Dell Inc.

PowerEdge R630 (Intel Xeon E5-2623 v3, 3.00 GHz)

SPECint®_rate2006 = 424
SPECint_rate_base2006 = 411

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

Hardware

CPU Name: Intel Xeon E5-2623 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 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: 10 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 1000 GB 7200 RPM SATA
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64)
Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE
Auto Parallel: No
File System: ext2
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 R630 (Intel Xeon E5-2623 v3, 3.00 GHz)

SPECint_rate2006 = 424
SPECint_rate_base2006 = 411

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds Base</th>
<th>Seconds Ratio</th>
<th>Seconds Peak</th>
<th>Seconds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Base</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>501</td>
<td>506</td>
<td>505</td>
<td>510</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>16</td>
<td>793</td>
<td>195</td>
<td>419</td>
<td>308</td>
</tr>
<tr>
<td>403.gcc</td>
<td>16</td>
<td>265</td>
<td>264</td>
<td>265</td>
<td>551</td>
</tr>
<tr>
<td>429.mcf</td>
<td>16</td>
<td>614</td>
<td>274</td>
<td>614</td>
<td>273</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>16</td>
<td>469</td>
<td>213</td>
<td>469</td>
<td>213</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>669</td>
<td>289</td>
<td>668</td>
<td>290</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>16</td>
<td>734</td>
<td>482</td>
<td>752</td>
<td>471</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>16</td>
<td>77.8</td>
<td>4260</td>
<td>79.6</td>
<td>4160</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>16</td>
<td>471</td>
<td>212</td>
<td>469</td>
<td>213</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>16</td>
<td>482</td>
<td>233</td>
<td>480</td>
<td>234</td>
</tr>
<tr>
<td>473.astar</td>
<td>16</td>
<td>235</td>
<td>469</td>
<td>236</td>
<td>469</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<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 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 Fri Jul 18 10:33:56 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 E5-2623 v3 @ 3.00GHz
2 "physical id"s (chips)
16 "processors"
Dell Inc.

PowerEdge R630 (Intel Xeon E5-2623 v3, 3.00 GHz)

**SPEC int rate2006 = 424**

**SPECint rate base 2006 = 411**

---

### 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.)

```plaintext
cpu cores : 4
siblings : 8
physical 0: cores 0 1 2 3
physical 1: cores 0 1 2 3
cache size : 10240 KB
```

From /proc/meminfo

```plaintext
MemTotal: 264572124 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

```plaintext
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)
```

From /etc/*release* /etc/*version*

```plaintext
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 3
```

```plaintext
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 18 09:57 last=S
```

Additional information from dmidecode:

```plaintext
BIOS Dell Inc. 0.3.25 06/19/2014
Memory:
  16x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 1866 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:

```plaintext
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:

```plaintext
echo always > /sys/kernel/mm/transparent_hugepage(enabled
```

Filesystem page cache cleared with:

Continued on next page
SPEC CINT2006 Result

Dell Inc.
PowerEdge R630 (Intel Xeon E5-2623 v3, 3.00 GHz)  
SPECmdint_rate2006 = 424
SPECmdint_rate_base2006 = 411

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

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

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

Continued on next page
SPEC CINT2006 Result

Dell Inc.
PowerEdge R630 (Intel Xeon E5-2623 v3, 3.00 GHz)

SPECint_rate2006 = 424
SPECint_rate_base2006 = 411

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

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

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 -unroll2 -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
Dell Inc.
PowerEdge R630 (Intel Xeon E5-2623 v3, 3.00 GHz)

SPECint_rate2006 = 424
SPECint_rate_base2006 = 411

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

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

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

SPEC and SPECint are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Originally published on 24 September 2014.