## SPECint®2006 Result

**Dell Inc.**

PowerEdge R540 (Intel Xeon Gold 6138, 2.00 GHz)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>73.4</td>
</tr>
</tbody>
</table>

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

### SPECint2006 Results

<table>
<thead>
<tr>
<th>SPECint2006</th>
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<tbody>
<tr>
<td>0.00</td>
<td>...</td>
</tr>
<tr>
<td>6520</td>
<td>11</td>
</tr>
</tbody>
</table>

### SPECint2006 Components

#### Hardware

| Component                  | Value                           |
|----------------------------|                                 |
| CPU Name                   | Intel Xeon Gold 6138             |
| CPU Characteristics        | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHZ                    | 2000                            |
| FPU                        | Integrated                      |
| CPU(s) enabled             | 40 cores, 2 chips, 20 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            | 1 MB I+D on chip per core       |
| L3 Cache                   | 27.5 MB I+D on chip per chip    |
| Other Cache                | None                            |
| Memory                     | 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R) |
| Disk Subsystem             | 1 x 1 TB SATA 7200 RPM          |
| Other Hardware             | None                            |

#### Software

| Component                  | Value                           |
|----------------------------|                                 |
| 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      |
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<th>Seconds</th>
<th>Ratio</th>
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<tbody>
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<td>208</td>
<td>46.9</td>
<td>209</td>
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<td>83.1</td>
<td>85.1</td>
<td>81.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### 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
  - Logical Processor enabled
  - 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 Thu Aug 31 18:17:00 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

Continued on next page
**Dell Inc.**

**PowerEdge R540 (Intel Xeon Gold 6138, 2.00 GHz)**

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**SPECint2006 =** Not Run

**SPECint_base2006 =** 73.4

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**Platform Notes (Continued)**

- **model name**: Intel(R) Xeon(R) Gold 6138 CPU @ 2.00GHz
- **2 "physical id"s (chips)**
- **80 "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 : 20
  - siblings : 40
  - physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
  - physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
- **cache size : 28160 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 18:16

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

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 927G 9.1G 918G 1% /

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.

---

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Dell Inc.
PowerEdge R540 (Intel Xeon Gold 6138, 2.00 GHz)

SPECint2006 = Not Run
SPECint_base2006 = 73.4

CPU2006 license: 55
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Platform Notes (Continued)

BIOS Dell Inc. 1.0.0 08/10/2017
Memory:
8x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 MHz
4x 002C0632002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666 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 = "40"

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
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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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