SPEC® CINT2006 Result
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Hewlett Packard Enterprise

(Test Sponsor: HPE)

$SPECint^{®}2006 =$ **Not Run**

ProLiant DL380 Gen10
(3.60 GHz, Intel Xeon Platinum 8156)

$SPECint\_base2006 =$ **70.4**

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


```
400.perlbench   46.5
401.bzip2       28.3
403.gcc         42.6
429.mcf         78.1
445.gobmk       33.3
456.hmmer       96.6
458.sjeng       36.9
462.libquantum  4240
464.h264ref     72.1
471.omnetpp     30.8
473.astar       38.4
483.xalancbmk   78.8
```

SPECint_base2006 = 70.4

Hardware

CPU Name:	Intel Xeon Platinum 8156
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3600
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 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:	16.5 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:	Red Hat Enterprise Linux Server release 7.3 (Maipo), Kernel 3.10.0-514.6.1.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:	32/64-bit
Other Software:	Microquill SmartHeap V10.2

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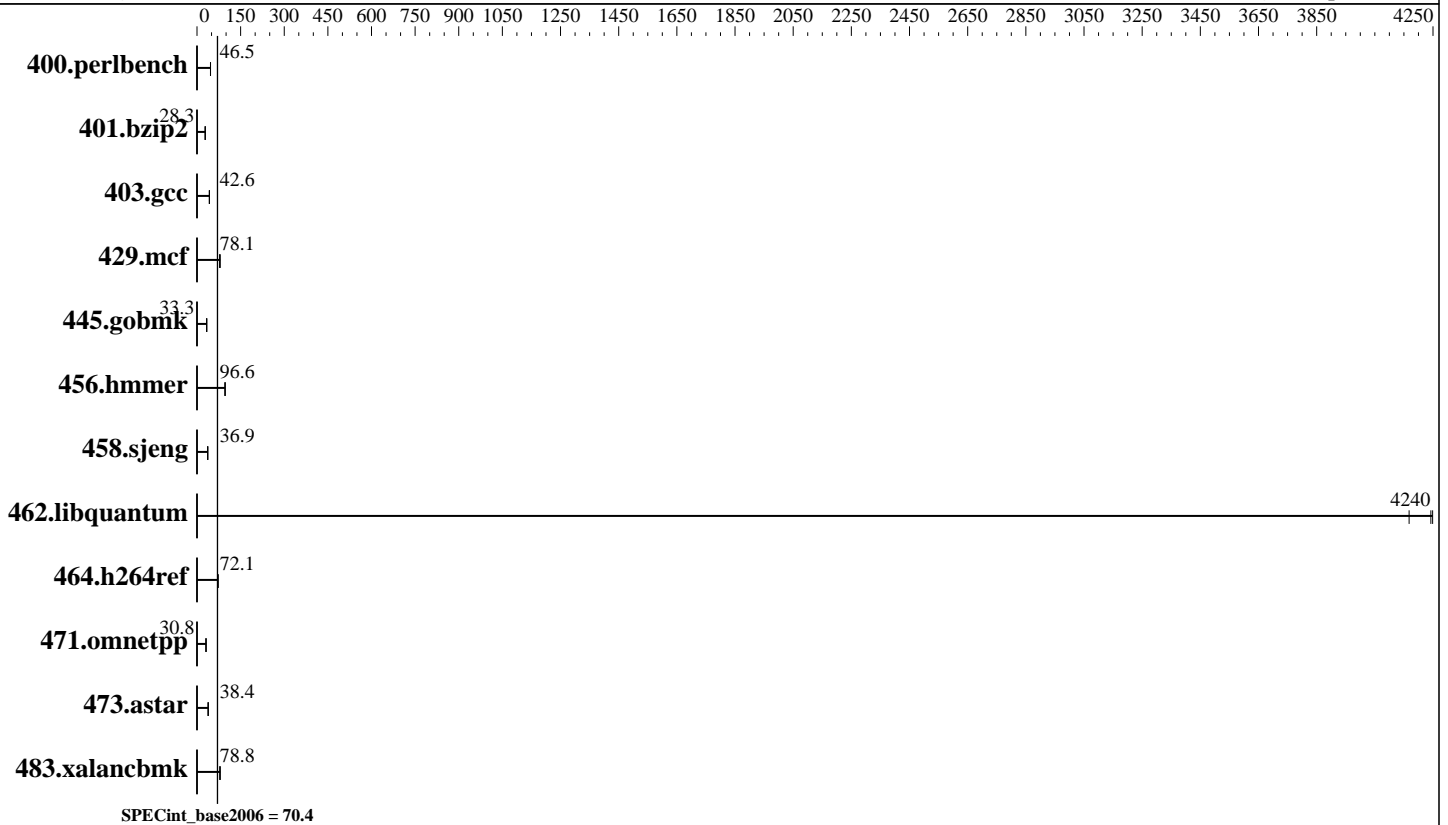$SPECint\_base2006 =$ **70.4**

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	210	46.5	**210**	**46.5**	211	46.3						
401.bzip2	**341**	**28.3**	341	28.3	341	28.3						
403.gcc	189	42.7	189	42.6	**189**	**42.6**						
429.mcf	**117**	**78.1**	114	79.7	117	78.1						
445.gobmk	315	33.3	**315**	**33.3**	315	33.3						
456.hmmer	**96.6**	**96.6**	96.5	96.7	96.8	96.4						
458.sjeng	328	36.9	**328**	**36.9**	328	36.8						
462.libquantum	**4.88**	**4240**	4.97	4170	4.88	4250						
464.h264ref	**307**	**72.1**	307	72.0	307	72.2						
471.omnetpp	**203**	**30.8**	199	31.5	203	30.8						
473.astar	183	38.4	**183**	**38.4**	182	38.6						
483.xalancbmk	87.8	78.6	86.4	79.8	**87.6**	**78.8**						

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 wtih "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 Pofile set to General Peak Frequency Compute
  Energy/Performance Bias set to Maximum Performance
  Uncore Frequency Scaling set to Auto
 Workload Pofile set to Custom
  NUMA Group Size Optimization set to Flat

Sysinfo program /cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on s1-DL380-RHEL73U Mon Oct  9 10:59:17 2017

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

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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) Platinum 8156 CPU @ 3.60GHz
       2 "physical id"s (chips)
       8 "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 : 4
       siblings  : 4
       physical 0: cores 1 5 9 13
       physical 1: cores 1 2 5 11
    cache size : 16896 KB

 From /proc/meminfo
    MemTotal:       197575884 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)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

 uname -a:
    Linux s1-DL380-RHEL73U 3.10.0-514.6.1.el7.x86_64 #1 SMP Sat Dec 10 11:15:38
    EST 2016 x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Oct 9 10:57

 SPEC is set to: /cpu2006
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sdb4       xfs   889G   28G  862G   4% /
 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:
```

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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 = "/cpu2006/lib/ia32:/cpu2006/lib/intel64:/cpu2006/sh10.2"
OMP_NUM_THREADS = "8"

 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
```

C++ benchmarks:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
    -Wl,-z,muldefs -L/sh10.2 -lsmartheap64
```

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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.

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