SPEC® OMPG2012 Result

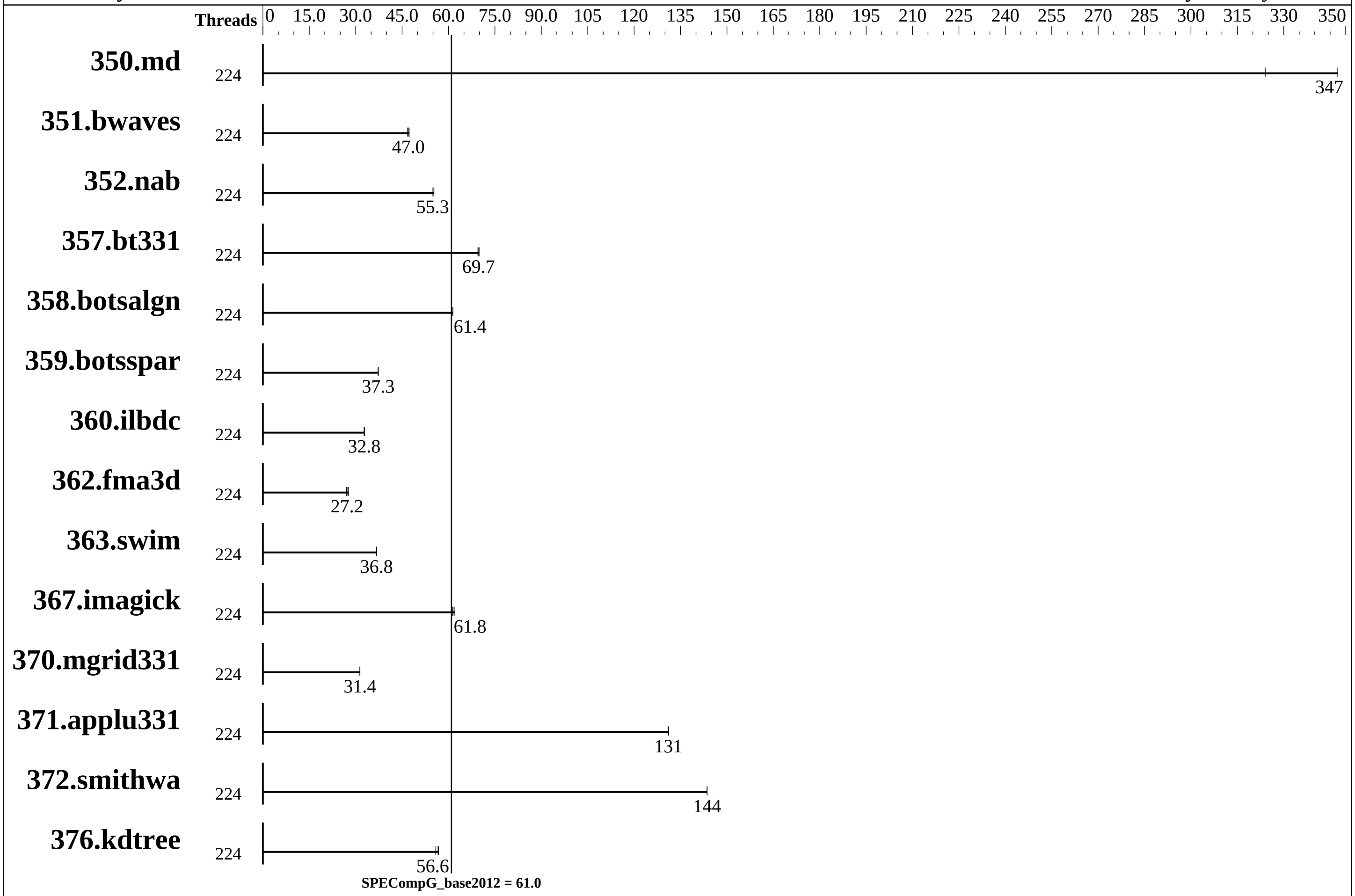
xFusion

FusionServer 2288H V7 (Intel Xeon Platinum 8480+, 2.0 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 61.0

OMP2012 license:	6488	**Test date:**	Dec-2022
Test sponsor:	xFusion	**Hardware Availability:**	Jan-2023
Tested by:	xFusion	**Software Availability:**	May-2022



Hardware

CPU Name:	Intel Xeon Platinum 8480+
CPU Characteristics:	Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz:	2000
CPU MHz Maximum:	3800
FPU:	Integrated
CPU(s) enabled:	112 cores, 2 chips, 56 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 Chips
Primary Cache:	32 KB I + 48 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per core
L3 Cache:	105 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)
Disk Subsystem:	1 x 1920 GB SATA SSD
Other Hardware:	--
Base Threads Run:	224
Minimum Peak Threads:	--

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Software

Operating System:	Red Hat Enterprise Linux Server release 9.0
Compiler:	C/C++: Version 2021.6.0.0 of Intel oneAPI DPC++/C++ Compiler for Linux Build 20220226; Fortran: Version 2021.6.0.0 of Intel Fortran Compiler for Linux Build 20220226;
Auto Parallel:	No
File System:	Linux ext4
System State:	Run Level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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Maximum Peak Threads: --

Results Table

	Base							Peak						
Benchmark	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	224	14.3	324	13.3	347	**13.3**	**347**							
351.bwaves	224	96.9	46.8	**96.3**	**47.0**	95.8	47.3							
352.nab	224	70.3	55.3	70.8	54.9	**70.4**	**55.3**							
357.bt331	224	67.8	69.9	68.2	69.5	**68.0**	**69.7**							
358.botsalgn	224	70.9	61.4	**70.9**	**61.4**	70.9	61.4							
359.botsspar	224	**141**	**37.3**	141	37.3	141	37.2							
360.ilbdc	224	108	32.8	**109**	**32.8**	109	32.7							
362.fma3d	224	137	27.7	140	27.0	**140**	**27.2**							
363.swim	224	**123**	**36.8**	123	36.7	123	36.8							
367.imagick	224	113	62.1	115	61.4	**114**	**61.8**							
370.mgrid331	224	141	31.3	141	31.4	**141**	**31.4**							
371.applu331	224	46.3	131	**46.2**	**131**	46.2	131							
372.smithwa	224	37.3	144	**37.3**	**144**	37.3	144							
376.kdtree	224	80.5	55.9	**79.5**	**56.6**	79.3	56.8							

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

Platform Notes

```
Sysinfo program /home/specomp/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on localhost.localdomain Tue Dec 13 22:02:51 2022

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 8480+
      2 "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 : 56
      siblings  : 112
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
      22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
      47 48 49 50 51 52 53 54 55
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
      22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
      47 48 49 50 51 52 53 54 55
```

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Platform Notes (Continued)

```
       cache size : 107520 KB

    From /proc/meminfo
       MemTotal:       527415832 kB
       HugePages_Total:       0
       Hugepagesize:       2048 kB

    From /etc/*release* /etc/*version*
       os-release:
          NAME="Red Hat Enterprise Linux"
          VERSION="9.0 (Plow)"
          ID="rhel"
          ID_LIKE="fedora"
          VERSION_ID="9.0"
          PLATFORM_ID="platform:el9"
          PRETTY_NAME="Red Hat Enterprise Linux 9.0 (Plow)"
          ANSI_COLOR="0;31"
       redhat-release: Red Hat Enterprise Linux release 9.0 (Plow)
       system-release: Red Hat Enterprise Linux release 9.0 (Plow)
       system-release-cpe: cpe:/o:redhat:enterprise_linux:9::baseos

    uname -a:
       Linux localhost.localdomain 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu
       Apr 14 12:42:38 EDT 2022 x86_64 x86_64 x86_64 GNU/Linux

    run-level 3 Dec 13 21:23

    SPEC is set to: /home/specomp
       Filesystem             Type  Size  Used Avail Use% Mounted on
       /dev/mapper/rhel-home xfs   1.7T   70G  1.7T   5% /home
    Additional information from dmidecode:

       Warning: Use caution when you interpret this section. The 'dmidecode' program
       reads system data which is "intended to allow hardware to be accurately
       determined", but the intent may not be met, as there are frequent changes to
       hardware, firmware, and the "DMTF SMBIOS" standard.

      BIOS XFUSION 2.00.35 11/30/2022
      Memory:
       16x Samsung M321R4GA3BB6-CQKDG 32 GB 2 rank 4800 MT/s

    (End of data from sysinfo program)

    (End of data from sysinfo program)
```

General Notes

```
    ========================================================================
    General base OMP Library Settingsï …
      ENV_KMP_AFFINITY=compact,1
```

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General Notes (Continued)

```
BIOS settings notes:
General peak OMP Library Settings
  ENV_KMP_AFFINITY=compact,0,verbose

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

==========================================================================
System settings notes:
  Intel Turbo Boost Technology (Turbo)  : Disabled

==========================================================================
General OMP Library Settings
  KMP_LIBRARY=turnaround
  KMP_STACKSIZE=292M
  KMP_BLOCKTIME=infinite
  OMP_DYNAMIC=FALSE
  OMP_NESTED=FALSE
  OMP_SCHEDULE=static

Spectre and Meltdown
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.
==========================================================================
351.bwaves:peak:
  ENV_KMP_AFFINITY=compact,1,verbose

==========================================================================
359.botsspar:peak:
  ENV_KMP_AFFINITY=compact,1,verbose

==========================================================================
363.swim:peak:
  ENV_KMP_AFFINITY=compact,1,verbose

==========================================================================
367.imagick:peak:
  ENV_KMP_AFFINITY=compact,1,verbose

==========================================================================
370.mgrid331:peak:
  ENV_KMP_AFFINITY=compact,1,verbose

==========================================================================
370.mgrid331:peak:
```

Base Compiler Invocation

C benchmarks:
 icx

C++ benchmarks:
 icpx

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:
 -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div -no-prec-sqrt -ipo -L/usr/local/lib -Wl,--rpath=/usr/local/lib -ljemalloc

C++ benchmarks:
 -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div -no-prec-sqrt -ipo -L/usr/local/lib -Wl,--rpath=/usr/local/lib -ljemalloc

Fortran benchmarks:
 -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div -no-prec-sqrt -ipo -L/usr/local/lib -Wl,--rpath=/usr/local/lib -ljemalloc -align all

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Intel-ic19-linux64.20230111.html
http://www.spec.org/omp2012/flags/xFusion-Platform-Settings-SPR-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Intel-ic19-linux64.20230111.xml
http://www.spec.org/omp2012/flags/xFusion-Platform-Settings-SPR-V1.0.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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