



# SPEC<sup>®</sup> CFP2006 Result

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## Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-8891 v4, 2.80 GHz)

SPECfp<sup>®</sup>2006 = **Not Run**

SPECfp\_base2006 = **118**

CPU2006 license: 9019

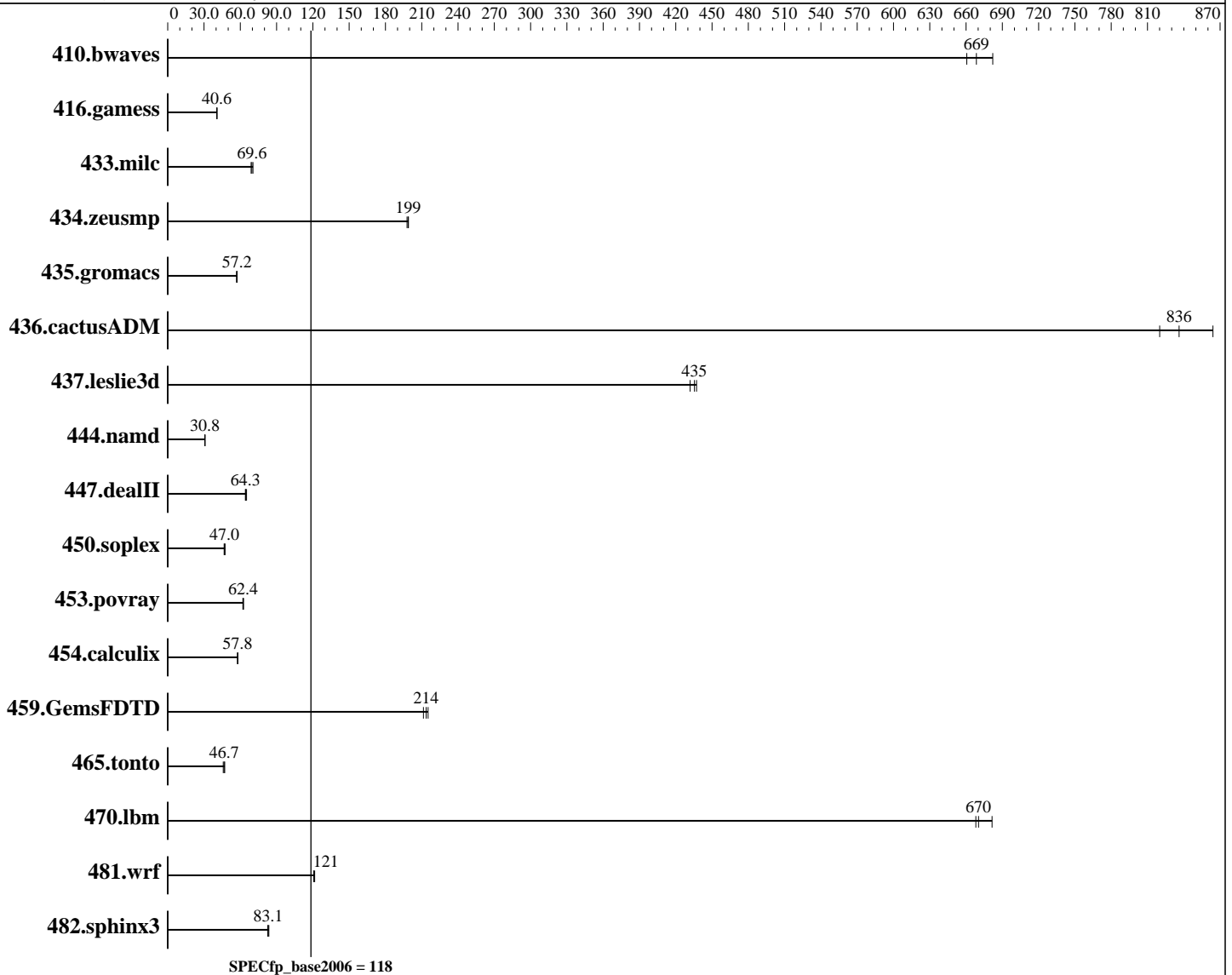
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2016

Hardware Availability: Jul-2016

Software Availability: Dec-2015



SPECfp\_base2006 = 118

### 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: 20 cores, 2 chips, 10 cores/chip  
 CPU(s) orderable: 1,2 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: 256 GB (16 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	19.9	682	20.6	661	<b><u>20.3</u></b>	<b><u>669</u></b>						
416.gamess	482	40.6	481	40.7	<b><u>482</u></b>	<b><u>40.6</u></b>						
433.milc	<b><u>132</u></b>	<b><u>69.6</u></b>	130	70.5	133	68.9						
434.zeusmp	<b><u>45.8</u></b>	<b><u>199</u></b>	45.7	199	46.0	198						
435.gromacs	<b><u>125</u></b>	<b><u>57.2</u></b>	126	56.9	124	57.4						
436.cactusADM	<b><u>14.3</u></b>	<b><u>836</u></b>	14.6	820	13.8	864						
437.leslie3d	21.8	432	21.5	437	<b><u>21.6</u></b>	<b><u>435</u></b>						
444.namd	261	30.8	<b><u>261</u></b>	<b><u>30.8</u></b>	261	30.8						
447.dealII	<b><u>178</u></b>	<b><u>64.3</u></b>	178	64.3	176	65.2						
450.soplex	<b><u>177</u></b>	<b><u>47.0</u></b>	176	47.4	179	46.6						
453.povray	84.9	62.6	<b><u>85.2</u></b>	<b><u>62.4</u></b>	85.6	62.1						
454.calculix	142	58.0	<b><u>143</u></b>	<b><u>57.8</u></b>	143	57.7						
459.GemsFDTD	49.3	215	50.2	211	<b><u>49.7</u></b>	<b><u>214</u></b>						
465.tonto	209	47.1	<b><u>211</u></b>	<b><u>46.7</u></b>	214	45.9						
470.lbm	20.6	668	<b><u>20.5</u></b>	<b><u>670</u></b>	20.2	681						
481.wrf	<b><u>92.5</u></b>	<b><u>121</u></b>	92.5	121	91.9	121						
482.sphinx3	233	83.6	<b><u>235</u></b>	<b><u>83.1</u></b>	236	82.6						

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

Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1

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**Hardware Availability:** Jul-2016  
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### Platform Notes (Continued)

running on linux-0vgd Fri Jan 1 16:20:24 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) CPU E7-8891 v4 @ 2.80GHz
 2 "physical id"s (chips)
 20 "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
cache size : 61440 KB
```

```
From /proc/meminfo
MemTotal:      264383512 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-0vgd 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 Jan 1 16:08

```
SPEC is set to: /opt/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       xfs   372G  13G  359G  4% /
Additional information from dmidecode:
```

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### 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. EXM4.3.1.1.3.042620161123 04/26/2016

Memory:

16x 0xCE00 M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 1600 MHz  
32x 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 = "20"

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

436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main

437.leslie3d: -DSPEC\_CPU\_LP64

444.namd: -DSPEC\_CPU\_LP64

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## Base Portability Flags (Continued)

```

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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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