### SPECint®2006 Result

**Test Sponsor:** HPE  
**ProLiant DL560 Gen10**  
(2.60 GHz, Intel Xeon Gold 6132)

<table>
<thead>
<tr>
<th>Benchmark ID</th>
<th>SPECint®2006</th>
<th>SPECint_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>Not Run</td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>48.4</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>28.3</td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>60.0</td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32.4</td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>96.7</td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>36.9</td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>69.5</td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>33.4</td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>38.9</td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>80.5</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>80.5</td>
<td></td>
</tr>
</tbody>
</table>

**Overall SPECint_base2006:** 74.6

---

### Hardware

- **CPU Name:** Intel Xeon Gold 6132  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
- **CPU MHz:** 2600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 56 cores, 4 chips, 14 cores/chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 1 MB I+D on chip per core  
- **L3 Cache:** 19.25 MB I+D on chip per core  
- **Other Cache:** None  
- **Memory:** 384 GB (48 x 8 GB 2Rx8 PC4-2666V-R)  
- **Disk Subsystem:** 1 x 960 GB SATA SSD, RAID 0  
- **Other Hardware:** None

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.3 (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
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL560 Gen10
(2.60 GHz, Intel Xeon Gold 6132)

SPECint2006 = Not Run
SPECint_base2006 = 74.6

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>210</td>
<td>46.5</td>
<td>214</td>
<td>45.7</td>
<td>210</td>
<td>46.4</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>341</td>
<td>28.3</td>
<td>341</td>
<td>28.3</td>
<td>341</td>
<td>28.3</td>
</tr>
<tr>
<td>403.gcc</td>
<td>188</td>
<td>42.7</td>
<td>189</td>
<td>42.6</td>
<td>189</td>
<td>42.6</td>
</tr>
<tr>
<td>429.mcf</td>
<td>114</td>
<td>80.2</td>
<td>114</td>
<td>79.8</td>
<td>114</td>
<td>80.0</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>314</td>
<td>33.4</td>
<td>314</td>
<td>33.4</td>
<td>314</td>
<td>33.4</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>96.7</td>
<td>96.5</td>
<td>96.4</td>
<td>96.7</td>
<td>96.4</td>
<td>96.8</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>328</td>
<td>36.9</td>
<td>328</td>
<td>36.9</td>
<td>327</td>
<td>36.9</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>2.75</td>
<td>7530</td>
<td>2.71</td>
<td>7650</td>
<td>2.72</td>
<td>7620</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>318</td>
<td>69.8</td>
<td>317</td>
<td>69.8</td>
<td>319</td>
<td>69.3</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>187</td>
<td>33.4</td>
<td>186</td>
<td>33.6</td>
<td>187</td>
<td>33.3</td>
</tr>
<tr>
<td>473.astar</td>
<td>180</td>
<td>38.9</td>
<td>180</td>
<td>38.9</td>
<td>181</td>
<td>38.9</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>85.7</td>
<td>80.8</td>
<td>85.7</td>
<td>80.6</td>
<td>85.8</td>
<td>80.5</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
IRQ balance service was stop using "service irqbalance stop"
Tuned-adm profile was set to Throughput-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
Stale A to S set to Enabled
Memory Patrol Scrubbing set to Disabled
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 DL560G10 Mon Dec 4 02:19:45 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

ProLiant DL560 Gen10
(2.60 GHz, Intel Xeon Gold 6132)

SPECint2006 = Not Run
SPECint_base2006 = 74.6

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

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

Platform Notes (Continued)

From /proc/cpuinfo

model name : Intel(R) Xeon(R) Gold 6132 CPU @ 2.60GHz
4 "physical id"s (chips)
56 "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
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

cache size : 19712 KB

From /proc/meminfo

MemTotal: 395926112 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

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

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 DL560G10 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 Dec 4 02:10

SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel_dl560g10-home xfs 839G 37G 803G 5% /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 U34 09/29/2017
**SPEC CINT2006 Result**

**Hewlett Packard Enterprise**  
[Test Sponsor: HPE]  
ProLiant DL560 Gen10  
(2.60 GHz, Intel Xeon Gold 6132)  

<table>
<thead>
<tr>
<th>SPECint2006 =</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006 =</td>
<td>74.6</td>
</tr>
</tbody>
</table>

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

---

**Platform Notes (Continued)**

Memory:
48x 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:/home/cpu2006/sh10.2"`
- `OMP_NUM_THREADS = "56"`

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`
- 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 -03 -no-prec-div -parallel -qopt-prefetch -auto-p32`

Continued on next page
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL560 Gen10
(2.60 GHz, Intel Xeon Gold 6132)

SPECint2006 = Not Run
SPECint_base2006 = 74.6

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

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

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-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

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Originally published on 14 January 2018.