# SPEC® CFP2006 Result



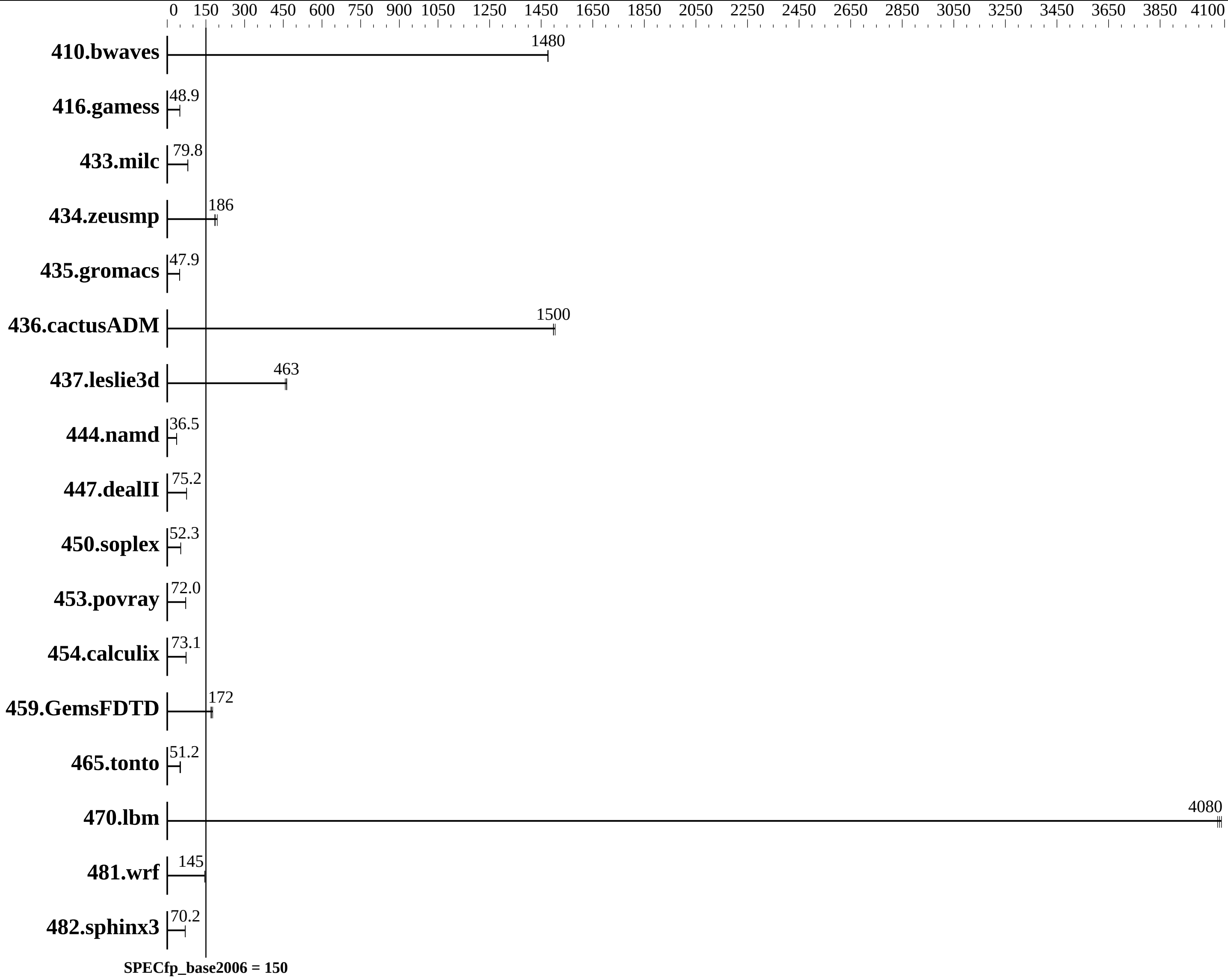
## Cisco Systems

Cisco UCS C480 M5 (Intel Xeon Platinum 8180, 2.50GHz)

SPECfp®2006 = Not Run

SPECfp_base2006 = 150

| | | | |
|---|---|---|---|
| **CPU2006 license:** | 9019 | **Test date:** | Jun-2017 |
| **Test sponsor:** | Cisco Systems | **Hardware Availability:** | Aug-2017 |
| **Tested by:** | Cisco Systems | **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: | 112 cores, 4 chips, 28 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 |

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### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 12 SP2 (x86_64) 4.4.21-69-default |
| Compiler: | C/C++: Version 18.0.0.082 of Intel C/C++ Beta Compiler for Linux; Fortran: Version 18.0.0.082 of Intel Fortran Beta Compiler for Linux |
| Auto Parallel: | Yes |
| File System: | xfs |
| System State: | Run level 3 (multi-user) |

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L3 Cache: 38.5 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 800 GB SSD SAS
Other Hardware: None

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

## Results Table

| | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benchmark | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 9.20 | 1480 | 9.21 | 1480 | **9.20** | **1480** | | | | | | |
| 416.gamess | 400 | 48.9 | 399 | 49.0 | **400** | **48.9** | | | | | | |
| 433.milc | 115 | 79.6 | 114 | 80.5 | **115** | **79.8** | | | | | | |
| 434.zeusmp | **48.9** | **186** | 49.4 | 184 | 46.9 | 194 | | | | | | |
| 435.gromacs | 149 | 47.9 | 149 | 48.0 | **149** | **47.9** | | | | | | |
| 436.cactusADM | **7.98** | **1500** | 7.98 | 1500 | 7.94 | 1500 | | | | | | |
| 437.leslie3d | 20.3 | 464 | **20.3** | **463** | 20.5 | 458 | | | | | | |
| 444.namd | **220** | **36.5** | 221 | 36.4 | 220 | 36.5 | | | | | | |
| 447.dealII | **152** | **75.2** | 152 | 75.1 | 152 | 75.4 | | | | | | |
| 450.soplex | 160 | 52.2 | **160** | **52.3** | 159 | 52.4 | | | | | | |
| 453.povray | 73.9 | 72.0 | **73.9** | **72.0** | 74.5 | 71.4 | | | | | | |
| 454.calculix | 113 | 73.0 | **113** | **73.1** | 113 | 73.2 | | | | | | |
| 459.GemsFDTD | 62.7 | 169 | 60.1 | 176 | **61.8** | **172** | | | | | | |
| 465.tonto | 191 | 51.6 | **192** | **51.2** | 201 | 49.0 | | | | | | |
| 470.lbm | **3.37** | **4080** | 3.36 | 4090 | 3.37 | 4070 | | | | | | |
| 481.wrf | 76.9 | 145 | **76.9** | **145** | 76.8 | 145 | | | | | | |
| 482.sphinx3 | 277 | 70.3 | **278** | **70.2** | 279 | 69.8 | | | | | | |

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
SNC set to Disabled
IMC Interleaving set to Auto
Patrol Scrub set to Disabled
 Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6993
 Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
 running on linux-nvug Mon Jun 26 08:08:50 2017
```

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## 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) Platinum 8180 CPU @ 2.50GHz
      4 "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  : 28
      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
      physical 2: 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 3: 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:       791191572 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-nvug 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 Jun 25 22:33
```

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## Platform Notes (Continued)

```
SPEC is set to: /opt/cpu2006-1.2
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      xfs   644G   60G  584G  10% /
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. C480M5.3.1.0.245.0514171056 05/14/2017
  Memory:
   48x 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 = "/opt/cpu2006-1.2/lib/ia32:/opt/cpu2006-1.2/lib/intel64:/opt/cpu2006-1.2/sh10.2"
OMP_NUM_THREADS = "112"

 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 by default.
```

## 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

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## Base Portability Flags (Continued)

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

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-revG.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-revG.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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