### SPECint Base 2006 Result

#### SPECint Base 2006 = 73.2

<table>
<thead>
<tr>
<th>Test Sponsor: HPE</th>
<th>CPU2006 license: 3</th>
<th>Test date: Dec-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>Software</td>
<td>Hardware Availability: Nov-2017</td>
</tr>
<tr>
<td>Software</td>
<td>Operating System:</td>
<td>Software Availability: Apr-2017</td>
</tr>
<tr>
<td>CPU2006 license</td>
<td>CPU Name: Intel Xeon Gold 6132</td>
<td></td>
</tr>
<tr>
<td>Tested by: HPE</td>
<td>CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPU MHZ: 2600</td>
<td>Compilers:</td>
</tr>
<tr>
<td></td>
<td>FPU: Integrated</td>
<td>C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
</tr>
<tr>
<td></td>
<td>CPU(s) enabled: 28 cores, 2 chips, 14 cores/chip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPU(s) orderable: 1, 2 chip(s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary Cache: 1 MB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L3 Cache: 19.25 MB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Cache: None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Memory: 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disk Subsystem: 1 x 480 GB SATA SSD, RAID 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Hardware: None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPECint Base 2006 = 73.2</td>
<td></td>
</tr>
</tbody>
</table>

#### SPECint 2006 = Not Run

| Test Sponsor: HPE | SPECint Base 2006 = 73.2 | |
|-------------------|---------------------------| |
| CPU2006 license   |                          | |
| Tested by: HPE    |                          | |
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|                   |                          | |
|                   |                          | |
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant BL460c Gen10
(2.60 GHz, Intel Xeon Gold 6132)

SPECint2006 = Not Run
SPECint_base2006 = 73.2

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

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>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>211</td>
<td>46.4</td>
<td>211</td>
<td>46.3</td>
<td>211</td>
<td>46.3</td>
</tr>
<tr>
<td>401.bzip2</td>
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<td>28.2</td>
<td>342</td>
<td>28.2</td>
<td>343</td>
<td>28.2</td>
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<tr>
<td>403.gcc</td>
<td>192</td>
<td>42.0</td>
<td>191</td>
<td>42.1</td>
<td>192</td>
<td>42.0</td>
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<tr>
<td>429.mcf</td>
<td>120</td>
<td>76.1</td>
<td>117</td>
<td>77.7</td>
<td>120</td>
<td>76.0</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>316</td>
<td>33.2</td>
<td>316</td>
<td>33.2</td>
<td>316</td>
<td>33.2</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>96.7</td>
<td>96.5</td>
<td>96.5</td>
<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>36.5</td>
<td>331</td>
<td>36.6</td>
<td>332</td>
<td>36.5</td>
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<tr>
<td>462.libquantum</td>
<td>2.91</td>
<td>7110</td>
<td>2.93</td>
<td>7080</td>
<td>2.90</td>
<td>7140</td>
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<tr>
<td>464.h264ref</td>
<td>320</td>
<td>69.1</td>
<td>319</td>
<td>69.3</td>
<td>318</td>
<td>69.5</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>195</td>
<td>32.1</td>
<td>194</td>
<td>32.1</td>
<td>195</td>
<td>32.1</td>
</tr>
<tr>
<td>473.astar</td>
<td>181</td>
<td>38.7</td>
<td>182</td>
<td>38.7</td>
<td>182</td>
<td>38.5</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>86.9</td>
<td>79.4</td>
<td>86.8</td>
<td>79.5</td>
<td>86.8</td>
<td>79.5</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 Hyper-Threading 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
Uncore Frequency Scaling set to Auto
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on bl460c16 Mon Dec 18 11:59:42 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
**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant BL460c Gen10  
(2.60 GHz, Intel Xeon Gold 6132)

**SPECint2006 =** Not Run  
**SPECint_base2006 =** 73.2

---

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

---

**Platform Notes (Continued)**

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:       197750280 kB`
- `HugePages_Total:       0`
- `Hugepagesize:       2048 kB`

From `/etc/*release* /etc/*version*`

- `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)"

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 I41 11/14/2017`
- `Memory: 4x UNKNOWN NOT AVAILABLE`
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant BL460c Gen10
(2.60 GHz, Intel Xeon Gold 6132)

SPECint2006 = Not Run
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CPU2006 license: 3
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Platform Notes (Continued)

12x 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 = "28"

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

No: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
No: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
No: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.

This benchmark result is intended to provide perspective on
past performance using the historical hardware and/or
software described on this result page.

The system as described on this result page was formerly
generally available. At the time of this publication, it may
not be shipping, and/or may not be supported, and/or may fail
to meet other tests of General Availability described in the

This measured result may not be representative of the result
that would be measured were this benchmark run with hardware
and software available as of the publication date.

Base Compiler Invocation

C benchmarks:
   icc -m64

C++ benchmarks:
   icpc -m64
**SPEC CINT2006 Result**

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant BL460c Gen10  
(2.60 GHz, Intel Xeon Gold 6132)

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**CPU2006 license:** 3  
**Test date:** Dec-2017  
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### Base Portability Flags

<table>
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<tr>
<th>Benchmark</th>
<th>Flags</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</td>
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<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</td>
</tr>
</tbody>
</table>

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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/HPE-Platform-Flags-Intel-V1.2-SKX-revH.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/HPE-Platform-Flags-Intel-V1.2-SKX-revH.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.

Tested with SPEC CPU2006 v1.2.
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