## SPEC® CINT2006 Result

### Dell Inc.

PowerEdge R630 (Intel Xeon E5-2637 v3, 3.50 GHz)

<table>
<thead>
<tr>
<th>Software</th>
<th>Operating System: SUSE Linux Enterprise Server 11 (x86_64) 3.76-0.11-default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 14.0.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>ext2</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware</th>
<th>CPU Name: Intel Xeon E5-2637 v3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3500</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>8 cores, 2 chips, 4 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1.2 chip</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>15 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 1000 GB 7200 RPM SATA</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

### SPECint_rate2006 = 470

<table>
<thead>
<tr>
<th>Code</th>
<th>Test date: Jun-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2006 license:</td>
<td>55</td>
</tr>
<tr>
<td>Test sponsor:</td>
<td>Dell Inc.</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Dell Inc.</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Sep-2014</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Sep-2014</td>
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<td>Dell Inc.</td>
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<tr>
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<td>Dell Inc.</td>
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<tr>
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<td>Dell Inc.</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>Dell Inc.</td>
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<td>Dell Inc.</td>
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<tr>
<td>Memory:</td>
<td>Dell Inc.</td>
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<tr>
<td>Disk Subsystem:</td>
<td>Dell Inc.</td>
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<td>Other Hardware:</td>
<td>Dell Inc.</td>
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</table>

### SPECc_int_rate_base2006 = 455

![Graph](image-url)
Dell Inc.

PowerEdge R630 (Intel Xeon E5-2637 v3, 3.50 GHz)

SPECint_rate2006 = 470
SPECint_rate_base2006 = 455

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

Test date: Jun-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

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>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>463</td>
<td>338</td>
<td>466</td>
<td>336</td>
<td>465</td>
<td>336</td>
<td>16</td>
<td>384</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>16</td>
<td>673</td>
<td>229</td>
<td>674</td>
<td>229</td>
<td>674</td>
<td>229</td>
<td>16</td>
<td>641</td>
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<td>403.gcc</td>
<td>16</td>
<td>367</td>
<td>351</td>
<td>365</td>
<td>353</td>
<td>365</td>
<td>353</td>
<td>16</td>
<td>367</td>
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<tr>
<td>429.mcf</td>
<td>16</td>
<td>239</td>
<td>610</td>
<td>239</td>
<td>611</td>
<td>239</td>
<td>611</td>
<td>16</td>
<td>239</td>
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<tr>
<td>445.gobmk</td>
<td>16</td>
<td>570</td>
<td>294</td>
<td>569</td>
<td>295</td>
<td>570</td>
<td>294</td>
<td>16</td>
<td>555</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>221</td>
<td>676</td>
<td>221</td>
<td>675</td>
<td>222</td>
<td>672</td>
<td>16</td>
<td>218</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>16</td>
<td>615</td>
<td>315</td>
<td>615</td>
<td>315</td>
<td>615</td>
<td>315</td>
<td>16</td>
<td>593</td>
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<tr>
<td>462.libquantum</td>
<td>16</td>
<td>72.0</td>
<td>4610</td>
<td>72.0</td>
<td>4600</td>
<td>70.9</td>
<td>4670</td>
<td>16</td>
<td>72.0</td>
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<td>464.h264ref</td>
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<td>508</td>
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<td>513</td>
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<td>652</td>
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<td>471.omnetpp</td>
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<td>16</td>
<td>396</td>
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<tr>
<td>473.astar</td>
<td>16</td>
<td>439</td>
<td>256</td>
<td>443</td>
<td>253</td>
<td>442</td>
<td>254</td>
<td>16</td>
<td>439</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td>208</td>
<td>530</td>
<td>207</td>
<td>532</td>
<td>208</td>
<td>532</td>
<td>16</td>
<td>208</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 Early Snoop
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 Mon Jun 30 11:47:28 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 E5-2637 v3 @ 3.50GHz
 2 "physical id"s (chips)
 16 "processors"

Continued on next page
SPEC CINT2006 Result

Dell Inc.
PowerEdge R630 (Intel Xeon E5-2637 v3, 3.50 GHz)

SPECint_rate2006 = 470
SPECint_rate_base2006 = 455

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

Test date: Jun-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

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 : 4
siblings : 8
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5

cache size : 15360 KB

From /proc/meminfo
MemTotal:       264572216 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /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 Jun 30 11:46 last=S

SPEC is set to: /root/cpu2006-1.2

Additional information from dmidecode:
BIOS Dell Inc. 0.3.25 06/19/2014
Memory:
16x 00AD063200AD HMA42GR7MFR4N-TFT1 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)

```
  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 -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

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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) -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: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32`
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`
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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-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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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