Dell Inc.

PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)

SPECint®2006 = Not Run
SPECint_base2006 = 36.8

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

CPU Name: Intel Xeon Bronze 3106
CPU Characteristics: 16 cores, 2 chips, 8 cores/chip
CPU MHZ: 1700
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
CPU(s) orderable: 1.2 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 11 MB I+D on chip per chip
Other Cache: None
Memory: 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R, running at 2133 MT/s)
Disk Subsystem: 1 x 1 TB SATA 7200 RPM
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default
Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
Auto Parallel: Yes
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.2
SPEC CINT2006 Result

Dell Inc.

PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)

SPECint2006 = Not Run
SPECint_base2006 = 36.8

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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<td>447</td>
<td>21.9</td>
<td>445</td>
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<td>401.bzip2</td>
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<td>707</td>
<td>13.7</td>
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<td>13.6</td>
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<td>403.gcc</td>
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<td>43.5</td>
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<td>5.82</td>
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<td>5.81</td>
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<td>5.69</td>
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<td>464.h264ref</td>
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<td>473.astar</td>
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<td>381</td>
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<td>483.xalancbmk</td>
<td>163</td>
<td>42.3</td>
<td>162</td>
<td>42.5</td>
<td>165</td>
<td>41.9</td>
</tr>
</tbody>
</table>

Operating System Notes
Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS settings:
Sub NUMA Cluster disabled
Virtualization Technology disabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C States set to Autonomous
C1E disabled
Energy Efficient Turbo disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Performance
Memory Patrol Scrub disabled
CPU Interconnect Bus Link Power Management disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /root/cpu2006-1.2_ic17u3/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-28u4 Fri Sep 1 09:46:57 2017

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) Bronze 3106 CPU @ 1.70GHz

Continued on next page
Dell Inc.

PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)

**SPECint2006 =** Not Run

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**Platform Notes (Continued)**

- 2 "physical id"s (chips)
- 16 "processors"
- 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 : 8
  - physical 0: cores 0 1 2 3 4 5 6 7
  - physical 1: cores 0 1 2 3 4 5 6 7
- cache size : 11264 KB

From /proc/meminfo
- MemTotal: 196687620 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
- SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
- SuSE-release:
  - SUSE Linux Enterprise Server 12 (x86_64)
  - VERSION = 12
  - PATCHLEVEL = 2
- # This file is deprecated and will be removed in a future service pack or release.
- # Please check /etc/os-release for details about this release.
- os-release:
  - NAME="SLES"
  - VERSION="12-SP2"
  - VERSION_ID="12.2"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
  - ID="sles"
  - ANSI_COLOR="0;32"
  - CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
- Linux linux-28u4 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 31 23:04

SPEC is set to: /root/cpu2006-1.2_ic17u3

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.
SPEC CINT2006 Result

Dell Inc.
PowerEdge R540 (Intel Xeon Bronze 3106, 1.70 GHz)  

SPECint2006 = Not Run  
SPECint_base2006 = 36.8

CPU2006 license: 55  
Test sponsor: Dell Inc.  
Tested by: Dell Inc.  
Test date: Sep-2017  
Hardware Availability: Sep-2017  
Software Availability: Apr-2017

Platform Notes (Continued)

BIOS Dell Inc. 1.0.0 08/10/2017  
Memory:  
8x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 MHz, configured at 2133 MHz  
4x 002C0632002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 MHz, configured at 2133 MHz  
4x Not Specified Not Specified

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:  
KMP_AFFINITY = "granularity=fine,scatter"  
LD_LIBRARY_PATH = "/root/cpu2006-1.2 ic17u3/lib/ia32:/root/cpu2006-1.2 ic17u3/lib/intel64:/root/cpu2006-1.2 ic17u3/sh10.2"  
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2  
Transparent Huge Pages enabled by default.  
Filesystem page cache cleared with:  
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run

Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64  
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
Dell Inc.
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Software Availability: Apr-2017

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch
-auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh10.2 -lsmartheap64

Base 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-ic17.0-official-linux64-revF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.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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