SPEC® OMPG2012 Result

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xFusion

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

$SPECompG\_peak2012 =$ Not Run

$SPECompG\_base2012 =$ 61.0

OMP2012 license: 6488	
Test sponsor: xFusion	
Tested by: xFusion	

Test date: Dec-2022
Hardware Availability: Jan-2023
Software Availability: May-2022

Threads

Benchmark	Threads	Value
350.md	224	347
351.bwaves	224	47.0
352.nab	224	55.3
357.bt331	224	69.7
358.botsalgn	224	61.4
359.botsspar	224	37.3
360.ilbdc	224	32.8
362.fma3d	224	27.2
363.swim	224	36.8
367.imagick	224	61.8
370.mgrid331	224	31.4
371.applu331	224	131
372.smithwa	224	144
376.kdtree	224	56.6

SPECompG_base2012 = 61.0

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:	--

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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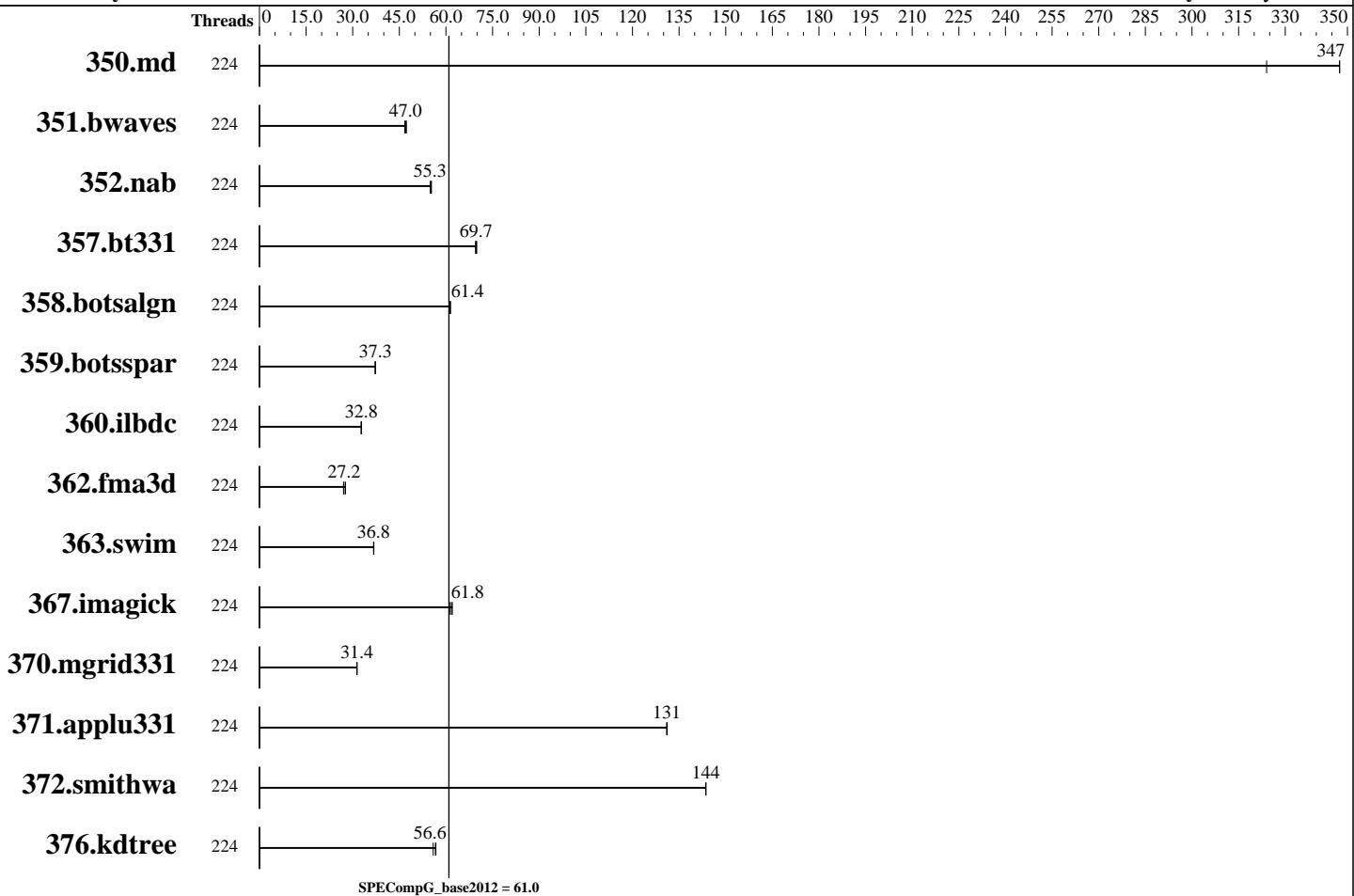
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Maximum Peak Threads: --

Results Table

Benchmark	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
			Base							Peak				
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 Settingsï¼š
  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:
```

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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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