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

**SPECint®2006 =** Not Run
SPECint_base2006 = 80.5

<table>
<thead>
<tr>
<th>Test sponsor</th>
<th>Cisco Systems</th>
<th>Test date:</th>
<th>Jun-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Cisco Systems</td>
<td>Hardware Avail:</td>
<td>Aug-2017</td>
</tr>
<tr>
<td>CPU2006 license:</td>
<td>9019</td>
<td>Software Avail:</td>
<td>Apr-2017</td>
</tr>
</tbody>
</table>

---

### Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon Platinum 8180</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.80 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2500</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>112 cores, 4 chips, 28 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>2,4 chips</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>1 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>38.5 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>768 GB (48 x 16 GB 2Rx4 PC4-2666V-R)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 800 GB SSD SAS</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Operating System:</th>
<th>Red Hat Enterprise Linux Server release 7.3 (Maipo) 3.10.0-514.10.2.el7.x86_64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>Yes</td>
</tr>
<tr>
<td>File System:</td>
<td>ext4</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
Cisco Systems
Cisco UCS C480 M5 (Intel Xeon Platinum 8180, 2.50GHz)

SPECint2006 = Not Run
SPECint_base2006 = 80.5

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Jun-2017
Hardware Availability: Aug-2017
Software Availability: Apr-2017

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>204</td>
<td>47.8</td>
<td>206</td>
<td>47.5</td>
<td>205</td>
<td>47.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>334</td>
<td>28.9</td>
<td>334</td>
<td>28.9</td>
<td>334</td>
<td>28.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>178</td>
<td>45.1</td>
<td>178</td>
<td>45.2</td>
<td>178</td>
<td>45.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>113</td>
<td>81.0</td>
<td>113</td>
<td>81.0</td>
<td>113</td>
<td>80.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>303</td>
<td>34.6</td>
<td>303</td>
<td>34.6</td>
<td>303</td>
<td>34.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>93.6</td>
<td>99.6</td>
<td>94.2</td>
<td>99.0</td>
<td>94.1</td>
<td>99.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>312</td>
<td>38.7</td>
<td>312</td>
<td>38.7</td>
<td>312</td>
<td>38.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>2.18</td>
<td>9510</td>
<td>2.13</td>
<td>9740</td>
<td>2.12</td>
<td>9790</td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>312</td>
<td>71.0</td>
<td>312</td>
<td>70.9</td>
<td>313</td>
<td>70.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>133</td>
<td>47.1</td>
<td>129</td>
<td>48.3</td>
<td>130</td>
<td>48.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>175</td>
<td>40.1</td>
<td>175</td>
<td>40.1</td>
<td>176</td>
<td>39.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>86.5</td>
<td>79.7</td>
<td>83.4</td>
<td>82.7</td>
<td>83.4</td>
<td>82.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</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 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 /home/cpu2006-1.2/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
routing on localhost.localdomain Sun Jun 25 18:01:03 2017

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
Cisco Systems
Cisco UCS C480 M5 (Intel Xeon Platinum 8180, 2.50GHz)                      SPECint2006 = Not Run
                      SPECint_base2006 = 80.5
CPU2006 license: 9019                                                    Test date: Jun-2017
Test sponsor: Cisco Systems                                             Hardware Availability: Aug-2017
Tested by: Cisco Systems                                               Software Availability: Apr-2017

Platform Notes (Continued)

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: 791196124 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*
os-release:
    NAME="Red Hat Enterprise Linux Server"
    VERSION="7.3 (Maipo)"
    ID="rhel"
    ID_LIKE="fedora"
    VERSION_ID="7.3"
    PRETTY_NAME=Storage
    ANSI_COLOR="0;31"
    CPE_NAME=cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

uname -a:
Linux localhost.localdomain 3.10.0-514.10.2.el7.x86_64 #1 SMP Mon Feb 20
02:37:52 EST 2017 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 25 07:54 last=5

SPEC is set to: /home/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sdx ext4 274G 118G 143G 46% /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. C480M5.3.1.0.272.0613172154 06/13/2017
Memory:
48x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)
Cisco Systems
Cisco UCS C480 M5 (Intel Xeon Platinum 8180, 2.50GHz)

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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/lib/ia32:/home/cpu2006-1.2/lib/intel64:/home/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 with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-W1,-z,muldefs -L/sh10.2 -lsmartheap64
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Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

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

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