## SPEC® CINT2006 Result

### Dell Inc.

PowerEdge R210 II (Intel Xeon E3-1270, 3.40 GHz)

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>161</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>154</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 55  
**Test date:** Mar-2011  
**Test sponsor:** Dell Inc.  
**Hardware Availability:** May-2011  
**Tested by:** Dell Inc.  
**Software Availability:** Apr-2011

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### Software

<table>
<thead>
<tr>
<th>Operating System:</th>
<th>SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64</td>
</tr>
<tr>
<td>Version:</td>
<td>Version 12.0.1.116 Build 20101116</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>ext3</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>SmartHeap 8.1 32-bit Library for Linux</td>
</tr>
</tbody>
</table>

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### Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E3-1270</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.80 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3400</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>4 cores, 1 chip, 4 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1 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>8 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>8 GB (4 x 2 GB 2Rx4 PC3-10600R-9, ECC)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 146 GB 15000 RPM SAS</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

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### SPECint Benchmarks

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>131</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>96.6</td>
</tr>
<tr>
<td>403.gcc</td>
<td>131</td>
</tr>
<tr>
<td>429.mcf</td>
<td>174</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>199</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>199</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>133</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>807</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>228</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>95.5</td>
</tr>
<tr>
<td>473.astar</td>
<td>91.8</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>149</td>
</tr>
</tbody>
</table>

SPECint_rate2006 = 161  
SPECint_rate_base2006 = 154
### SPEC CINT2006 Result

**Dell Inc.**

PowerEdge R210 II (Intel Xeon E3-1270, 3.40 GHz)

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Test date: Mar-2011  
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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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Base</td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **400.perlbench**: 8 copies, 597 seconds, ratio 131  
- **401.bzip2**: 8 copies, 858 seconds, ratio 90.0  
- **403.gcc**: 8 copies, 495 seconds, ratio 130  
- **429.mcf**: 8 copies, 482 seconds, ratio 151  
- **445.gobmk**: 8 copies, 627 seconds, ratio 134  
- **456.hmmer**: 8 copies, 374 seconds, ratio 199  
- **458.sjeng**: 8 copies, 762 seconds, ratio 127  
- **462.libquantum**: 8 copies, 205 seconds, ratio 807  
- **464.h264ref**: 8 copies, 770 seconds, ratio 230  
- **471.omnetpp**: 8 copies, 545 seconds, ratio 91.8  
- **473.astar**: 8 copies, 605 seconds, ratio 92.9  
- **483.xalancbmk**: 8 copies, 370 seconds, ratio 149  

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. numactl was used to bind copies to the cores.

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### Operating System Notes

'unlimit -s unlimited' was used to set the stacksize to unlimited prior to run  
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages  
echo 3600> /proc/sys/vm/nr_hugepages  
export HUGETLB_MORECORE=yes  
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

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### Platform Notes

BIOS Settings:  
Power Management = Maximum Performance (Default = Active Power Controller)

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### General Notes

The Dell PowerEdge R210 II and the Bull NovaScale R410B F2 models are electronically equivalent.  
The results have been measured on a Dell PowerEdge R210 II model  
Binaries were compiled on RHEL5.5
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**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:
- -xAVX -ipo -O3 -no-prec-div -opt-prefetch
- -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
- -xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
- -L/smartheap -lsmartheap
- -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

**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

Continued on next page
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Peak Compiler Invocation (Continued)

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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2)
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -xAVX(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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xAVX -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias
-auto-ilp32

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll12 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

Continued on next page
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Peak Optimization Flags (Continued)

464.h264ref: -xAVX(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: -xAVX(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/smartheap -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/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml

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

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