SPEC® CINT2006 Result
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Hewlett Packard Enterprise
(Test Sponsor: HPE)

ProLiant DL360 Gen10
(3.00 GHz, Intel Xeon Gold 6136)

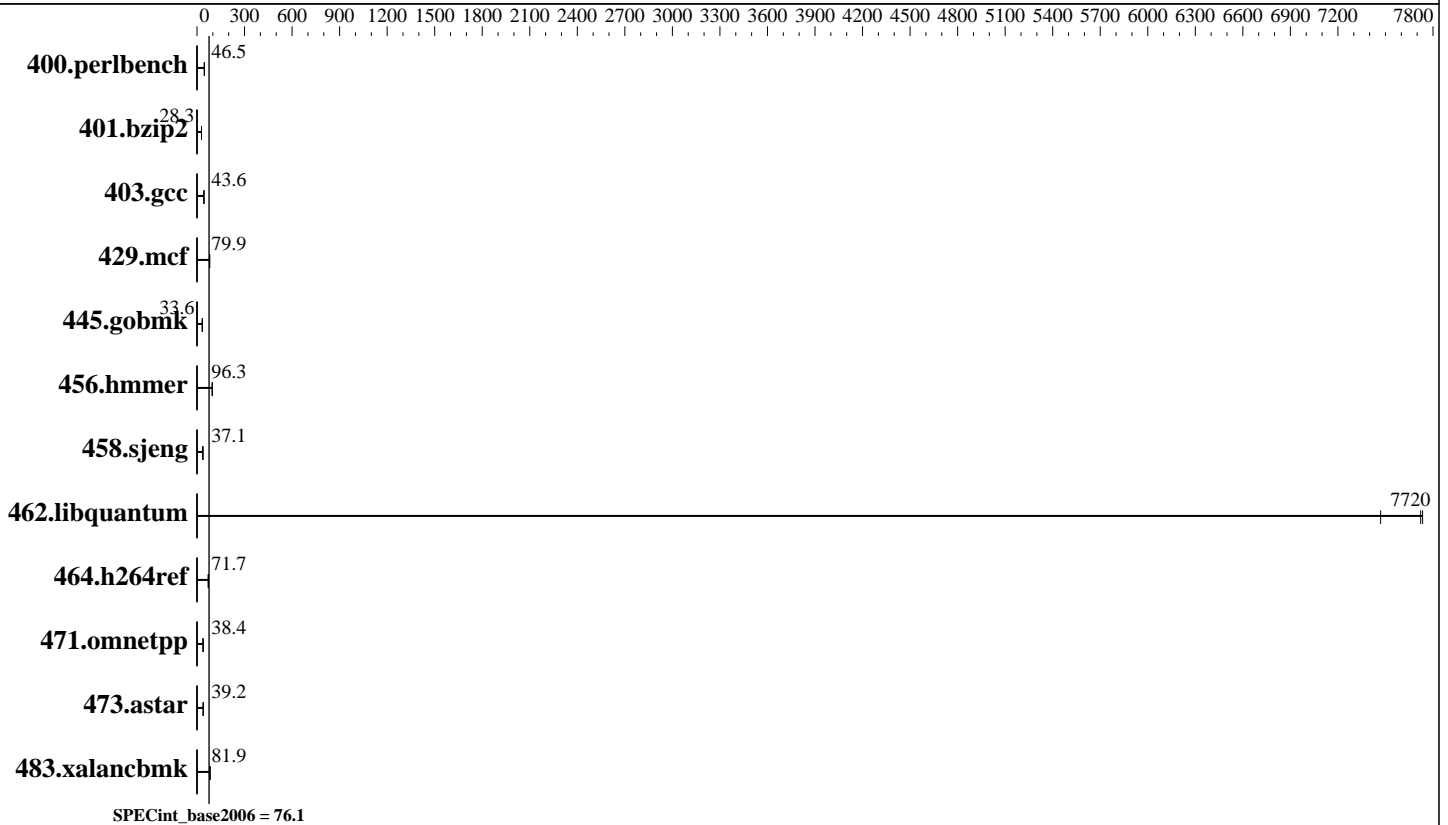$SPECint®2006 =$ **Not Run**

$SPECint\_base2006 =$ **76.1**

CPU2006 license: 3	**Test date:** Oct-2017
Test sponsor: HPE	**Hardware Availability:** Oct-2017
Tested by: HPE	**Software Availability:** Nov-2016

0 300 600 900 1200 1500 1800 2100 2400 2700 3000 3300 3600 3900 4200 4500 4800 5100 5400 5700 6000 6300 6600 6900 7200 7800

- 400.perlbench 46.5
- 401.bzip2 28.3
- 403.gcc 43.6
- 429.mcf 79.9
- 445.gobmk 33.6
- 456.hmmer 96.3
- 458.sjeng 37.1
- 462.libquantum 7720
- 464.h264ref 71.7
- 471.omnetpp 38.4
- 473.astar 39.2
- 483.xalancbmk 81.9

SPECint_base2006 = 76.1

Hardware

CPU Name:	Intel Xeon Gold 6136
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 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 chip
Other Cache:	None
Memory:	192 GB (24 x 8 GB 2Rx8 PC4-2666V-R)
Disk Subsystem:	1 x 480 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.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:	Not Applicable
Other Software:	Microquill SmartHeap V10.2

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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	46.6	**210**	**46.5**						
401.bzip2	**340**	**28.3**	339	28.5	341	28.3						
403.gcc	185	43.6	**185**	**43.6**	185	43.5						
429.mcf	114	80.1	**114**	**79.9**	116	78.8						
445.gobmk	312	33.6	**312**	**33.6**	312	33.6						
456.hmmer	96.6	96.6	**96.8**	**96.3**	96.8	96.3						
458.sjeng	326	37.1	**326**	**37.1**	327	37.0						
462.libquantum	2.68	7730	**2.68**	**7720**	2.77	7470						
464.h264ref	308	71.9	**309**	**71.7**	312	71.0						
471.omnetpp	163	38.3	**163**	**38.4**	162	38.5						
473.astar	179	39.2	**179**	**39.2**	179	39.2						
483.xalancbmk	**84.3**	**81.9**	84.4	81.8	84.0	82.2						

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 /home/specuser/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on dl360gen10rhel73 Thu Oct 12 14:40:24 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) Gold 6136 CPU @ 3.00GHz
        2 "physical id"s (chips)
       24 "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 : 12
        siblings  : 12
        physical 0: cores 0 1 2 3 8 9 10 11 18 19 24 27
        physical 1: cores 0 1 2 3 8 9 10 11 18 19 24 27
     cache size : 25344 KB

  From /proc/meminfo
     MemTotal:       197573264 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 dl360gen10rhel73 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 12 12:04

  SPEC is set to: /home/specuser/cpu2006
     Filesystem            Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-home xfs   392G   21G  372G   6% /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 U32 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 = "/home/specuser/cpu2006/lib/ia32:/home/specuser/cpu2006/lib/intel64"
  LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/specuser/cpu2006/sh10.2"
  OMP_NUM_THREADS = "24"

   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
```

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Base Optimization Flags (Continued)

C++ benchmarks:

    -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

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

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