



# SPEC<sup>®</sup> CFP2006 Result

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## Cisco Systems

Cisco UCS C460 M4 (Intel Xeon E7-8891 v4, 2.80 GHz)

SPECfp<sup>®</sup>2006 = **Not Run**

SPECfp\_base2006 = **128**

CPU2006 license: 9019

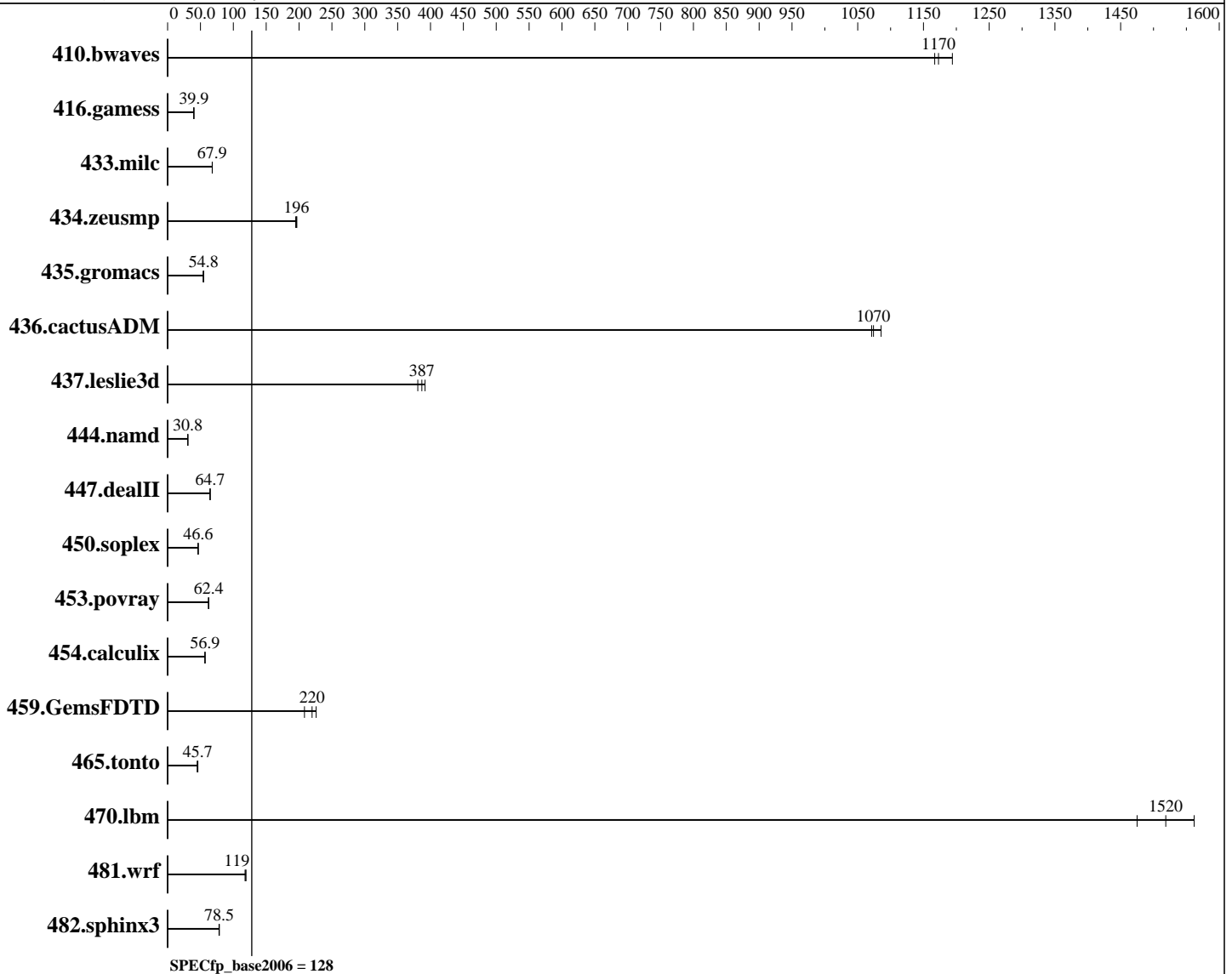
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2016

Hardware Availability: Jul-2016

Software Availability: Dec-2015



### Hardware

CPU Name: Intel Xeon E7-8891 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip  
 CPU(s) orderable: 2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

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### Software

Operating System: SUSE Linux Enterprise Server 12 SP1 (x86\_64) 3.12.49-11-default  
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux;  
 Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: xfs  
 System State: Run level 3 (multi-user)

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L3 Cache: 60 MB I+D on chip per chip  
Other Cache: None  
Memory: 512 GB (32 x 16 GB 2Rx4 PC4-2400T-R, running at 1600 MHz)  
Disk Subsystem: 1 X 400 GB SAS SSD, 6 Gb/s  
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	<b><u>11.6</u></b>	<b><u>1170</u></b>	11.6	1170	11.4	1190						
416.gamess	490	40.0	<b><u>490</u></b>	<b><u>39.9</u></b>	491	39.9						
433.milc	135	68.0	<b><u>135</u></b>	<b><u>67.9</u></b>	135	67.9						
434.zeusmp	46.3	196	<b><u>46.4</u></b>	<b><u>196</u></b>	46.7	195						
435.gromacs	132	54.0	130	54.9	<b><u>130</u></b>	<b><u>54.8</u></b>						
436.cactusADM	11.2	1070	11.0	1090	<b><u>11.1</u></b>	<b><u>1070</u></b>						
437.leslie3d	24.7	381	<b><u>24.3</u></b>	<b><u>387</u></b>	24.0	392						
444.namd	261	30.8	<b><u>261</u></b>	<b><u>30.8</u></b>	261	30.8						
447.dealII	177	64.5	<b><u>177</u></b>	<b><u>64.7</u></b>	177	64.7						
450.soplex	179	46.6	<b><u>179</u></b>	<b><u>46.6</u></b>	181	46.2						
453.povray	<b><u>85.2</u></b>	<b><u>62.4</u></b>	85.6	62.1	85.1	62.5						
454.calculix	145	57.0	<b><u>145</u></b>	<b><u>56.9</u></b>	145	56.8						
459.GemsFDTD	51.0	208	47.0	226	<b><u>48.3</u></b>	<b><u>220</u></b>						
465.tonto	214	46.1	<b><u>215</u></b>	<b><u>45.7</u></b>	219	45.0						
470.lbm	<b><u>9.05</u></b>	<b><u>1520</u></b>	9.32	1480	8.80	1560						
481.wrf	<b><u>93.9</u></b>	<b><u>119</u></b>	93.8	119	94.8	118						
482.sphinx3	<b><u>248</u></b>	<b><u>78.5</u></b>	249	78.2	248	78.7						

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 Hyper-Threading Technology option set to Disabled  
CPU performance set to Enterprise  
Power Technology set to Energy Efficient  
Energy Performance BIAS setting set to Balanced Performance  
Memory RAS configuration set to Maximum Performance  
Memory Power Saving Mode set to Disabled  
QPI Snoop Mode set to Home Directory Snoop with OSB  
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6914

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### Platform Notes (Continued)

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on linux-6eaq Tue May 10 16:20:36 2016

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) CPU E7-8891 v4 @ 2.80GHz

4 "physical id"s (chips)

40 "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 : 10

siblings : 10

physical 0: cores 5 9 10 11 13 18 24 26 28 29

physical 1: cores 5 9 10 11 13 18 24 26 28 29

physical 2: cores 5 9 10 11 13 18 24 26 28 29

physical 3: cores 5 9 10 11 13 18 24 26 28 29

cache size : 61440 KB

From /proc/meminfo

MemTotal: 529303792 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

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

SuSE-release:

SUSE Linux Enterprise Server 12 (x86\_64)

VERSION = 12

PATCHLEVEL = 1

# 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-SP1"

VERSION\_ID="12.1"

PRETTY\_NAME="SUSE Linux Enterprise Server 12 SP1"

ID="sles"

ANSI\_COLOR="0;32"

CPE\_NAME="cpe:/o:suse:sles:12:sp1"

uname -a:

Linux linux-6eaq 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015  
(8d714a0) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 May 10 11:18

SPEC is set to: /opt/cpu2006-1.2

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
------------	------	------	------	-------	------	------------

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### Platform Notes (Continued)

/dev/sda1 xfs 372G 15G 358G 4% /  
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. C460M4.2.0.11.36.042520161128 04/25/2016

Memory:

32x 0xCE00 M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 1600 MHz  
64x NO DIMM NO DIMM

(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 = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/sh"

OMP\_NUM\_THREADS = "40"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

### Base Compiler Invocation

C benchmarks:

icc -m64

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

Continued on next page

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Page 4



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## Base Portability Flags (Continued)

```

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 -opt-prefetch
-ansi-alias

```

C++ benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

```

Fortran benchmarks:

```

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

```

Benchmarks using both Fortran and C:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revE.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revE.xml>



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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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