Cisco Systems
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)

**SPECint®2006 =** 80.2
**SPECint_base2006 =** 77.1

<table>
<thead>
<tr>
<th>Software</th>
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<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>
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<tr>
<td>Base Pointers:</td>
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</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
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<table>
<thead>
<tr>
<th>Hardware</th>
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<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon Gold 6152</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>2100</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>44 cores, 2 chips, 22 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
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<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
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<td>Secondary Cache:</td>
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<td>L3 Cache:</td>
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<tr>
<td>Other Cache:</td>
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<tr>
<td>Memory:</td>
<td>384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)</td>
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<tr>
<td>Disk Subsystem:</td>
<td>1 x 600 GB SSD SAS</td>
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<td>Other Hardware:</td>
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**CPU2006 license:** 9019
**Test date:** Aug-2017
**Hardware Availability:** Aug-2017
**Test sponsor:** Cisco Systems
**Software Availability:** Apr-2017
**Tested by:** Cisco Systems
## Results Table

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<td>43.8</td>
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<td>182</td>
<td>38.6</td>
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<tr>
<td>483.xalancbmk</td>
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<td>85.3</td>
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<td>85.3</td>
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<td>Peak</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></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.

## Submit Notes

The config file option 'submit' was used.

## 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 localhost.localdomain Thu Aug 17 17:54:33 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 6152 CPU @ 2.10GHz
- 2 "physical id"s (chips)
- 44 "processors"

Continued on next page
Cisco Systems
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)

SPECint2006 = 80.2
SPECint_base2006 = 77.1

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

Platform Notes (Continued)
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 : 22
siblings : 22
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
cache size : 30976 KB

From /proc/meminfo
MemTotal: 394867472 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="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 localhost.localdomain 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 17 17:45

SPEC is set to: /home/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 459G 11G 449G 3% /

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. C240M5.3.1.1d.0.0615170707 06/15/2017Cisco Systems, Inc. C240M5.3.1.1d.0.0615170707 06/15/2017Memory:
48x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)
# SPEC CINT2006 Result

## Cisco Systems
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)

**SPECint2006 = 80.2**

**SPECint_base2006 = 77.1**

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

### Platform Notes (Continued)

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

### 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** = "44"

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td><code>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</code></td>
</tr>
<tr>
<td>401.bzip2</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>403.gcc</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>429.mcf</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>445.gobmk</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>456.hmmer</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>458.sjeng</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>462.libquantum</td>
<td><code>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</code></td>
</tr>
<tr>
<td>464.h264ref</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>473.astar</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td><code>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</code></td>
</tr>
</tbody>
</table>

### Base Optimization Flags

**C benchmarks:**

- `xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch -auto-p32`

Continued on next page
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)

SPECint2006 = 80.2
SPECint_base2006 = 77.1

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

Base Optimization Flags (Continued)

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

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64
400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
445.gobmk: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
C++ benchmarks (except as noted below):
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -D_FILE_OFFSET_BITS=64
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: -D_FILE_OFFSET_BITS=64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
Cisco Systems
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)  

<table>
<thead>
<tr>
<th>SPECint2006</th>
<th>80.2</th>
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<tbody>
<tr>
<td>SPECint_base2006</td>
<td>77.1</td>
</tr>
</tbody>
</table>

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

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -qopt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div -auto-ilp32 -qopt-prefetch

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc -qopt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch -auto-p32

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)

456.hmmer: basepeak = yes

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2) -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -qopt-ra-region-strategy=block -Wl,-z,muldefs -L/sh10.2 -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32 -Wl,-z,muldefs -L/sh10.2 -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -Wl,-z,muldefs -L/sh10.2 -lsmartheap

Peak Other Flags

C benchmarks:

Continued on next page
Cisco Systems
Cisco UCS C240 M5 (Intel Xeon Gold 6152, 2.10GHz)

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<thead>
<tr>
<th>Specification</th>
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<td>SPECint_base2006</td>
<td>77.1</td>
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**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems

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

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### Peak Other Flags (Continued)

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:


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For other inquiries, please contact webmaster@spec.org.

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