## Dell Inc.

**PowerEdge R210 II (Intel Core i3-2100, 3.10 GHz)**

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>78.3</th>
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</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>75.6</td>
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</table>

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

<table>
<thead>
<tr>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System:</td>
</tr>
<tr>
<td>Compiler:</td>
</tr>
<tr>
<td>Auto Parallel:</td>
</tr>
<tr>
<td>File System:</td>
</tr>
<tr>
<td>System State:</td>
</tr>
<tr>
<td>Base Pointers:</td>
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<tr>
<td>Peak Pointers:</td>
</tr>
<tr>
<td>Other Software:</td>
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</table>

### Hardware

- **CPU Name:** Intel Core i3-2100
- **CPU Characteristics:**  
  - CPU MHz: 3100  
  - FPU: Integrated  
  - CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
  - CPU(s) orderable: 1 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: 3 MB I+D on chip per chip  
  - Other Cache: None  
  - Memory: 8 GB (4 x 2 GB 2Rx4 PC3-10600R-9, ECC)  
  - Disk Subsystem: 1 x 146 GB 15000 RPM SAS  
  - Other Hardware: None

### Software

- **Operating System:** SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
- **Compiler:** Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
- **Auto Parallel:** No
- **File System:** ext3
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** SmartHeap 8.1 32-bit Library for Linux
SPEC CINT2006 Result

Dell Inc.
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Results Table

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<th>Benchmark</th>
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<td>80.6</td>
<td>4</td>
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</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -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 900> /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

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

General Notes

The Dell PowerEdge R210 II and
the Bull NovaScale R410B P2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R210 II model
Binaries were compiled on RHEL5.5
Dell Inc. PowerEdge R210 II (Intel Core i3-2100, 3.10 GHz)

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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:
-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

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
## Peak Compiler Invocation (Continued)

C++ benchmarks:
- icpc -m32

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### Peak Portability Flags

<table>
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<tr>
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<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</td>
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<td>-DSPEC_CPU_LINUX</td>
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<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LINUX</td>
</tr>
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### 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 -unroll2 -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
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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

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**Peak Other Flags**

C benchmarks:

403.gcc: -Dalloca=_alloca

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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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