Cisco Systems
Cisco UCS B200 M5 (Intel Xeon Gold 6140, 2.30GHz)  

<table>
<thead>
<tr>
<th>SPECint Base2006</th>
<th>SPECint2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.0</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

CPU2006 license: 9019  
Test sponsor: Cisco Systems  
Tested by: Cisco Systems  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017  
Test date: Jan-2010  

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon Gold 6140</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2300</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>36 cores, 2 chips, 18 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 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>24.75 MB I+D on chip per core</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 240 GB M.2 SATA SSD</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.3 (Maipo)</td>
</tr>
<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>xfs</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>Not Applicable</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
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SPECint_base2006 = 76.0

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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>210</td>
<td>46.6</td>
<td>210</td>
<td>46.5</td>
<td>210</td>
<td>46.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>340</td>
<td>28.4</td>
<td>340</td>
<td>28.4</td>
<td>340</td>
<td>28.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>183</td>
<td>43.9</td>
<td>182</td>
<td>44.1</td>
<td>183</td>
<td>44.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>112</td>
<td>81.6</td>
<td>115</td>
<td>79.5</td>
<td>114</td>
<td>80.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>312</td>
<td>33.6</td>
<td>316</td>
<td>33.2</td>
<td>314</td>
<td>33.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>96.5</td>
<td>96.7</td>
<td>96.6</td>
<td>96.6</td>
<td>96.5</td>
<td>96.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>326</td>
<td>37.1</td>
<td>326</td>
<td>37.2</td>
<td>325</td>
<td>37.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>2.67</td>
<td>7770</td>
<td>2.58</td>
<td>8040</td>
<td>2.58</td>
<td>8030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>324</td>
<td>68.3</td>
<td>322</td>
<td>68.8</td>
<td>321</td>
<td>68.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>170</td>
<td>36.7</td>
<td>172</td>
<td>36.3</td>
<td>169</td>
<td>37.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>178</td>
<td>39.3</td>
<td>179</td>
<td>39.2</td>
<td>180</td>
<td>39.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>81.9</td>
<td>84.2</td>
<td>82.9</td>
<td>83.3</td>
<td>81.9</td>
<td>84.3</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)
runtime on localhost.localdomain Mon Jan 4 00:44:33 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 6140 CPU @ 2.30GHz
- 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
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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
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

From /proc/meminfo
MemTotal:    394835228 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="OpenStack"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"

BIOS Cisco Systems, Inc. B200M5.3.2.1d.5.0727171353 07/27/2017Cisco Systems, Inc. B200M5.3.2.1d.5.0727171353 07/27/2017

Memory:
48x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(The 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
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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 = "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.perlbmk: -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
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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-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

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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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