Cisco Systems
Cisco UCS B260 M4 (Intel Xeon E7-8893 v2, 3.40 GHz)

| SPECint®2006 = | 57.5 |
| SPECint_base2006 = | 51.2 |

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

Hardware

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon E7-8893 v2</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>3400</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>12 cores, 2 chips, 6 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1.2 chip</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>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>37.5 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>256 GB (32 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL11)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 X 300 GB 15000 RPM SAS</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System:</td>
<td>Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.el6.x86_64</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 14.0.0.080 of Intel C++ Studio XE 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 V10.0</td>
</tr>
</tbody>
</table>

Test date: May-2014
Hardware Availability: May-2014
Cisco Systems
Cisco UCS B260 M4 (Intel Xeon E7-8893 v2, 3.40 GHz)

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SPECint_base2006 = 51.2

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

Test date: May-2014
Hardware Availability: May-2014
Software Availability: Sep-2013

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Ratio</td>
</tr>
<tr>
<td>400.perlbench</td>
<td>306</td>
<td>31.9</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>414</td>
<td>23.3</td>
</tr>
<tr>
<td>403.gcc</td>
<td>241</td>
<td>33.3</td>
</tr>
<tr>
<td>429.mcf</td>
<td>157</td>
<td>58.3</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>500</td>
<td>21.0</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>156</td>
<td>59.6</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>420</td>
<td>28.8</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>7.43</td>
<td>2790</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>645</td>
<td>34.3</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>160</td>
<td>39.0</td>
</tr>
<tr>
<td>473.astar</td>
<td>219</td>
<td>32.1</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>123</td>
<td>56.2</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
Intel HT Technology = Enabled
CPU performance set to HPC
Power Technology set to Custom
CPU Power State C6 set to Disabled
CPU Power State C1 Enhanced set to Disabled
Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
Sysinfo program /opt/cpu2006-1.4/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on specompcpu Sun May 4 23:31:41 2014

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) CPU E7-8893 v2 @ 3.40GHz
  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 : 6

Continued on next page
Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-8893 v2, 3.40 GHz)

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Platform Notes (Continued)

siblings : 12
physical 0: cores 3 4 5 6 10 11
physical 1: cores 3 4 5 6 10 11
cache size : 38400 KB

From /proc/meminfo
MemTotal: 264106280 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

uname -a:
Linux specompcpu 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 4 23:30

SPEC is set to: /opt/cpu2006-1.4
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext4 275G 51G 210G 20% /

Additional information from dmidecode:
BIOS Cisco Systems, Inc. EXM4-1.2.2.1.12.012920142034 01/29/2014
Memory:
32x 8 GB
32x 0xCE00 M393B1K70QB0-YK0 8 GB 1333 MHz 2 rank
16x NO DIMM NO DIMM

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "'/opt/cpu2006-1.4/libs/32:/opt/cpu2006-1.4/libs/64:/opt/cpu2006-1.4/sh"
OMP_NUM_THREADS = "24"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Continued on next page
Cisco Systems
Cisco UCS B260 M4 (Intel Xeon E7-8893 v2, 3.40 GHz)  

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**General Notes (Continued)**

Submitted by: "Sheshgiri I (shei)" <shei@cisco.com>  
Submitted: Wed May 28 03:16:44 EDT 2014  
Submission: cpu2006-20140505-29490.sub

**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:  
*-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32*

C++ benchmarks:  
*-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32  
-Wl,-z,muldefs -L/sh -lsmartheap64*

**Base Other Flags**

C benchmarks:  
*403.gcc: -Dalloca=_alloca*
Cisco Systems
Cisco UCS B260 M4 (Intel Xeon E7-8893 v2, 3.40 GHz)

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Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m64
  400.perlbench: icc -m32
  445.gobmk: icc -m32
  464.h264ref: icc -m32

C++ benchmarks (except as noted below):
  icpc -m32
  473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
  401.bzip2: -DSPEC_CPU_LP64
  403.gcc: -DSPEC_CPU_LP64
  429.mcf: -DSPEC_CPU_LP64
  456.hmmer: -DSPEC_CPU_LP64
  458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
  473.astar: -DSPEC_CPU_LP64
  483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:
  400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -opt-prefetch -ansi-alias
  401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
    -opt-prefetch -ansi-alias
  403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
    -opt-malloc-options=3 -auto-ilp32
  429.mcf: basepeak = yes
  445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
    -ansi-alias

Continued on next page
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Peak Optimization Flags (Continued)

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
          -ansi-alias

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
         -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
         -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
         -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
         -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
         -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
         -opt-ra-region-strategy=block
         -ansi-alias
         -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
         -Wl,-z,muldefs -L/sh -lsmartheap

Peak 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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revB.xml
## SPEC CINT2006 Result

**Cisco Systems**

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

Tested with SPEC CPU2006 v1.2.
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