Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6146, 3.20 GHz)

<table>
<thead>
<tr>
<th>Tested by: Cisco Systems</th>
<th>SPECint®2006 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test date: Sep-2017</td>
<td>Hardware Availability: Aug-2017</td>
</tr>
<tr>
<td>CPU2006 license: 9019</td>
<td>Software Availability: Apr-2017</td>
</tr>
<tr>
<td>Test sponsor: Cisco Systems</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECint_base2006 = 83.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006 = 83.7</td>
</tr>
</tbody>
</table>

**Hardware**

<table>
<thead>
<tr>
<th>CPU Name: Intel Xeon Gold 6146</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz</td>
</tr>
<tr>
<td>CPU MHz: 3200</td>
</tr>
<tr>
<td>FPU: Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable: 1.2 chips</td>
</tr>
<tr>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache: 1 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache: 24.75 MB I+D on chip per core</td>
</tr>
<tr>
<td>Other Cache: None</td>
</tr>
<tr>
<td>Memory: 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)</td>
</tr>
<tr>
<td>Disk Subsystem: 1 x 600 GB SAS HDD, 10K RPM</td>
</tr>
<tr>
<td>Other Hardware: None</td>
</tr>
</tbody>
</table>

**Software**

<table>
<thead>
<tr>
<th>Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo) 3.10.0-514.el7.x86_64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux</td>
</tr>
<tr>
<td>Auto Parallel: Yes</td>
</tr>
<tr>
<td>File System: xfs</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers: 32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers: Not Applicable</td>
</tr>
<tr>
<td>Other Software: Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6146, 3.20 GHz)

SPECint2006 = Not Run
SPECint_base2006 = 83.7

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

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>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>186</td>
<td>52.6</td>
<td>187</td>
<td>52.3</td>
<td>185</td>
<td>52.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>304</td>
<td>31.8</td>
<td>304</td>
<td>31.7</td>
<td>304</td>
<td>31.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>168</td>
<td>47.9</td>
<td>168</td>
<td>47.9</td>
<td>168</td>
<td>47.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>105</td>
<td>87.2</td>
<td>105</td>
<td>86.6</td>
<td>107</td>
<td>85.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>279</td>
<td>37.6</td>
<td>280</td>
<td>37.5</td>
<td>279</td>
<td>37.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>84.8</td>
<td>110</td>
<td>85.6</td>
<td>109</td>
<td></td>
<td></td>
<td>84.7</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>290</td>
<td>41.7</td>
<td>290</td>
<td>41.7</td>
<td>290</td>
<td>41.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>2.59</td>
<td>8000</td>
<td>2.59</td>
<td>7990</td>
<td>2.59</td>
<td>8000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>278</td>
<td>79.6</td>
<td>278</td>
<td>79.7</td>
<td>277</td>
<td>79.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>164</td>
<td>38.2</td>
<td>163</td>
<td>38.4</td>
<td>161</td>
<td>38.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>160</td>
<td>43.8</td>
<td>160</td>
<td>43.9</td>
<td>160</td>
<td>43.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>75.0</td>
<td>92.0</td>
<td>75.0</td>
<td>92.0</td>
<td>75.0</td>
<td>92.0</td>
<td></td>
<td></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)
running on RHEL Tue Jan 5 03:01:36 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) Gold 6146 CPU @ 3.20GHz
2 "physical id"s (chips)
24 "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 : 12

Continued on next page
Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6146, 3.20 GHz)

SPECint_base2006 = 83.7

Platform Notes (Continued)

siblings : 12
physical 0: cores 0 1 2 3 8 9 10 11 18 19 24 27
physical 1: cores 0 1 2 3 4 8 10 11 18 24 25 27

From /proc/meminfo
MemTotal: 394482004 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
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 RHEL 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 Jan 4 21:09

SPEC is set to: /home/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda5 xfs 225G 11G 215G 5% /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. B200M5.3.2.1d.5.0727171353 07/27/2017
Cisco Systems, Inc. B200M5.3.2.1d.5.0727171353 07/27/2017
Memory:
48x 0xCE00M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)
Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6146, 3.20 GHz)

SPECint2006 = Not Run
SPECint_base2006 = 83.7

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 = "24"

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
                -Wl,-z,muldefs -L/sh10.2 -lsmartheap64
Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6146, 3.20 GHz)

SPECint2006 = Not Run
SPECint_base2006 = 83.7

CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Sep-2017
Tested by: Cisco Systems
Hardware Availability: Aug-2017
Software Availability: Apr-2017

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-revH.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-revH.xml

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Originally published on 12 October 2017.