



SPEC® OMPG2012 Result

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xFusion

FusionServer 2288H V7 (Intel Xeon Platinum 8490H,
1.90 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 61.3

OMP2012 license:6488

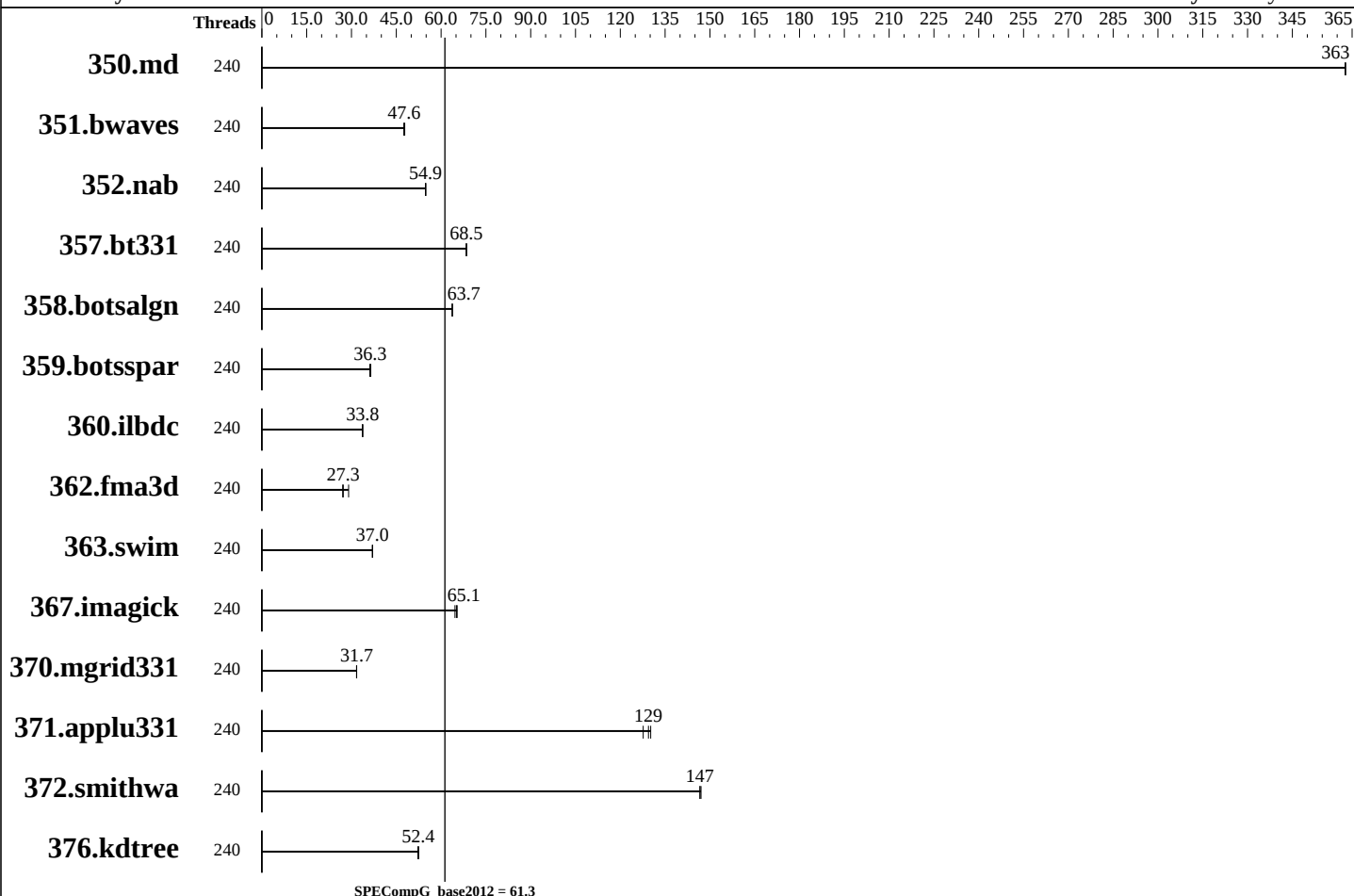
Test sponsor: xFusion

Tested by: xFusion

Test date: Dec-2022

Hardware Availability: Jan-2023

Software Availability: May-2022



Hardware

CPU Name: Intel Xeon Platinum 8490H
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 1900
CPU MHz Maximum: 3500
FPU: Integrated
CPU(s) enabled: 120 cores, 2 chips, 60 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: 112.5 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: 240
Minimum Peak Threads: --

Continued on next page

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

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	240	<u>12.8</u>	<u>363</u>	12.8	363	12.8	363							
351.bwaves	240	95.2	47.6	<u>95.2</u>	<u>47.6</u>	94.7	47.8							
352.nab	240	<u>70.9</u>	<u>54.9</u>	70.9	54.9	71.0	54.8							
357.bt331	240	<u>69.2</u>	<u>68.5</u>	69.2	68.5	69.3	68.4							
358.botsalgn	240	<u>68.2</u>	<u>63.7</u>	68.2	63.7	68.2	63.7							
359.botsspar	240	144	36.5	<u>145</u>	<u>36.3</u>	145	36.1							
360.ilbdc	240	106	33.6	<u>105</u>	<u>33.8</u>	105	33.8							
362.fma3d	240	131	29.0	<u>139</u>	<u>27.3</u>	140	27.1							
363.swim	240	<u>122</u>	<u>37.0</u>	122	37.0	122	37.0							
367.imagick	240	108	65.4	<u>108</u>	<u>65.1</u>	109	64.6							
370.mgrid331	240	<u>139</u>	<u>31.7</u>	139	31.7	139	31.7							
371.applu331	240	46.6	130	47.5	128	<u>46.8</u>	<u>129</u>							
372.smithwa	240	36.5	147	<u>36.5</u>	<u>147</u>	36.5	147							
376.kdtree	240	86.1	52.3	<u>85.9</u>	<u>52.4</u>	85.8	52.5							

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 Wed Dec 7 05:02:40 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 8490H
 2 "physical id"s (chips)
240 "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 : 60
siblings  : 120
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 56 57 58 59
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 56 57 58 59

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Platform Notes (Continued)

cache size : 115200 KB

From /proc/meminfo

MemTotal: 527412440 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 6 21:10

SPEC is set to: /home/specomp

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	1.7T	68G	1.7T	4%	/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 Settings

ENV_KMP_AFFINITY=compact,1

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General Notes (Continued)

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

C++ benchmarks:
-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div
-no-prec-sqrt -ipo

Fortran benchmarks:
-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div
-no-prec-sqrt -ipo -align all

The flags files that were used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/Intel-ic19-linux64.20210507.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-linux64.20210507.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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