



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130  
2.10GHz)

**SPECint®2006 = 79.3**

**SPECint\_base2006 = 75.5**

**CPU2006 license:** 9019

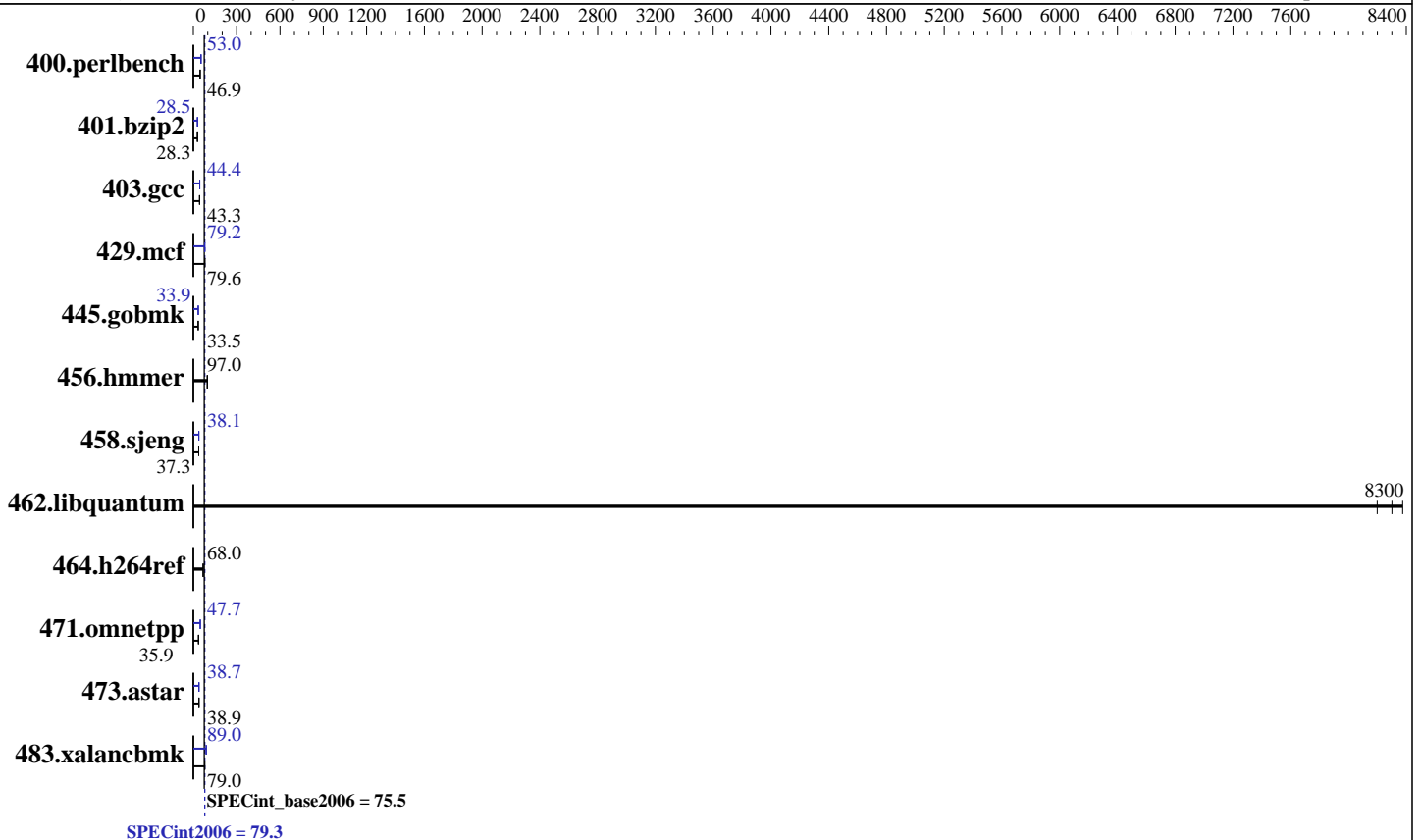
**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Aug-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Apr-2017



### Hardware

**CPU Name:** Intel Xeon Gold 6130  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
**CPU MHz:** 2100  
**FPU:** Integrated  
**CPU(s) enabled:** 64 cores, 4 chips, 16 cores/chip  
**CPU(s) orderable:** 2,4 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:** 22 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 768 GB (48 x 16 GB 2Rx4 PC4-2666V-R)  
**Disk Subsystem:** 1 x 600 GB SAS HDD, 10K RPM  
**Other Hardware:** None

### Software

**Operating System:** Red Hat Enterprise Linux Server release 7.3 (Maipo)  
 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:** 32/64-bit  
**Other Software:** Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130 2.10GHz)

SPECint2006 = 79.3

SPECint\_base2006 = 75.5

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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>208</b>	<b>46.9</b>	208	47.1	210	46.6	185	52.9	<b>184</b>	<b>53.0</b>	184	53.0
401.bzip2	341	28.3	<b>341</b>	<b>28.3</b>	340	28.3	339	28.5	<b>339</b>	<b>28.5</b>	339	28.5
403.gcc	186	43.3	<b>186</b>	<b>43.3</b>	186	43.2	181	44.4	<b>181</b>	<b>44.4</b>	181	44.4
429.mcf	<b>115</b>	<b>79.6</b>	114	80.2	116	78.7	<b>115</b>	<b>79.2</b>	114	80.0	117	77.7
445.gobmk	<b>313</b>	<b>33.5</b>	313	33.5	313	33.5	310	33.9	310	33.9	<b>310</b>	<b>33.9</b>
456.hammer	96.1	97.0	96.3	96.9	<b>96.2</b>	<b>97.0</b>	96.1	97.0	96.3	96.9	<b>96.2</b>	<b>97.0</b>
458.sjeng	324	37.3	324	37.3	<b>324</b>	<b>37.3</b>	318	38.1	318	38.1	<b>318</b>	<b>38.1</b>
462.libquantum	<b>2.50</b>	<b>8300</b>	2.53	8200	2.47	8380	<b>2.50</b>	<b>8300</b>	2.53	8200	2.47	8380
464.h264ref	<b>326</b>	<b>68.0</b>	326	68.0	326	67.8	<b>326</b>	<b>68.0</b>	326	68.0	326	67.8
471.omnetpp	174	36.0	<b>174</b>	<b>35.9</b>	175	35.7	131	47.8	<b>131</b>	<b>47.7</b>	132	47.5
473.astar	181	38.8	<b>180</b>	<b>38.9</b>	180	38.9	<b>181</b>	<b>38.7</b>	181	38.8	181	38.7
483.xalancbmk	87.4	78.9	<b>87.4</b>	<b>79.0</b>	87.2	79.2	<b>77.4</b>	<b>89.2</b>	<b>77.5</b>	<b>89.0</b>	77.7	88.9

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

## Submit Notes

The config file option 'submit' was used.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

### BIOS Settings:

Intel HyperThreading Technology set to Disabled  
CPU performance set to Enterprise  
Power Performance Tuning set to OS  
SNC set to Disabled  
IMC Interleaving set to Auto  
Patrol Scrub set to Disabled  
Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on C240.82 Wed Aug 16 12:07:10 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) Gold 6130 CPU @ 2.10GHz
4 "physical id"s (chips)
64 "processors"
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130 2.10GHz)

**SPECint2006 = 79.3**

**SPECint\_base2006 = 75.5**

**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)

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 : 16
siblings  : 16
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB
```

From /proc/meminfo

```
MemTotal:      790982928 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="Storage"
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 C240.82 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 Aug 16 11:55

SPEC is set to: /home/cpu2006-1.2

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdb5        xfs       503G   22G  482G   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 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. C480M5.3.1.0.248.0518171057 05/18/2017Cisco Systems, Inc. C480M5.3.1.0.248.0518171057 05/18/2017

Memory:

96x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130  
2.10GHz)

**SPECint2006 = 79.3**

**SPECint\_base2006 = 75.5**

**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)

The correct amount of Memory installed is 768 GB (48 x 16 GB)  
and the dmidecode is reporting invalid number of DIMMs installed  
Installed Memory:  
48x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

### General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact"  
LD\_LIBRARY\_PATH = "/home/cpu2006-1.2/lib/ia32:/home/cpu2006-1.2/lib/intel64:/home/cpu2006-1.2/sh10.2"  
OMP\_NUM\_THREADS = "64"

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

### 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

### Base Optimization Flags

C benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch  
-auto-p32

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Cisco Systems

SPECint2006 = 79.3

Cisco UCS C480 M5 (Intel Xeon Gold 6130 2.10GHz)

SPECint\_base2006 = 75.5

CPU2006 license: 9019

Test date: Aug-2017

Test sponsor: Cisco Systems

Hardware Availability: Aug-2017

Tested by: Cisco Systems

Software Availability: Apr-2017

## Base Optimization Flags (Continued)

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

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

C++ benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -DSPEC\_CPU\_LP64

403.gcc: -DSPEC\_CPU\_LP64

429.mcf: -DSPEC\_CPU\_LP64

445.gobmk: -D\_FILE\_OFFSET\_BITS=64

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: -D\_FILE\_OFFSET\_BITS=64

473.astar: -DSPEC\_CPU\_LP64

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



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130  
2.10GHz)

**SPECint2006 = 79.3**

**SPECint\_base2006 = 75.5**

**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

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div -auto-ilp32 -qopt-prefetch

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc  
-qopt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel  
-qopt-prefetch -auto-p32

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)

456.hmmer: basepeak = yes

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-ra-region-strategy=block  
-Wl,-z,muldefs -L/sh10.2 -lsmarheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-auto-p32 -Wl,-z,muldefs -L/sh10.2 -lsmarheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-Wl,-z,muldefs -L/sh10.2 -lsmarheap

## Peak Other Flags

C benchmarks:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Gold 6130 2.10GHz)

**SPECint2006 = 79.3**

**SPECint\_base2006 = 75.5**

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Aug-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Apr-2017

## Peak Other Flags (Continued)

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 6 11:46:31 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 5 September 2017.