## Cisco Systems

**Cisco UCS C460 M4 (Intel Xeon E7-4890 v2 @ 2.80 GHz)**

### SPECCompG_results

| Test Date: | Feb-2014 |
| Test Sponsor: | Cisco Systems |
| Tested By: | Cisco Systems |

### OMP2012 License: 9019

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong> Intel Xeon E7-4890 v2</td>
<td><strong>Operating System:</strong> Red Hat Enterprise Linux Server release 6.4</td>
</tr>
<tr>
<td><strong>CPU Characteristics:</strong> Intel Turbo Boost Technology up to 3.40 GHz</td>
<td><strong>Compiler:</strong> C/C++/Fortran: Version 14.0.1.106 of Intel Composer XE for Linux Build 20131008</td>
</tr>
<tr>
<td><strong>CPU MHz:</strong> 2800</td>
<td><strong>Auto Parallel:</strong> No</td>
</tr>
<tr>
<td><strong>CPU MHz Maximum:</strong> 3400</td>
<td><strong>File System:</strong> Linux ext4</td>
</tr>
<tr>
<td><strong>FPU:</strong> Integrated</td>
<td><strong>System State:</strong> Default</td>
</tr>
<tr>
<td><strong>CPU(s) enabled:</strong> 60 cores, 4 chips, 15 cores/chip, 2 threads/core</td>
<td><strong>Base Pointers:</strong> 64-bit</td>
</tr>
<tr>
<td><strong>CPU(s) orderable:</strong> 1,2,3,4 Chips</td>
<td><strong>Peak Pointers:</strong> 64-bit</td>
</tr>
<tr>
<td><strong>Primary Cache:</strong> 32 KB I+32 KB D on chip per core</td>
<td><strong>Other Software:</strong> Kernel 2.6.32-358.el6.x86_64</td>
</tr>
<tr>
<td><strong>Secondary Cache:</strong> 256 KB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td><strong>L3 Cache:</strong> 38400 KB I+D on chip per chip</td>
<td></td>
</tr>
<tr>
<td><strong>Other Cache:</strong> None</td>
<td></td>
</tr>
<tr>
<td><strong>Memory:</strong> 512 GB (64 x 8 GB 2Rx4 PC3-12800R-11, ECC, and CL11)</td>
<td></td>
</tr>
<tr>
<td><strong>Disk Subsystem:</strong> 1 x 600 GB SAS SATA 15K RPM</td>
<td></td>
</tr>
<tr>
<td><strong>Other Hardware:</strong> --</td>
<td></td>
</tr>
<tr>
<td><strong>Base Threads Run:</strong> 120</td>
<td></td>
</tr>
</tbody>
</table>

**Continued on next page**
Cisco Systems
Cisco UCS C460 M4 (Intel Xeon E7 - 4890 v2 @ 2.80 GHz)

SPEC OMPG2012 Result

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 17.9

OMP2012 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems
Minimum Peak Threads: --
Maximum Peak Threads: --

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>350.md</td>
<td>120</td>
<td>228</td>
<td>20.3</td>
<td>227</td>
<td>20.4</td>
<td>226</td>
<td>20.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>351.bwaves</td>
<td>120</td>
<td>207</td>
<td>18.0</td>
<td>207</td>
<td>17.8</td>
<td>208</td>
<td>18.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>352.nab</td>
<td>120</td>
<td>288</td>
<td>13.5</td>
<td>288</td>
<td>13.5</td>
<td>288</td>
<td>13.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>357.bt331</td>
<td>120</td>
<td>221</td>
<td>12.5</td>
<td>221</td>
<td>12.4</td>
<td>221</td>
<td>12.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>358.botsalgn</td>
<td>120</td>
<td>319</td>
<td>13.6</td>
<td>319</td>
<td>13.6</td>
<td>319</td>
<td>13.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>359.botsspar</td>
<td>120</td>
<td>519</td>
<td>10.1</td>
<td>520</td>
<td>10.1</td>
<td>521</td>
<td>10.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>360.lbcd</td>
<td>120</td>
<td>274</td>
<td>13.0</td>
<td>274</td>
<td>13.0</td>
<td>275</td>
<td>13.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>362.fma3d</td>
<td>120</td>
<td>322</td>
<td>11.8</td>
<td>322</td>
<td>11.8</td>
<td>322</td>
<td>11.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>363.swim</td>
<td>120</td>
<td>251</td>
<td>18.0</td>
<td>251</td>
<td>18.1</td>
<td>251</td>
<td>18.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>367.imagick</td>
<td>120</td>
<td>321</td>
<td>16.1</td>
<td>321</td>
<td>16.1</td>
<td>321</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>370.mgrid331</td>
<td>120</td>
<td>274</td>
<td>16.1</td>
<td>274</td>
<td>16.1</td>
<td>274</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>371.applu331</td>
<td>120</td>
<td>156</td>
<td>18.7</td>
<td>156</td>
<td>18.7</td>
<td>157</td>
<td>18.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>372.smithwa</td>
<td>120</td>
<td>178</td>
<td>13.0</td>
<td>178</td>
<td>13.0</td>
<td>176</td>
<td>13.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>376.kdtree</td>
<td>120</td>
<td>258</td>
<td>13.0</td>
<td>258</td>
<td>13.0</td>
<td>258</td>
<td>13.0</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.

Platform Notes

Sysinfo program /opt/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
r
running on localhost.localdomain Wed Feb 12 16:53:07 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/omp2012/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E7-4890 v2 @ 2.80GHz
4 "physical id"s (chips)
120 "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 : 15
siblings : 30
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
cache size : 38400 KB

Continued on next page
## Platform Notes (Continued)

From `/proc/meminfo`
- MemTotal: 529134384 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 localhost.localdomain 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 Feb 12 16:52

SPEC is set to: `/opt/omp2012`
- `/dev/sda2 Type Size Used Avail Use% Mounted on`
- `/dev/sda2 ext4 549G 30G 492G 6% /

Additional information from dmidecode:
- BIOS Cisco Systems, Inc. C460M4.1.5.5.14.020620141111 02/06/2014
- Memory:
  - 64x 8 GB
  - 64x 0xCE00 M393B1K70QB0-YK0 8 GB 1333 MHz 2 rank
  - 32x NO DIMM NO DIMM

(End of data from sysinfo program)

## General Notes

========================================================================
BIOS settings notes:
- Intel Turbo Boost Technology (Turbo) : Enabled
- CPU Performance set to HPC
- Frequency Floor set to Disabled
- Power Technology set to Custom
- CPU C6 Report set to Enabled
- Enhanced Halt State (C1E) set to Disabled
- Package C State Limit set to C0/C1 State
- Memory RAS Configuration set to Maximum Performance
- DRAM Clock Throttling set to Balanced
- echo never > /sys/kernel/mm/redhat_transparent_hugepage/enabled
========================================================================

General OMP Library Settings
- `KMP_LIBRARY=throughput`
- `KMP_STACKSIZE=190M`

Continued on next page
Cisco Systems
Cisco UCS C460 M4 (Intel Xeon E7 - 4890 v2 @ 2.80 GHz)

<table>
<thead>
<tr>
<th>OMP2012 license:</th>
<th>9019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Cisco Systems</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Cisco Systems</td>
</tr>
</tbody>
</table>

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 17.9

General Notes (Continued)

- KMP_BLOCKTIME=infinite
- OMP_DYNAMIC=FALSE
- OMP_NESTED=FALSE
- OMP_SCHEDULE=static

General base OMP Library Settings
- KMP_AFFINITY=compact,0,granularity=fine

Base Compiler Invocation

C benchmarks:
- icc

C++ benchmarks:
- icpc

Fortran benchmarks:
- ifort

Base Portability Flags

- 350.md: -FR
- 357.bt331: -mcmodel=medium
- 363.swim: -mcmodel=medium
- 367.imagick: -std=c99

Base Optimization Flags

C benchmarks:
- -O2 -openmp -ipo -xAVX -ansi-alias

C++ benchmarks:
- -O2 -openmp -ipo -xAVX -ansi-alias

Fortran benchmarks:
- -O2 -openmp -ipo -xAVX -align array64byte

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130910.html
Cisco Systems

Cisco UCS C460 M4 (Intel Xeon E7 - 4890 v2 @ 2.80 GHz)

<table>
<thead>
<tr>
<th>SPEC OMPG2012 Result</th>
<th>SPECompG_peak2012 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEC OMPG2012 Result</td>
<td>SPECompG_base2012 = 17.9</td>
</tr>
</tbody>
</table>

| OMP2012 license:       | 9019                        |
| Test sponsor:          | Cisco Systems               |
| Tested by:             | Cisco Systems               |

You can also download the XML flags source by saving the following link:

http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130910.xml

SPEC is a registered trademark 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 OMP2012 v1.0.
Originally published on 28 March 2014.