### Hewlett Packard Enterprise

**Synergy 480 Gen10**  
(2.00 GHz, Intel Xeon Gold 6138)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>Not Run</th>
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<tr>
<td>SPECint_base2006</td>
<td>69.1</td>
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</table>

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

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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</tr>
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**Hardware**

- **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(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:** 27.5 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)  
- **Disk Subsystem:** 1 x 960 GB SATA SSD, RAID 0  
- **Other Hardware:** None

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 (x86_64) SP2  
  Kernel 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:** Not Applicable  
- **Other Software:** Microquill SmartHeap V10.2
SPEC CINT2006 Result

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Results Table

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<tr>
<th>Benchmark</th>
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</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:
  Thermal Configuration set to Maximum Cooling
  LLC Prefetch set to Enabled
  LLC Dead Line Allocation 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
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
r g on linux-vjuj Mon Nov 20 10:07:47 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

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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 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28  
physical 1: cores 0 1 2 3 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28  
cache size : 28160 KB  

From /proc/meminfo
MemTotal: 395921388 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  
Nov 17 16:35  

SPEC is set to: /home/cpu2006  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda4 xfs 852G 75G 778G 9% /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.  
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Platform Notes (Continued)  

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 = "80"  
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.perlbmk: -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  
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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  

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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-revG.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-revG.xml

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For other inquiries, please contact webmaster@spec.org.

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