Dell Inc. PowerEdge R610 (Intel Xeon E5520, 2.26 GHz)

SPECint\_rate\_rate2006 = 196
SPECint\_rate\_base2006 = 181

<table>
<thead>
<tr>
<th>Test date:</th>
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</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon E5520
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.53 GHz
- **CPU MHZ:** 2267
- **FPU:** Integrated
- **CPU(s) enabled:** 8 cores, 2 chips, 4 cores/chip, 2 threads/core
- **CPU(s) orderable:** 1,2 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 256 KB I+D on chip per core
- **L3 Cache:** 8 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 24 GB (6 x 4 GB DDR3-1333 DR RDIMM downclocked to 1066 MHz)
- **Disk Subsystem:** 1 x 73 GB 15000 RPM SAS
- **Other Hardware:** None

### 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: intel-codec-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
## Results Table

<table>
<thead>
<tr>
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<th>Copies</th>
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<th>Ratio</th>
<th>Base Seconds</th>
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</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:
- `icc`

C++ benchmarks:
- `icpc`

## Base Portability Flags

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

**Dell Inc.**

**PowerEdge R610 (Intel Xeon E5520, 2.26 GHz)**

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

## 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 R610 (Intel Xeon E5520, 2.26 GHz)

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**SPECint_rate2006 = 196**

**SPECint_rate_base2006 = 181**

**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`

464.h264ref: `-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) -unroll2 -ansi-alias`

**C++ benchmarks:**

471.omnetpp: `basepeak = yes`

473.astar: `-xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (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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