



# SPEC® CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

SPECfp®2006 = 147

SPECfp\_base2006 = 143

CPU2006 license: 9019

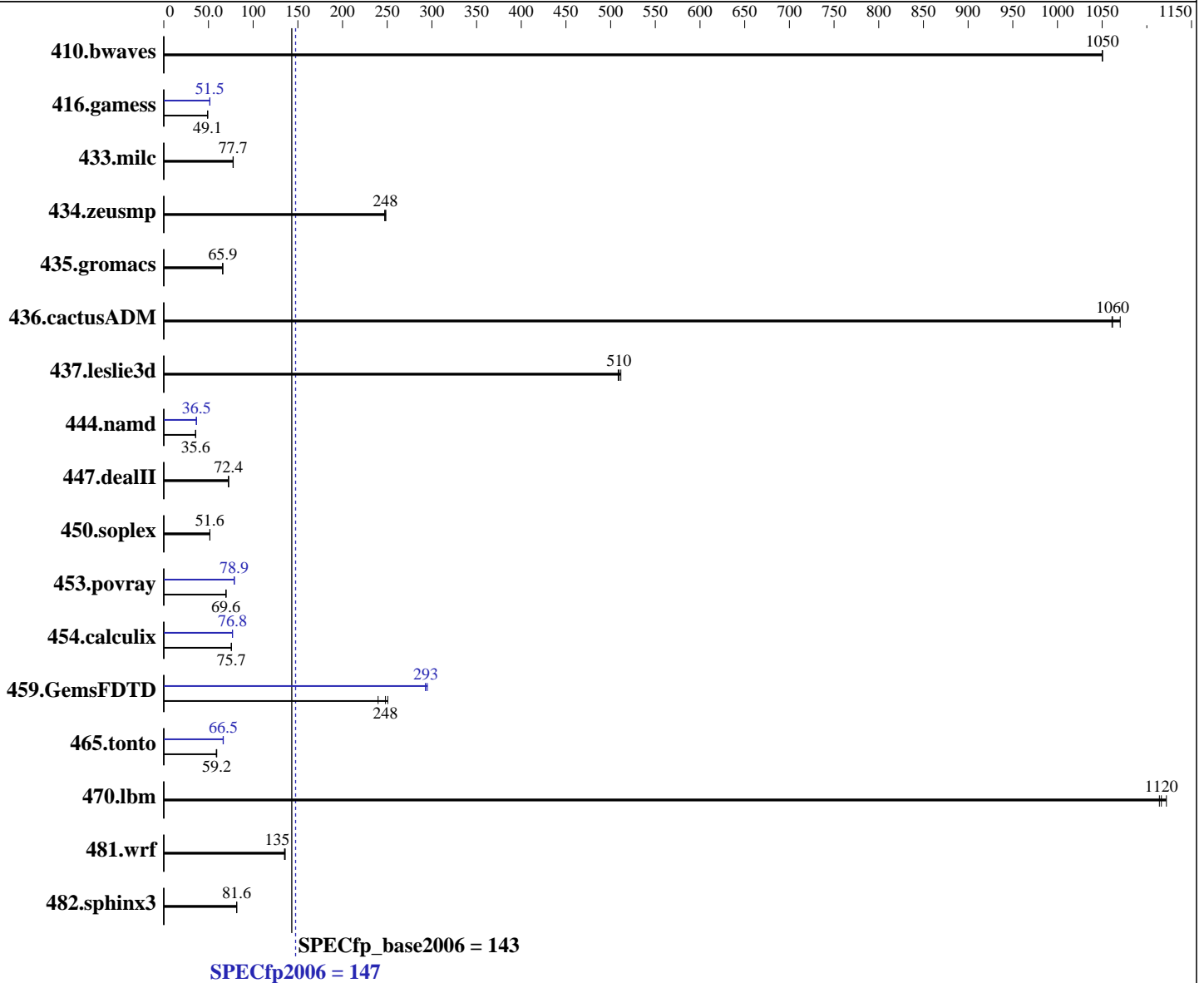
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Dec-2017

Hardware Availability: Aug-2017

Software Availability: Jun-2017



### Hardware

CPU Name: Intel Xeon Gold 6134  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip  
 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

Continued on next page

### 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;  
 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)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

SPECfp2006 = 147

SPECfp\_base2006 = 143

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Dec-2017

Hardware Availability: Aug-2017

Software Availability: Jun-2017

L3 Cache: 24.75 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 600 GB SAS HDD, 10K RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	12.9	1050	<u>12.9</u>	<u>1050</u>	12.9	1050	12.9	1050	<u>12.9</u>	<u>1050</u>	12.9	1050
416.gamess	398	49.1	<u>399</u>	<u>49.1</u>	400	49.0	380	51.5	<u>380</u>	<u>51.5</u>	380	51.6
433.milc	118	77.7	<u>118</u>	<u>77.7</u>	119	77.4	118	77.7	<u>118</u>	<u>77.7</u>	119	77.4
434.zeusmp	36.6	249	<u>36.7</u>	<u>248</u>	36.8	247	36.6	249	<u>36.7</u>	<u>248</u>	36.8	247
435.gromacs	109	65.7	<u>108</u>	<u>65.9</u>	108	66.1	109	65.7	<u>108</u>	<u>65.9</u>	108	66.1
436.cactusADM	11.2	1070	<u>11.3</u>	<u>1060</u>	11.3	1060	11.2	1070	<u>11.3</u>	<u>1060</u>	11.3	1060
437.leslie3d	<u>18.4</u>	<u>510</u>	18.4	511	18.5	508	<u>18.4</u>	<u>510</u>	18.4	511	18.5	508
444.namd	225	35.6	225	35.6	<u>225</u>	<u>35.6</u>	<u>220</u>	<u>36.5</u>	220	36.5	220	36.5
447.dealII	<u>158</u>	<u>72.4</u>	158	72.4	158	72.5	<u>158</u>	<u>72.4</u>	158	72.4	158	72.5
450.soplex	162	51.5	<u>162</u>	<u>51.6</u>	161	51.6	162	51.5	<u>162</u>	<u>51.6</u>	161	51.6
453.povray	76.3	69.8	76.6	69.5	<u>76.5</u>	<u>69.6</u>	67.6	78.7	<u>67.4</u>	<u>78.9</u>	67.4	79.0
454.calculix	109	75.7	109	75.5	<u>109</u>	<u>75.7</u>	107	77.0	<u>107</u>	<u>76.8</u>	107	76.8
459.GemsFDTD	42.3	251	<u>42.8</u>	<u>248</u>	44.2	240	<u>36.2</u>	<u>293</u>	36.0	295	36.2	293
465.tonto	168	58.7	166	59.2	<u>166</u>	<u>59.2</u>	148	66.7	148	66.3	<u>148</u>	<u>66.5</u>
470.lbm	12.3	1110	<u>12.3</u>	<u>1120</u>	12.2	1120	12.3	1110	<u>12.3</u>	<u>1120</u>	12.2	1120
481.wrf	82.7	135	<u>82.5</u>	<u>135</u>	82.2	136	82.7	135	<u>82.5</u>	<u>135</u>	82.2	136
482.sphinx3	239	81.6	<u>239</u>	<u>81.6</u>	239	81.5	239	81.6	<u>239</u>	<u>81.6</u>	239	81.5

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"

## Platform Notes

BIOS Settings:  
Intel HyperThreading Technology set to Disabled  
CPU performance set to Enterprise  
Power Performance Tuning set to OS Controls  
SNC set to Disabled  
Patrol Scrub set to Disabled  
Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-3joc Thu Dec 21 06:19:19 2017

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

SPECfp2006 = 147

SPECfp\_base2006 = 143

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Dec-2017

Hardware Availability: Aug-2017

Software Availability: Jun-2017

### Platform Notes (Continued)

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 6134 CPU @ 3.20GHz
 2 "physical id"s (chips)
 16 "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    : 8
  siblings     : 8
  physical 0   : cores 0 1 2 3 4 10 19 24
  physical 1   : cores 0 2 3 4 16 19 25 26
cache size     : 25344 KB

```

```

From /proc/meminfo
MemTotal:      394864824 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2

```

```

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-3joc 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 Dec 21 05:59

```

SPEC is set to: /home/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       xfs   516G  115G  402G  23% /home

```

Additional information from dmidecode:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

**SPECfp2006 = 147**

**SPECfp\_base2006 = 143**

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Dec-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Jun-2017

## Platform Notes (Continued)

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. C220M5.3.1.1d.0.0615170645 06/15/2017

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:

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 = "16"

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

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.html>

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

Continued on next page

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>

Page 4



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134,  
3.20 GHz)

SPECfp2006 = 147

SPECfp\_base2006 = 143

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Dec-2017

Hardware Availability: Aug-2017

Software Availability: Jun-2017

## Base Compiler Invocation (Continued)

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -DSPEC\_CPU\_LP64  
433.milc: -DSPEC\_CPU\_LP64  
434.zeusmp: -DSPEC\_CPU\_LP64  
435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
437.leslie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
450.soplex: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

**SPECfp2006 = 147**

**SPECfp\_base2006 = 143**

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Dec-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Jun-2017

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -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) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -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 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -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) -unroll2 -inline-level=0 -scalar-rep-

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2018 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6134, 3.20 GHz)

**SPECfp2006 = 147**

**SPECfp\_base2006 = 143**

**CPU2006 license:** 9019

**Test sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test date:** Dec-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Jun-2017

## Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -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) -unroll2 -inline-level=0  
-qopt-prefetch -parallel

465.tonto: -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) -inline-calloc -qopt-malloc-options=3  
-auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

481.wrf: basepeak = yes

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 SPECfp 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 Mon Feb 26 10:21:20 2018 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 23 February 2018.