Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL580 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

SPECint®2006 = Not Run
SPECint_base2006 = 81.5

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

SPECint_base2006 = 81.5

Hardware

CPU Name: Intel Xeon Platinum 8180
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2500
FPU: Integrated
CPU(s) enabled: 112 cores, 4 chips, 28 cores/chip
CPU(s) orderable: 2,4 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: 38.5 MB I+D on chip per chip
Other Cache: None
Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: 1 x 800 GB SATA SSD, RAID 0
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.3
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: 32/64-bit
Other Software: Microquill SmartHeap V10.2
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL580 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

SPECint2006 = Not Run
SPECint_base2006 = 81.5

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

Test date: Sep-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

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>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>204</td>
<td>48.0</td>
<td>204</td>
<td>47.8</td>
<td>204</td>
<td>47.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>333</td>
<td>28.9</td>
<td>334</td>
<td>28.9</td>
<td>334</td>
<td>28.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>177</td>
<td>45.5</td>
<td>177</td>
<td>45.4</td>
<td>178</td>
<td>45.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>116</td>
<td>78.7</td>
<td>115</td>
<td>79.5</td>
<td>115</td>
<td>79.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>303</td>
<td>34.6</td>
<td>303</td>
<td>34.6</td>
<td>303</td>
<td>34.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>94.1</td>
<td>99.1</td>
<td>94.4</td>
<td>98.9</td>
<td>93.8</td>
<td>99.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>315</td>
<td>38.4</td>
<td>315</td>
<td>38.4</td>
<td>315</td>
<td>38.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>1.94</td>
<td>10700</td>
<td>1.91</td>
<td>10900</td>
<td>1.88</td>
<td>11000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>313</td>
<td>70.7</td>
<td>312</td>
<td>70.9</td>
<td>313</td>
<td>70.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>126</td>
<td>49.5</td>
<td>127</td>
<td>49.2</td>
<td>126</td>
<td>49.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>174</td>
<td>40.4</td>
<td>174</td>
<td>40.3</td>
<td>174</td>
<td>40.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>81.6</td>
<td>84.6</td>
<td>81.7</td>
<td>84.5</td>
<td>81.7</td>
<td>84.4</td>
<td></td>
<td></td>
<td></td>
<td></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

Platform Notes

BIOS Configuration:
Hyper-Threading 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
AHS PCI logging level set to Minimal logging
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Minimum Processor Idle Power Core C-state set to C1E
Workload Profile set to Custom
Uncore Frequency Scaling set to Auto
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4e51ed28d7f98696cbe290c1)
running on DL580G10 Fri Sep 15 22:49:20 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
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL580 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

SPECint2006 = Not Run
SPECint_base2006 = 81.5

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

Test date: Sep-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Platform Notes (Continued)

From /proc/cpuinfo

- model name: Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
- 4 "physical id"s (chips)
- 112 "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: 28
  - siblings: 28
  - physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
    25 26 27 28 29 30
  - physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
    25 26 27 28 29 30
  - physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
    25 26 27 28 29 30
  - physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
    25 26 27 28 29 30
- cache size: 39424 KB

From /proc/meminfo
- MemTotal: 792278088 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:
- x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 15 22:46

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
- /dev/mapper/rhel_dl580g10-home xfs 690G 13G 677G 2% /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...Continued on next page
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL580 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

<table>
<thead>
<tr>
<th>SPECint2006</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>81.5</td>
</tr>
</tbody>
</table>

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

Platform Notes (Continued)
determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HPE U34 08/18/2017
Memory: 48x 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 = "91"

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
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
SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL580 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

SPECint2006 = Not Run
SPECint_base2006 = 81.5

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

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
-W1,-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-revD.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-revD.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 3 October 2017.