## Dell Inc. PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

### SPECint\_rate2006 = 460

| Test date: | Feb-2012 |
| Test sponsor: | Dell Inc. |
| Tested by: | Dell Inc. |
| Hardware Availability: | Mar-2012 |
| Software Availability: | Feb-2012 |

### Hardware

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECint_rate2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>415</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>250</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>367</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>738</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>641</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>32</td>
<td>533</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>32</td>
<td>330</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>32</td>
<td>2560</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>32</td>
<td>537</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>302</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>281</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>473</td>
</tr>
</tbody>
</table>

### Software

| Operating System: | SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-default |
| Compiler: | C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (add definition here) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V9.01 |
Dell Inc. PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

**SPEC CINT2006 Result**

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

**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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base</td>
<td></td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>991</td>
<td>316</td>
<td><strong>460</strong></td>
<td><strong>315</strong></td>
<td>995</td>
<td>314</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>1279</td>
<td>242</td>
<td><strong>424</strong></td>
<td><strong>241</strong></td>
<td>1282</td>
<td>241</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>700</td>
<td>368</td>
<td><strong>702</strong></td>
<td><strong>367</strong></td>
<td>703</td>
<td>368</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>396</td>
<td>736</td>
<td>395</td>
<td>738</td>
<td>395</td>
<td>738</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>1060</td>
<td>317</td>
<td><strong>424</strong></td>
<td><strong>316</strong></td>
<td>1054</td>
<td>318</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>32</td>
<td>560</td>
<td>533</td>
<td>559</td>
<td>534</td>
<td>561</td>
<td>532</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>32</td>
<td>1223</td>
<td>317</td>
<td><strong>1227</strong></td>
<td><strong>316</strong></td>
<td>1231</td>
<td>315</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>32</td>
<td>259</td>
<td>2560</td>
<td>259</td>
<td>2560</td>
<td>259</td>
<td>2560</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>32</td>
<td><strong>1319</strong></td>
<td>537</td>
<td>1315</td>
<td>533</td>
<td>1331</td>
<td>532</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>711</td>
<td>281</td>
<td><strong>711</strong></td>
<td><strong>281</strong></td>
<td>711</td>
<td>281</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>859</td>
<td>261</td>
<td><strong>856</strong></td>
<td><strong>262</strong></td>
<td>854</td>
<td>263</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>467</td>
<td>473</td>
<td>467</td>
<td>473</td>
<td>467</td>
<td>473</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**

System Profile set to Custom  
CPU Power Management set to Maximum Performance  
Memory Frequency set to Maximum Performance  
Turbo Boost set to Enabled  
C States/C1E set to Enabled  
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6800  
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdfff5032aaa42e583f96b07f99d3  
running on linux-r2xm Fri Feb 10 11:28:53 2012

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 E5-2650L 0 @ 1.80GHz  
2 "physical id"s (chips)  
32 "processors"
Dell Inc.

PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

| SPECint_rate2006 = | 460 |
| SPECint_rate_base2006 = | 440 |

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

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 : 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: 132122696 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 = 2

  uname -a:
    Linux linux-r2xm 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012
    (54ddfaf) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 10 10:30 last=S

SPEC is set to: /root/cpu2006-1.2
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/sda2 ext3 133G 6.1G 126G 5% /

Additional information from dmidecode:

(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"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
The Dell PowerEdge R720 and the Bull NovaScale R460 F3 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R720 model
Filesystem page cache cleared with:
  echo 1 > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>
SPEC CINT2006 Result

Dell Inc.
PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

\[
\text{SPECint}_\text{rate2006} = 460 \\
\text{SPECint}_\text{rate\_base2006} = 440
\]

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

Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

Base Compiler Invocation

C benchmarks:
icc  -m32

C++ benchmarks:
icc  -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:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -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
401.bzip2: icc  -m64
456.hmmer: icc  -m64
458.sjeng: icc  -m64

C++ benchmarks:
icc  -m32
Dell Inc.
PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

SPECint_rate2006 = 460
SPECint_rate_base2006 = 440

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

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: -xSSE4.2(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: -xSSE4.2(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: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(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
464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xSSE4.2(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/smartheap -lsmartheap

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

PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

SPECint\_rate2006 = 460
SPECint\_rate\_base2006 = 440

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

Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

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/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.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 27 March 2012.