



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

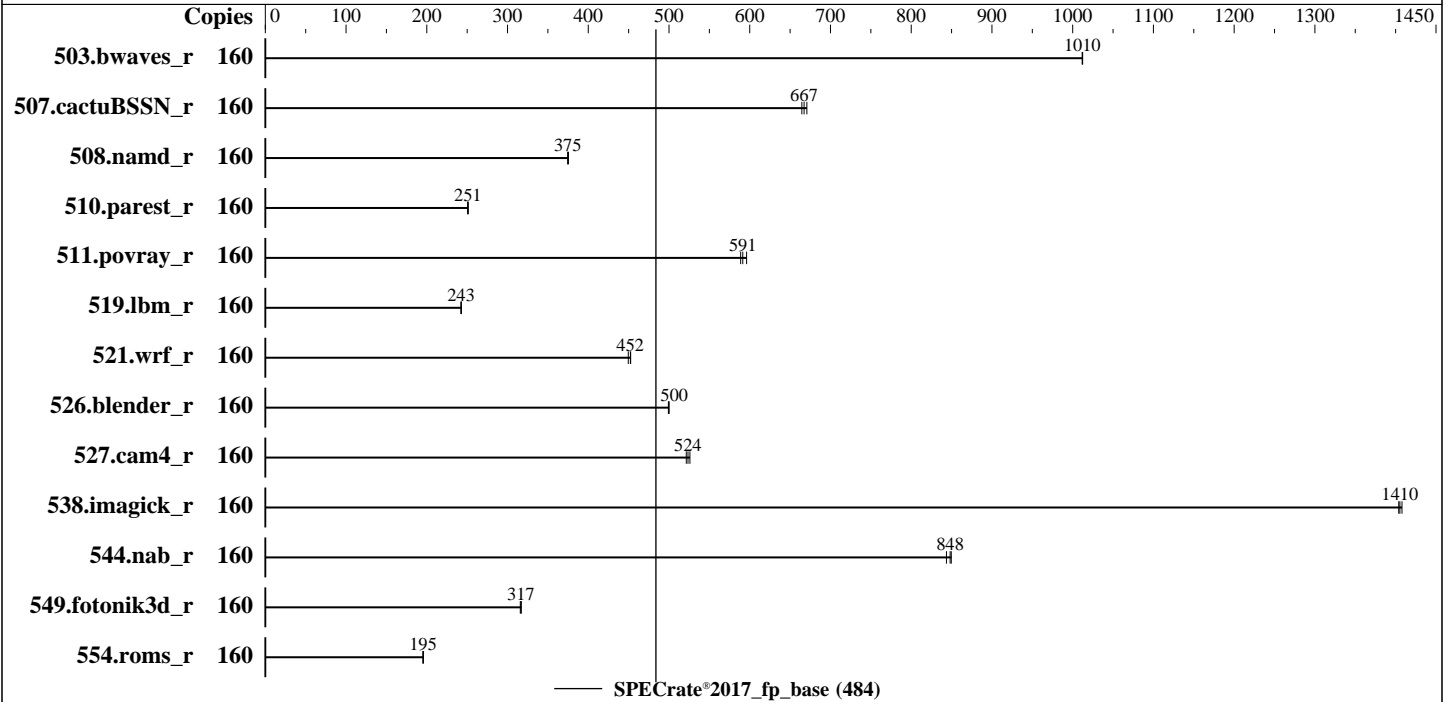
ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

CPU2017 License: 9061  
Test Sponsor: ZTE Corporation  
Tested by: ZTE Corporation

Test Date: Mar-2021  
Hardware Availability: Nov-2020  
Software Availability: Apr-2020



### Hardware

CPU Name: Intel Xeon Gold 6248  
 Max MHz: 3900  
 Nominal: 2500  
 Enabled: 80 cores, 4 chips, 2 threads/core  
 Orderable: 4 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 27.5 MB I+D on chip per chip  
 Other: None  
 Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)  
 Storage: 2 x 960 GB SATA SSD,RAID1  
 Other: None

### Software

OS: Red Hat Enterprise Linux release 8.2 (Ootpa) 4.18.0-193.el8.x86\_64  
 Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux; Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 for Linux  
 Parallel: No  
 Firmware: Version 03.20.0201 released Nov-2020  
 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: BIOS and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	160	<b><u>1585</u></b>	<b><u>1010</u></b>	1586	1010	1585	1010							
507.cactuBSSN_r	160	<b><u>304</u></b>	<b><u>667</u></b>	302	671	305	665							
508.namd_r	160	405	375	<b><u>406</u></b>	<b><u>375</u></b>	406	375							
510.parest_r	160	1670	251	1666	251	<b><u>1667</u></b>	<b><u>251</u></b>							
511.povray_r	160	<b><u>632</u></b>	<b><u>591</u></b>	627	596	635	589							
519.lbm_r	160	695	242	<b><u>695</u></b>	<b><u>243</u></b>	695	243							
521.wrf_r	160	797	450	792	453	<b><u>793</u></b>	<b><u>452</u></b>							
526.blender_r	160	<b><u>488</u></b>	<b><u>500</u></b>	487	500	488	499							
527.cam4_r	160	<b><u>535</u></b>	<b><u>524</u></b>	537	521	532	526							
538.imagick_r	160	283	1410	<b><u>283</u></b>	<b><u>1410</u></b>	283	1400							
544.nab_r	160	<b><u>317</u></b>	<b><u>848</u></b>	317	850	319	844							
549.fotonik3d_r	160	1967	317	<b><u>1969</u></b>	<b><u>317</u></b>	1974	316							
554.roms_r	160	<b><u>1301</u></b>	<b><u>195</u></b>	1302	195	1299	196							

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

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

## Compiler Notes

The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler. The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux  
The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux

## 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/spec/lib/intel64:/home/spec/je5.0.1-64"  
MALLOC\_CONF = "retain:true"



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Redhat Enterprise Linux 8.0

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.

jemalloc, a general purpose malloc implementation

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

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

### Platform Notes

BIOS Configuration:

VT-d = Disabled

Patrol Scrub = Disabled

ENERGY\_PERF\_BIAS\_CFG mode = performance

SNC = Enabled

IMC interleaving = 1-way

LLC dead line alloc = Disabled

SR-IOV Support = Disabled

Sysinfo program /home/spec/bin/sysinfo

Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c

running on localhost.localdomain Fri Jun 22 12:06:20 2018

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 6248 CPU @ 2.50GHz

4 "physical id"s (chips)

160 "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 : 20

siblings : 40

physical 0: cores 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### Platform Notes (Continued)

physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28  
physical 2: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28  
physical 3: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28

From lscpu:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
CPU(s):                 160
On-line CPU(s) list:   0-159
Thread(s) per core:    2
Core(s) per socket:    20
Socket(s):              4
NUMA node(s):          8
Vendor ID:              GenuineIntel
CPU family:             6
Model:                  85
Model name:             Intel(R) Xeon(R) Gold 6248 CPU @ 2.50GHz
Stepping:               5
CPU MHz:                1581.847
CPU max MHz:           3900.0000
CPU min MHz:           1000.0000
BogoMIPS:               5000.00
Virtualization:        VT-x
L1d cache:              32K
L1i cache:              32K
L2 cache:               1024K
L3 cache:               28160K
NUMA node0 CPU(s):     0,41,42,45,46,50-52,55,56,120-122,125,126,130-132,135,136
NUMA node1 CPU(s):     1,2,5,6,10-12,15,16,40,80-82,85,86,90-92,95,96
NUMA node2 CPU(s):     3,4,7-9,13,14,17-19,83,84,87-89,93,94,97-99
NUMA node3 CPU(s):     20-22,25,26,30-32,35,36,100-102,105,106,110-112,115,116
NUMA node4 CPU(s):     23,24,27-29,33,34,37-39,103,104,107-109,113,114,117-119
NUMA node5 CPU(s):     43,44,47-49,53,54,57-59,123,124,127-129,133,134,137-139
NUMA node6 CPU(s):     60-62,65,66,70-72,75,76,140-142,145,146,150-152,155,156
NUMA node7 CPU(s):     63,64,67-69,73,74,77-79,143,144,147-149,153,154,157-159
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 fl16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cdp_l3
invpcid_single ssbd mba ibrs ibpb stibp 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
dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku ospke md_clear
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### Platform Notes (Continued)

```
flush_lld arch_capabilities
```

```
/proc/cpuinfo cache data  
cache size : 28160 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 41 42 45 46 50 51 52 55 56 120 121 122 125 126 130 131 132 135 136
node 0 size: 96763 MB
node 0 free: 90530 MB
node 1 cpus: 1 2 5 6 10 11 12 15 16 40 80 81 82 85 86 90 91 92 95 96
node 1 size: 94888 MB
node 1 free: 90378 MB
node 2 cpus: 3 4 7 8 9 13 14 17 18 19 83 84 87 88 89 93 94 97 98 99
node 2 size: 96763 MB
node 2 free: 86750 MB
node 3 cpus: 20 21 22 25 26 30 31 32 35 36 100 101 102 105 106 110 111 112 115 116
node 3 size: 96763 MB
node 3 free: 92252 MB
node 4 cpus: 23 24 27 28 29 33 34 37 38 39 103 104 107 108 109 113 114 117 118 119
node 4 size: 96763 MB
node 4 free: 92693 MB
node 5 cpus: 43 44 47 48 49 53 54 57 58 59 123 124 127 128 129 133 134 137 138 139
node 5 size: 96763 MB
node 5 free: 92746 MB
node 6 cpus: 60 61 62 65 66 70 71 72 75 76 140 141 142 145 146 150 151 152 155 156
node 6 size: 96763 MB
node 6 free: 91591 MB
node 7 cpus: 63 64 67 68 69 73 74 77 78 79 143 144 147 148 149 153 154 157 158 159
node 7 size: 96728 MB
node 7 free: 92746 MB
node distances:
node  0  1  2  3  4  5  6  7
 0:  10  21  21  21  21  11  21  21
 1:  21  10  11  21  21  21  21  21
 2:  21  11  10  21  21  21  21  21
 3:  21  21  21  10  11  21  21  21
 4:  21  21  21  11  10  21  21  21
 5:  11  21  21  21  21  10  21  21
 6:  21  21  21  21  21  21  10  11
 7:  21  21  21  21  21  21  11  10
```

```
From /proc/meminfo
MemTotal:      790729588 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### Platform Notes (Continued)

```
/sbin/tuned-adm active
Current active profile: virtual-host
```

```
/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
performance
```

```
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):	KVM: Vulnerable
CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Mitigation: Clear CPU buffers; SMT vulnerable
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: Full generic retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	No status reported
CVE-2019-11135 (TSX Asynchronous Abort):	Mitigation: Clear CPU buffers; SMT vulnerable

```
run-level 3 Jun 22 07:12
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### Platform Notes (Continued)

SPEC is set to: /home/spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	839G	42G	797G	5%	/home

From /sys/devices/virtual/dmi/id

Vendor: ZTE  
Product: R8500 G4  
Product Family: Server  
Serial: 210106763567

Additional information from dmidecode 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:

24x NO DIMM NO DIMM  
24x Samsung M393A4K40DB2-CVF 32 GB 2 rank 2933, configured at 2934

BIOS:

BIOS Vendor: ZTE  
BIOS Version: 03.20.0201  
BIOS Date: 11/10/2020  
BIOS Revision: 3.20

(End of data from sysinfo program)

### Compiler Version Notes

=====  
C | 519.lbm\_r(base) 538.imagick\_r(base) 544.nab\_r(base)  
-----

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++ | 508.namd\_r(base) 510.parest\_r(base)  
-----

Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----  
=====

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

### Compiler Version Notes (Continued)

C++, C | 511.povray\_r(base) 526.blender\_r(base)

-----  
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C, Fortran | 507.cactuBSSN\_r(base)

-----  
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.1.1.217 Build 20200306  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
Fortran | 503.bwaves\_r(base) 549.fotonik3d\_r(base) 554.roms\_r(base)

-----  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.1.1.217 Build 20200306  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
Fortran, C | 521.wrf\_r(base) 527.cam4\_r(base)

-----  
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.1.1.217 Build 20200306  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1  
NextGen Build 20200304  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64  
507.cactuBSSN\_r: -DSPEC\_LP64  
508.namd\_r: -DSPEC\_LP64  
510.parest\_r: -DSPEC\_LP64  
511.povray\_r: -DSPEC\_LP64  
519.lbm\_r: -DSPEC\_LP64  
521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian  
526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char  
527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG  
538.imagick\_r: -DSPEC\_LP64  
544.nab\_r: -DSPEC\_LP64  
549.fotonik3d\_r: -DSPEC\_LP64  
554.roms\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-m64 -qnextgen -std=c11  
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs  
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**ZTE Corporation**

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061  
**Test Sponsor:** ZTE Corporation  
**Tested by:** ZTE Corporation

**Test Date:** Mar-2021  
**Hardware Availability:** Nov-2020  
**Software Availability:** Apr-2020

## Base Optimization Flags (Continued)

### C++ benchmarks:

```
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries  
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

### Fortran benchmarks:

```
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs  
-fuse-ld=gold -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles  
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte  
-auto -mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

### Benchmarks using both Fortran and C:

```
-m64 -qnextgen -std=c11  
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs  
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div  
-qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs  
-align array32byte -auto -mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

### Benchmarks using both C and C++:

```
-m64 -qnextgen -std=c11  
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs  
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

### Benchmarks using Fortran, C, and C++:

```
-m64 -qnextgen -std=c11  
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs  
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div  
-qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs  
-align array32byte -auto -mbranches-within-32B-boundaries  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## ZTE Corporation

ZTE R8500G4 Server System  
(2.50 GHz, Intel Xeon Gold 6248)

SPECrate®2017\_fp\_base = 484

SPECrate®2017\_fp\_peak = Not Run

**CPU2017 License:** 9061

**Test Sponsor:** ZTE Corporation

**Tested by:** ZTE Corporation

**Test Date:** Mar-2021

**Hardware Availability:** Nov-2020

**Software Availability:** Apr-2020

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

[http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64\\_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.html)

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

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

[http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64\\_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.xml)

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

SPEC CPU and SPECrate 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 v1.1.5 on 2018-06-22 12:06:20-0400.

Report generated on 2021-03-30 15:31:32 by CPU2017 PDF formatter v6442.

Originally published on 2021-03-30.