Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6154, 3.00GHz)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>=</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>=</td>
<td>76.3</td>
</tr>
</tbody>
</table>

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

hardware

| CPU Name: | Intel Xeon Gold 6154 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 36 cores, 2 chips, 18 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 1 MB I+D on chip per core |
| L2 Cache: | 24.75 MB I+D on chip per core |
| Other Cache: | None |
| Memory: | 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R) |
| Disk Subsystem: | 1 x 600 GB SAS 10K RPM |
| Other Hardware: | None |

Software

| Operating System: | Red Hat Enterprise Linux Server release 7.3 (Maipo) 3.10.0-514.el7.x86_64 |
| Compiler: | C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux |
| Auto Parallel: | Yes |
| File System: | xfs |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V10.2 |
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6154, 3.00GHz)

SPECint2006 = Not Run
SPECint_base2006 = 76.3

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

Test date: Aug-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>209</td>
<td>46.7</td>
<td>211</td>
<td>46.4</td>
<td><strong>210</strong></td>
<td><strong>46.4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td><strong>341</strong></td>
<td><strong>28.3</strong></td>
<td>341</td>
<td>28.3</td>
<td>342</td>
<td>28.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>185</td>
<td>43.6</td>
<td>185</td>
<td>43.5</td>
<td>185</td>
<td>43.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td><strong>114</strong></td>
<td><strong>79.9</strong></td>
<td>113</td>
<td>80.5</td>
<td>114</td>
<td>79.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>314</td>
<td>33.4</td>
<td>312</td>
<td>33.6</td>
<td><strong>313</strong></td>
<td><strong>33.6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td><strong>96.5</strong></td>
<td><strong>96.7</strong></td>
<td>96.3</td>
<td>96.8</td>
<td>96.7</td>
<td>96.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>324</td>
<td>37.4</td>
<td>324</td>
<td>37.4</td>
<td><strong>324</strong></td>
<td><strong>37.4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>2.48</td>
<td>8350</td>
<td>2.45</td>
<td>8440</td>
<td><strong>2.48</strong></td>
<td><strong>8370</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>310</td>
<td>71.3</td>
<td>309</td>
<td>71.6</td>
<td><strong>310</strong></td>
<td><strong>71.3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>166</td>
<td>37.6</td>
<td>162</td>
<td><strong>38.5</strong></td>
<td>162</td>
<td>38.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>182</td>
<td>38.7</td>
<td>181</td>
<td><strong>38.7</strong></td>
<td>181</td>
<td>38.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>86.9</td>
<td>79.4</td>
<td>88.4</td>
<td>78.1</td>
<td><strong>87.0</strong></td>
<td><strong>79.3</strong></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.116 Mon Aug 14 16:14:05 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) Gold 6154 CPU @ 3.00GHz
2 "physical id"s (chips)
36 "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 : 18

Continued on next page
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6154, 3.00GHz)  

**SPECint2006 =** Not Run  
**SPECint_base2006 =** 76.3

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

### Platform Notes (Continued)

```
siblings : 18
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 25344 KB

From /proc/meminfo
MemTotal:       394679024 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=OpenStack
  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.116 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 Aug 14 16:09

SPEC is set to: /home/cpu2006-1.2

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda5      xfs   503G  36G  467G   8% /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. C220M5.3.1.1d.0.0615170645 06/15/2017Cisco Systems, Inc. C220M5.3.1.1d.0.0615170645 06/15/2017
Memory:
  48x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)
```

The correct amount of Memory installed is 384 GB (24 x 16 GB) and the dmidecode is reporting invalid number of DIMMs installed

Installed Memory:
  24x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6154, 3.00GHz)

SPEC2006 = Not Run
SPECint_base2006 = 76.3

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

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

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 = "36"

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
## Cisco Systems

Cisco UCS C220 M5 (Intel Xeon Gold 6154, 3.00GHz)

<table>
<thead>
<tr>
<th>SPECint2006 =</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006 =</td>
<td>76.3</td>
</tr>
</tbody>
</table>

### CPU2006 license: 9019

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

### Test sponsor: Cisco Systems

- **Tested by:** Cisco Systems

### Base Other Flags

C benchmarks:

403.gcc -Dalloca=_alloca

The flags files that were used to format this result can be browsed at


You can also download the XML flags sources by saving the following links:


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 5 September 2017.