SPEC® OMPG2012 Result

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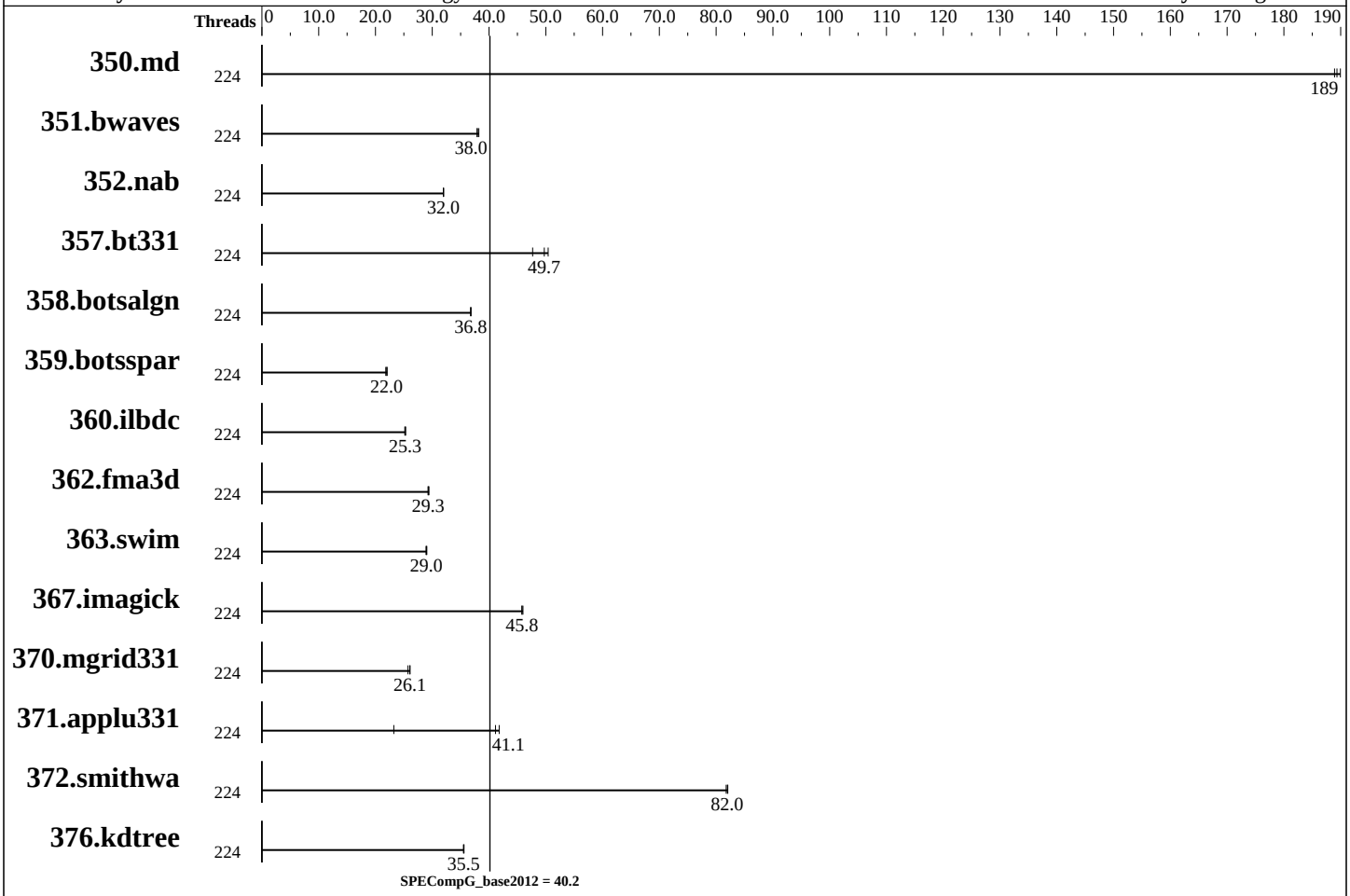
Lenovo Global Technology ThinkSystem SR950

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 40.2

OMP2012 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test date: Sep-2017
Hardware Availability: Aug-2017
Software Availability: Aug-2017



Hardware

CPU Name:	Intel Xeon Platinum 8180
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2500
CPU MHz Maximum:	3800
FPU:	Integrated
CPU(s) enabled:	112 cores, 4 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable:	2,4,8 Chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	38.5 MB I+D on chip per chip
Other Cache:	None
Memory:	768 GB (48 x 16 GB 2Rx8 PC4-2666V)
Disk Subsystem:	ThinkSystem M.2 32GB SSD
Other Hardware:	None
Base Threads Run:	224
Minimum Peak Threads:	--

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Software

Operating System:	Red Hat Enterprise Linux Server release 7.3, Kernel 3.10.0-514.el7.x86_64
Compiler:	C/C++/Fortran: Version 18.0.0.128 of Intel Composer XE for Linux Build 20170811
Auto Parallel:	No
File System:	xfs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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Maximum Peak Threads: --

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	224	24.4	190	24.5	189	**24.5**	**189**							
351.bwaves	224	119	38.2	**119**	**38.0**	120	37.9							
352.nab	224	**122**	**32.0**	122	32.0	122	32.0							
357.bt331	224	99.4	47.7	94.0	50.4	**95.3**	**49.7**							
358.botsalgn	224	118	36.8	118	36.8	**118**	**36.8**							
359.botsspar	224	**239**	**22.0**	238	22.1	241	21.8							
360.ilbdc	224	141	25.2	141	25.3	**141**	**25.3**							
362.fma3d	224	129	29.4	130	29.3	**130**	**29.3**							
363.swim	224	157	28.9	**156**	**29.0**	156	29.0							
367.imagick	224	153	46.0	154	45.8	**153**	**45.8**							
370.mgrid331	224	169	26.1	**170**	**26.1**	172	25.7							
371.applu331	224	**147**	**41.1**	145	41.8	261	23.2							
372.smithwa	224	**65.4**	**82.0**	65.3	82.1	65.6	81.8							
376.kdtree	224	126	35.6	**127**	**35.5**	127	35.5							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
Sysinfo program /home/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on tvan.labs.lenovo.com Sat Sep 16 23:06:27 2017

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) Platinum 8180 CPU @ 2.50GHz
      4 "physical id"s (chips)
      224 "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 : 28
      siblings  : 56
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
```

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Platform Notes (Continued)

```
        physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
        25 26 27 28 29 30
     cache size : 39424 KB

  From /proc/meminfo
     MemTotal:       791977888 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  From /etc/*release* /etc/*version*
     os-release:
        NAME="Red Hat Enterprise Linux Server"
        VERSION="7.3 (Maipo)"
        ID="rhel"
        ID_LIKE="fedora"
        VERSION_ID="7.3"
        PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
        ANSI_COLOR="0;31"
        CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
     redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
     system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

  uname -a:
     Linux tvan.labs.lenovo.com 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13
     EDT 2016 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Sep 15 22:02

  SPEC is set to: /home/omp2012
     Filesystem            Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-root xfs    26G   20G  6.3G  76% /

  Additional information from dmidecode:
    BIOS Lenovo -[PSE105V-1.00]- 08/11/2017
    Memory:
     48x NO DIMM NO DIMM
     48x Samsung M393A2K43BB1-CTD 16 GB 2666 MHz 2 rank

  (End of data from sysinfo program)
```

General Notes

```
  ------------------------------------------------------------------------
  General base OMP Library Settings
    ENV_KMP_AFFINITY=compact,1

  ------------------------------------------------------------------------
  General OMP Library Settings
    KMP_LIBRARY=turnaround
    KMP_STACKSIZE=16G
```

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General Notes (Continued)

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

  ============================================================================
  BIOS setting notes:
  Operating Mode set to Maximum Performance Mode
  ============================================================================
```

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 -qopenmp -ipo -xHOST -ansi-alias

C++ benchmarks:
-O2 -qopenmp -ipo -xHOST -ansi-alias

Fortran benchmarks:
-O2 -qopenmp -ipo -xHOST -align array64byte

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.html
http://www.spec.org/omp2012/flags/lenovo.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.xml
http://www.spec.org/omp2012/flags/lenovo.xml

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

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