



SPEC® CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint®2006 = Not Run

SPECint_base2006 = 61.5

CPU2006 license: 3

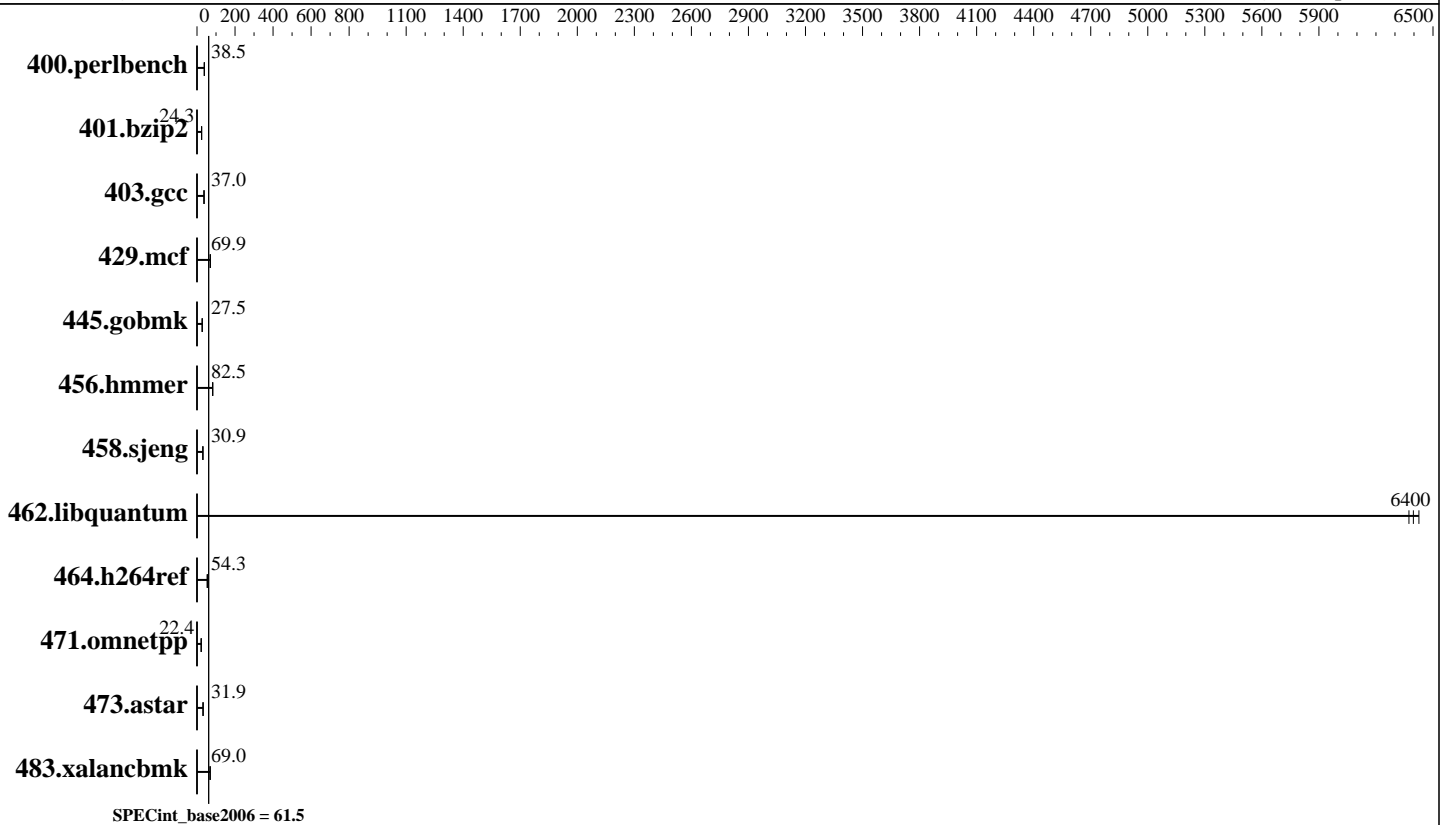
Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017



Hardware

CPU Name: Intel Xeon Gold 5118
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 2300
 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: 16.5 MB I+D on chip per chip
 Other Cache: None
 Memory: 192 GB (12 x 16 GB 2Rx8 PC4-2666V-R, running at 2400)
 Disk Subsystem: 1 x 480 GB SATA SSD, RAID 0
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.3
 Kernel 3.10.0-514.el7.x86_64
 Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;
 Fortran: Version 17.0.3.191 of Intel Fortran 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 BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint2006 = **Not Run**

SPECint_base2006 = **61.5**

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	254	38.5	253	38.6	<u>254</u>	<u>38.5</u>						
401.bzip2	<u>398</u>	<u>24.3</u>	398	24.3	398	24.2						
403.gcc	<u>218</u>	<u>37.0</u>	217	37.0	218	36.9						
429.mcf	130	70.3	131	69.6	<u>130</u>	<u>69.9</u>						
445.gobmk	382	27.5	381	27.5	<u>381</u>	<u>27.5</u>						
456.hmmr	113	82.4	113	82.6	<u>113</u>	<u>82.5</u>						
458.sjeng	392	30.9	<u>391</u>	<u>30.9</u>	391	31.0						
462.libquantum	3.22	6430	3.25	6370	<u>3.24</u>	<u>6400</u>						
464.h264ref	408	54.2	407	54.4	<u>407</u>	<u>54.3</u>						
471.omnetpp	277	22.5	287	21.8	<u>279</u>	<u>22.4</u>						
473.astar	<u>220</u>	<u>31.9</u>	219	32.1	220	31.9						
483.xalancbmk	100	69.0	<u>99.9</u>	<u>69.0</u>	99.9	69.1						

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 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 /root/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on localhost.localdomain Thu Nov 30 10:34:12 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 BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint2006 = Not Run

SPECint_base2006 = 61.5

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 5118 CPU @ 2.30GHz
 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 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 16896 KB

```

```

From /proc/meminfo
MemTotal:      197573296 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 Nov 30 10:32

```

SPEC is set to: /root/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4       xfs   442G   28G  415G   7% /

```

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 I41 09/29/2017

Memory:

4x UNKNOWN NOT AVAILABLE

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint2006 = Not Run

SPECint_base2006 = 61.5

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Platform Notes (Continued)

12x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz, configured at 2400 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/root/cpu2006/lib/ia32:/root/cpu2006/lib/intel64:/root/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)

ProLiant BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint2006 = **Not Run**

SPECint_base2006 = **61.5**

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-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-AVX512 -ipo -O3 -no-prec-div -parallel -qopt-prefetch
-auto-p32

```

C++ benchmarks:

```

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh10.2 -lsmarthheap64

```

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)

ProLiant BL460c Gen10
(2.30 GHz, Intel Xeon Gold 5118)

SPECint2006 = Not Run

SPECint_base2006 = 61.5

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-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 11:29:44 2018 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 June 2018.