Dell Inc.
PowerEdge T620 (Intel Xeon E5-2609 v2, 2.50 GHz)

SPECint\textsuperscript{\textregistered}_rate\textsubscript{2006} = 249
SPECint\textsubscript{rate_base2006} = 241

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
CPU Name: Intel Xeon E5-2609 v2
CPU Characteristics: Integrated
CPU MHz: 2500
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1.2 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: 10 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz)
Disk Subsystem: 1 x 300 GB 15000 RPM SAS
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 11 SP3 (x86_64) 3.0.76-0.11-default
Compiler: CIC++ Version 14.0.0.080 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext2
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0

 SPECint\textsuperscript{\textregistered}_rate\textsubscript{2006} = 249
SPECint\textsubscript{rate_base2006} = 241
Dell Inc.

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SPEC CINT2006 Result

SPECint_rate2006 = 249
SPECint_rate_base2006 = 241

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

Test date: Aug-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Results Table

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<th>Benchmark</th>
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<th>Ratio</th>
<th>Seconds</th>
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</tr>
</tbody>
</table>

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

BIOS settings:
Virtualization Technology disabled
Execute Disable disabled
Logical Processor enabled
System Profile set to Performance
Sysinfo program /root/cpu2006.1.2.ic13/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $ e86d102572650a6e4d596a3cee98f191 running on linux Wed Aug 28 09:26:41 2013

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) Xeon(R) CPU E5-2609 v2 @ 2.50GHz
  2 "physical id"s (chips)
  8 "processors"

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Platform Notes (Continued)

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

- cpu cores : 4
- siblings : 4
- physical 0: cores 0 1 2 3
- physical 1: cores 0 1 2 3
- cache size : 10240 KB

From /proc/meminfo
- MemTotal: 264634596 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 = 3

uname -a:
- Linux linux 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)
  - x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 28 09:26 last=S

SPEC is set to: /root/cpu2006.1.2.ic13

Additional information from dmidecode:
- BIOS Dell Inc. 2.0.18 08/10/2013
- Memory:
  - 16x 00CE00B300CE M393B2G70CB0-CMA 16 GB 1333 MHz

(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.ic13/libs/32:/root/cpu2006.1.2.ic13/libs/64:/root/cpu2006.1.2.ic13/sh"

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

Continued on next page
SPEC CINT2006 Result

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---

General Notes (Continued)

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

---

### 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/sh -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

---

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Dell Inc.
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Peak Compiler Invocation (Continued)

- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

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) -O3(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) -O3(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 -O3 -no-prec-div -unroll2 -auto-ilp32
- 458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(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) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

Continued on next page
### Peak Optimization Flags (Continued)

**C++ benchmarks:**

```plaintext
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/sh -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


You can also download the XML flags sources by saving the following links:

- [http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.xml](http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.xml)