SPEC® OMPG2012 Result

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Cisco Systems

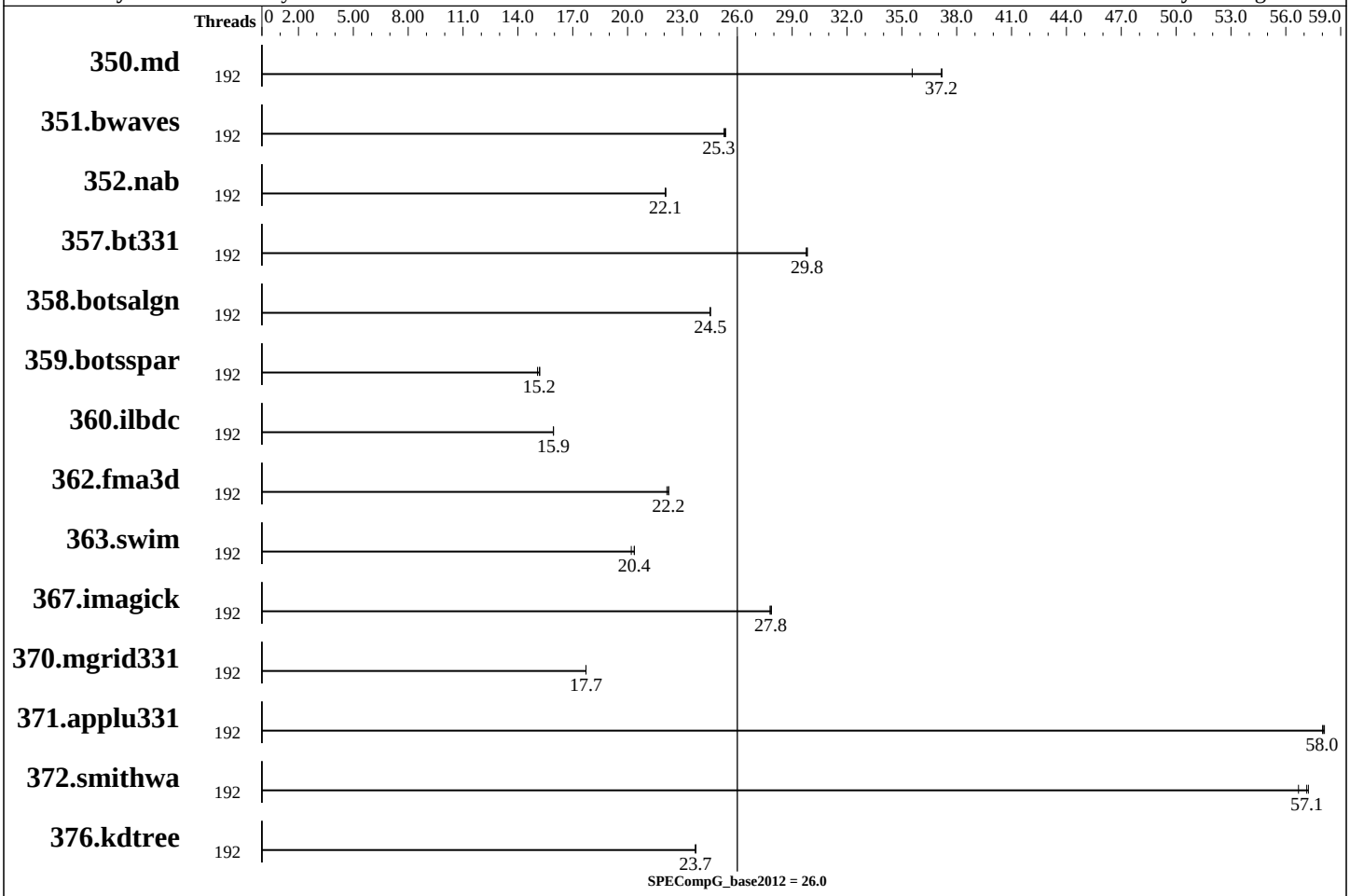
Cisco UCS C460 M4 (Intel Xeon E7-8890 v4, 2.20 GHz)

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	**125**	**37.2**							
351.bwaves	192	179	25.4	**179**	**25.3**	179	25.3							
352.nab	192	**176**	**22.1**	176	22.1	176	22.1							
357.bt331	192	159	29.8	159	29.8	**159**	**29.8**							
358.botsalgn	192	177	24.5	**177**	**24.5**	177	24.5							
359.botsspar	192	**346**	**15.2**	345	15.2	348	15.1							
360.ilbdc	192	223	15.9	**223**	**15.9**	223	15.9							
362.fma3d	192	171	22.2	172	22.1	**171**	**22.2**							
363.swim	192	**222**	**20.4**	224	20.2	222	20.4							
367.imagick	192	**253**	**27.8**	252	27.9	253	27.8							
370.mgrid331	192	**249**	**17.7**	249	17.7	249	17.7							
371.applu331	192	104	58.0	**104**	**58.0**	104	58.1							
372.smithwa	192	93.6	57.2	**93.8**	**57.1**	94.5	56.7							
376.kdtree	192	**190**	**23.7**	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 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
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 Snoop 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: -mcmodel=medium
363.swim: -mcmodel=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

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.

Tested with SPEC OMP2012 v1.0.
Report generated on Mon Jun 6 10:31:30 2016 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 6 June 2016.