



# SPEC® OMPG2012 Result

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## Cisco Systems

Cisco UCS C460 M4 (Intel Xeon E7-8890 v4, 2.20 GHz)

SPECompG\_peak2012 = Not Run

SPECompG\_base2012 = 26.0

OMP2012 license:9019

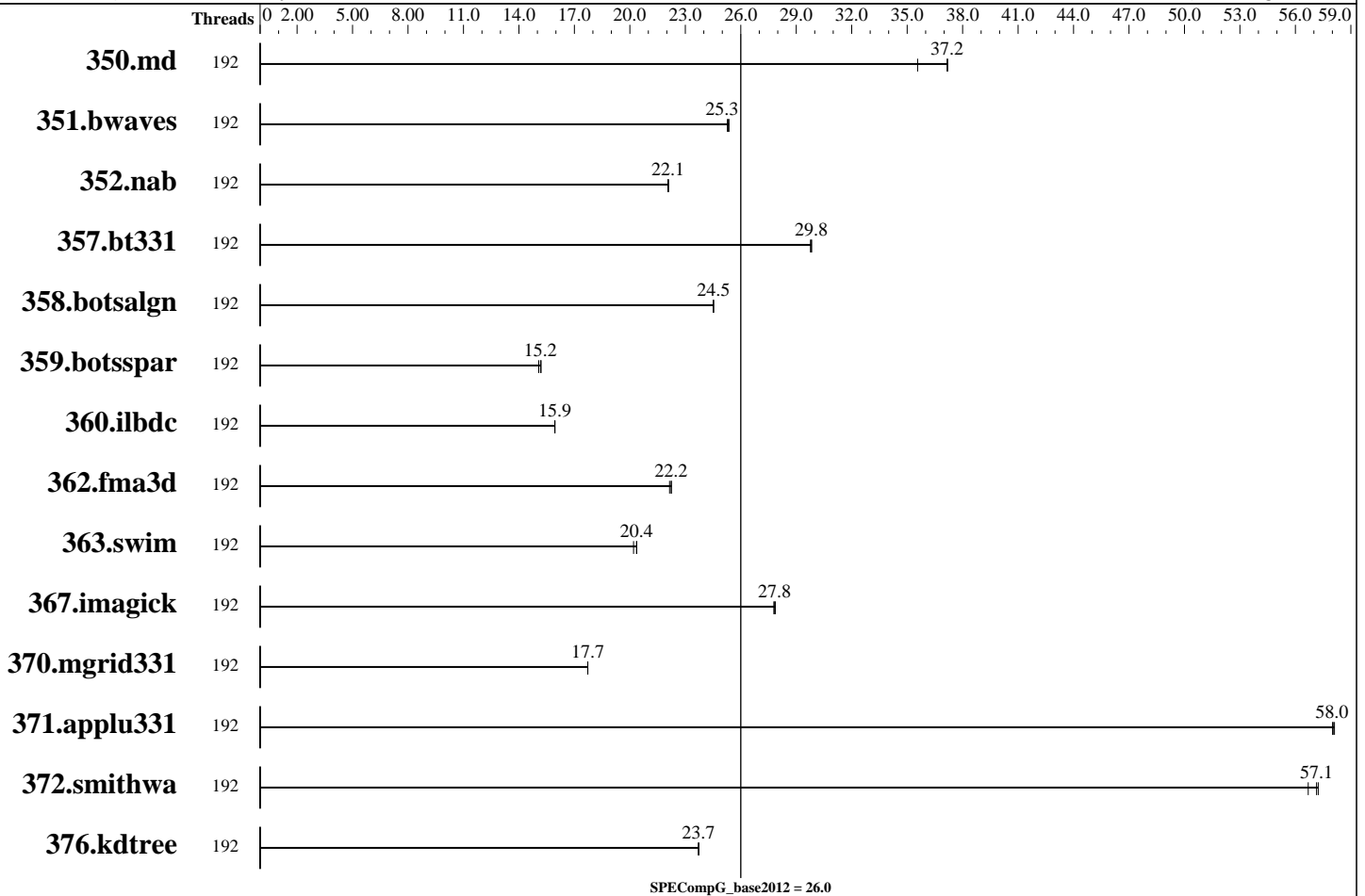
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: May-2016

Hardware Availability: Jul-2016

Software Availability: Aug-2015



### Hardware

CPU Name: Intel Xeon E7-8890 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz  
 CPU MHz: 2200  
 CPU MHz Maximum: 3400  
 FPU: Integrated  
 CPU(s) enabled: 96 cores, 4 chips, 24 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 Chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 60 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512 GB (32 x 16 GB 2Rx4 PC4-2400T-R, running at 1600 MHz)  
 Disk Subsystem: 1 X 300 GB SAS, 15K RPM  
 Other Hardware: None  
 Base Threads Run: 192

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### Software

Operating System: Red Hat Enterprise Linux 6.7 (Santiago), Kernel 2.6.32-573.el6.x86\_64  
 Compiler: C/C++/Fortran: Version 16.0.0.109 of Intel Composer for Linux Build 20150815  
 Auto Parallel: No  
 File System: Linux ext3  
 System State: Default  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other Software: None



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Minimum Peak Threads: --  
Maximum Peak Threads: --

## Results Table

Benchmark	Base								Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
350.md	192	124	37.2	130	35.6	<u>125</u>	<u>37.2</u>									
351.bwaves	192	179	25.4	<u>179</u>	<u>25.3</u>	179	25.3									
352.nab	192	<u>176</u>	<u>22.1</u>	176	22.1	176	22.1									
357.bt331	192	159	29.8	159	29.8	<u>159</u>	<u>29.8</u>									
358.botsalgn	192	177	24.5	<u>177</u>	<u>24.5</u>	177	24.5									
359.botsspar	192	<u>346</u>	<u>15.2</u>	345	15.2	348	15.1									
360.ilbdc	192	223	15.9	<u>223</u>	<u>15.9</u>	223	15.9									
362.fma3d	192	171	22.2	172	22.1	<u>171</u>	<u>22.2</u>									
363.swim	192	<u>222</u>	<u>20.4</u>	224	20.2	222	20.4									
367.imagick	192	<u>253</u>	<u>27.8</u>	252	27.9	253	27.8									
370.mgrid331	192	<u>249</u>	<u>17.7</u>	249	17.7	249	17.7									
371.applu331	192	104	58.0	<u>104</u>	<u>58.0</u>	104	58.1									
372.smithwa	192	93.6	57.2	<u>93.8</u>	<u>57.1</u>	94.5	56.7									
376.kdtree	192	<u>190</u>	<u>23.7</u>	190	23.7	190	23.7									

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 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963ale67685e50647
running on rhel67 Sat May 7 17:19:06 2016
```

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 E7-8890 v4 @ 2.20GHz
4 "physical id"s (chips)
192 "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 : 24
siblings : 48
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
```

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### Platform Notes (Continued)

```

27 28 29
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
cache size : 61440 KB

From /proc/meminfo
MemTotal:          529124784 kB
HugePages_Total:   0
Hugepagesize:      2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.7 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.7 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.7 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux rhel67 2.6.32-573.el6.x86_64 #1 SMP Wed Jul 1 18:23:37 EDT 2015 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 May 7 11:54

SPEC is set to: /opt/omp2012
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdb2       ext4  225G   64G  150G  30% /

Additional information from dmidecode:
BIOS Cisco Systems, Inc. C460M4.2.0.11.30.032820161452 03/28/2016
Memory:
32x 16 GB
32x 0xCE00 M393A2G40EB1-CRC 16 GB 1600 MHz 2 rank
64x NO DIMM NO DIMM

(End of data from sysinfo program)

```

### General Notes

```

=====
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
BIOS settings notes:
Intel Turbo Boost Technology (Turbo) : Enabled
CPU performance set to Enterprise
Processor Power State set to C0/C1
Power Technology set to Performance
Memory RAS configuration set to Maximum Performance
Energy Performance BIAS setting set to OS
Memory Power Saving Mode set to Disabled
QPI Snooper Mode set to Cluster-on-Die

```

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## General Notes (Continued)

General OMP Library Settings

ENV\_KMP\_LIBRARY=turnaround

ENV\_OMP\_SCHEDULE=static

ENV\_KMP\_BLOCKTIME=200

ENV\_KMP\_STACKSIZE=702M

ENV\_OMP\_DYNAMIC=FALSE

ENV\_OMP\_NESTED=FALSE

=====

General base OMP Library Settings

ENV\_KMP\_AFFINITY=compact,1

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias

C++ benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias

Fortran benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -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-linux64.20140219.html>



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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20140219.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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