Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant BL460c Gen10
(2.10 GHz, Intel Xeon Gold 6152)

SPECint<sup>®</sup>2006 = Not Run
SPECint<sub>base2006</sub> = 76.4

CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE
Test date: Dec-2017
Hardware Availability: Nov-2017
Software Availability: Sep-2017

### SPECint<sup>®</sup>2006 Results

- **400.perlbench**: 46.5
- **401.bzip2**: 28.2
- **403.gcc**: 43.6
- **429.mcf**: 78.1
- **445.gobmk**: 33.5
- **456.hmmer**: 96.6
- **458.sjeng**: 36.9
- **462.libquantum**: 8220
- **464.h264ref**: 66.5
- **471.omnetpp**: 42.3
- **473.astar**: 39.2
- **483.xalancbmk**: 81.9

### Hardware

**CPU Name:** Intel Xeon Gold 6152
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
**CPU MHz:** 2100
**FPU:** Integrated
**CPU(s) enabled:** 44 cores, 2 chips, 22 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:** 30.25 MB I+D on chip per core
**Other Cache:** None
**Memory:** 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R)
**Disk Subsystem:** 1 x 480 GB SATA SSD, RAID 0

### Software

**Operating System:** Red Hat Enterprise Linux Server release 7.4 (Maipo)
**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

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SPEC CINT2006 Result

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Results Table

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</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 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)
running on BL460c_RHEL7.4BL460c_RHEL7.4BL460c_RHEL7.4BL460c_RHEL7.4BL460c_R Thu
Dec 7 05:57:31 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

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Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 6152 CPU @ 2.10GHz
  2 "physical id"s (chips)
  44 "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 : 22
  siblings : 22
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
   28
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
   28
  cache size : 30976 KB

From /proc/meminfo
MemTotal: 197747656 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.4 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VARIANT="Server"
  VARIANT_ID="server"
  VERSION_ID="7.4"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.4 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.4:ga:server
uname -a:
  Linux BL460c_RHEL7.4BL460c_RHEL7.4BL460c_RHEL7.4BL460c_RHEL7.4BL460c_R
  3.10.0-693.el7.x86_64 #1 SMP Thu Jul 6 19:56:57 EDT 2017 x86_64 x86_64 x86_64
  GNU/Linux
run-level 3 Dec 7 05:53
SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb4 xfs 442G 55G 388G 13% /

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 I41 11/14/2017
Memory:
4x UNKNOWN NOT AVAILABLE
12x UNKNOWN NOT AVAILABLE 16 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:
12x UNKNOWN NOT AVAILABLE 16 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/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"
OMP_NUM_THREADS = "44"

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
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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
-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-revH.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-revH.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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