



SPEC® CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(3.20 GHz, Intel Xeon Gold 6146)

SPECint®2006 = Not Run

SPECint_base2006 = 82.7

CPU2006 license: 3

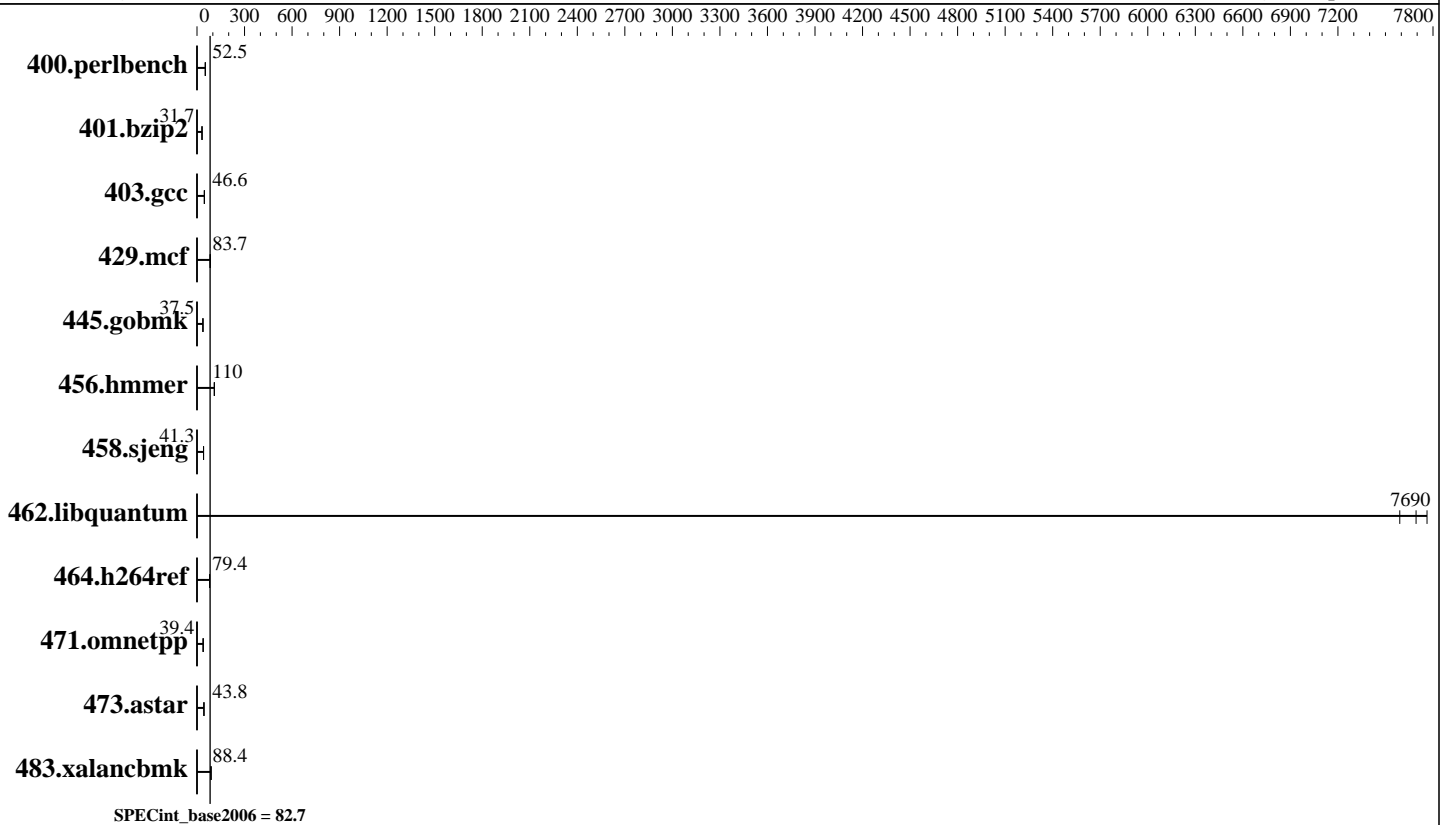
Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon Gold 6146
 CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz
 CPU MHz: 3200
 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: 384 GB (24 x 16 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



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10

(3.20 GHz, Intel Xeon Gold 6146)

SPECint2006 =

Not Run

SPECint_base2006 =

82.7

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>186</u>	<u>52.5</u>	186	52.5	186	52.6						
401.bzip2	<u>304</u>	<u>31.7</u>	304	31.7	304	31.7						
403.gcc	173	46.6	<u>173</u>	<u>46.6</u>	173	46.5						
429.mcf	110	83.1	108	84.5	<u>109</u>	<u>83.7</u>						
445.gobmk	280	37.5	280	37.4	<u>280</u>	<u>37.5</u>						
456.hmmer	85.1	110	<u>85.2</u>	<u>110</u>	85.2	109						
458.sjeng	293	41.3	293	41.4	<u>293</u>	<u>41.3</u>						
462.libquantum	2.73	7590	<u>2.69</u>	<u>7690</u>	2.67	7760						
464.h264ref	280	79.0	<u>279</u>	<u>79.4</u>	278	79.5						
471.omnetpp	164	38.2	<u>159</u>	<u>39.4</u>	158	39.5						
473.astar	161	43.7	<u>160</u>	<u>43.8</u>	160	43.9						
483.xalancbmk	77.9	88.5	78.1	88.3	<u>78.1</u>	<u>88.4</u>						

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 with "tuned-adm profile throughput-performance"

Platform Notes

BIOS Configuration:
Intel Hyper-Threading set to Disabled
Thermal Configuration set to Maximum Cooling
LLC Prefetch set to Enabled
LLC Dead Line Allocation set to Disabled
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
Uncore Frequency Scaling set to Auto
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on SY480_M3_RHEL Sat Dec 23 04:01:32 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)

Synergy 480 Gen10
(3.20 GHz, Intel Xeon Gold 6146)

SPECint2006 =

Not Run

SPECint_base2006 =

82.7

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017

Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 6146 CPU @ 3.20GHz
 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 4 8 9 11 17 18 19 20
cache size : 25344 KB

```

```

From /proc/meminfo
MemTotal:      395930944 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 SY480_M3_RHEL 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 Dec 23 03:57

```

SPEC is set to: /home/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   392G   25G  368G   7% /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 I42 11/14/2017

Memory:

24x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz
Continued on next page



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(3.20 GHz, Intel Xeon Gold 6146)

SPECint2006 = Not Run

SPECint_base2006 = 82.7

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017

Platform Notes (Continued)

(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 = "24"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2

No: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

No: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

No: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

This benchmark result is intended to provide perspective on past performance using the historical hardware and/or software described on this result page.

The system as described on this result page was formerly generally available. At the time of this publication, it may not be shipping, and/or may not be supported, and/or may fail to meet other tests of General Availability described in the SPEC OSG Policy document, <http://www.spec.org/osg/policy.htm>.

This measured result may not be representative of the result that would be measured were this benchmark run with hardware and software available as of the publication date.

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(3.20 GHz, Intel Xeon Gold 6146)

SPECint2006 = Not Run

SPECint_base2006 = 82.7

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017

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

```

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 CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(3.20 GHz, Intel Xeon Gold 6146)

SPECint2006 = Not Run

SPECint_base2006 = 82.7

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Dec-2017

Hardware Availability: Nov-2017

Software Availability: Apr-2017

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 Thu Jun 14 11:30:12 2018 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 June 2018.