



SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.10 GHz, Intel Xeon Platinum 8176)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 2370

CPU2006 license: 3

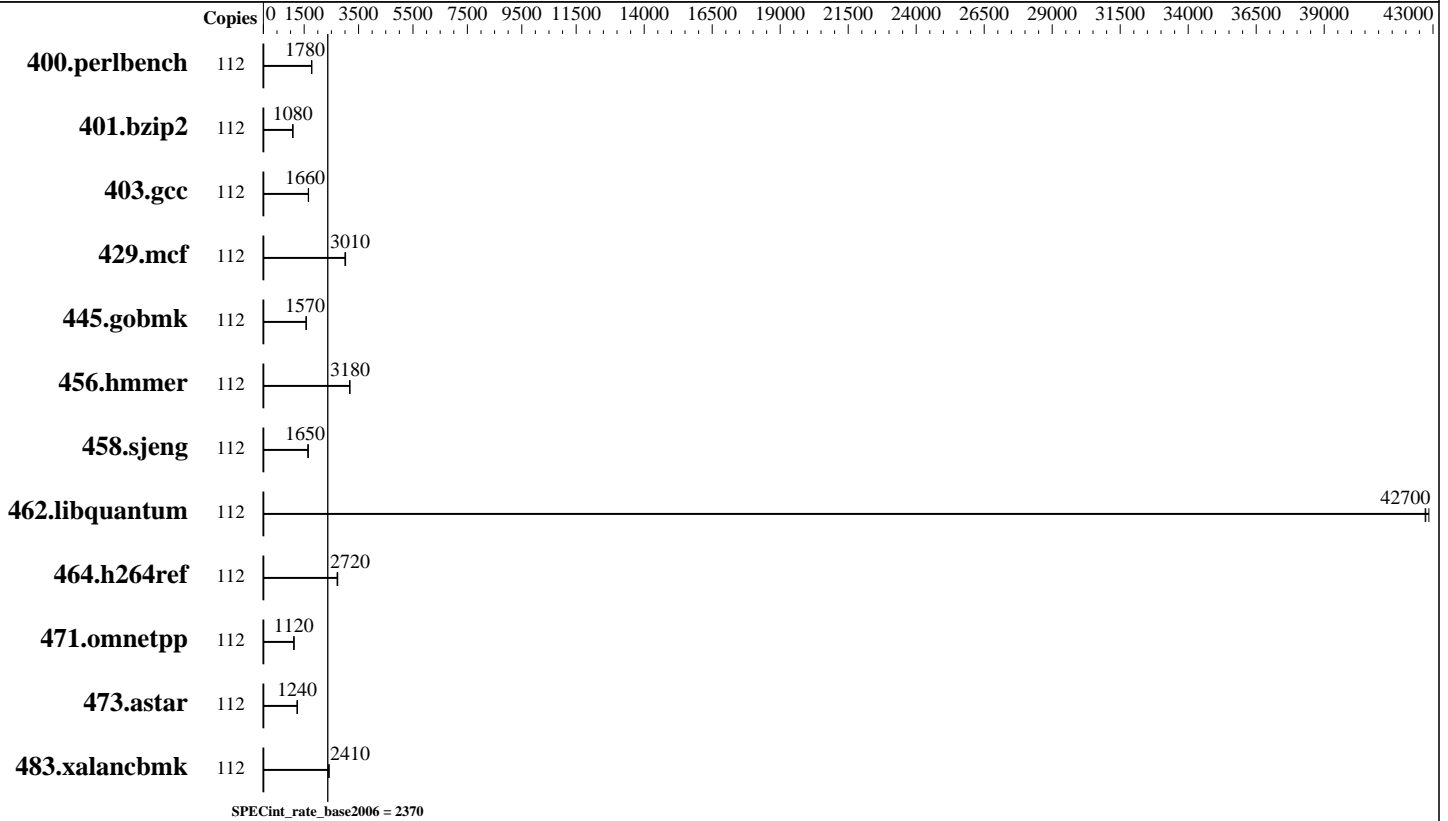
Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017



Hardware

CPU Name: Intel Xeon Platinum 8176
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
 CPU MHz: 2100
 FPU: Integrated
 CPU(s) enabled: 56 cores, 2 chips, 28 cores/chip, 2 threads/core
 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: 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: SUSE Linux Enterprise Server 12 (x86_64) SP2
 Kernel 4.4.21-69-default
 Compiler: C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: Not Applicable
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10

(2.10 GHz, Intel Xeon Platinum 8176)

SPECint_rate2006 = Not Run

SPECint_rate_base2006 = 2370

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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	112	616	1780	617	1770	<u>616</u>	<u>1780</u>							
401.bzip2	112	995	1090	<u>999</u>	<u>1080</u>	1004	1080							
403.gcc	112	<u>543</u>	<u>1660</u>	543	1660	546	1650							
429.mcf	112	338	3020	340	3000	<u>339</u>	<u>3010</u>							
445.gobmk	112	<u>747</u>	<u>1570</u>	745	1580	747	1570							
456.hammer	112	328	3180	<u>329</u>	<u>3180</u>	330	3170							
458.sjeng	112	826	1640	824	1650	<u>824</u>	<u>1650</u>							
462.libquantum	112	54.2	42800	<u>54.3</u>	<u>42700</u>	54.3	42700							
464.h264ref	112	907	2730	913	2720	<u>912</u>	<u>2720</u>							
471.omnetpp	112	623	1120	<u>623</u>	<u>1120</u>	623	1120							
473.astar	112	<u>632</u>	<u>1240</u>	632	1240	631	1250							
483.xalancbmk	112	<u>321</u>	<u>2410</u>	320	2410	321	2410							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

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
runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>
irqbalance disabled with "service irqbalance stop"
tuned profile set with "tuned-adm profile throughput-performance"
VM Dirty ratio was set to 40 using "echo 40 > /proc/sys/vm/dirty_ratio"
Numa balancing was disabled using "echo 0 > /proc/sys/kernel/numa_balancing"
```

Platform Notes

```
BIOS Configuration:
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 Throughput Compute
Minimum Processor Idle Power Core C-State set to C1E
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.10 GHz, Intel Xeon Platinum 8176)

SPECint_rate2006 = Not Run

SPECint_rate_base2006 = 2370

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Platform Notes (Continued)

Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on sy480_hjp_suse Tue Nov 21 22:26:24 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 8176 CPU @ 2.10GHz
 2 "physical id"s (chips)
 112 "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 : 28
  siblings  : 56
  physical 0: cores 0 1 2 3 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26
 27 28 29 30
  physical 1: cores 0 1 2 3 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:      395917164 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

From /etc/*release* /etc/*version*

```
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 2
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP2"
VERSION_ID="12.2"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp2"
```

uname -a:

```
Linux sy480_hjp_suse 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
(9464f67) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Nov 21 03:49

SPEC is set to: /home/cpu2006

```
Filesystem      Type  Size  Used Avail Use% Mounted on
Continued on next page
```



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.10 GHz, Intel Xeon Platinum 8176)

SPECint_rate2006 = Not Run

SPECint_rate_base2006 = 2370

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Platform Notes (Continued)

/dev/sda3 xfs 407G 112G 296G 28% /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 09/27/2017

Memory:

24x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh10.2"

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 -m32 -L/opt/intel/compilers_and_libraries_2018.0.082/linux/lib/ia32

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2018.0.082/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

Synergy 480 Gen10
(2.10 GHz, Intel Xeon Platinum 8176)

SPECint_rate2006 = Not Run

SPECint_rate_base2006 = 2370

CPU2006 license: 3

Test sponsor: HPE

Tested by: HPE

Test date: Nov-2017

Hardware Availability: Oct-2017

Software Availability: Sep-2017

Base Optimization Flags

C benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs
-L/home/cpu2006/sh10.2 -lsmartheap
```

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-revG.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-revG.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 Dec 12 17:07:07 2017 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 12 December 2017.