



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

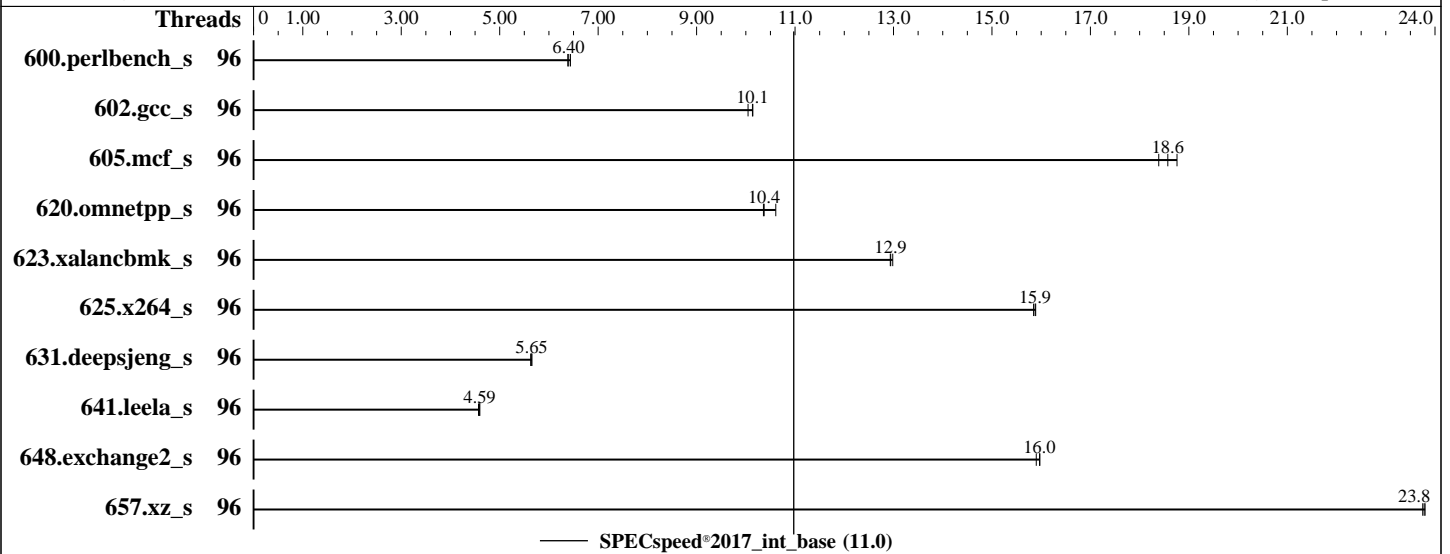
SPECspeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6488  
Test Sponsor: xFusion  
Tested by: xFusion

Test Date: Jun-2022  
Hardware Availability: Sep-2020  
Software Availability: Sep-2021



### Hardware

CPU Name: Intel Xeon Gold 6330H  
 Max MHz: 3700  
 Nominal: 2000  
 Enabled: 96 cores, 4 chips  
 Orderable: 2,4 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 33 MB I+D on chip per chip  
 Other: None  
 Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-3200AA-R, running at 2933)  
 Storage: 1 x 960 GB SATA SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux release 8.3 (Ootpa) 4.18.0-240.el8.x86\_64  
 Compiler: C/C++: Version 2021.4.0 of Intel oneAPI DPC++/C++ Compiler Build 20210924 for Linux;  
 Fortran: Version 2021.4.0 of Intel Fortran Compiler Classic Build 20210910 for Linux  
 Parallel: Yes  
 Firmware: Version 0.87 Released May-2022  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6488  
Test Sponsor: xFusion  
Tested by: xFusion

Test Date: Jun-2022  
Hardware Availability: Sep-2020  
Software Availability: Sep-2021

## Results Table

Benchmark	Base								Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
600.perlbench_s	96	278	6.38	276	6.44	<b>277</b>	<b>6.40</b>									
602.gcc_s	96	<b>393</b>	<b>10.1</b>	393	10.1	396	10.0									
605.mcf_s	96	252	18.8	257	18.4	<b>254</b>	<b>18.6</b>									
620.omnetpp_s	96	154	10.6	<b>157</b>	<b>10.4</b>	157	10.4									
623.xalancbmk_s	96	<b>109</b>	<b>12.9</b>	110	12.9	109	13.0									
625.x264_s	96	111	15.9	111	15.8	<b>111</b>	<b>15.9</b>									
631.deepsjeng_s	96	254	5.65	255	5.63	<b>254</b>	<b>5.65</b>									
641.leela_s	96	<b>371</b>	<b>4.59</b>	373	4.57	371	4.59									
648.exchange2_s	96	185	15.9	184	16.0	<b>184</b>	<b>16.0</b>									
657.xz_s	96	<b>260</b>	<b>23.8</b>	260	23.8	260	23.8									

SPECspeed®2017\_int\_base = 11.0

SPECspeed®2017\_int\_peak = Not Run

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

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact"  
LD\_LIBRARY\_PATH = "/spec20214/lib/intel64:/spec20214/je5.0.1-64"  
MALLOCONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using Red Hat Enterprise Linux 8.3

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

NA: 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.

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECSpeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECSpeed®2017\_int\_peak = Not Run

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Jun-2022  
**Hardware Availability:** Sep-2020  
**Software Availability:** Sep-2021

## General Notes (Continued)

sources available from [jemalloc.net](http://jemalloc.net) or <https://github.com/jemalloc/jemalloc/releases>

## Platform Notes

BIOS configuration:  
Performance Profile Set to Load Balance  
Hyper-Threading Set to Disabled

Sysinfo program /spec20214/bin/sysinfo  
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d  
running on localhost.localdomain Tue Jun 28 20:38:20 2022

SUT (System Under Test) info as seen by some common utilities.  
For more information on this section, see  
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name      : Intel(R) Xeon(R) Gold 6330H CPU @ 2.00GHz
 4 "physical id"s (chips)
 96 "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      : 24
siblings       : 24
physical 0:    cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 1:    cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 2:    cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
physical 3:    cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
```

```
From lscpu from util-linux 2.32.1:
Architecture:    x86_64
CPU op-mode(s):  32-bit, 64-bit
Byte Order:      Little Endian
CPU(s):          96
On-line CPU(s) list: 0-95
Thread(s) per core: 1
Core(s) per socket: 24
Socket(s):       4
NUMA node(s):   4
Vendor ID:       GenuineIntel
CPU family:      6
Model:           85
Model name:      Intel(R) Xeon(R) Gold 6330H CPU @ 2.00GHz
Stepping:        11
CPU MHz:         1756.697
CPU max MHz:     3700.0000
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Jun-2022  
**Hardware Availability:** Sep-2020  
**Software Availability:** Sep-2021

## Platform Notes (Continued)

CPU min MHz: 1000.0000  
BogoMIPS: 4000.00  
Virtualization: VT-x  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 1024K  
L3 cache: 33792K  
NUMA node0 CPU(s): 0-23  
NUMA node1 CPU(s): 24-47  
NUMA node2 CPU(s): 48-71  
NUMA node3 CPU(s): 72-95

Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant\_tsc art arch\_perfmon pebs bts rep\_good nopl xtopology nonstop\_tsc cpuid aperfperf pni pclmulqdq dtes64 monitor ds\_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4\_1 sse4\_2 x2apic movbe popcnt tsc\_deadline\_timer aes xsave avx f16c rdrand lahf\_lm abm 3dnowprefetch cpuid\_fault epb cat\_l3 cdp\_l3 invpcid\_single ssbd mba ibrs ibpb stibp ibrs\_enhanced tpr\_shadow vnmi flexpriority ept vpid ept\_ad fsgsbase tsc\_adjust bmi1 hle avx2 smep bmi2 erms invpcid cqm mpx rdt\_a avx512f avx512dq rdseed adx smap clflushopt clwb intel\_pt avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm\_llc cqm\_occup\_llc cqm\_mbm\_total cqm\_mbm\_local avx512\_bf16 dtherm ida arat pln pts pku ospke avx512\_vnni md\_clear flush\_lld arch\_capabilities

```
/proc/cpuinfo cache data
cache size : 33792 KB
```

From numactl --hardware

WARNING: a numactl 'node' might or might not correspond to a physical chip.

available: 4 nodes (0-3)

node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

node 0 size: 374376 MB

node 0 free: 384815 MB

node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

node 1 size: 377232 MB

node 1 free: 386341 MB

node 2 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71

node 2 size: 377382 MB

node 2 free: 386537 MB

node 3 cpus: 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

node 3 size: 376907 MB

node 3 free: 386828 MB

node distances:

node 0 1 2 3

0: 10 20 20 20

1: 20 10 20 20

2: 20 20 10 20

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Jun-2022  
**Hardware Availability:** Sep-2020  
**Software Availability:** Sep-2021

## Platform Notes (Continued)

3: 20 20 20 10

From /proc/meminfo

MemTotal: 1583437020 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

/sbin/tuned-adm active

Current active profile: throughput-performance

/sys/devices/system/cpu/cpu\*/cpufreq/scaling\_governor has performance

From /etc/\*release\* /etc/\*version\*

os-release:

NAME="Red Hat Enterprise Linux"  
VERSION="8.3 (Ootpa)"  
ID="rhel"  
ID\_LIKE="fedora"  
VERSION\_ID="8.3"  
PLATFORM\_ID="platform:el8"  
PRETTY\_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"  
ANSI\_COLOR="0;31"

redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)

system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:8.3:ga

uname -a:

Linux localhost.localdomain 4.18.0-240.el8.x86\_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020  
x86\_64 x86\_64 x86\_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit):	Not affected
CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Not affected
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):	Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 11.0

### xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 6488  
**Test Sponsor:** xFusion  
**Tested by:** xFusion

**Test Date:** Jun-2022  
**Hardware Availability:** Sep-2020  
**Software Availability:** Sep-2021

## Platform Notes (Continued)

run-level 3 Jun 28 20:37

SPEC is set to: /spec20214

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-root	xfs	270G	180G	91G	67%	/

From /sys/devices/virtual/dmi/id

Vendor: xFusion  
 Product: 2488H V6  
 Product Family: Cedar Island  
 Serial: 2102313CWY10MA000018

Additional information from dmidecode 3.2 follows. 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.

Memory:

48x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200, configured at 2933

BIOS:

BIOS Vendor: XFUSION  
 BIOS Version: 0.87  
 BIOS Date: 05/10/2022

(End of data from sysinfo program)

## Compiler Version Notes

```
=====
C      | 600.perlbench_s(base) 602.gcc_s(base) 605.mcf_s(base)
      | 625.x264_s(base) 657.xz_s(base)
-----
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
 Version 2021.4.0 Build 20210924  
 Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

```
=====
C++   | 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base)
      | 641.leela_s(base)
-----
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
 Version 2021.4.0 Build 20210924  
 Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_int\_base = 11.0

xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6488  
Test Sponsor: xFusion  
Tested by: xFusion

Test Date: Jun-2022  
Hardware Availability: Sep-2020  
Software Availability: Sep-2021

### Compiler Version Notes (Continued)

=====  
Fortran | 648.exchange2\_s(base)  
=====

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.  
=====

### Base Compiler Invocation

C benchmarks:  
icx

C++ benchmarks:  
icpx

Fortran benchmarks:  
ifort

### Base Portability Flags

600.perlbench\_s: -DSPEC\_LP64 -DSPEC\_LINUX\_X64  
602.gcc\_s: -DSPEC\_LP64  
605.mcf\_s: -DSPEC\_LP64  
620.omnetpp\_s: -DSPEC\_LP64  
623.xalancbmk\_s: -DSPEC\_LP64 -DSPEC\_LINUX  
625.x264\_s: -DSPEC\_LP64  
631.deepsjeng\_s: -DSPEC\_LP64  
641.leela\_s: -DSPEC\_LP64  
648.exchange2\_s: -DSPEC\_LP64  
657.xz\_s: -DSPEC\_LP64

### Base Optimization Flags

C benchmarks:  
-DSPEC\_OPENMP -std=c11 -m64 -fiopenmp -Wl,-z,muldefs -xCORE-AVX512  
-O3 -ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017\_int\_base = 11.0

xFusion 2488H V6 (Intel Xeon Gold 6330H)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2022

Hardware Availability: Sep-2020

Software Availability: Sep-2021

## Base Optimization Flags (Continued)

C++ benchmarks:

```
-DSPEC_OPENMP -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries  
-L/usr/local/intel/compiler/2021.4.0/linux/compiler/lib/intel64_lin/  
-lqkmalloc
```

Fortran benchmarks:

```
-m64 -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto  
-mbranches-within-32B-boundaries
```

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

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html)

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-ICX-V1.1.html>

You can also download the XML flags sources by saving the following links:

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml)

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-ICX-V1.1.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.8 on 2022-06-28 08:38:19-0400.

Report generated on 2022-07-19 15:25:49 by CPU2017 PDF formatter v6442.

Originally published on 2022-07-19.