Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)

SPECfp®2006 = Not Run
SPECfp_base2006 = 125

CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Mar-2016
Hardware Availability: Mar-2016
Tested by: Cisco Systems
Software Availability: Dec-2015

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECfp Base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>572</td>
</tr>
<tr>
<td>416.gamess</td>
<td>43.1</td>
</tr>
<tr>
<td>433.milc</td>
<td>72.5</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>225</td>
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<tr>
<td>435.gromacs</td>
<td>63.4</td>
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<tr>
<td>436.cactusADM</td>
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<tr>
<td>437.leslie3d</td>
<td>427</td>
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<tr>
<td>444.namd</td>
<td>31.6</td>
</tr>
<tr>
<td>447.dealII</td>
<td>67.6</td>
</tr>
<tr>
<td>450.soplex</td>
<td>48.3</td>
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<tr>
<td>453.povray</td>
<td>62.2</td>
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<tr>
<td>454.calculix</td>
<td>61.6</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>242</td>
</tr>
<tr>
<td>465.tonto</td>
<td>52.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>120</td>
</tr>
<tr>
<td>481.wrf</td>
<td>91.6</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>799</td>
</tr>
</tbody>
</table>

CPU Name: Intel Xeon E5-2667 v4
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 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: 256 MB I+D on chip per core

Operating System: SUSE Linux Enterprise Server 12 SP1 (x86_64)
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)
Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)

SPEC CFP2006 Result
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Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)

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L3 Cache: 25 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, ECC)
Disk Subsystem: 1 x 400 GB SAS SSD
Other Hardware: None

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

Base
Seconds Ratio Seconds Ratio Seconds Ratio
410.bwaves 23.8 572 23.7 572 23.7 574
416.gamess 455 43.1 454 43.1 453 43.2
433.milc 127 72.5 127 72.5 126 72.6
434.zeusmp 40.5 225 40.4 225 40.4 225
435.gromacs 113 63.2 113 63.4 113 63.4
436.cactusADM 13.4 895 13.4 891 13.4 894
437.leslie3d 22.0 427 22.0 427 22.1 426
444.namd 253 31.7 253 31.6 253 31.6
447.dealII 169 67.6 169 67.6 169 67.6
450.soplex 172 48.4 173 48.3 174 48.1
453.povray 85.5 62.2 87.4 60.8 85.0 62.6
454.calculix 134 61.6 134 61.6 134 61.5
459.GemsFDTD 45.1 235 43.8 242 43.9 242
465.tonto 189 52.1 190 51.7 188 52.2
470.lbm 17.3 792 17.2 799 17.2 799
481.wrf 97.2 115 92.9 120 93.1 120
482.sphinx3 214 91.2 213 91.6 212 91.7

Results Table
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 Snoo Mode set to Cluster-on-Die
Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
Continued on next page
Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)

SPECfp2006 = Not Run
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CPU2006 license: 9019
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Platform Notes (Continued)

running on linux-jrq0 Mon Mar 14 08:14:34 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 E5-2667 v4 @ 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 2 3 4 8 10 11 12
  physical 1: cores 0 2 3 4 8 10 11 12
  cache size : 25600 KB

From /proc/meminfo
MemTotal:        264368568 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP1

From /etc/*release* /etc/*version*
SuSE-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-jrq0 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 Mar 14 08:06

SPEC is set to: /home/cpu2006-1.2

Filesystem  Type  Size  Used Avail Use% Mounted on
Continued on next page
Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)

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Platform Notes (Continued)
/dev/sdb3 xfs 330G 43G 288G 13% /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. C220M4.2.0.9.41.021820161009 02/18/2016
Memory:
16x 0xCE00 M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz
8x 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 = "/home/cpu2006-1.2/libs/32:/home/cpu2006-1.2/libs/64:/home/cpu2006-1.2/sh"
OMP_NUM_THREADS = "16"

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

Submitted by: "Rajendra Yogendra (ryogendr)" <ryogendr@cisco.com>
Submitted: Tue Mar 22 00:31:24 EDT 2016
Submission: cpu2006-20160322-39739.sub

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

Continued on next page
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Base Portability Flags (Continued)

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 -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
https://pro.spec.org/private/osg/submit/cpu2006/flags/Intel-ic16.0-official-linux64.html
https://pro.spec.org/private/osg/submit/cpu2006/flags/Cisco-Platform-Settings-V1.2-revD.html

You can also download the XML flags sources by saving the following links:
https://pro.spec.org/private/osg/submit/cpu2006/flags/Intel-ic16.0-official-linux64.xml
https://pro.spec.org/private/osg/submit/cpu2006/flags/Cisco-Platform-Settings-V1.2-rev0.xml
### Cisco Systems

**Cisco UCS C220 M4 (Intel Xeon E5-2667 v4, 3.20 GHz)**

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Mar 22 03:36:13 2016 by SPEC CPU2006 PS/PDF formatter v6932.