SPEC® CPU2017 Integer Rate Result

Fujitsu

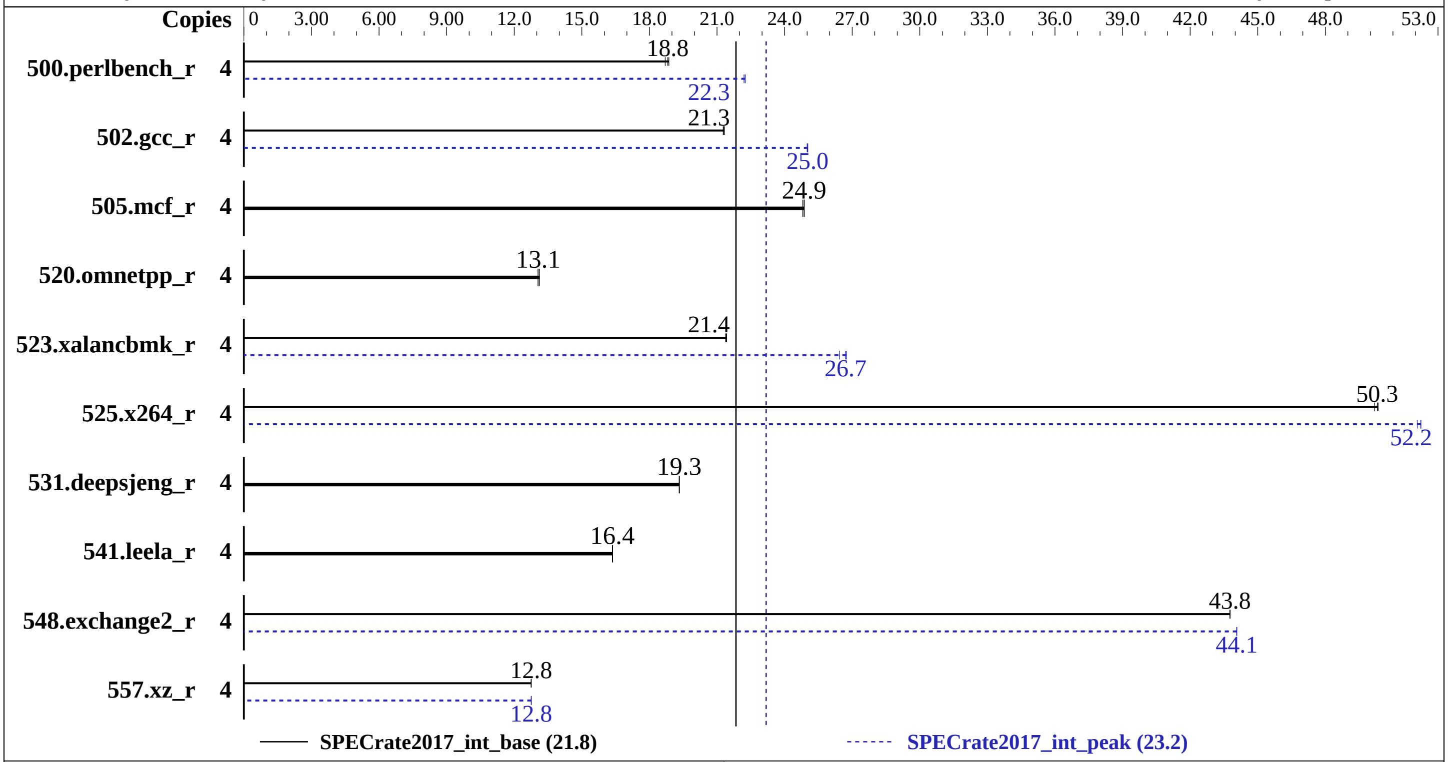
PRIMERGY TX1330 M3, Intel Xeon E3-1225 v6, 3.30GHz

SPECrate2017_int_base = 21.8

SPECrate2017_int_peak = 23.2

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

Test Date: Nov-2018
Hardware Availability: May-2017
Software Availability: Sep-2018



Hardware

CPU Name:	Intel Xeon E3-1225 v6
Max MHz.:	3700
Nominal:	3300
Enabled:	4 cores, 1 chip
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:	8 MB I+D on chip per chip
Other:	None
Memory:	64 GB (4 x 16 GB 2Rx8 PC4-2400T-E)
Storage:	1 x SATA HDD, 2TB, 7200RPM
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 4.12.14-23-default
Compiler:	C/C++: Version 19.0.0.117 of Intel C/C++ Compiler for Linux; Fortran: Version 19.0.0.117 of Intel Fortran Compiler for Linux
Parallel:	No
Firmware:	Fujitsu BIOS Version V5.0.0.11 R1.21.0 for D3373-B1x. Released Nov-2018
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other:	jemalloc memory allocator library V5.0.1

SPEC CPU2017 Integer Rate Result

Fujitsu

PRIMERGY TX1330 M3, Intel Xeon E3-1225 v6, 3.30GHz

SPECrate2017_int_base = 21.8

SPECrate2017_int_peak = 23.2

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

Test Date: Nov-2018
Hardware Availability: May-2017
Software Availability: Sep-2018

Results Table

	Base							Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	4	338	18.9	341	18.7	**338**	**18.8**	4	286	22.3	**286**	**22.3**	287	22.2
502.gcc_r	4	**266**	**21.3**	266	21.3	266	21.3	4	226	25.0	**226**	**25.0**	227	25.0
505.mcf_r	4	261	24.8	260	24.9	**260**	**24.9**	4	261	24.8	260	24.9	**260**	**24.9**
520.omnetpp_r	4	**402**	**13.1**	400	13.1	402	13.1	4	**402**	**13.1**	400	13.1	402	13.1
523.xalancbmk_r	4	198	21.4	**197**	**21.4**	197	21.4	4	**158**	**26.7**	158	26.7	160	26.4
525.x264_r	4	140	50.2	139	50.3	**139**	**50.3**	4	134	52.2	134	52.1	**134**	**52.2**
531.deepsjeng_r	4	**237**	**19.3**	237	19.3	237	19.3	4	**237**	**19.3**	237	19.3	237	19.3
541.leela_r	4	405	16.4	405	16.4	**405**	**16.4**	4	405	16.4	405	16.4	**405**	**16.4**
548.exchange2_r	4	**239**	**43.8**	239	43.8	239	43.8	4	238	44.1	238	44.1	**238**	**44.1**
557.xz_r	4	**339**	**12.8**	339	12.8	339	12.8	4	339	12.8	339	12.8	**339**	**12.8**

SPECrate2017_int_base = 21.8

SPECrate2017_int_peak = 23.2

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

Submit Notes

```
The taskset mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate taskset 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"
echo always > /sys/kernel/mm/transparent_hugepage/enabled
echo 1 > /proc/sys/vm/drop_caches
echo 1000000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 1500000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
```

General Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/Benchmark/speccpu2017-ic19-20181011/icc19-lib/ia32"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19-20181011/icc19-lib/intel64"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19-20181011/je5.0.1-32"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2017-ic19-20181011/je5.0.1-64"

 Binaries compiled on a system with 2x Intel Xeon Silver 4108 CPU + 384GB RAM
 memory using SUSE Linux Enterprise Server 12 SP2
 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
```

(Continued on next page)

General Notes (Continued)

```
 jemalloc: configured and built at default for 32bit (i686) and 64bit (x86_64) targets;
 jemalloc: built with the RedHat Enterprise 7.4, and the system compiler gcc 4.8.5;
 jemalloc: sources available via jemalloc.net

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.
```

Platform Notes

```
 BIOS configuration:
 Fan Control = Full
 Sysinfo program /home/Benchmark/speccpu2017-ic19-20181011/bin/sysinfo
 Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
 running on TX1330M3 Mon Nov 26 04:41:26 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) CPU E3-1225 v6 @ 3.30GHz
       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 : 4
       siblings  : 4
       physical 0: cores 0 1 2 3

 From lscpu:
      Architecture:          x86_64
      CPU op-mode(s):        32-bit, 64-bit
      Byte Order:            Little Endian
      CPU(s):                4
      On-line CPU(s) list: 0-3
      Thread(s) per core:    1
      Core(s) per socket:    4
      Socket(s):             1
      NUMA node(s):          1
      Vendor ID:             GenuineIntel
      CPU family:            6
      Model:                 158
```

(Continued on next page)

Platform Notes (Continued)

```
      Model name:            Intel(R) Xeon(R) CPU E3-1225 v6 @ 3.30GHz
      Stepping:              9
      CPU MHz:               3300.000
      CPU max MHz:           3700.0000
      CPU min MHz:           800.0000
      BogoMIPS:              6624.00
      Virtualization:        VT-x
      L1d cache:             32K
      L1i cache:             32K
      L2 cache:              256K
      L3 cache:              8192K
      NUMA node0 CPU(s):     0-3
      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 tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3
      sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer
      aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single
      pti tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep
      bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt intel_pt xsaveopt xsavec
      xgetbv1 xsaves ibpb ibrs stibp dtherm ida arat pln pts hwp hwp_notify hwp_act_window
      hwp_epp ssbd

 /proc/cpuinfo cache data
    cache size : 8192 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: 64034 MB
   node 0 free: 63550 MB
   node distances:
   node   0
     0:  10

 From /proc/meminfo
    MemTotal:       65571408 kB
    HugePages_Total:       0
    Hugepagesize:       2048 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="SLES"
       VERSION="15"
       VERSION_ID="15"
       PRETTY_NAME="SUSE Linux Enterprise Server 15"
```

(Continued on next page)

Platform Notes (Continued)

```
        ID="sles"
        ID_LIKE="suse"
        ANSI_COLOR="0;32"
        CPE_NAME="cpe:/o:suse:sles:15"

  uname -a:
     Linux TX1330M3 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b) x86_64
     x86_64 x86_64 GNU/Linux

  run-level 3 Nov 26 04:35

  SPEC is set to: /home/Benchmark/speccpu2017-ic19-20181011
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda4      xfs   1.7T   27G  1.7T   2% /home

  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.
    BIOS FUJITSU // American Megatrends Inc. V5.0.0.11 R1.21.0 for D3373-B1x
        11/20/2018
    Memory:
     4x Samsung M391A2K43BB1-CRC 16 GB 2 rank 2400

  (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
 CC  500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
      525.x264_r(base, peak) 557.xz_r(base, peak)
------------------------------------------------------------------------------
icc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
CC   500.perlbench_r(peak) 502.gcc_r(peak)
------------------------------------------------------------------------------
icc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
      541.leela_r(base)
```

(Continued on next page)

Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------
icpc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
CXXC 520.omnetpp_r(peak) 523.xalancbmk_r(peak) 531.deepsjeng_r(peak)
     541.leela_r(peak)
------------------------------------------------------------------------------
icpc (ICC) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------

==============================================================================
 FC  548.exchange2_r(base, peak)
------------------------------------------------------------------------------
ifort (IFORT) 19.0.0.117 20180804
Copyright (C) 1985-2018 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icc -m64 -std=c11`

C++ benchmarks:
`icpc -m64`

Fortran benchmarks:
`ifort -m64`

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`

Fujitsu

PRIMERGY TX1330 M3, Intel Xeon E3-1225 v6, 3.30GHz

SPECrate2017_int_base = 21.8

SPECrate2017_int_peak = 23.2

CPU2017 License:	19	**Test Date:**	Nov-2018
Test Sponsor:	Fujitsu	**Hardware Availability:**	May-2017
Tested by:	Fujitsu	**Software Availability:**	Sep-2018

Base Optimization Flags

C benchmarks:
`-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc`

C++ benchmarks:
`-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc`

Fortran benchmarks:
`-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div`
`-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte`
`-L/usr/local/je5.0.1-64/lib -ljemalloc`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m64 -std=c11`

502.gcc_r: `icc -m32 -std=c11 -L/opt/intel/compilers_and_libraries_2019/linux/lib/ia32`

C++ benchmarks (except as noted below):
`icpc -m64`

523.xalancbmk_r: `icpc -m32 -L/opt/intel/compilers_and_libraries_2019/linux/lib/ia32`

Fortran benchmarks:
`ifort -m64`

Peak Portability Flags

500.perlbench_r: `-DSPEC_LP64 -DSPEC_LINUX_X64`
502.gcc_r: `-D_FILE_OFFSET_BITS=64`
505.mcf_r: `-DSPEC_LP64`
520.omnetpp_r: `-DSPEC_LP64`
523.xalancbmk_r: `-D_FILE_OFFSET_BITS=64 -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`

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3 -no-prec-div -qopt-mem-layout-trans=3 -fno-strict-overflow -L/usr/local/je5.0.1-64/lib -ljemalloc

502.gcc_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3 -no-prec-div -qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-32/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-mem-layout-trans=3 -fno-alias -L/usr/local/je5.0.1-64/lib -ljemalloc

557.xz_r: -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3 -no-prec-div -qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-32/lib -ljemalloc

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:
-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte -L/usr/local/je5.0.1-64/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2017-12-21.html
http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.2-BDW-RevF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2017-12-21.xml
http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.2-BDW-RevF.xml

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

Tested with SPEC CPU2017 v1.0.2 on 2018-11-25 14:41:25-0500.
Report generated on 2019-01-08 16:43:16 by CPU2017 PS formatter v6067.
Originally published on 2019-01-08.