**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
**ProLiant DL380 Gen10**  
(2.00 GHz, Intel Xeon Platinum 8164)

**SPECint\_rate2006 = Not Run**  
**SPECint\_rate\_base2006 = 2160**

<table>
<thead>
<tr>
<th>Test date:</th>
<th>Oct-2017</th>
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<tr>
<td>Hardware Availability:</td>
<td>Oct-2017</td>
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<td>Software Availability:</td>
<td>Apr-2017</td>
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| CPU2006 license: | 3 |
| Test sponsor: | HPE |
| Tested by: | HPE |

### CPU Characteristic:
- **CPU Name:** Intel Xeon Platinum 8164
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
- **CPU MHz:** 2000
- **FPU:** Integrated
- **CPU(s) enabled:** 52 cores, 2 chips, 26 cores/chip, 2 threads/core
- **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:** 35.75 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
- **Disk Subsystem:** 1 x 960 GB SATA SSD, RAID 0
- **Other Hardware:** None

### Software
- **Operating System:** SUSE Linux Enterprise Server 12 (x86_64) SP2  
  Kernel 4.4.21-69-default
- **Compiler:** C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
- **Auto Parallel:** No
- **File System:** Btrfs
- **System State:** Run level 5 (multi-user w/GUI)
- **Base Pointers:** 32-bit
- **Peak Pointers:** Not Applicable
- **Other Software:** Microquill SmartHeap V10.2

### Benchmarks

<table>
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<tr>
<th>Benchmark</th>
<th>Copies</th>
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<th>3000</th>
<th>4500</th>
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| SPECint\_rate\_base2006 = 2160 | 34700 |

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**Standard Performance Evaluation Corporation**

info@spec.org
http://www.spec.org/
**Results Table**

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</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

### Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

### 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  
runcmd command invoked through numactl i.e.:  
numactl --interleave=all runcmd <etc>  
irqbalance disabled with "service irqbalance stop"  
tuned profile set with "tuned-adm profile throughput-performance"  
VM Dirty ratio was set to 40 using "echo 40 > /proc/sys/vm/dirty_ratio"  
Numa balancing was disabled using "echo 0 > /proc/sys/kernel/ numa_balancing"

### Platform Notes

BIOS Configuration:  
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 Throughput Compute  
Minimum Processor Idle Power Core C-State set to C1E
Hewlett Packard Enterprise

ProLiant DL380 Gen10
(2.00 GHz, Intel Xeon Platinum 8164)

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

SPEC CINT2006 Result
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SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 2160

Specint_rate2006 = Not Run
Specint_rate_base2006 = 2160

Platform Notes (Continued)

Sysinfo program /cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on dl380-sys2-sles Fri Oct  6 22:14:22 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

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Platinum 8164 CPU @ 2.00GHz
  2 "physical id"s (chips)
  104 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 26
siblings  : 52
physical 0: cores 0 1 2 3 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27
  28 29
physical 1: cores 0 1 2 3 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27
  28 29
cache size : 36608 KB

From /proc/meminfo
MemTotal:       197544148 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 2
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.

os-release:
  NAME="SLES"
  VERSION="12-SP2"
  VERSION_ID="12.2"
  PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
  ID="sles"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

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SPEC CINT2006 Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(2.00 GHz, Intel Xeon Platinum 8164)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 2160

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

Platform Notes (Continued)

run-level 5 Oct 6 21:43
SPEC is set to: /cpu2006
Filesystem   Type     Size  Used  Avail Use% Mounted on
/dev/sdb3    btrfs   489G   12G  477G   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.

BIOS HPE U30 09/29/2017
Memory:
24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz
(End of data from syinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/lib/ia32:/cpu2006/lib/intel64:/cpu2006/sh10.2"

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 -m32 -L/opt/intel compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks:
  icpc -m32 -L/opt/intel compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
  429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
  458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64

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SPEC CINT2006 Result
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10
(2.00 GHz, Intel Xeon Platinum 8164)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 2160

Base Portability Flags (Continued)

473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

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

Base Optimization Flags

C benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

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

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

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