Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL360 Gen10
(3.00 GHz, Intel Xeon Gold 6136)

SPECint®2006 = Not Run
SPECint_base2006 = 76.1

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

Test date: Oct-2017
Hardware Availability: Oct-2017
Software Availability: Nov-2016

SPECint_base2006 = 76.1

Hardware
CPU Name: Intel Xeon Gold 6136
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 24 cores, 2 chips, 12 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: 24.75 MB I+D on chip per core
Other Cache: None
Memory: 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: 1 x 480 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
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Results Table

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<tr>
<th>Benchmark</th>
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<th>Ratio</th>
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<td>210</td>
<td>46.6</td>
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<td>81.8</td>
<td>84.0</td>
<td>82.2</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 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
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
Uncore Frequency Scaling set to Auto
Workload Profile set to Custom
NUMA Group Size Optimization set to Flat

Sysinfo program /home/specuser/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on dl360gen10rhel73 Thu Oct 12 14:40:24 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page
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Platform Notes (Continued)

http://www.spec.org/cpu2006/docs/config.html#sysinfo

From /proc/cpuinfo  
---  
model name : Intel(R) Xeon(R) Gold 6136 CPU @ 3.00GHz  
2 "physical id"s (chips)  
24 "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 : 12  
siblings : 12  
physical 0: cores 0 1 2 3 8 9 10 11 18 19 24 27  
physical 1: cores 0 1 2 3 8 9 10 11 18 19 24 27  
cache size : 25344 KB

From /proc/meminfo  
---  
MemTotal: 197573264 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 dl360gen10rhel173 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 12 12:04

SPEC is set to: /home/specuser/cpu2006
Files
type size used avail used mounted on
/dev/mapper/rhel-home xfs 392G 21G 372G 6% /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 U32 09/29/2017
Memory:  

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SPEC CINT2006 Result

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Platform Notes (Continued)

24x 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/specuser/cpu2006/lib/ia32:/home/specuser/cpu2006/lib/intel64"
LD_LIBRARY_PATH = ":$LD_LIBRARY_PATH:/home/specuser/cpu2006/sh10.2"
OMP_NUM_THREADS = "24"

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

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## SPEC CINT2006 Result

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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/HPE-Platform-Flags-Intel-V1.2-SKX-revD.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/HPE-Platform-Flags-Intel-V1.2-SKX-revD.xml](http://www.spec.org/cpu2006/flags/HPE-Platform-Flags-Intel-V1.2-SKX-revD.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.  
Report generated on Wed Nov 1 00:54:38 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 31 October 2017.