### SPECint® Result

**Dell Inc.**

**PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)**

<table>
<thead>
<tr>
<th>SPECint®_rate2006</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>186</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 55  
**Test date:** Aug-2009  
**Test sponsor:** Dell Inc.  
**Hardware Availability:** Oct-2009  
**Tested by:** Dell Inc.  
**Software Availability:** Feb-2009

**Operating System:** SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp  
**Compiler:** Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080  
**Auto Parallel:** No  
**File System:** ReiserFS  
**System State:** Run level 3 (multi-user)  
**Base Pointers:** 32-bit  
**Peak Pointers:** 32/64-bit  
**Other Software:** Microquill SmartHeap V8.1, Binutils 2.18.50.0.7.20080502

#### Hardware

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5520</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 2.53 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2267</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>8 cores, 2 chips, 4 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 chips</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>24 GB (6 x 4 GB DDR3-1333 DR RDIMM downclocked to 1066 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB 7200 RPM SATA</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Software

**Operating System:** SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp  
**Compiler:** Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080  
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# SPEC CINT2006 Result

**Dell Inc.**  
PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)

**SPECint_rate2006 = 200**  
**SPECint_rate_base2006 = 186**

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<th>Seconds</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>936</td>
<td>167</td>
<td>927</td>
<td>169</td>
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<td>803</td>
<td>195</td>
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<tr>
<td>401.bzip2</td>
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<td>1303</td>
<td>119</td>
<td>1297</td>
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<td>1301</td>
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<td>16</td>
<td>1216</td>
<td>127</td>
<td>1220</td>
<td>127</td>
<td>1217</td>
</tr>
<tr>
<td>403.gcc</td>
<td>16</td>
<td>804</td>
<td>160</td>
<td>823</td>
<td>157</td>
<td>836</td>
<td>154</td>
<td>16</td>
<td>825</td>
<td>156</td>
<td>801</td>
<td>161</td>
<td>810</td>
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<td>429.mcf</td>
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<td>445.gobmk</td>
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<td>183</td>
<td>918</td>
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<td>919</td>
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<td>458.sjeng</td>
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<td>462.libquantum</td>
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<td>471.omnetpp</td>
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<td>473.astar</td>
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<tr>
<td>483.xalancbmk</td>
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<td>522</td>
<td>211</td>
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<td>208</td>
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<td>522</td>
<td>211</td>
<td>519</td>
<td>213</td>
<td>530</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.

## Base Compiler Invocation

C benchmarks:  
```bash
cce
```

C++ benchmarks:  
```bash
icpc
```

## Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32  
462.libquantum: -DSPEC_CPU_LINUX  
483.xalancbmk: -DSPEC_CPU_LINUX
### SPEC CINT2006 Result

**CPU2006 license:** 55  
**Test date:** Aug-2009

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### Dell Inc.  
**PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)**

**SPECint_rate2006** = 200  
**SPECint_rate_base2006** = 186

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### Base Optimization Flags

**C benchmarks:**
- `-xSSE4.2`  
- `-ipo`  
- `-O3`  
- `-no-prec-div`  
- `-static`  
- `-inline-calloc`  
- `-opt-malloc-options=3`  
- `-opt-prefetch`

**C++ benchmarks:**
- `-xSSE4.2`  
- `-ipo`  
- `-O3`  
- `-no-prec-div`  
- `-opt-prefetch`  
- `-Wl,-z,muldefs`  
- `-L/spec/cpu2006.1.1/lib`  
- `-lsmartheap`

### Base Other Flags

**C benchmarks:**
- `403.gcc`: `-Dalloca=_alloca`

### Peak Compiler Invocation

**C benchmarks (except as noted below):**
- `icc`

**401.bzip2:** `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

**456.hmmer:** `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

**458.sjeng:** `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

**C++ benchmarks (except as noted below):**
- `icpc`

**473.astar:** `/opt/intel/Compiler/11.0/080/bin/intel64/icpc`

### Peak Portability Flags

**400.perlbench:** `-DSPEC_CPU_LINUX_IA32`

**401.bzip2:** `-DSPEC_CPU_LP64`

**456.hmmer:** `-DSPEC_CPU_LP64`

**458.sjeng:** `-DSPEC_CPU_LP64`

**462.libquantum:** `-DSPEC_CPU_LINUX`

**473.astar:** `-DSPEC_CPU_LP64`

**483.xalancbmk:** `-DSPEC_CPU_LINUX`
Dell Inc.

PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)

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CPU2006 license: 55
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Test date: Aug-2009
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Software Availability: Feb-2009

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

483.xalancbmk: basepeak = yes

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -xSSE4.2(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=routine -auto-ilp32 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

483.xalancbmk: basepeak = yes
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Peak Other Flags

C benchmarks:

403.gcc -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090805.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090805.01.xml

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

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