## SPECint®2006 Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL560 Gen10  
(2.00 GHz, Intel Xeon Platinum 8153)  

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.3 (Maipo)  
- **Kernel:** 3.10.0-514.el7.x86_64  
- **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

### Hardware

- **CPU Name:** Intel Xeon Platinum 8153  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.80 GHz  
- **CPU MHz:** 2000  
- **FPU:** Integrated  
- **CPU(s) enabled:** 64 cores, 4 chips, 16 cores/chip  
- **CPU(s) orderable:** 1, 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:** 22 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 480 GB SSD SATA, RAID 0  
- **Other Hardware:** None

### SPECint Base2006 Result

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECint Base2006</th>
<th>Notes</th>
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</thead>
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### SPECint Base2006 Summary

- **SPECint Base2006:** 60.5

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

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

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Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL560 Gen10
(2.00 GHz, Intel Xeon Platinum 8153)

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

**SPEC CINT2006 Result**

**SPECint2006 =** Not Run
**SPECint_base2006 =** 60.5

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

### Results Table

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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 Hyperthreading set to Disabled
Thermal Configuration set to Maximum Cooling
Memory Patrol Scrubbing set to Disabled
LLC Prefetcher set to Enabled
LLC Dead Line Allocation set to Disabled
Stale A to S set to Enabled
Uncore Frequency Scaling set to Auto
Workload Profile set to Custom
NUMA Group Size Optimization set to Flat

Sysinfo program /cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4e51ed28d7f98696cbe290c1)
running on DL560-Gen10 Fri Oct 13 16:42:42 2017

This section contains SUT (System Under Test) info as seen by
Continued on next page
** Platform Notes (Continued) **

some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo

- model name : Intel(R) Xeon(R) Platinum 8153 CPU @ 2.00GHz
- 4 "physical id"s (chips)
- 64 "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 : 16
  - siblings : 16
  - physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  - physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  - physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  - physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
- cache size : 22528 KB

From /proc/meminfo

- MemTotal: 792073812 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:
  - Linux DL560-Gen10 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 Oct 13 16:19

SPEC is set to: /cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb1 xfs 447G 12G 436G 3% /

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.

Continued on next page
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SPECint_base2006 = 60.5

CPU2006 license: 3  
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Tested by: HPE

Platform Notes (Continued)

BIOS HPE U34 09/29/2017  
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 = "/cpu2006/lib/ia32:/cpu2006/lib/intel64:/cpu2006/sh10.2"  
OMP_NUM_THREADS = "64"

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  
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 -O3 -no-prec-div -parallel -qopt-prefetch  
-auto-p32

Continued on next page
**SPEC CINT2006 Result**

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### SPECint2006 = Not Run

**SPECint_base2006 = 60.5**

**CPU2006 license:** 3  
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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-SKK-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-SKK-revD.xml

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

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