## SPEC® CFP2006 Result

### Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4820 v2, 2.00 GHz)

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_base2006</td>
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</tbody>
</table>

**CPU2006 license:** 9019  
**Test date:** Apr-2014  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems  

<table>
<thead>
<tr>
<th>Software Availability</th>
<th>Nov-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability</td>
<td>May-2014</td>
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</table>

**SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Cisco or Intel.**

- 410.bwaves
- 416.gamess
- 433.milc
- 434.zeusmp
- 435.gromacs
- 436.cactusADM
- 437.leslie3d
- 444.namd
- 447.dealII
- 450.soplex
- 453.povray
- 454.calculiX
- 459.GemsFDTD
- 465.tonto
- 470.lbm
- 481.wrf
- 482.sphinx3
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<table>
<thead>
<tr>
<th><strong>Hardware</strong></th>
<th><strong>Software</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong></td>
<td>Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)</td>
</tr>
<tr>
<td><strong>CPU Characteristics:</strong></td>
<td>Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux</td>
</tr>
<tr>
<td><strong>CPU MHz:</strong></td>
<td>Auto Parallel: Yes</td>
</tr>
<tr>
<td><strong>FPU:</strong></td>
<td>File System: ext4</td>
</tr>
<tr>
<td><strong>CPU(s) enabled:</strong></td>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>CPU(s) orderable:</strong></td>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td><strong>Primary Cache:</strong></td>
<td>Peak Pointers: 32/64-bit</td>
</tr>
<tr>
<td><strong>Secondary Cache:</strong></td>
<td>Other Software: None</td>
</tr>
<tr>
<td><strong>L3 Cache:</strong></td>
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</tbody>
</table>
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Results Table:

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</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**

Intel HT Technology = Enabled
CPU performance set to HPC
Power Technology set to Custom
CPU Power State C6 set to Disabled
CPU Power State C1 Enhanced set to Disabled

Non-Compliant
Cisco Systems
Cisco UCS B260 M4 (Intel Xeon E7-4820 v2, 2.00 GHz)

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Cisco or Intel.

Platform Notes (Continued)

Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
Sysinfo program /opt/cpu2006-1.4/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $ e86d1025725ba6e44d596a3cee98f191 running on yos Thu Apr 24 09:10:19 2014

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 E7-4820 v2 @ 2.00GHz
2 "physical id"s (chips)
32 "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 : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 16384 KB

From /proc/meminfo
MemTotal: 63971504 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
Linux yos 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 Apr 24 00:47
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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 -nofor_main
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
467.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:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Continued on next page
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Base Optimization Flags (Continued)

Fortran benchmarks:
- xAVX -ipo -o3 -no-prec-div -parallel -t-prefetch

Benchmarks using both Fortran and C:
- xAVX -ipo -o3 -no-prec-div -parallel -t-prefetch -ansi-alias

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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32 -ansi-alias
470.lbm: basepeak = yes

Non-Compliant
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Peak Optimization Flags (Continued)

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

C++ benchmarks:

- 444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32
- 447.dealII: basepeak = yes
- 450.soplex: basepeak = yes
- 453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

- 410.bwaves: basepeak = yes
- 416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -prof-use(pass 2) -unroll12 -inline-level=0 -scalar-rep-
- 434.leusmp: basepeak = yes
- 437.leslie3d: basepeak = yes
- 435.gromacs: basepeak = yes

Benchmarks using both Fortran and C:

- 435.gromacs: basepeak = yes
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Cisco UCS B260 M4 (Intel Xeon E7-4820 v2, 2.00 GHz)

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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes
454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias
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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.xml