SPEC® CINT2006 Result

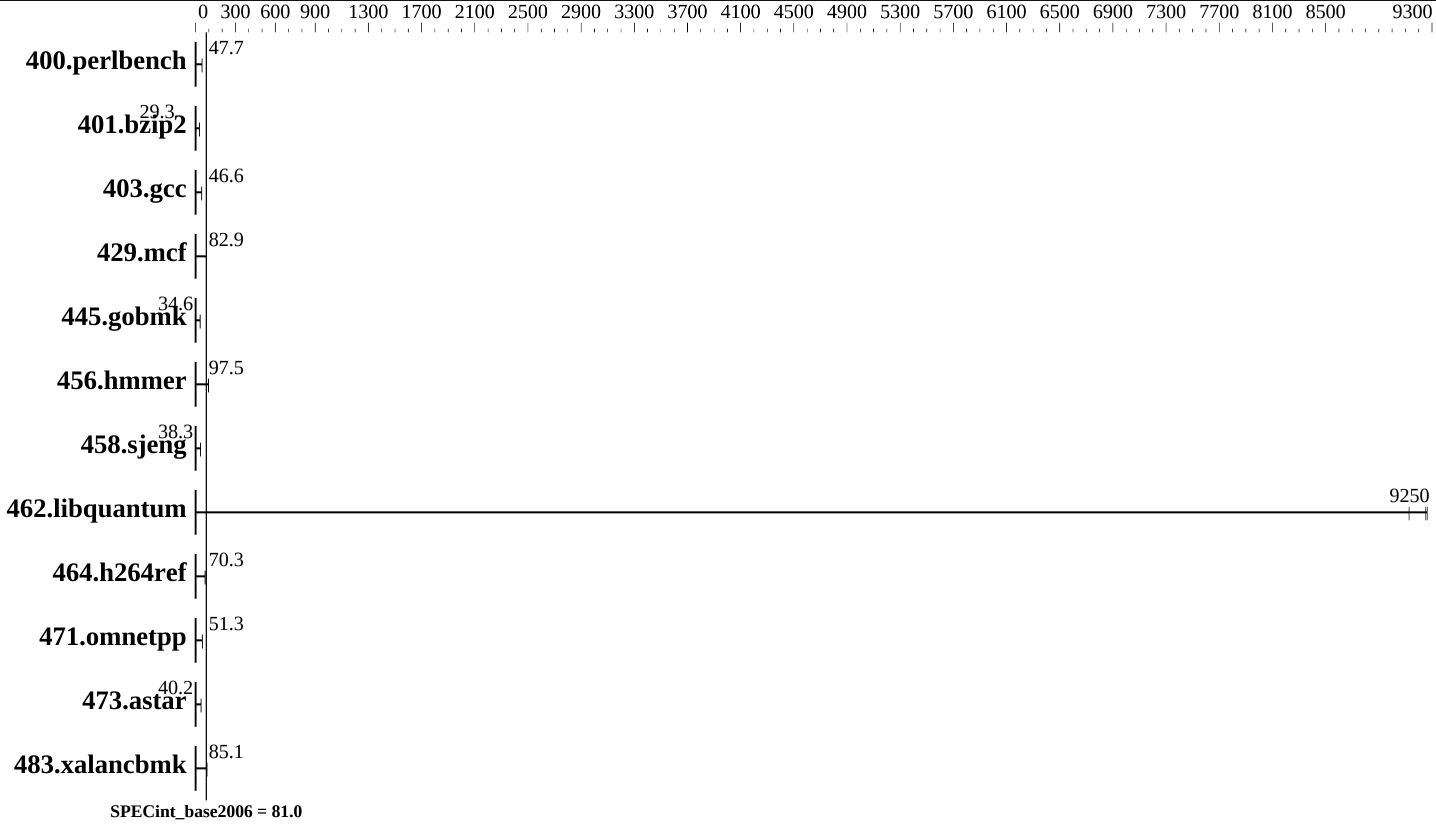
Hewlett Packard Enterprise
(Test Sponsor: HPE)

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



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

	Base						Peak					
Benchmark	**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

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

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