Dell Inc.

PowerEdge R620 (Intel Xeon E5-2637 v2, 3.50 GHz)

SPECint_rate2006 = 428
SPECint_rate_base2006 = 412

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

Hardware

CPU Name: Intel Xeon E5-2637 v2
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 3500
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 15 MB I+D on chip per chip
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 300 GB 15000 RPM SAS
Other Cache: None
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP3 (x86_64) 3.0.76-0.11-default
Compiler: C/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
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Results Table

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<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>236</td>
<td>467</td>
<td>237</td>
<td>466</td>
</tr>
</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
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux Wed Sep 11 20:14:29 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 E5-2637 v2 @ 3.50GHz
2 "physical id"s (chips)
16 "processors"
**SPEC CINT2006 Result**

**Dell Inc.**

PowerEdge R620 (Intel Xeon E5-2637 v2, 3.50 GHz)

| SPECint_rate2006 | 428 |
| SPECint_rate_base2006 | 412 |

**CPU2006 license:** 55  
**Test date:** Sep-2013  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Hardware Availability:** Sep-2013  
**Software Availability:** Sep-2013

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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 : 8
- physical 0: cores 1 2 3 4
- physical 1: cores 1 2 3 4
- cache size : 15360 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 11 20:03 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:
  - 6x 00AD00B300AD HMT42GR7MF4C-RD 16 GB 1866 MHz
  - 10x 00AD04B300AD HMT42GR7AF4C-RD 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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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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SPEC CINT2006 Result

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)
-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: basepeak = yes
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

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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
-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
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.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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