# SPEC CPU®2017 Integer Rate Result

**NEC Corporation**

**Express5800/R120h-2M (Intel Xeon Gold 6226R)**

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>208</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>216</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 9006  
**Test Sponsor:** NEC Corporation  
**Tested by:** NEC Corporation  
**Hardware Availability:** May-2020  
**Software Availability:** Sep-2019

| Copies | 0  | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360 | 380 | 400 | 420 | 440 | 460 |
|--------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 500.perlbench_r | 64 | 91 |    | 177 |    |    | 155 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 502.gcc_r | 64 | 166 |    | 177 |    |    | 155 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 505.mcf_r | 64 | 134 |    | 177 |    |    | 155 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 520.omnetpp_r | 64 | 134 |    | 177 |    |    | 155 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 523.xalancbmk_r | 64 | 231 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 525.x264_r | 64 | 231 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 531.deepsjeng_r | 64 | 179 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 541.leela_r | 64 | 164 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 548.exchange2_r | 64 | 164 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 557.xz_r | 64 | 134 |    | 266 |    |    | 244 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

**Hardware**

- **CPU Name:** Intel Xeon Gold 6226R  
  - **Max MHz:** 3900  
  - **Nominal:** 2900  
  - **Enabled:** 32 cores, 2 chips, 2 threads/core  
  - **Orderable:** 1.2 chips  
  - **Cache L1:** 32 KB I + 32 KB D on chip per core  
  - **L2:** 1 MB I+D on chip per core  
  - **L3:** 22 MB I+D on chip per chip  
  - **Memory:** 384 GB (24 x 16 GB 2Rx8 PC4-2933Y-R)  
  - **Storage:** 1 x 1 TB SATA, 7200 RPM, RAID 0  
  - **Other:** None

**Software**

- **OS:** Red Hat Enterprise Linux Server release 7.7 (Maipo)  
  - **Kernel:** 3.10.0-1062.1.1.el7.x86_64  
  - **Compiler:** C/C++: Version 19.0.4.227 of Intel C/C++ Compiler Build 20190416 for Linux; Fortran: Version 19.0.4.227 of Intel Fortran Compiler Build 20190416 for Linux  
  - **Parallel:** No  
  - **Firmware:** NEC BIOS Version U30 v2.32 03/09/2020 released Jun-2020  
  - **File System:** ext4  
  - **System State:** Run level 3 (multi-user)  
  - **Base Pointers:** 64-bit  
  - **Peak Pointers:** 32/64-bit  
  - **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 Rate Result

**NEC Corporation**

**Express5800/R120h-2M (Intel Xeon Gold 6226R)**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>64</td>
<td>658</td>
<td>155</td>
<td>659</td>
<td>155</td>
<td>659</td>
<td>155</td>
<td>659</td>
<td>155</td>
<td>659</td>
<td>155</td>
<td>659</td>
<td>155</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>64</td>
<td>546</td>
<td>166</td>
<td>547</td>
<td>166</td>
<td>546</td>
<td>166</td>
<td>547</td>
<td>166</td>
<td>546</td>
<td>166</td>
<td>547</td>
<td>166</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>64</td>
<td><strong>390</strong></td>
<td><strong>265</strong></td>
<td>390</td>
<td>265</td>
<td>388</td>
<td>266</td>
<td>390</td>
<td>265</td>
<td>388</td>
<td>266</td>
<td>390</td>
<td>265</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>64</td>
<td>627</td>
<td><strong>134</strong></td>
<td>628</td>
<td>134</td>
<td>627</td>
<td>134</td>
<td>628</td>
<td>134</td>
<td>627</td>
<td>134</td>
<td>628</td>
<td>134</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>64</td>
<td>292</td>
<td>231</td>
<td>293</td>
<td>231</td>
<td>293</td>
<td>231</td>
<td>293</td>
<td>231</td>
<td>293</td>
<td>231</td>
<td>293</td>
<td>231</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>64</td>
<td>259</td>
<td>433</td>
<td>257</td>
<td>436</td>
<td>258</td>
<td>435</td>
<td>258</td>
<td>435</td>
<td>258</td>
<td>435</td>
<td>258</td>
<td>435</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>64</td>
<td>410</td>
<td>179</td>
<td>411</td>
<td>178</td>
<td><strong>410</strong></td>
<td>179</td>
<td>410</td>
<td>179</td>
<td>410</td>
<td>179</td>
<td>410</td>
<td>179</td>
</tr>
<tr>
<td>541.leea_r</td>
<td>64</td>
<td>647</td>
<td>164</td>
<td>637</td>
<td>166</td>
<td><strong>644</strong></td>
<td>164</td>
<td>645</td>
<td>164</td>
<td>646</td>
<td>164</td>
<td>646</td>
<td>164</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>64</td>
<td>404</td>
<td>416</td>
<td>403</td>
<td>416</td>
<td><strong>403</strong></td>
<td>416</td>
<td>403</td>
<td>416</td>
<td>403</td>
<td>416</td>
<td>403</td>
<td>416</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>64</td>
<td><strong>514</strong></td>
<td>134</td>
<td>514</td>
<td>134</td>
<td>514</td>
<td>134</td>
<td>514</td>
<td>134</td>
<td>514</td>
<td>134</td>
<td>514</td>
<td>134</td>
</tr>
</tbody>
</table>

**SPECrate®2017_int_base = 208**

**SPECrate®2017_int_peak = 216**

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

### 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/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/cpu2017/jre5.0.1-32"
```

### General Notes

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM memory using Redhat Enterprise Linux 7.5

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.:

(Continued on next page)
General Notes (Continued)

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

Platform Notes

BIOS Settings:
Thermal Configuration: Maximum Cooling
Workload Profile: General Throughput Compute
Memory Patrol Scrubbing: Disabled
LLC Dead Line Allocation: Disabled
LLC Prefetch: Enabled
Enhanced Processor Performance: Enabled

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on r120h2m Wed Jan 13 16:54:46 2021

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 6226R CPU @ 2.90GHz
  2 "physical id"s (chips)
  64 "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 : 16
  siblings : 32
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian

(Continued on next page)
SPEC CPU®2017 Integer Rate Result

NEC Corporation

Express5800/R120h-2M (Intel Xeon Gold 6226R)

SPEC®2017_int_base = 208
SPEC®2017_int_peak = 216

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation

Test Date: Jan-2021
Hardware Availability: May-2020
Software Availability: Sep-2019

Platform Notes (Continued)

CPU(s): 64
On-line CPU(s) list: 0-63
Thread(s) per core: 2
Core(s) per socket: 16
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6226R CPU @ 2.90GHz
Stepping: 7
CPU MHz: 2900.000
BogoMIPS: 5800.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 22528K
NUMA node0 CPU(s): 0-7,32-39
NUMA node1 CPU(s): 8-15,40-47
NUMA node2 CPU(s): 16-23,48-55
NUMA node3 CPU(s): 24-31,56-63
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 rep_good nopl xtopology nonstop_tsc aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xsave pxr pdcm pcd dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch ept pae mce cmov cx8pt intel_p六个 pdp tsc cdts rm cpuid rsb ibs ibbp stibl ibs enhanced tpr_shadow vnni flexpriorityupa vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 ersed invpcid rt m cqm mpx rdt_a avx512f avx512dq rsseed adx smap clflushopt clwb avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local dtherm ida arat pin pts pku ospke avx512_vnni md_clear spec_ctrl intel_stibp
flush_l1d arch_capabilities

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 32 33 34 35 36 37 38 39
node 0 size: 97961 MB
node 0 free: 95541 MB
node 1 cpus: 8 9 10 11 12 13 14 15 40 41 42 43 44 45 46 47
node 1 size: 98304 MB
node 1 free: 96027 MB

(Continued on next page)
Platform Notes (Continued)

node 2 cpus: 16 17 18 19 20 21 22 23 48 49 50 51 52 53 54 55
node 2 size: 98304 MB
node 2 free: 95949 MB
node 3 cpus: 24 25 26 27 28 29 30 31 56 57 58 59 60 61 62 63
node 3 size: 98303 MB
node 3 free: 96007 MB
node distances:
  node 0 1 2 3
  0: 10 21 21 21
  1: 21 10 21 21
  2: 21 21 10 21
  3: 21 21 21 10

From /proc/meminfo
  MemTotal: 395919264 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/sbin/tuned-adm active
  Current active profile: throughput-performance

From /etc/*release* /etc/*version*
  os-release:
    NAME="Red Hat Enterprise Linux Server"
    VERSION="7.7 (Maipo)"
    ID="rhel"
    ID_LIKE="fedora"
    VARIANT="Server"
    VARIANT_ID="server"
    VERSION_ID="7.7"
    PRETTY_NAME="Red Hat Enterprise Linux Server 7.7 (Maipo)"
  redhat-release: Red Hat Enterprise Linux Server release 7.7 (Maipo)
  system-release: Red Hat Enterprise Linux Server release 7.7 (Maipo)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:7.7:ga:server

uname -a:
  Linux r120h2m 3.10.0-1062.1.1.el7.x86_64 #1 SMP Tue Aug 13 18:39:59 UTC 2019 x86_64
  x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit): No status reported
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
SPEC CPU®2017 Integer Rate Result

NEC Corporation
Express5800/R120h-2M (Intel Xeon Gold 6226R)  SPECrate®2017_int_base = 208
SPECrate®2017_int_peak = 216

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9006</th>
<th>Test Date:</th>
<th>Jan-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>NEC Corporation</td>
<td>Hardware Availability:</td>
<td>May-2020</td>
</tr>
<tr>
<td>Tested by:</td>
<td>NEC Corporation</td>
<td>Software Availability:</td>
<td>Sep-2019</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1):
Mitigation: Load fences, usercopy/swapgs barriers and __user pointer sanitization

CVE-2017-5715 (Spectre variant 2):
Mitigation: Full retpoline, IBFB

CVE-2020-0543 (Special Register Buffer Data Sampling):
No status reported

CVE-2019-11135 (TSX Asynchronous Abort):
No status reported

---

run-level 3 Jan 13 16:49

SPEC is set to: /home/cpu2017

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda3      ext4  908G  260G  603G  31% /

From /sys/devices/virtual/dmi/id
Vendor:         NEC
Product:        Express5800/R120h-2M
Serial:         JPNLMCR0VF

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 HPE P03050-091 16 GB 2 rank 2933

BIOS:
BIOS Vendor:     NEC
BIOS Version:    U30
BIOS Date:       03/09/2020
BIOS Revision:   2.32
Firmware Revision: 2.14

(End of data from sysinfo program)

### Compiler Version Notes

```
C       | 502.gcc_r(peak)
```

Intel(R) C Intel(R) 64 Compiler for applications running on IA-32, Version
19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

(Continued on next page)
NEC Corporation

Express5800/R120h-2M (Intel Xeon Gold 6226R)

SPECrator®2017 int_base = 208
SPECrator®2017 int_peak = 216

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Test Date: Jan-2021
Tested by: NEC Corporation
Hardware Availability: May-2020
Software Availability: Sep-2019

Compiler Version Notes (Continued)

C

| 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) |
| 525.x264_r(base, peak) 557.xz_r(base, peak) |

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

C

| 502.gcc_r(peak) |

Intel(R) C Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

C

| 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) |
| 525.x264_r(base, peak) 557.xz_r(base, peak) |

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

C++

| 523.xalancbmk_r(peak) |

Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

C++

| 520.omnetpp_r(base, peak) 523.xalancbmk_r(base) |
| 531.deepsjeng_r(base, peak) 541.leela_r(base, peak) |

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

C++

| 523.xalancbmk_r(peak) |

Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416

(Continued on next page)
NEC Corporation

Express5800/R120h-2M (Intel Xeon Gold 6226R)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 208
SPECrate®2017_int_peak = 216

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Test Date: Jan-2021
Tested by: NEC Corporation
Hardware Availability: May-2020
Software Availability: Sep-2019

Compiler Version Notes (Continued)
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
-----------------------------------------------------------------------------------------------
C++   | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base)
      | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
-----------------------------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
-----------------------------------------------------------------------------------------------
Fortran | 548.exchange2_r(base, peak)
-----------------------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 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
 SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

NEC Corporation
Express5800/R120h-2M (Intel Xeon Gold 6226R)

SPECrate®2017_int_base = 208
SPECrate®2017_int_peak = 216

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Test Date: Jan-2021
Tested by: NEC Corporation
Hardware Availability: May-2020
Software Availability: Sep-2019

Base Optimization Flags

C benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

C++ benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

Fortran benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

Peak Compiler Invocation

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


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

523.xalancbmk_r: icpc -m32 -L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/ia32_lin

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

(Continued on next page)
SPEC CPU®2017 Integer Rate Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

NEC Corporation
Express5800/R120h-2M (Intel Xeon Gold 6226R)

**SPECrate®2017_int_base = 208**
**SPECrate®2017_int_peak = 216**

<table>
<thead>
<tr>
<th>CPU2017 License: 9006</th>
<th>Test Date: Jan-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: NEC Corporation</td>
<td>Hardware Availability: May-2020</td>
</tr>
<tr>
<td>Tested by: NEC Corporation</td>
<td>Software Availability: Sep-2019</td>
</tr>
</tbody>
</table>

**Peak Portability Flags (Continued)**

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-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

502.gcc_r: -Wl,\-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=4
-L/usr/local/je5.0.1-32/lib -ljemalloc

505.mcf_r: -Wl,\-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

525.x264_r: -Wl,\-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -fno-alias
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

557.xz_r: Same as 505.mcf_r

**C++ benchmarks:**

520.omnetpp_r: -Wl,\-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64
-lqkmalloc

523.xalancbmk_r: -Wl,\-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=4
-L/usr/local/je5.0.1-32/lib -ljemalloc

531.deepsjeng_r: basepeak = yes

(Continued on next page)
**SPEC CPU®2017 Integer Rate Result**

**NEC Corporation**

Express5800/R120h-2M (Intel Xeon Gold 6226R)  

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 208</th>
<th>SPECrate®2017_int_peak = 216</th>
</tr>
</thead>
</table>

**CPU2017 License:** 9006  
**Test Sponsor:** NEC Corporation  
**Tested by:** NEC Corporation

**Test Date:** Jan-2021  
**Hardware Availability:** May-2020  
**Software Availability:** Sep-2019

**Peak Optimization Flags (Continued)**

541.leela_r: Same as 520.omnetpp_r

Fortran benchmarks:
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte  
-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/intel64  
-lqkmalloc

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


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


---

**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.

Tested with SPEC CPU®2017 v1.1.5 on 2021-01-13 02:54:45-0500.  
Report generated on 2021-02-02 19:47:00 by CPU2017 PDF formatter v6255.  
Originally published on 2021-02-02.