## SPEC® CINT2006 Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10  
(2.50 GHz, Intel Xeon Platinum 8180)  

### SPECint® rate2006 = Not Run  
SPECint_rate_base2006 = 2630

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>HPE</td>
</tr>
<tr>
<td>Tested by:</td>
<td>HPE</td>
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</table>

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

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<tr>
<td>112</td>
<td>2140</td>
<td>1220</td>
<td>1870</td>
<td>3260</td>
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<td>3190</td>
<td>1140</td>
<td>1380</td>
<td>2600</td>
<td>44700</td>
</tr>
</tbody>
</table>

**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:** 56 cores, 2 chips, 28 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:** 38.5 MB I+D on chip per chip  
- **Memory:** 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)  
- **Other Cache:** None  
- **Disk Subsystem:** 1 x 450 GB SATA SSD, RAID 0  
- **Other Hardware:** None

**Software**  
- **Operating System:** SUSE Linux Enterprise Server 12 (x86_64) SP2 Kernel 4.4.21-68-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 3 (multi-user)  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** Microquill SmartHeap V10.2
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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<td>673</td>
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<td>297</td>
<td>2600</td>
<td>298</td>
<td>2600</td>
</tr>
</tbody>
</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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Platform Notes

BIOS Configuration:
Thermal Configuration set to Maximum Cooling
LLC Dead Line Allocation set to Disabled
Workload Profile set to General Throughput Compute
Sysinfo program /spec_cpu/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)

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
Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
  2 "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 : 56
  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
  cache size : 39424 KB

From /proc/meminfo
MemTotal:       395708488 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:
  Linux local 4.4.21-68-default #1 SMP Tue Oct 18 18:19:37 UTC 2016 (63cf368)
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 3 22:50

SPEC is set to: /spec_cpu/cpu2006
  Filesystem  Type  Size  Used  Avail  Use%  Mounted on
  /dev/sda3  btrfs  445G  212G  231G  48%  /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program
Continued on next page
### Platform Notes (Continued)

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 08/18/2017
Memory: 24x 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:

```
LD_LIBRARY_PATH = "/spec_cpu/cpu2006/lib/ia32:/spec_cpu/cpu2006/lib/intel64:/spec_cpu/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

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### Base Optimization Flags

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

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**Base Optimization Flags (Continued)**

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`

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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-revB.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-revB.xml

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

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