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

ProLiant DL380 Gen10
(2.50 GHz, Intel Xeon Platinum 8180)

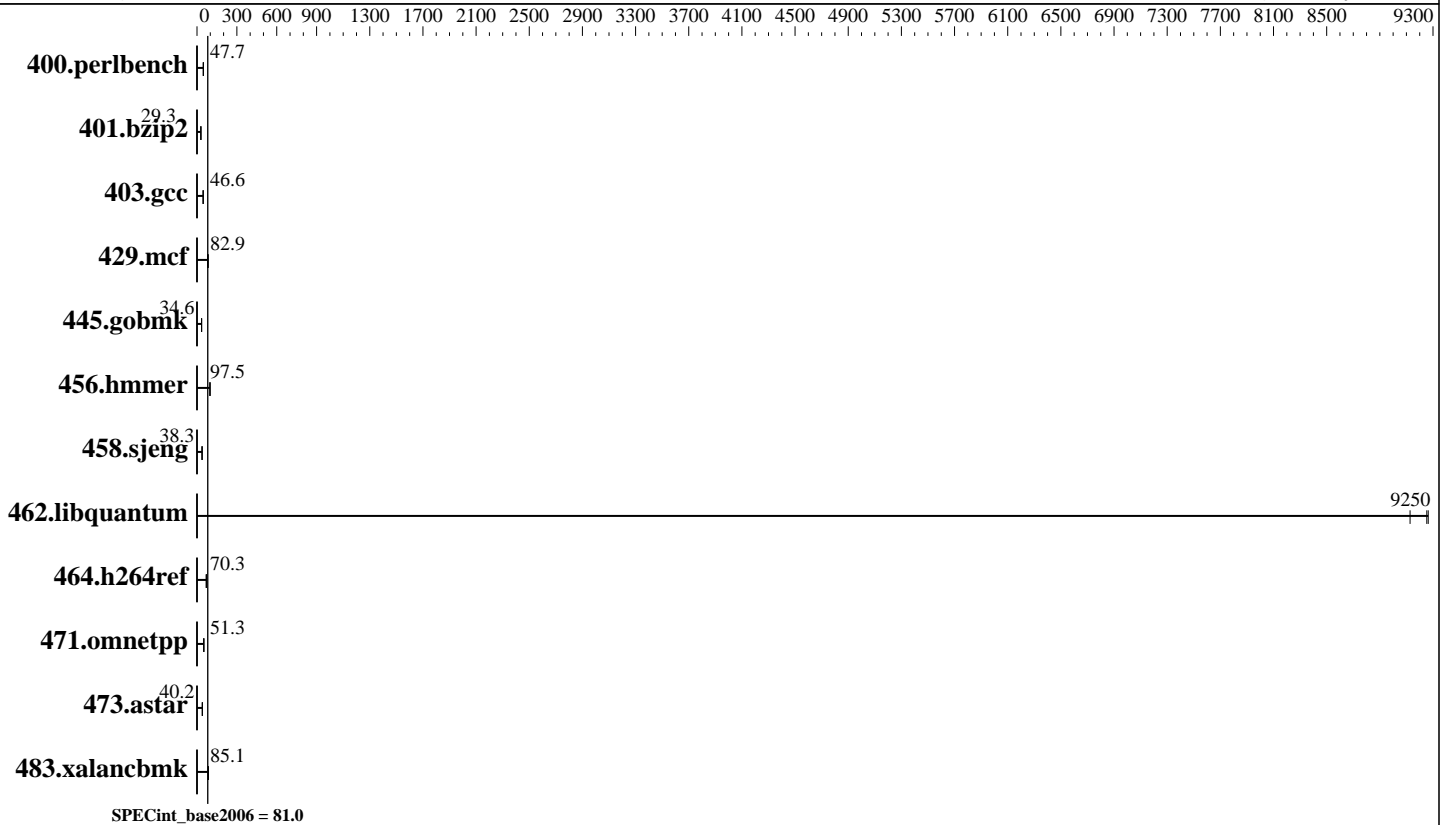$SPECint^{®}2006 =$ **Not Run**

$SPECint\_base2006 =$ **81.0**

CPU2006 license: 3	**Test date:** Jun-2017
Test sponsor: HPE	**Hardware Availability:** Sep-2017
Tested by: HPE	**Software Availability:** May-2017

0 300 600 900 1300 1700 2100 2500 2900 3300 3700 4100 4500 4900 5300 5700 6100 6500 6900 7300 7700 8100 8500 9300

```
400.perlbench    47.7
401.bzip2        29.3
403.gcc          46.6
429.mcf          82.9
445.gobmk        34.6
456.hmmer        97.5
458.sjeng        38.3
462.libquantum             9250
464.h264ref      70.3
471.omnetpp      51.3
473.astar        40.2
483.xalancbmk    85.1
```

SPECint_base2006 = 81.0

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:	28 cores, 1 chip, 28 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:	38.5 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx8 PC4-2666V-R)
Disk Subsystem:	1 x 450 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 17.0.4.196 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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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**205**	**47.7**	204	47.9	205	47.7						
401.bzip2	334	28.9	329	29.3	**330**	**29.3**						
403.gcc	**173**	**46.6**	172	46.9	174	46.1						
429.mcf	110	83.0	112	81.7	**110**	**82.9**						
445.gobmk	**303**	**34.6**	303	34.6	304	34.5						
456.hmmer	95.8	97.4	**95.7**	**97.5**	95.3	97.9						
458.sjeng	**316**	**38.3**	318	38.1	315	38.4						
462.libquantum	**2.24**	**9250**	2.24	9260	2.27	9130						
464.h264ref	**315**	**70.3**	315	70.2	315	70.4						
471.omnetpp	122	51.3	**122**	**51.3**	123	51.0						
473.astar	174	40.2	174	40.3	**174**	**40.2**						
483.xalancbmk	81.1	85.0	80.9	85.3	**81.1**	**85.1**						

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 service stopped using: "systemctl stop irqbalance.service"

Platform Notes

     BIOS Configuration:
      Hyper-Threading set to Disabled
      Thermal Configuration set to Maximum Cooling
      LLC Dead Line Allocation set to Disabled
      XPT Prefetch set to Disabled
      Workload Profile set to General Peak Frequency Compute
       Energy/Performance Bias set to Maximum Performance
     Sysinfo program /spec_cpu/cpu2006/config/sysinfo.rev6993
     Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
     running on localhost.localdomain Thu Jul 13 19:44:38 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) Platinum 8180 CPU @ 2.50GHz
           1 "physical id"s (chips)
           28 "processors"

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Platform Notes (Continued)

```
     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  : 28
        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
     cache size : 39424 KB

  From /proc/meminfo
     MemTotal:       98489520 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 localhost.localdomain 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 Jul 13 15:27

  SPEC is set to: /spec_cpu/cpu2006
     Filesystem             Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-root xfs   442G   81G  362G  19% /
  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 06/08/2017
   Memory:
   12x UNKNOWN NOT AVAILABLE
   12x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz

  (End of data from sysinfo program)
  Regarding the sysinfo display about the memory installed, the correct amount of
  memory is 96 GB and the dmidecode description should have one line reading as:
```

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Platform Notes (Continued)

```
12x UNKNOWN NOT AVAILABLE 8 GB 2 rank 2666 MHz
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/spec_cpu/cpu2006/lib/ia32:/spec_cpu/cpu2006/lib/intel64:/spec_cpu/cpu2006/sh10.2"
OMP_NUM_THREADS = "26"

 Binaries compiled on a system with 2x Intel Xeon Platinum 8180 CPU + 384GB RAM
 memory using Redhat Enterprise Linux 7.3
```

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 -complex-limited-range -qopt-prefetch-issue-excl-hint
-ansi-alias
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/spec_cpu/cpu2006/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/HPE-Compiler-Flags-Intel-V1.2-HSW-revJ.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/HPE-Compiler-Flags-Intel-V1.2-HSW-revJ.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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