



SPEC® CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10
(2.30 GHz, Intel Xeon Platinum 8165)

SPECint®2006 = Not Run

SPECint_base2006 = 78.3

CPU2006 license: 3

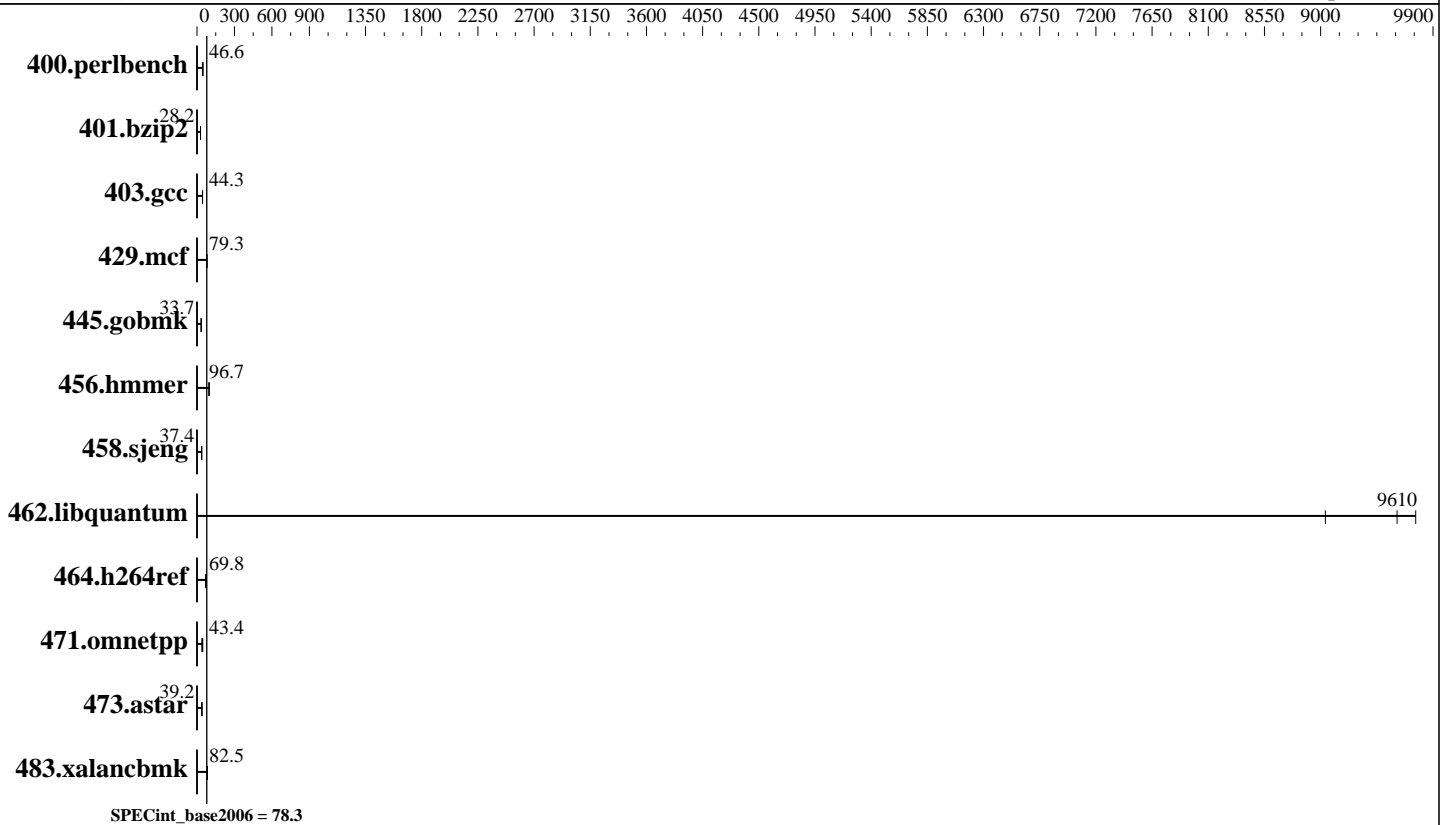
Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Dec-2017

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon Platinum 8165
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 96 cores, 4 chips, 24 cores/chip
CPU(s) orderable: 1, 2, 4 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: 33 MB I+D on chip per chip
Other Cache: None
Memory: 384 GB (48 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.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



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Platinum 8165)

SPECint2006 =

Not Run

SPECint_base2006 =

78.3

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Dec-2017

Software Availability: Apr-2017

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	209	46.8	210	46.5	<u>210</u>	<u>46.6</u>						
401.bzip2	342	28.2	342	28.2	<u>342</u>	<u>28.2</u>						
403.gcc	<u>182</u>	<u>44.3</u>	182	44.2	182	44.3						
429.mcf	118	77.5	<u>115</u>	<u>79.3</u>	114	79.7						
445.gobmk	311	33.7	<u>311</u>	<u>33.7</u>	311	33.7						
456.hammer	<u>96.5</u>	<u>96.7</u>	96.3	96.8	97.0	96.2						
458.sjeng	324	37.3	<u>324</u>	<u>37.4</u>	323	37.4						
462.libquantum	2.12	9760	<u>2.16</u>	<u>9610</u>	2.29	9040						
464.h264ref	317	69.8	<u>317</u>	<u>69.8</u>	318	69.7						
471.omnetpp	<u>144</u>	<u>43.4</u>	161	38.8	135	46.2						
473.astar	179	39.2	<u>179</u>	<u>39.2</u>	180	39.0						
483.xalancbmk	83.6	82.5	<u>83.6</u>	<u>82.5</u>	83.7	82.5						

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
IRQ balance service was stop using "service irqbalance stop"
Tuned-adm profile was set to Throughput-Performance

Platform Notes

BIOS Configuration:

Intel Hyperthreading set to Disabled
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled
Stale A to S set to Enabled
Memory Patrol Scrubbing set to Disabled
Workload Profile set to General Peak Frequency Compute
Energy/Performance Bias set to Maximum Performance
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 DL560G10 Tue Nov 28 03:38:30 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>

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10
(2.30 GHz, Intel Xeon Platinum 8165)

SPECint2006 =

Not Run

SPECint_base2006 =

78.3

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Dec-2017

Software Availability: Apr-2017

Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Platinum 8165 CPU @ 2.30GHz
 4 "physical id"s (chips)
 96 "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 : 24
  siblings  : 24
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
 27 28 29
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
 27 28 29
  physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
 27 28 29
  physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
 27 28 29
cache size : 33792 KB

```

```

From /proc/meminfo
MemTotal:      395919804 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 DL560G10 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 Nov 28 03:34

```

SPEC is set to: /home/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel_dl560g10-home xfs  839G   37G  803G   5% /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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10
(2.30 GHz, Intel Xeon Platinum 8165)

SPECint2006 = Not Run

SPECint_base2006 = 78.3

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Dec-2017

Software Availability: Apr-2017

Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HPE U34 09/29/2017

Memory:

48x 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/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"

OMP_NUM_THREADS = "96"

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



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10
(2.30 GHz, Intel Xeon Platinum 8165)

SPECint2006 = Not Run

SPECint_base2006 = 78.3

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Dec-2017

Software Availability: Apr-2017

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`

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-revH.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-revH.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Jan 16 12:09:52 2018 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 14 January 2018.

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 5