Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen10
(2.60 GHz, Intel Xeon Gold 6132)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>74.4</td>
</tr>
</tbody>
</table>

CPU2006 license: 3
Tested by: HPE

CPU Characteristics:
- Intel Xeon Gold 6132
- Intel Turbo Boost Technology up to 3.70 GHz
- 2600 MHz
- Integrated FPU
- 28 cores, 2 chips, 14 cores/chip
- 1 MB I+D on chip per core
- 19.25 MB I+D on chip per core
- None Other Cache
- 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
- 1 x 480 GB SATA SSD, RAID 0

Operating System:
- Red Hat Enterprise Linux Server release 7.3 (Maipo)
- Kernel 3.10.0-514.el7.x86_64
- C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
- Yes Auto Parallel
- xfs File System
- Run level 3 (multi-user) System State
- 32/64-bit Base Pointers
- Not Applicable Peak Pointers
- Microquill SmartHeap V10.2 Other Software
Hewlett Packard Enterprise  
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SPECint2006 = Not Run  
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CPU2006 license: 3  
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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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</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>210</td>
<td>46.5</td>
<td>210</td>
<td>46.5</td>
<td>211</td>
<td>46.4</td>
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<tr>
<td>401.bzip2</td>
<td>341</td>
<td>28.3</td>
<td>342</td>
<td>28.2</td>
<td>342</td>
<td>28.2</td>
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<tr>
<td>403.gcc</td>
<td>189</td>
<td>42.6</td>
<td>188</td>
<td>42.7</td>
<td>189</td>
<td>42.6</td>
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<td>429.mcf</td>
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<td>79.7</td>
<td>115</td>
<td>79.3</td>
<td>117</td>
<td>77.8</td>
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<td>7520</td>
<td>2.74</td>
<td>7560</td>
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<td>33.1</td>
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<tr>
<td>473.astar</td>
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<td>86.0</td>
<td>80.2</td>
<td>85.8</td>
<td>80.4</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  
IRQ balance service was stop using "service irqbalance stop"  
Tuned-adm profile was set to Throughtput-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/specuser/cpu2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on dl360Gen10rhel73Unit2 Thu Nov  9 10:40:39 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
SPEC CINT2006 Result

Hewlett Packard Enterprise
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SPECint2006 = Not Run
SPECint_base2006 = 74.4

CPU2006 license: 3
Test date: Nov-2017
Test sponsor: HPE
Hardware Availability: Oct-2017
Tested by: HPE
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 6132 CPU @ 2.60GHz
2 "physical id"s (chips)
28 "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 : 14
siblings : 14
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 19712 KB

From /proc/meminfo

MemTotal: 197573248 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 dl360Gen10rhel173Unit2 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 Nov 9 08:27

SPEC is set to: /home/specuser/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 392G 36G 357G 10% /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:
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Platform Notes (Continued)

24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 192 GB and the dmidecode description should have one line reading as:
24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/specuser/cpu2006/lib/ia32:/home/specuser/cpu2006/lib/intel64:/home/specuser/cpu2006/sh10.2"
OMP_NUM_THREADS = "28"

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