Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(3.00 GHz, Intel Xeon Gold 6154)

HPE

SPECint®2006 = Not Run
SPECint_base2006 = 76.7

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

Test date: Oct-2017
Hardware Availability: Oct-2017
Software Availability: Apr-2017


SPECint_base2006 = 76.7

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)</td>
<td>CPU Name: Intel Xeon Gold 6154</td>
</tr>
<tr>
<td>Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
<td>CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>Auto Parallel: Yes</td>
<td>CPU MHz: 3000</td>
</tr>
<tr>
<td>File System: xfs</td>
<td>CPU(s) enabled: 36 cores, 2 chips, 18 cores/chip</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
<td>CPU(s) orderable: 1, 2 chip(s)</td>
</tr>
<tr>
<td>Base Pointers: 32/64-bit</td>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Peak Pointers: Not Applicable</td>
<td>Secondary Cache: 1 MB I+D on chip per core</td>
</tr>
<tr>
<td>Other Software: Microquill SmartHeap V10.2</td>
<td>L3 Cache: 24.75 MB I+D on chip per core</td>
</tr>
</tbody>
</table>

CPU Name: Intel Xeon Gold 6154
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 36 cores, 2 chips, 18 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: 24.75 MB I+D on chip per core
Other Cache: None
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: 1 x 960 GB SSD SATA, RAID 0
Other Hardware: None
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th></th>
<th></th>
<th>Peak</th>
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<tr>
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<td>Ratio</td>
<td>Seconds</td>
<td>Ratio</td>
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<td>400.perlbench</td>
<td>210</td>
<td>46.5</td>
<td>210</td>
<td>46.6</td>
<td>210</td>
<td>46.5</td>
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<tr>
<td>401.bzip2</td>
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<td>28.2</td>
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<td>28.3</td>
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<td>28.3</td>
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<td>43.7</td>
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<td>43.8</td>
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<td>43.8</td>
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<tr>
<td>429.mcf</td>
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<td>80.5</td>
<td>114</td>
<td>79.8</td>
<td>115</td>
<td>79.3</td>
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<tr>
<td>445.gobmk</td>
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<td>33.6</td>
<td>311</td>
<td>33.7</td>
<td>312</td>
<td>33.7</td>
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<td>456.hmmer</td>
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<td>96.7</td>
<td>96.6</td>
<td>96.6</td>
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<tr>
<td>458.sjeng</td>
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<td>37.1</td>
<td>326</td>
<td>37.1</td>
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<tr>
<td>462.libquantum</td>
<td>2.41</td>
<td>8580</td>
<td>2.43</td>
<td>8520</td>
<td>2.32</td>
<td>8950</td>
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<tr>
<td>464.h264ref</td>
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<td>71.7</td>
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<td>71.6</td>
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<td>72.2</td>
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<td>471.omnetpp</td>
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<td>38.7</td>
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<td>37.6</td>
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<tr>
<td>473.astar</td>
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<td>39.1</td>
<td>180</td>
<td>39.1</td>
<td>181</td>
<td>38.8</td>
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<td>81.6</td>
<td>84.8</td>
<td>81.4</td>
<td>84.7</td>
<td>81.5</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
Memory Patrol Scrubbing set to Disabled
LLC Prefetcher set to Enabled
LLC Dead Line Allocation set to Disabled
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Uncore Frequency Scaling set to Auto
Workload Profile set 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 DL380Gen10 Mon Oct 9 12:35:58 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
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(Test Sponsor: HPE)
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CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE

Test date: Oct-2017
Hardware Availability: Oct-2017
Software Availability: Apr-2017

Platform Notes (Continued)

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

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
cautions.)
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 19 20 24 25 26 27

cache size : 25344 KB

From /proc/meminfo

MemTotal:
HugePages_Total:
Hugepagesize:

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 DL380Gen10 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 9 12:34

SPEC is set to: /home/cpu2006
Filenametype Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 839G 29G 811G 4% /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 U30 09/29/2017
Memory:
SPEC CINT2006 Result

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

Platform Notes (Continued)

24x UNKNOWN NOT AVAILABLE 8 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"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/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
  483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

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

Continued on next page
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Base Optimization Flags (Continued)

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
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.

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