## SPEC® CINT2006 Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
Synergy 480 Gen10  
(2.60 GHz, Intel Xeon Gold 6142)

### CINT2006 Result

<table>
<thead>
<tr>
<th>Test sponsor:</th>
<th>HPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>HPE</td>
</tr>
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<td>Hardware Availability:</td>
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<td>Software Availability:</td>
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### Benchmark Results

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Time (sec)</th>
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<tbody>
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<tr>
<td>401.bzip2</td>
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<td>403.gcc</td>
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<td>1210</td>
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<tr>
<td>429.mcf</td>
<td>64</td>
<td>2210</td>
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<tr>
<td>445.gobmk</td>
<td>64</td>
<td>1030</td>
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<td>456.hmmer</td>
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<tr>
<td>462.libquantum</td>
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<td>1860</td>
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<tr>
<td>464.h264ref</td>
<td>64</td>
<td>924</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>64</td>
<td>934</td>
</tr>
<tr>
<td>473.astar</td>
<td>64</td>
<td>1880</td>
</tr>
</tbody>
</table>

### CPU Specifications

- **CPU Name:** Intel Xeon Gold 6142  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
- **CPU MHz:** 2600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 32 cores, 2 chips, 16 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:** 22 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)  
- **Disk Subsystem:** 1 x 960 GB SATA SSD, RAID 0  
- **Other Hardware:** None  

### Software Specifications

- **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:** xfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** Not Applicable  
- **Other Software:** Microquill SmartHeap V10.2

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Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
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</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  
runcase command invoked through numactl i.e.:  
numactl --interleave=all runspec <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  
LLC Prefetch set to Enabled  
LLC Dead Line Allocation set to Disabled  
Memory Patrol Scrubbing set to Disabled  
Workload Profile set to General Throughput Compute  
Minimum Processor Idle Power Core C-State set to C1E  
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
**SPEC CINT2006 Result**

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**SPECint_rate2006 =**  **Not Run**  
**SPECint_rate_base2006 =**  **1680**

---

**Platform Notes (Continued)**

Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-vjuj Fri Nov 10 17:13:09 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) Gold 6142 CPU @ 2.60GHz  
2 "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 : 32  
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  
cache size : 22528 KB

From /proc/meminfo  
MemTotal:       395924524 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

run-level 3 Nov 10 17:09

SPEC is set to: /home/cpu2006

Continued on next page
## Platform Notes (Continued)

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
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</thead>
<tbody>
<tr>
<td>/dev/sda4</td>
<td>xfs</td>
<td>852G</td>
<td>84G</td>
<td>769G</td>
<td>10%</td>
<td>/home</td>
</tr>
</tbody>
</table>

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 I42 09/27/2017
- 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 = "/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/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
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```
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SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 1680

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

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-revF.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-revF.xml

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

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