Dell Inc.
PowerEdge R610
(Intel Xeon E5540, 2.53 GHz)

SPEClnt®2006 = 32.5
SPEClnt_base2006 = 30.1

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

Test date: May-2010
Hardware Availability: Mar-2009
Software Availability: Dec-2009

Operating System: SUSE Linux Enterprise Server 11 (x86_64),
Kernel 2.6.27.19-5-default
Compiler: Intel C++ Professional Compiler for IA32 and
Intel 64, Version 11.1
Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel: Yes
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1

Hardware

CPU Name: Intel Xeon E5540
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHZ: 2533
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: 48 GB (12 x 4 GB PC3-10600R, 2 Rank,
CL9-9-9, ECC, running at 1066 MHz)
Disk Subsystem: 1 x 73 GB SAS, 10000 RPM
Other Hardware: None
Dell Inc.

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tr>
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<td>458</td>
<td>21.3</td>
<td>457</td>
<td>21.4</td>
<td>455</td>
<td>21.5</td>
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<td>403.gcc</td>
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<td>23.0</td>
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<td>20.3</td>
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<td>30.4</td>
<td>225</td>
<td>30.7</td>
</tr>
</tbody>
</table>

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
The Dell PowerEdge R610 and the Bull NovaScale R440 F2 models are electronically equivalent.
The results have been measured on a Bull NovaScale R440 F2 model.

Base Compiler Invocation

C benchmarks:
  icc -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

Continued on next page
**SPEC CINT2006 Result**

**Dell Inc.**  
PowerEdge R610  
(Intel Xeon E5540, 2.53 GHz)  

| SPECint2006 | 32.5 |
| SPECint_base2006 | 30.1 |

**CPU2006 license:** 55  
**Test sponsor:** Dell Inc.  
**Tested by:** Bull SAS  

**Base Portability Flags (Continued)**

- 401.bzip2: -DSPEC_CPU_LP64
- 403.gcc: -DSPEC_CPU_LP64
- 429.mcf: -DSPEC_CPU_LP64
- 445.gobmk: -DSPEC_CPU_LP64
- 456.hmmer: -DSPEC_CPU_LP64
- 458.sjeng: -DSPEC_CPU_LP64
- 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
- 464.h264ref: -DSPEC_CPU_LP64
- 471.omnetpp: -DSPEC_CPU_LP64
- 473.astar: -DSPEC_CPU_LP64
- 483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

**Base Optimization Flags**

**C benchmarks:**
- -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

**C++ benchmarks:**
- -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
- -L/home/cmplr/usr3/airahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

**Base Other Flags**

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

**Peak Compiler Invocation**

**C benchmarks (except as noted below):**
- icc -m64
- 400.perlbench: icc -m32
- 429.mcf: icc -m32
- 445.gobmk: icc -m32
- 464.h264ref: icc -m32

**C++ benchmarks (except as noted below):**
- icpc -m32

Continued on next page
Dell Inc.  
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**SPEC CINT2006 Result**

**SPECint2006 =** 32.5  
**SPECint_base2006 =** 30.1

**CPU2006 license:** 55  
**Test date:** May-2010  
**Test sponsor:** Dell Inc.  
**Hardware Availability:** Mar-2009  
**Tested by:** Bull SAS  
**Software Availability:** Dec-2009

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**Peak Compiler Invocation (Continued)**

473.astar: icpc -m64

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**Peak Portability Flags**

400.perlbench: -DSPEC_CPU_LINUX_IA32  
401.bzip2: -DSPEC_CPU_LP64  
403.gcc: -DSPEC_CPU_LP64  
456.hmmer: -DSPEC_CPU_LP64  
458.sjeng: -DSPEC_CPU_LP64  
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX  
473.astar: -DSPEC_CPU_LP64  
483.xalancbmk: -DSPEC_CPU_LINUX

---

**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 -static(pass 2) -prof-use(pass 2)  
-auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -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 -unroll12  
-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

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -par-schedule-static=32768 -ansi-alias

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) -unroll12 -ansi-alias

Continued on next page
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Software Availability: Dec-2009

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2)
-ansi-alias -opt-ra-region-strategy = block -Wl,-z,muldefs

473.astar: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2)
-ansi-alias -opt-ra-region-strategy = routine -Wl,-z,muldefs

483.xalancbmk: -xSSE4.2 -ipo -03 -no-prec-div -opt-prefetch
-Wl,-z,muldefs

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:

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