## SPECint® Result

**Dell Inc.**

**PowerEdge R210 II (Intel Xeon E3-1220L, 2.20 GHz)**

### SPECint®_rate2006 = 59.0

<table>
<thead>
<tr>
<th>Name</th>
<th>Specint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate2006</td>
<td>59.0</td>
</tr>
<tr>
<td>SPECint_rate_base2006</td>
<td>56.7</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon E3-1220L
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.40 GHz
- **CPU MHz:** 2200
- **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
Dell Inc.

PowerEdge R210 II (Intel Xeon E3-1220L, 2.20 GHz)

SPECint_rate2006 = 59.0
SPECint_rate_base2006 = 56.7

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

Results Table

<table>
<thead>
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<th>Benchmark</th>
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<td>456</td>
<td>60.5</td>
</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 1800> /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 F2 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 Xeon E3-1220L, 2.20 GHz)

\[ \text{SPECint}_\text{rate2006} = 59.0 \]
\[ \text{SPECint}_\text{rate_base2006} = 56.7 \]

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

Test date: Mar-2011  
Hardware Availability: May-2011  
Software Availability: Apr-2011

### 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

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Tested by: Dell Inc.  

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Software Availability: Apr-2011

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**Peak Compiler Invocation (Continued)**

C++ benchmarks:  
```
icpc -m32
```

---

**Peak Portability Flags**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
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<tr>
<td>400.perlbench</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</td>
</tr>
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</tr>
<tr>
<td>456.hmmer</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>-DSPEC_CPU_LINUX</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LINUX</td>
</tr>
</tbody>
</table>

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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/libhugetlbfbs/ -Wl,-melf_x86_64 -Wl,-hugetlbfbs-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/libhugetlbfbs/ -Wl,-melf_x86_64 -Wl,-hugetlbfbs-link=BDT

403.gcc: -xAVX -ipo -O3 -no-prec-div  
          -B /usr/share/libhugetlbfbs/ -Wl,-hugetlbfbs-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/libhugetlbfbs/ -Wl,-melf_x86_64 -Wl,-hugetlbfbs-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/libhugetlbfbs/ -Wl,-melf_x86_64 -Wl,-hugetlbfbs-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.xalancbmk: 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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