SPEC® OMPG2012 Result

Cisco Systems

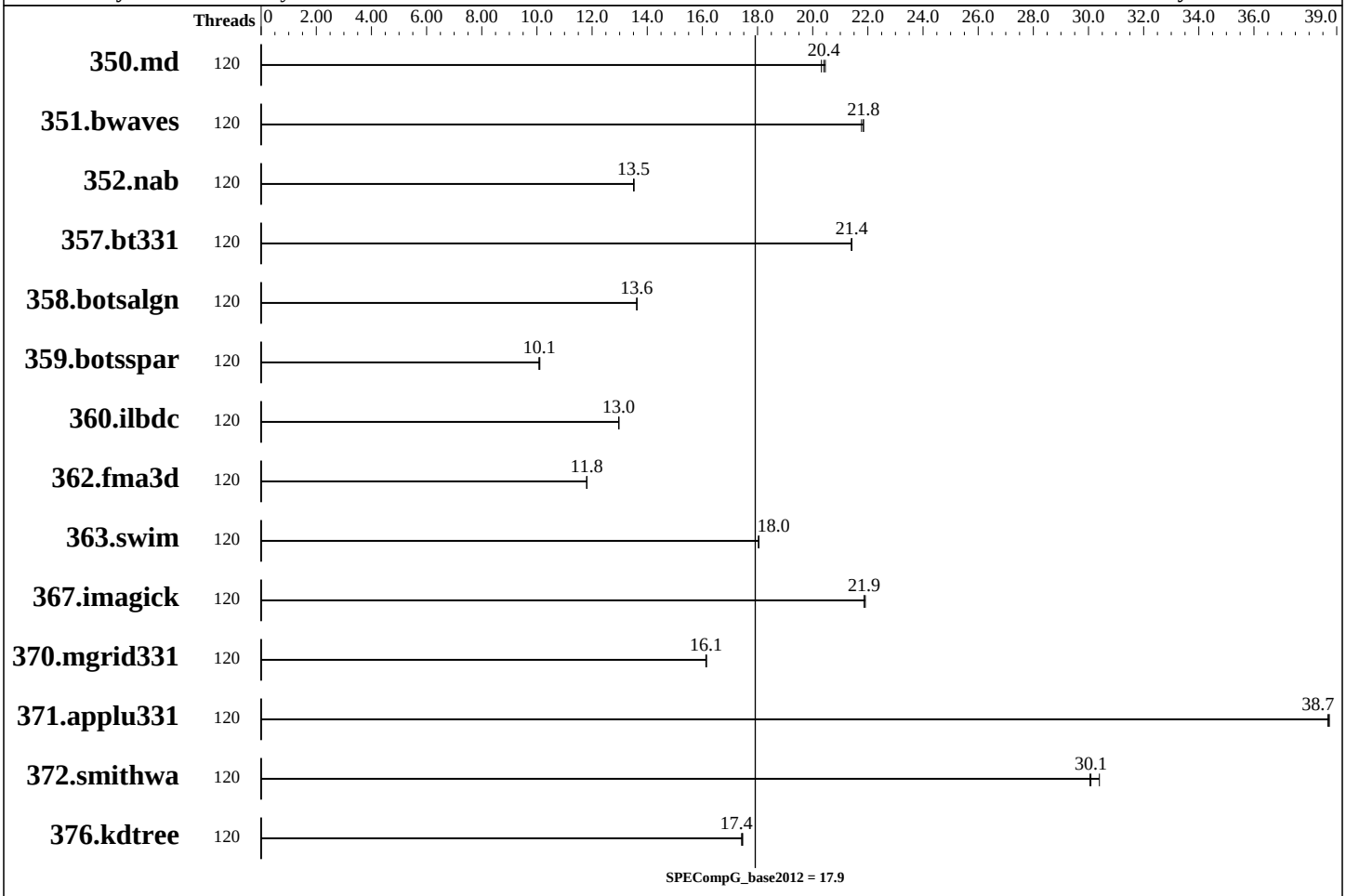
Cisco UCS C460 M4 (Intel Xeon E7 - 4890 v2 @ 2.80 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 17.9

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

Test date: Feb-2014
Hardware Availability: Apr-2014
Software Availability: Oct-2013



Hardware

CPU Name:	Intel Xeon E7-4890 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2800
CPU MHz Maximum:	3400
FPU:	Integrated
CPU(s) enabled:	60 cores, 4 chips, 15 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,3,4 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:	38400 KB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (64 x 8 GB 2Rx4 PC3-12800R-11, ECC, and CL11)
Disk Subsystem:	1 x 600 GB SAS SATA 10K RPM
Other Hardware:	--
Base Threads Run:	120

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Software

Operating System:	Red Hat Enterprise Linux Server release 6.4
Compiler:	C/C++/Fortran: Version 14.0.1.106 of Intel Composer XE for Linux Build 20131008
Auto Parallel:	No
File System:	Linux ext4
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	120	228	20.3	**227**	**20.4**	226	20.5							
351.bwaves	120	207	21.8	**207**	**21.8**	208	21.8							
352.nab	120	288	13.5	**288**	**13.5**	288	13.5							
357.bt331	120	221	21.4	222	21.4	**221**	**21.4**							
358.botsalgn	120	**319**	**13.6**	319	13.6	319	13.6							
359.botsspar	120	519	10.1	**520**	**10.1**	521	10.1							
360.ilbdc	120	**274**	**13.0**	274	13.0	275	13.0							
362.fma3d	120	322	11.8	**322**	**11.8**	322	11.8							
363.swim	120	**251**	**18.0**	251	18.1	251	18.0							
367.imagick	120	321	21.9	321	21.9	**321**	**21.9**							
370.mgrid331	120	274	16.1	274	16.1	**274**	**16.1**							
371.applu331	120	156	38.7	**156**	**38.7**	157	38.7							
372.smithwa	120	**178**	**30.1**	178	30.1	176	30.4							
376.kdtree	120	258	17.5	258	17.4	**258**	**17.4**							

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 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
```

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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)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

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
   Filesystem     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
  ENV_KMP_LIBRARY=throughput
  ENV_KMP_STACKSIZE=190M
```

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General Notes (Continued)

```
    ENV_KMP_BLOCKTIME=infinite
    ENV_OMP_DYNAMIC=FALSE
    ENV_OMP_NESTED=FALSE
    ENV_OMP_SCHEDULE=static

  ============================================================================
  General base OMP Library Settings
    ENV_KMP_AFFINITY=compact,0,granularity=fine

  ============================================================================
  General peak OMP Library Settings
    ENV_KMP_AFFINITY=compact,0,granularity=fine

  ============================================================================
  Per benchmark peak OMP Library Settings

  ============================================================================
  351.bwaves:peak:
    ENV_KMP_AFFINITY=compact,1,granularity=fine
    ENV_OMP_SCHEDULE=static,1

  ============================================================================
  359.botsspar:peak:
  362.fma3d:peak:
    ENV_KMP_AFFINITY=compact,1,granularity=fine
    ENV_OMP_SCHEDULE=guided

  ============================================================================
    ENV_OMP_SCHEDULE=static,1

  ============================================================================
  363.swim:peak:
    ENV_KMP_AFFINITY=compact,1,granularity=fine

  ============================================================================
  370.mgrid331:peak:
    ENV_KMP_AFFINITY=compact,1,granularity=fine

  ============================================================================
  372.smithwa:peak:
    ENV_KMP_AFFINITY=compact,1,granularity=fine
```

Base Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

Continued on next page

Base Compiler Invocation (Continued)

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

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

Tested with SPEC OMP2012 v1.0.
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