



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint®\_rate2006 = 2770

SPECint\_rate\_base2006 = 2660

CPU2006 license: 9019

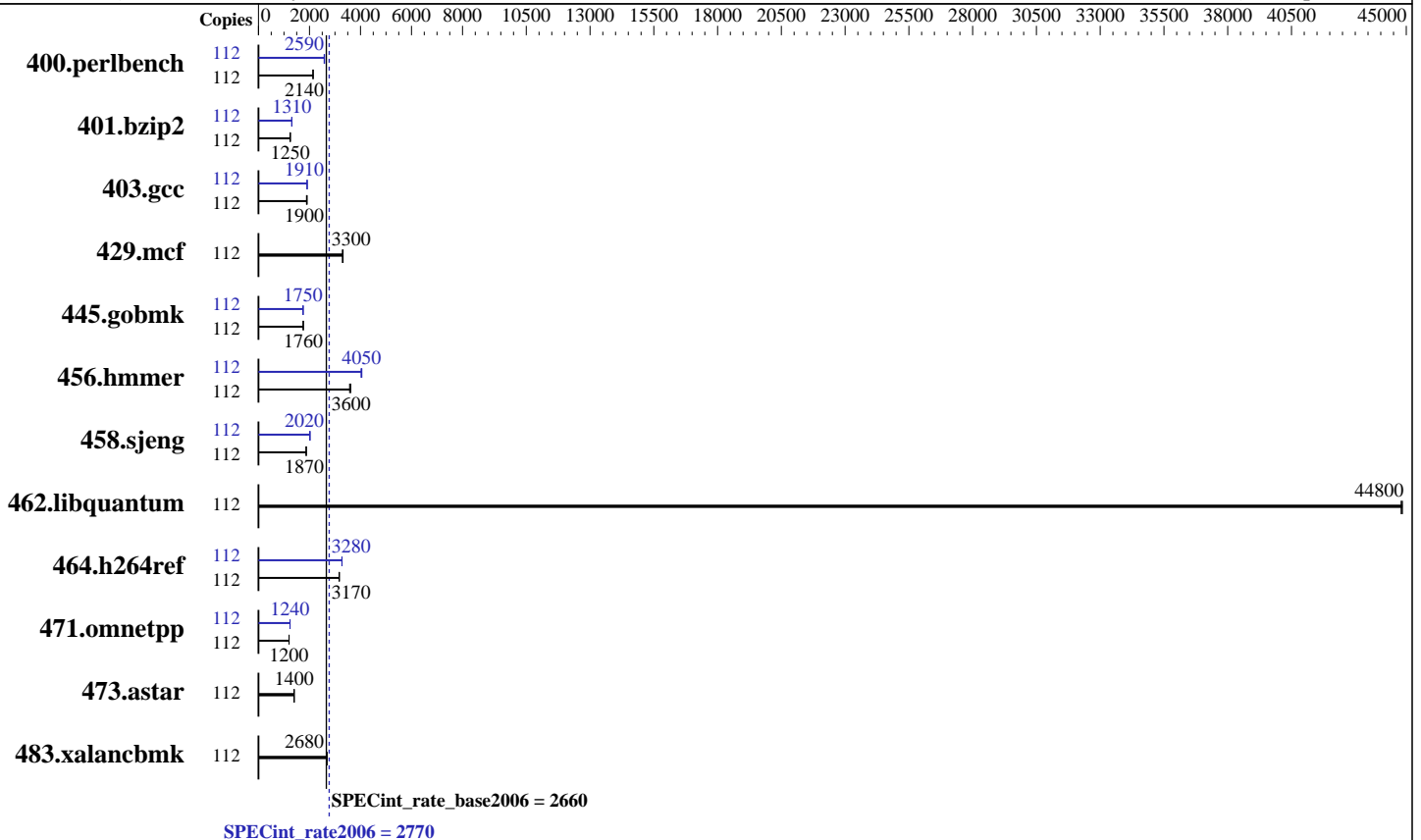
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2017

Hardware Availability: Aug-2017

Software Availability: Apr-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: 56 cores, 2 chips, 28 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 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 2Rx4 PC4-2666V-R)  
 Disk Subsystem: 1 x 900 GB M.2 SATA SSD  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 12 SP2 (x86\_64) 4.4.21-69-default  
 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-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint\_rate2006 = 2770

SPECint\_rate\_base2006 = 2660

CPU2006 license: 9019  
Test sponsor: Cisco Systems  
Tested by: Cisco Systems

Test date: Aug-2017  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	112	512	2140	510	2140	<u>512</u>	<u>2140</u>	112	<u>423</u>	<u>2590</u>	423	2590	425	2570
401.bzip2	112	863	1250	873	1240	<u>867</u>	<u>1250</u>	112	<u>826</u>	<u>1310</u>	824	1310	829	1300
403.gcc	112	479	1880	<u>476</u>	<u>1900</u>	473	1910	112	<u>473</u>	<u>1910</u>	472	1910	473	1910
429.mcf	112	310	3300	308	3320	<u>310</u>	<u>3300</u>	112	310	3300	308	3320	<u>310</u>	<u>3300</u>
445.gobmk	112	<u>669</u>	<u>1760</u>	670	1750	669	1760	112	<u>672</u>	<u>1750</u>	672	1750	671	1750
456.hammer	112	293	3570	289	3620	<u>290</u>	<u>3600</u>	112	258	4050	<u>258</u>	<u>4050</u>	260	4020
458.sjeng	112	724	1870	724	1870	<u>724</u>	<u>1870</u>	112	672	2020	672	2020	<u>672</u>	<u>2020</u>
462.libquantum	112	51.7	44800	51.8	44800	<u>51.8</u>	<u>44800</u>	112	51.7	44800	51.8	44800	<u>51.8</u>	<u>44800</u>
464.h264ref	112	784	3160	<u>782</u>	<u>3170</u>	782	3170	112	756	3280	758	3270	<u>757</u>	<u>3280</u>
471.omnetpp	112	584	1200	<u>584</u>	<u>1200</u>	583	1200	112	<u>566</u>	<u>1240</u>	566	1240	566	1240
473.astar	112	562	1400	<u>562</u>	<u>1400</u>	563	1400	112	562	1400	<u>562</u>	<u>1400</u>	563	1400
483.xalancbmk	112	288	2690	<u>288</u>	<u>2680</u>	289	2680	112	288	2690	<u>288</u>	<u>2680</u>	289	2680

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"

## Platform Notes

BIOS Settings:  
Intel HyperThreading Technology set to Enabled  
CPU performance set to Enterprise  
Power Performance Tuning set to OS  
SNC set to Enabled  
IMC Interleaving set to 1-way Interleave  
Patrol Scrub set to Disabled  
Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux Sun Jan 3 01:11:07 2010

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  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint\_rate2006 = 2770

SPECint\_rate\_base2006 = 2660

**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems

**Test date:** Aug-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Apr-2017

### Platform Notes (Continued)

```

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 4 5 6 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 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:      394831768 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 linux 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 Jan 3 01:03

```

SPEC is set to: /home/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        xfs   894G  134G  761G  15% /

```

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 Cisco Systems, Inc. B200M5.3.2.1d.5.0727171353 07/27/2017  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

**SPECint\_rate2006 = 2770**

**SPECint\_rate\_base2006 = 2660**

**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems

**Test date:** Aug-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Apr-2017

### Platform Notes (Continued)

Memory:  
24x 0xCE00 M393A2G40EB2-CTD 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/cpu2006-1.2/lib/ia32:/home/cpu2006-1.2/lib/intel64:/home/cpu2006-1.2/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.2  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent\_hugepage/enabled  
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>

### Base Compiler Invocation

C benchmarks:  
icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32  
C++ benchmarks:  
icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/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

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

**SPECint\_rate2006 = 2770**

**SPECint\_rate\_base2006 = 2660**

**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems

**Test date:** Aug-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Apr-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/sh10.2 -lsmartheap
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

```
400.perlbench: icc -m64
```

```
401.bzip2: icc -m64
```

```
456.hmmer: icc -m64
```

```
458.sjeng: icc -m64
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

## Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
```

```
401.bzip2: -DSPEC_CPU_LP64
```

```
403.gcc: -D_FILE_OFFSET_BITS=64
```

```
429.mcf: -D_FILE_OFFSET_BITS=64
```

```
445.gobmk: -D_FILE_OFFSET_BITS=64
```

```
456.hmmer: -DSPEC_CPU_LP64
```

```
458.sjeng: -DSPEC_CPU_LP64
```

```
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
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

**SPECint\_rate2006 = 2770**

**SPECint\_rate\_base2006 = 2660**

**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems

**Test date:** Aug-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Apr-2017

## Peak Portability Flags (Continued)

483.xalanbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch -auto-ilp32  
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-mem-layout-trans=3

456.hmmmer: -xCORE-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4 -auto-ilp32  
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)  
-qopt-ra-region-strategy=block  
-qopt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/sh10.2 -lsmartheap

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS B200 M5 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint\_rate2006 = 2770

SPECint\_rate\_base2006 = 2660

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Aug-2017

Hardware Availability: Aug-2017

Software Availability: Apr-2017

## Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak 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/Cisco-Platform-Settings-V1.2-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/Cisco-Platform-Settings-V1.2-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.

Report generated on Wed Sep 20 11:06:45 2017 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 19 September 2017.