SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

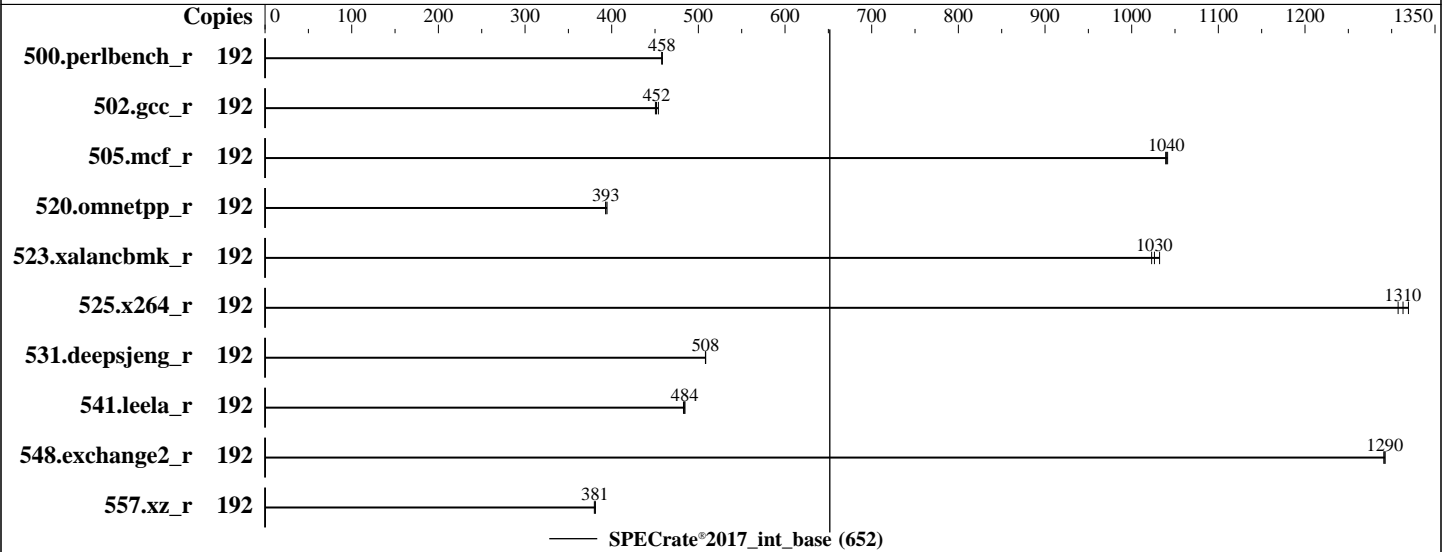## xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

$SPECrate^{®}2017\_int\_base = 652$

$SPECrate^{®}2017\_int\_peak = Not Run$

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

Benchmark	Copies	Result
500.perlbench_r	192	458
502.gcc_r	192	452
505.mcf_r	192	1040
520.omnetpp_r	192	393
523.xalancbmk_r	192	1030
525.x264_r	192	1310
531.deepsjeng_r	192	508
541.leela_r	192	484
548.exchange2_r	192	1290
557.xz_r	192	381

SPECrate®2017_int_base (652)

Hardware

CPU Name: Intel Xeon Gold 6348H
 Max MHz: 4200
 Nominal: 2300
Enabled: 96 cores, 4 chips, 2 threads/core
Orderable: 1,2,4 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 2Rx8 PC4-3200AA-R, running at 2933)
Storage: 1 x 960 GB SATA SSD
Other: None

Software

OS: Red Hat Enterprise Linux release 8.2 (Ootpa)
 4.18.0-193.el8.x86_64
Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: Version 1.05 Released Jan-2023
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: None
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

CPU2017 License: 6488	**Test Date:** Jan-2023
Test Sponsor: xFusion	**Hardware Availability:** Jan-2023
Tested by: xFusion	**Software Availability:** May-2022

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	192	**667**	**458**	667	458	668	458							
502.gcc_r	192	**602**	**452**	604	450	599	454							
505.mcf_r	192	298	1040	**298**	**1040**	299	1040							
520.omnetpp_r	192	**641**	**393**	638	395	641	393							
523.xalancbmk_r	192	198	1020	196	1030	**198**	**1030**							
525.x264_r	192	257	1310	255	1320	**256**	**1310**							
531.deepsjeng_r	192	433	508	**433**	**508**	433	508							
541.leela_r	192	659	483	656	484	**657**	**484**							
548.exchange2_r	192	390	1290	389	1290	**389**	**1290**							
557.xz_r	192	**545**	**381**	546	380	544	381							
SPECrate®2017_int_base =		**652**												
SPECrate®2017_int_peak =		Not Run												

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

Compiler Notes

```
SPEC has ruled that the compiler used for this result was performing a compilation
that specifically improves the performance of the 523.xalancbmk_r / 623.xalancbmk_s
benchmarks using a priori knowledge of the SPEC code and dataset to perform a
transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4
https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4), SPEC will no longer
publish results using this optimization.

This result is left in the SPEC results database for historical reference.
```

Submit Notes

```
  The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl commands to bind each copy to a specific processor.
For details, please see the config file.
```

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:
LD_LIBRARY_PATH =
    "/home/Uniautos/cpu2017/lib/intel64:/home/Uniautos/cpu2017/lib/ia32:/home/Uniautos/cpu2017/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

CPU2017 License:	6488	**Test Date:**	Jan-2023
Test Sponsor:	xFusion	**Hardware Availability:**	Jan-2023
Tested by:	xFusion	**Software Availability:**	May-2022

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
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.
```

Platform Notes

```
BIOS configuration:
Performance Profile Set to Performance
SNC Set to Enabled

Sysinfo program /home/Uniautos/cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost.localdomain Wed Jan 11 06:35:43 2023

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 6348H CPU @ 2.30GHz
      4  "physical id"s (chips)
    192 "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  : 48
      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):              192
     On-line CPU(s) list: 0-191
     Thread(s) per core:  2
     Core(s) per socket:  24
     Socket(s):           4
     NUMA node(s):        8
     Vendor ID:           GenuineIntel
     CPU family:          6
     Model:               85
     Model name:          Intel(R) Xeon(R) Gold 6348H CPU @ 2.30GHz
     Stepping:            11
     CPU MHz:             3100.042
     BogoMIPS:            4600.00
```

(Continued on next page)

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

Platform Notes (Continued)

```
     Virtualization:      VT-x
     L1d cache:           32K
     L1i cache:           32K
     L2 cache:            1024K
     L3 cache:            33792K
     NUMA node0 CPU(s):   0-2,6-8,12-14,18-20,96-98,102-104,108-110,114-116
     NUMA node1 CPU(s):   3-5,9-11,15-17,21-23,99-101,105-107,111-113,117-119
     NUMA node2 CPU(s):   24-26,30-32,36-38,42-44,120-122,126-128,132-134,138-140
     NUMA node3 CPU(s):   27-29,33-35,39-41,45-47,123-125,129-131,135-137,141-143
     NUMA node4 CPU(s):   48-50,54-56,60-62,66-68,144-146,150-152,156-158,162-164
     NUMA node5 CPU(s):   51-53,57-59,63-65,69-71,147-149,153-155,159-161,165-167
     NUMA node6 CPU(s):   72-74,78-80,84-86,90-92,168-170,174-176,180-182,186-188
     NUMA node7 CPU(s):   75-77,81-83,87-89,93-95,171-173,177-179,183-185,189-191
     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
     aperfmperf pni pclmulqdq dtes64 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 fsgsbase
     tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm 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 hwp_epp pku ospke avx512_vnni md_clear flush_l1d 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: 8 nodes (0-7)
   node 0 cpus: 0 1 2 6 7 8 12 13 14 18 19 20 96 97 98 102 103 104 108 109 110 114 115 116
   node 0 size: 191628 MB
   node 0 free: 191336 MB
   node 1 cpus: 3 4 5 9 10 11 15 16 17 21 22 23 99 100 101 105 106 107 111 112 113 117 118
   119
   node 1 size: 193530 MB
   node 1 free: 193374 MB
   node 2 cpus: 24 25 26 30 31 32 36 37 38 42 43 44 120 121 122 126 127 128 132 133 134
   138 139 140
   node 2 size: 193530 MB
   node 2 free: 193393 MB
   node 3 cpus: 27 28 29 33 34 35 39 40 41 45 46 47 123 124 125 129 130 131 135 136 137
   141 142 143
   node 3 size: 193530 MB
   node 3 free: 193388 MB
   node 4 cpus: 48 49 50 54 55 56 60 61 62 66 67 68 144 145 146 150 151 152 156 157 158
   162 163 164
   node 4 size: 193503 MB
   node 4 free: 193366 MB
   node 5 cpus: 51 52 53 57 58 59 63 64 65 69 70 71 147 148 149 153 154 155 159 160 161
   165 166 167
   node 5 size: 193530 MB
   node 5 free: 193382 MB
   node 6 cpus: 72 73 74 78 79 80 84 85 86 90 91 92 168 169 170 174 175 176 180 181 182
   186 187 188
   node 6 size: 193530 MB
   node 6 free: 192960 MB
   node 7 cpus: 75 76 77 81 82 83 87 88 89 93 94 95 171 172 173 177 178 179 183 184 185
   189 190 191
```

(Continued on next page)

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

Platform Notes (Continued)

```
  node 7 size: 193528 MB
  node 7 free: 193326 MB
  node distances:
  node   0   1   2   3   4   5   6   7
    0:  10  11  20  20  20  20  20  20
    1:  11  10  20  20  20  20  20  20
    2:  20  20  10  11  20  20  20  20
    3:  20  20  11  10  20  20  20  20
    4:  20  20  20  20  10  11  20  20
    5:  20  20  20  20  11  10  20  20
    6:  20  20  20  20  20  20  10  11
    7:  20  20  20  20  20  20  11  10

From /proc/meminfo
   MemTotal:       1583424084 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/sbin/tuned-adm active
    Current active profile: balanced

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux"
      VERSION="8.2 (Ootpa)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="8.2"
      PLATFORM_ID="platform:el8"
      PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
      ANSI_COLOR="0;31"
   redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
   system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:
   Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 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): No status reported
CVE-2019-11135 (TSX Asynchronous Abort):         Not affected

 run-level 3 Jan 11 06:32

 SPEC is set to: /home/Uniautos/cpu2017
    Filesystem          Type  Size  Used Avail Use% Mounted on
```

(Continued on next page)

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

Platform Notes (Continued)

```
   /dev/mapper/rhel-home xfs   292G  130G  162G  45% /home

 From /sys/devices/virtual/dmi/id
    Vendor:          Huawei
    Product:         5885H V6
    Product Family: Cedar Island

 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:
     8x Hynix HMAA4GR7AJR8N-XN 32 GB 2 rank 3200, configured at 2933
     5x Micron 18ASF4G72PDZ-3G2E1 32 GB 2 rank 3200, configured at 2933
     35x Samsung M393A4G43AB3-CWE 32 GB 2 rank 3200, configured at 2933

 BIOS:
    BIOS Vendor:       Byosoft Corporation
    BIOS Version:      1.05
    BIOS Date:         01/05/2023

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================================
C      | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
C++    | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
Fortran | 548.exchange2_r(base)
----------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
```
icx
```

C++ benchmarks:
```
icpx
```

(Continued on next page)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

Base Compiler Invocation (Continued)

Fortran benchmarks:
ifx

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-CPX-V1.4.html

Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

xFusion

FusionServer 5885H V6 (Intel Xeon Gold 6348H)

SPECrate®2017_int_base =   652

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Jan-2023
Software Availability: May-2022

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-CPX-V1.4.xml

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

Tested with SPEC CPU®2017 v1.1.8 on 2023-01-10 17:35:42-0500.
Report generated on 2024-01-29 17:19:52 by CPU2017 PDF formatter v6716.
Originally published on 2023-02-01.