Dell Inc.
PowerEdge R620 (Intel Xeon E5-2650 v2, 2.60 GHz)  

SPECint®_rate2006 = 683  
SPECint_rate_base2006 = 659

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

Hardware
CPU Name: Intel Xeon E5-2650 v2  
CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz  
CPU MHZ: 2600  
FPU: Integrated  
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
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: 20 MB I+D on chip per chip  
Other Cache: None  
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)  
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: C++: 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

Software
SPEC CINT2006 Result

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Results Table

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<tr>
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<td>471.omnetpp</td>
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</tbody>
</table>

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
$\text{Rev: 6818 $ $Date:: 2012-07-17 $}$ e86d102572650a6e4d596a3cee98f191
running on linux Thu Sep 26 14:30:38 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 E5-2650 v2 @ 2.60GHz
  2 "physical id"s (chips)
  32 "processors"

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SPEC CINT2006 Result

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CPU2006 license: 55
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Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

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 : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 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 Sep 26 14:21 last=S

SPEC is set to: /root/cpu2006.1.2.ic13
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext2 267G 11G 256G 4% /

Additional information from dmidecode:
BIOS Dell Inc. 2.0.19 08/29/2013
Memory:
3x 00CE00B300CE M393B2G70BH0-CMA 16 GB 1866 MHz
13x 00CE00B300CE M393B2G70CB0-CMA 16 GB 1866 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:

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Dell Inc.

PowerEdge R620 (Intel Xeon E5-2650 v2, 2.60 GHz)

**SPEC CINT2006 Result**

<table>
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<tr>
<th>SPECint_rate2006</th>
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---

**General Notes (Continued)**

- `echo 1> /proc/sys/vm/drop_caches`
- `runspec` command invoked through `numactl` i.e.:
  
  `numactl --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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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

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SPEC CINT2006 Result

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<td>Software Availability: Sep-2013</td>
</tr>
</tbody>
</table>

**Peak Optimization Flags (Continued)**

C++ benchmarks:

- 471.omnetpp: -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=block -Wl,-z,muldefs
- -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

**Peak Other Flags**

C benchmarks:

- 403.gcc: -Dalloca=_alloca

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


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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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