Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL360 Gen10  
(2.60 GHz, Intel Xeon Silver 4112)  

SPECint®2006 = Not Run  
SPECint_base2006 = 56.7

CPU2006 license: 3  
Test sponsor: HPE  
Tested by: HPE

Software

Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)  
Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux

Hardware

CPU Name: Intel Xeon Silver 4112  
CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
CPU MHz: 2600  
FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
CPU(s) orderable: 1, 2 chip(s)

Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 1 MB I+D on chip per core  
L3 Cache: 8.25 MB I+D on chip per chip

Other Cache: None  
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R, running at 2400)

Disk Subsystem: 1 x 600 GB SATA SSD, RAID 0

Other Hardware: None  

Test date: Oct-2017  
Hardware Availability: Oct-2017  
Software Availability: Apr-2017
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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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<tbody>
<tr>
<td>400.perlbench</td>
<td>261</td>
<td>37.4</td>
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<td>23.3</td>
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<td>23.3</td>
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<td>23.3</td>
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<td>403.gcc</td>
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<td>34.6</td>
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<td>34.5</td>
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<td>429.mcf</td>
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<td>26.8</td>
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<td>26.8</td>
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<td>78.1</td>
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<tr>
<td>458.sjeng</td>
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<td>30.1</td>
<td>402</td>
<td>30.1</td>
<td>402</td>
<td>30.1</td>
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<tr>
<td>462.libquantum</td>
<td>6.12</td>
<td>3390</td>
<td>6.09</td>
<td>3400</td>
<td>6.23</td>
<td>3220</td>
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<tr>
<td>464.h264ref</td>
<td>395</td>
<td>56.1</td>
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<td>56.2</td>
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<td>56.3</td>
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<tr>
<td>471.omnetpp</td>
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<td>23.4</td>
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<td>23.3</td>
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<tr>
<td>473.astar</td>
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<td>30.5</td>
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<td>30.5</td>
<td>231</td>
<td>30.4</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>107</td>
<td>64.2</td>
<td>107</td>
<td>64.2</td>
<td>107</td>
<td>64.3</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"  
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  
irqbalance disabled with "systemctl stop irqbalance"  
tuned profile set with "tuned-adm profile throughput-performance"

Platform Notes

BIOS Configuration:  
Intel Hyperthreading set to Disabled  
Thermal Configuration set to Maximum Cooling  
LLC Prefetcher set to Enabled  
LLC Dead Line Allocation set to Disabled  
Stale A to S set to Disabled  
Memory Patrol Scrubbing set to disabled  
Workload Profile set to General Peak Frequency Compute  
Energy/Performance Bias set to Maximum Performance  
Workload Profile set to Custom  
NUMA Group Size Optimization set to Flat  
Uncore Frequency scaling set to Auto  
Sysinfo program /home/cpu2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on DL360G10 Tue Oct 24 06:51:41 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
Continued on next page

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
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Platform Notes (Continued)

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) Silver 4112 CPU @ 2.60GHz
  2 "physical id"s (chips)
  8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 4
siblings : 4
physical 0: cores 1 2 4 5
physical 1: cores 0 2 3 4
cache size : 8448 KB

From /proc/meminfo
  MemTotal: 197753316 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
  os-release:
    NAME="Red Hat Enterprise Linux Server"
    VERSION="7.3 (Maipo)"
    ID="rhel"
    ID_LIKE="fedora"
    VERSION_ID="7.3"
    PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
    ANSI_COLOR="0;31"
    CPE_NAME=cpe:/o:redhat:enterprise_linux:7.3:GA:server"
  redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
  system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

uname -a:
  Linux DL360G10 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 24 06:48

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel_dl360g10-home xfs 504G 37G 467G 8% /home

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.

BIOS HPE U32 09/29/2017
Memory:

Continued on next page
SPEC CINT2006 Result

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<td><strong>C benchmarks:</strong></td>
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<tr>
<td>icc -m64</td>
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<tr>
<td><strong>C++ benchmarks:</strong></td>
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<td><strong>C benchmarks:</strong></td>
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<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch -auto-p32</td>
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<td><strong>C++ benchmarks:</strong></td>
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<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32 -Wl,-z,muldefs -L/sh10.2 -lsmartheap64</td>
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Platform Notes (Continued)

24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz, configured at 2400 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"
OMP_NUM_THREADS = "8"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
## SPEC CINT2006 Result

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- **CPU2006 license**: 3
- **Test sponsor**: HPE
- **Tested by**: HPE

**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
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revD.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
http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revD.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.