### Dell Inc.

**PowerEdge R320 (Intel Pentium 1407, 2.80 GHz)**

**SPECint\_rate2006 = 65.8**

**SPECint\_rate_base2006 = 63.1**

<table>
<thead>
<tr>
<th><strong>CPU2006 license:</strong></th>
<th>55</th>
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<tbody>
<tr>
<td><strong>Test date:</strong></td>
<td>Mar-2012</td>
</tr>
<tr>
<td><strong>Hardware Availability:</strong></td>
<td>May-2012</td>
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<td><strong>Software Availability:</strong></td>
<td>Feb-2012</td>
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<td><strong>Tested by:</strong></td>
<td>Dell Inc.</td>
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</tbody>
</table>

#### Hardware

- **CPU Name:** Intel Pentium 1407
- **CPU Characteristics:**
  - **CPU MHz:** 2800
  - **FPU:** Integrated
  - **CPU(s) enabled:** 2 cores, 1 chip, 2 cores/chip
  - **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:** 5 MB I+D on chip per chip
  - **Other Cache:** None
  - **Memory:** 24 GB (3 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)
  - **Disk Subsystem:** 2 x 300 GB 15000 RPM SAS, RAID 1
  - **Other Hardware:** None

#### Software

- **Operating System:** SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-default
- **Compiler:** CIC++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
- **Auto Parallel:** No
- **File System:** ext3
- **System State:** Run level 3 (add definition here)
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V9.01

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**SPECint\_rate2006 = 63.1**

**SPECint\_rate_base2006 = 63.1**
Dell Inc.

PowerEdge R320 (Intel Pentium 1407, 2.80 GHz)

**Results Table**

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

**Submit Notes**

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

**Platform Notes**

CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost set to Enabled
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on Defy Fri Mar 16 09:41:18 2012

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo

```
model name : Intel(R) Pentium(R) CPU 1407 @ 2.80GHz
  1 "physical id"s (chips)
  2 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
Continued on next page
```
SPEC CINT2006 Result

Dell Inc.
PowerEdge R320 (Intel Pentium 1407, 2.80 GHz)

SPECint_rate2006 = 65.8
SPECint_rate_base2006 = 63.1

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

| Test date: | Mar-2012 |
| Hardware Availability: | May-2012 |
| Software Availability: | Feb-2012 |

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
  cpu cores : 2
  siblings : 2
  physical 0: cores 0 1
  cache size : 5120 KB

From /proc/meminfo
  MemTotal: 24559976 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
  SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
  SuSE-release:
    SUSE Linux Enterprise Server 11 (x86_64)
    VERSION = 11
    PATCHLEVEL = 2

uname -a:
  Linux Defy 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012 (54ddfaf)
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 16 09:39 last=S

SPEC is set to: /root/CPU2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext3 296G 11G 270G 4% /

Additional information from dmidecode:

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
  LD_LIBRARY_PATH = "/root/CPU2006-1.2/32:/root/CPU2006-1.2/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/transparent_hugepage/enabled

Filesystem page cache cleared with:
  echo 1> /proc/sys/vm/drop_caches

runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>
Dell Inc.  

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Test sponsor: Dell Inc.  
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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:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
  -Wl,-z,muldefs -L/smartheap -lsmartheap

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

C++ benchmarks:
  icpc -m32
SPEC CINT2006 Result

Dell Inc.

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Test date: Mar-2012
Hardware Availability: May-2012
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Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

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
-L/smartheap -lsmartheap

473.astar: basepeak = yes

Continued on next page
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CPU2006 license: 55
Test sponsor: Dell Inc.
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Test date: Mar-2012
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Software Availability: Feb-2012

Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.xml

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For questions about this result, please contact the tester. For other inquiries, please contact webmaster@spec.org.

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