



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19

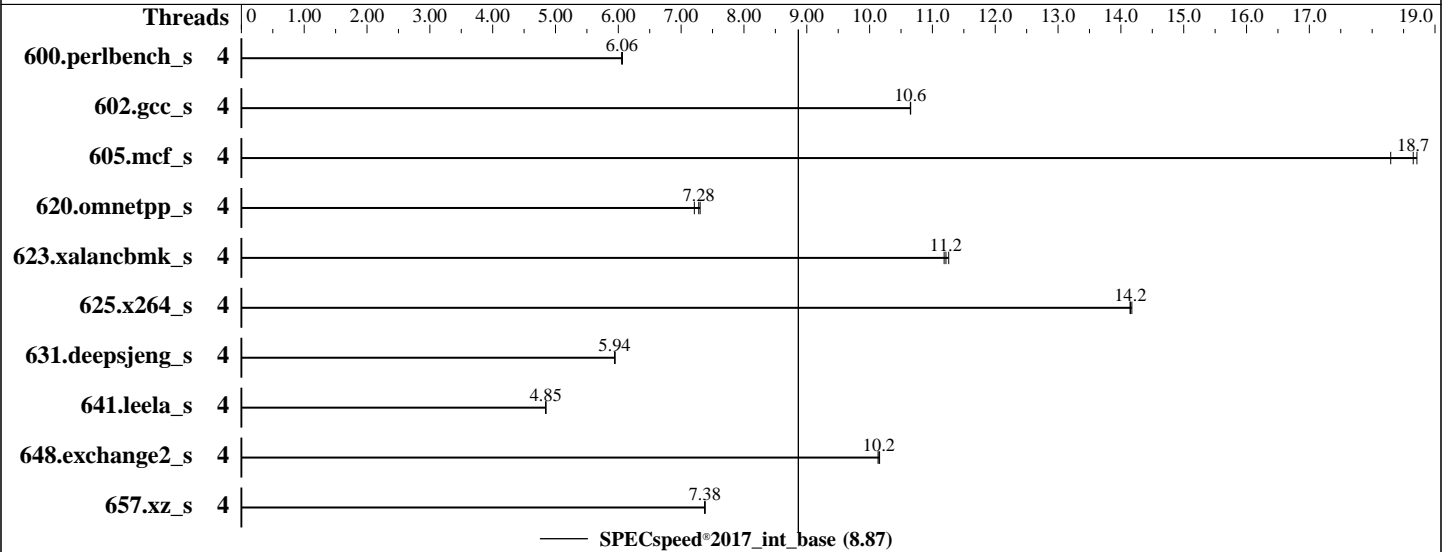
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Feb-2022

Hardware Availability: Mar-2022

Software Availability: Jun-2021



Hardware

CPU Name: Intel Pentium Gold G6405
 Max MHz: 4100
 Nominal: 4100
 Enabled: 2 cores, 1 chip, 2 threads/core
 Orderable: 1 chip
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 256 KB I+D on chip per core
 L3: 4 MB I+D on chip per chip
 Other: None
 Memory: 32 GB (2 x 16 GB 2Rx8 PC4-3200AA-E, running at 2667)
 Storage: 1 x SATA M.2 SSD, 240GB
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP3 5.3.18-57-default
 Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux; Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;
 Parallel: Yes
 Firmware: Fujitsu BIOS Version V5.0.0.22 R1.31.0 for D3931-A1x. Released Mar-2022 tested as V5.0.0.22 R1.20.0 for D3931-A1x Jan-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: BIOS set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Feb-2022
Hardware Availability: Mar-2022
Software Availability: Jun-2021

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	4	293	6.06	293	6.07	293	6.05							
602.gcc_s	4	374	10.6	374	10.7	374	10.6							
605.mcf_s	4	258	18.3	253	18.7	252	18.7							
620.omnetpp_s	4	226	7.21	223	7.30	224	7.28							
623.xalancbmk_s	4	127	11.2	126	11.3	126	11.2							
625.x264_s	4	125	14.2	124	14.2	125	14.1							
631.deepsjeng_s	4	241	5.94	241	5.95	241	5.94							
641.leela_s	4	352	4.85	352	4.85	352	4.84							
648.exchange2_s	4	290	10.2	289	10.2	290	10.1							
657.xz_s	4	838	7.38	838	7.37	837	7.38							

SPECspeed®2017_int_base = 8.87

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"
cpupower -c all frequency-set -g performance

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH =
"/home/Benchmark/speccpu/lib/intel64:/home/Benchmark/speccpu/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"

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
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.

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Feb-2022

Hardware Availability: Mar-2022

Software Availability: Jun-2021

General Notes (Continued)

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:
Energy Efficient Turbo = Disabled
FAN Control = Full
SA GV High Gear = Gear1

Sysinfo program /home/Benchmark/speccpu/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost Thu Feb 10 14:40:25 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) Pentium(R) Gold G6405 CPU @ 4.10GHz
1 "physical id"s (chips)
4 "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 : 2
siblings : 4
physical 0: cores 0 1

From lscpu from util-linux 2.36.2:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
Address sizes: 39 bits physical, 48 bits virtual
CPU(s): 4
On-line CPU(s) list: 0-3
Thread(s) per core: 2
Core(s) per socket: 2
Socket(s): 1
NUMA node(s): 1
Vendor ID: GenuineIntel
CPU family: 6
Model: 165
Model name: Intel(R) Pentium(R) Gold G6405 CPU @ 4.10GHz
Stepping: 3
CPU MHz: 4100.005

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Feb-2022
Hardware Availability: Mar-2022
Software Availability: Jun-2021

Platform Notes (Continued)

```

CPU max MHz:          4100.0000
CPU min MHz:          800.0000
BogoMIPS:             8199.79
Virtualization:      VT-x
L1d cache:           64 KiB
L1i cache:           64 KiB
L2 cache:            512 KiB
L3 cache:            4 MiB
NUMA node0 CPU(s):  0-3
Vulnerability Itlb multihit: KVM: Mitigation: VMX disabled
Vulnerability L1tf:   Not affected
Vulnerability Mds:   Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:  Not affected
Vulnerability Tsx async abort: Not affected
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 est tm2 ssse3 sdbg cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single ssbd ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust smep erms invpcid mpx rdseed smap clflushopt intel_pt xsaveopt xsavec xgetbv1 xsaves dtherm arat pln pts hwp hwp_notify hwp_act_window hwp_epp md_clear flush_l1d arch_capabilities

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	64K	8	Data	1	64	1	64
L1i	32K	64K	8	Instruction	1	64	1	64
L2	256K	512K	4	Unified	2	1024	1	64
L3	4M	4M	16	Unified	3	4096	1	64

/proc/cpuinfo cache data
cache size : 4096 KB

From numactl --hardware

WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 1 nodes (0)
node 0 cpus: 0 1 2 3
node 0 size: 31545 MB

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Feb-2022
Hardware Availability: Mar-2022
Software Availability: Jun-2021

Platform Notes (Continued)

```
node 0 free: 31116 MB
node distances:
node 0
0: 10
```

```
From /proc/meminfo
MemTotal: 32303016 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

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

```
From /etc/*release* /etc/*version*
os-release:
NAME="SLES"
VERSION="15-SP3"
VERSION_ID="15.3"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP3"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp3"
```

```
uname -a:
Linux localhost 5.3.18-57-default #1 SMP Wed Apr 28 10:54:41 UTC 2021
(ba3c2e9/lp-5d9e8aa) x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit):	KVM: Mitigation: VMX disabled
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

```
run-level 3 Feb 10 14:38
```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Feb-2022
Hardware Availability: Mar-2022
Software Availability: Jun-2021

Platform Notes (Continued)

SPEC is set to: /home/Benchmark/speccpu

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xf	180G	44G	137G	24%	/home

```

From /sys/devices/virtual/dmi/id
Vendor:          FUJITSU
Product:         PRIMERGY TX1330 M5
Product Family: SERVER
Serial:          EWBUXXXXXXX

```

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:
2x Samsung M391A2K43DB1-CWE 16 GB 2 rank 3200, configured at 2667

```

BIOS:
  BIOS Vendor:      FUJITSU // American Megatrends International, LLC.
  BIOS Version:     V5.0.0.22 R1.20.0 for D3931-Alx
  BIOS Date:        01/11/2022
  BIOS Revision:    1.20

```

(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 2021.1 Build 20201113
Copyright (C) 1985-2020 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 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405, 4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Feb-2022
Hardware Availability: Mar-2022
Software Availability: Jun-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 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 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 -xSSE4.2 -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

C++ benchmarks:
-DSPEC_OPENMP -m64 -Wl,-z,muldefs -xSSE4.2 -O3 -ffast-math -flto

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY TX1330 M5, Intel Pentium Gold G6405,
4.10GHz

SPECspeed®2017_int_base = 8.87

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Feb-2022

Hardware Availability: Mar-2022

Software Availability: Jun-2021

Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries  
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin/  
-lqkmallocc
```

Fortran benchmarks:

```
-m64 -xSSE4.2 -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/Fujitsu-Platform-Settings-V1.0-RKL-RevD.html>

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html

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

<http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0-RKL-RevD.xml>

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.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.

Tested with SPEC CPU®2017 v1.1.8 on 2022-02-10 00:40:25-0500.

Report generated on 2022-03-16 13:59:24 by CPU2017 PDF formatter v6442.

Originally published on 2022-03-16.