## SPEC® CINT2006 Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10  
(2.30 GHz, Intel Xeon Gold 6140)

<table>
<thead>
<tr>
<th>SPECint2006</th>
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<tbody>
<tr>
<td>SPECint_base2006</td>
<td>75.9</td>
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</table>

**Hardware**

- **CPU Name**: Intel Xeon Gold 6140  
- **CPU Characteristics**: Intel Turbo Boost Technology up to 3.70 GHz  
- **CPU MHZ**: 2300  
- **FPU**: Integrated  
- **CPU(s) enabled**: 36 cores, 2 chips, 18 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 960 GB SSD SATA, RAID 0  
- **Other Hardware**: None

**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**: None  
- **Other Software**: Microquill SmartHeap V10.2

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**Test Date**: Oct-2017  
**Hardware Availability**: Oct-2017  
**Test Sponsor**: HPE  
**Software Availability**: Apr-2017

### SPECint

<table>
<thead>
<tr>
<th>Test</th>
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<tbody>
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**SPECint_base2006 = 75.9**
SPEC CINT2006 Result

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SPECint2006 = Not Run
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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 Disabled
   Energy/Performance Bias set to General Peak Frequency Compute
   Uncore Frequency Scaling set to Auto
   Workload Profile set to Custom
   NUMA Group Size Optimization set to Flat

Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on DL380Gen10 Mon Oct 23 11:09:24 2017

This section contains SUT (System Under Test) info as seen by
SPEC CINT2006 Result

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ProLiant DL380 Gen10
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SPECint2006 = Not Run
SPECint_base2006 = 75.9

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

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) Gold 6140 CPU @ 2.30GHz
    2 "physical id"s (chips)
    36 "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 : 18
    siblings : 18
    physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
    physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
    cache size : 25344 KB

From /proc/meminfo
    MemTotal:       181057636 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 DL380Gen10 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 23 11:07

SPEC is set to: /home/cpu2006
    Filesystem       Type Size  Used Avail Use% Mounted on
    /dev/mapper/rhel-home xfs  839G  30G  810G   4% /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 U30 09/29/2017
Continued on next page
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**Platform Notes (Continued)**

Memory:

24x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

(End of data from sysinfo program)

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**General Notes**

Environment variables set by runspec before the start of the run:

- `KMP_AFFINITY = "granularity=fine,compact"
- `LD_LIBRARY_PATH = "/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"
- `OMP_NUM_THREADS = "36"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2

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**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
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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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### Base Optimization Flags (Continued)

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

Tested with SPEC CPU2006 v1.2.  