567</td>
<td>696</td>
<td>565</td>
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<tr>
<td>483.xalancbmk</td>
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<td>1110</td>
<td>348</td>
<td>1110</td>
<td>348</td>
<td>1110</td>
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<tr>
<td>Peak</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</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 Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux Tue Jul 8 13:52:27 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 E5-2683 v3 @ 2.00GHz
2 "physical id"s (chips)
56 "processors"

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Platform Notes (Continued)

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 : 14
siblings : 28
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 17920 KB

From /proc/meminfo
MemTotal: 264440512 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 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 8 13:40 last=S

SPEC is set to: /root/cpu2006-1.2
filesystem type size used avail use% mounted on
/dev/sda2 ext2 726G 11G 715G 2% /

Additional information from dmidecode:
BIOS Dell Inc. 0.3.25 06/19/2014
Memory:
16x 002C00B3002C 36ASF2G72PZ-2G1A1 16 GB 2133 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"

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/transparent_hugepage/enabled
Filesystem page cache cleared with:
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General Notes (Continued)

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

Base Compiler Invocation

C benchmarks:
- `icc -m32`

C++ benchmarks:
- `icpc -m32`

Base Portability Flags

```text
400.perlbmk: -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.perlbmk: `icc -m64`

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Peak Compiler Invocation (Continued)

401.bzip2: icc -m64
456.hmmer: 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
456.hmmer: -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)
-03(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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -03 -no-prec-div

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: -xCORE-AVX2 -ipo -03 -no-prec-div -unroll12 -auto-ilp32

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 -auto-ilp32

462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

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

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(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.xalanchbmk: 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 questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

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