### SPEC® CINT2006 Result

**Hewlett Packard Enterprise**  
/Test Sponsor: HPE  
(Synergy 480 Gen10  
(3.00 GHz, Intel Xeon Gold 6154)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>74.6</td>
</tr>
</tbody>
</table>

CPU2006 license: 3  
Tested by: HPE  
Test date: Oct-2017  
Hardware Availability: Oct-2017  
Software Availability: Apr-2017

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td></td>
</tr>
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<td>429.mcf</td>
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<td></td>
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<tr>
<td>483.xalancbmk</td>
<td></td>
</tr>
</tbody>
</table>

**SPECint_base2006 = 74.6**

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### Hardware

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon Gold 6154</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>CPU MHZ</td>
<td>3000</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>36 cores, 2 chips, 18 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1, 2 chip(s)</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache</td>
<td>1 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache</td>
<td>24.75 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 960 GB SSD SATA, RAID 0</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Operating System</th>
<th>SUSE Linux Enterprise Server 12 (x86_64) SP2 Kernel 4.4.21-69-default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler</td>
<td>C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>Yes</td>
</tr>
<tr>
<td>File System</td>
<td>xfs</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
## 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>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>208</td>
<td>47.1</td>
<td>208</td>
<td>46.9</td>
<td>208</td>
<td>47.0</td>
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<td>401.bzip2</td>
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<td>28.3</td>
<td>340</td>
<td>28.4</td>
<td>341</td>
<td>28.3</td>
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<td></td>
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<tr>
<td>403.gcc</td>
<td>236</td>
<td>34.1</td>
<td>236</td>
<td>34.2</td>
<td>236</td>
<td>34.2</td>
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<tr>
<td>429.mcf</td>
<td>116</td>
<td>78.7</td>
<td>118</td>
<td>77.3</td>
<td>116</td>
<td>78.5</td>
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<tr>
<td>445.gobmk</td>
<td>311</td>
<td>33.7</td>
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<td>33.7</td>
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<td>33.7</td>
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<tr>
<td>456.hmmer</td>
<td>95.6</td>
<td>97.6</td>
<td>95.3</td>
<td>97.9</td>
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<tr>
<td>458.sjeng</td>
<td>328</td>
<td>36.9</td>
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<td>36.9</td>
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<td>36.9</td>
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<tr>
<td>462.libquantum</td>
<td>2.49</td>
<td>8310</td>
<td>2.48</td>
<td>8360</td>
<td>2.48</td>
<td>8370</td>
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<td>464.h264ref</td>
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<td>72.2</td>
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<td></td>
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<tr>
<td>471.omnetpp</td>
<td>173</td>
<td>36.1</td>
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<td>473.astar</td>
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<tr>
<td>483.xalancbmk</td>
<td>85.7</td>
<td>80.5</td>
<td>88.2</td>
<td>78.3</td>
<td>86.1</td>
<td>80.1</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"
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

## Platform Notes

BIOS Configuration:
- Intel Hyperthreading set to Disabled
- Thermal Configuration set to Maximum Cooling
- Memory Patrol Scrubbing set to Disabled
- LLC Prefetcher set to Enabled
- LLC Dead Line Allocation set to Disabled
- Stale A to S set to Disabled
- Workload Profile to General Peak Frequency Compute
- Energy/Performance Bias set to Maximum Performance
- Uncore Frequency Scaling set to Auto
- Workload Profile to Custom
- NUMA Group Size Optimization set to Flat

Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-vjuj Thu Oct 26 09:12:52 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

Continued on next page
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(Test Sponsor: HPE)
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SPECint_base2006 = 74.6

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

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Hardware Availability: Oct-2017
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Platform Notes (Continued)

From /proc/cpuinfo
- model name: Intel(R) Xeon(R) Gold 6154 CPU @ 3.00GHz
- 2 "physical id"s (chips)
- 36 "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: 18
  - siblings: 18
  - physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
  - physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 20 24 25 26 27
  - cache size: 25344 KB

From /proc/meminfo
- MemTotal: 395928244 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:
  (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 26 09:09

SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 852G 44G 809G 6% /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
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Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to
hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HPE I42 09/27/2017
Memory:
24x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 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 = "36"

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

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
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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
-W1,-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
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.