### NEC Corporation

**Express5800/R120h-1M (Intel Xeon Gold 6258R)**

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>= 325</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>= 341</td>
</tr>
</tbody>
</table>

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

| Copies | 0 | 40.0 | 80.0 | 120 | 160 | 200 | 240 | 280 | 320 | 360 | 400 | 440 | 480 | 520 | 560 | 600 | 640 | 680 | 720 | 760 |
|--------|---|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 500.perlbench_r | 112 | *289* |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 502.gcc_r | 112 | *248* |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 505.mcf_r | 112 | *287* |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 520.omnetpp_r | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 523.xalancbmk_r | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 525.x264_r | 112 | *393* |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 531.deepsjeng_r | 112 | *393* |      | 196 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 541.leela_r | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 548.exchange2_r | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 557.xz_r | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

**Hardware**

- **CPU Name:** Intel Xeon Gold 6258R  
- **Max MHz:** 4000  
- **Nominal:** 2700  
- **Enabled:** 56 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:** 38.5 MB I+D on chip per chip  
- **Other:** None  
- **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 U32 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.
Results Table

<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>
</tr>
</thead>
<tbody>
<tr>
<td>500.perbench_r</td>
<td>112</td>
<td>703</td>
<td>254</td>
<td>707</td>
<td>252</td>
<td>705</td>
<td>255</td>
<td>112</td>
<td>618</td>
<td>289</td>
<td>616</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>112</td>
<td>640</td>
<td>248</td>
<td>648</td>
<td>245</td>
<td>637</td>
<td>249</td>
<td>112</td>
<td>538</td>
<td>295</td>
<td>532</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>112</td>
<td>460</td>
<td>393</td>
<td>458</td>
<td>396</td>
<td>461</td>
<td>393</td>
<td>112</td>
<td>459</td>
<td>394</td>
<td>460</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>112</td>
<td>748</td>
<td>196</td>
<td>749</td>
<td>196</td>
<td>749</td>
<td>196</td>
<td>112</td>
<td>753</td>
<td>195</td>
<td>750</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>112</td>
<td>358</td>
<td>331</td>
<td>358</td>
<td>331</td>
<td>358</td>
<td>330</td>
<td>112</td>
<td>320</td>
<td>369</td>
<td>319</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>112</td>
<td>275</td>
<td>714</td>
<td>275</td>
<td>714</td>
<td>275</td>
<td>714</td>
<td>112</td>
<td>263</td>
<td>745</td>
<td>263</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>112</td>
<td>443</td>
<td>290</td>
<td>444</td>
<td>289</td>
<td>443</td>
<td>290</td>
<td>112</td>
<td>443</td>
<td>290</td>
<td>444</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>112</td>
<td>689</td>
<td>269</td>
<td>689</td>
<td>269</td>
<td>690</td>
<td>269</td>
<td>112</td>
<td>691</td>
<td>268</td>
<td>688</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>112</td>
<td>435</td>
<td>675</td>
<td>432</td>
<td>679</td>
<td>433</td>
<td>677</td>
<td>112</td>
<td>435</td>
<td>675</td>
<td>432</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>112</td>
<td>554</td>
<td>218</td>
<td>555</td>
<td>218</td>
<td>555</td>
<td>218</td>
<td>112</td>
<td>555</td>
<td>218</td>
<td>555</td>
</tr>
</tbody>
</table>

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/je5.0.1-32"

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 numaclt i.e.:

(Continued on next page)
SPEC CPU®2017 Integer Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

NEC Corporation
Express5800/R120h-1M (Intel Xeon Gold 6258R)

SPECrate®2017_int_base = 325
SPECrate®2017_int_peak = 341

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

Test Date: Jul-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

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.


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
Workload Profile: Custom
Advanced Memory Protection: Advanced ECC Support

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7ed1e6e46a485a0011
running on r120h1m Fri Jul 3 10:06:08 2020

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 6258R CPU @ 2.70GHz
  2 "physical id"s (chips)
112 "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 : 28
siblings : 56
physical 0: cores 0 1 2 3 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30
physical 1: cores 0 1 2 3 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30

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

NEC Corporation

Express5800/R120h-1M (Intel Xeon Gold 6258R)

SPECrate®2017_int_base = 325

SPECrate®2017_int_peak = 341

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

Test Date: Jul-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Platform Notes (Continued)

From lscpu:

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 112
On-line CPU(s) list: 0-111
Thread(s) per core: 2
Core(s) per socket: 28
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6258R CPU @ 2.70GHz
Stepping: 7
CPU MHz: 2700.000
BogoMIPS: 5400.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 39424K
NUMA node0 CPU(s): 0-13, 56-69
NUMA node1 CPU(s): 14-27, 70-83
NUMA node2 CPU(s): 28-41, 84-97
NUMA node3 CPU(s): 42-55, 98-111
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 md rapl b迄今为止

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 8 9 10 11 12 13 56 57 58 59 60 61 62 63 64 65 66 67 68 69
node 0 size: 97960 MB

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

**NEC Corporation**

Express5800/R120h-1M (Intel Xeon Gold 6258R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>325</td>
<td>341</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>Test Date:</th>
<th>Hardware Availability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9006</td>
<td>Jul-2020</td>
<td>May-2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Sponsor:</th>
<th>Tested by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC Corporation</td>
<td>NEC Corporation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software Availability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep-2019</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

node 0 free: 95495 MB  
node 1 cpus: 14 15 16 17 18 19 20 21 22 23 24 25 26 27 70 71 72 73 74 75 76 77 78 79 80 81 82 83  
node 1 size: 98304 MB  
node 1 free: 95911 MB  
node 2 cpus: 28 29 30 31 32 33 34 35 36 37 38 39 40 41 84 85 86 87 88 89 90 91 92 93 94 95 96 97  
node 2 size: 98304 MB  
node 2 free: 95939 MB  
node 3 cpus: 42 43 44 45 46 47 48 49 50 51 52 53 54 55 98 99 100 101 102 103 104 105 106 107 108 109 110 111  
node 3 size: 98303 MB  
node 3 free: 95994 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: 395911432 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB  

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 r120h1m 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-2018-3620 (L1 Terminal Fault): Not affected  
Microarchitectural Data Sampling: Not affected  

(Continued on next page)
SPEC® CPU2017 Integer Rate Result

NEC Corporation

Express5800/R120h-1M (Intel Xeon Gold 6258R)

SPEC®2017_int_base = 325
SPEC®2017_int_peak = 341

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

Test Date: Jul-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Platform Notes (Continued)

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: Load fences, usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full retpoline, IBPB

run-level 3 Jul 3 10:00

SPEC is set to: /home/cpu2017

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda3      ext4  908G  166G  696G  20% /

From /sys/devices/virtual/dmi/id
BIOS: NEC U32 03/09/2020
Vendor: NEC
Product: Express5800/R120h-1M
Serial: JPN0084094

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

(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.
------------------------------------------------------------------------------

==============================================================================
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.
------------------------------------------------------------------------------

(Continued on next page)
### NEC Corporation

**Express5800/R120h-1M (Intel Xeon Gold 6258R)**

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>NEC Corporation</td>
</tr>
<tr>
<td>Tested by:</td>
<td>NEC Corporation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>325</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>341</td>
</tr>
</tbody>
</table>

**Compiler Version Notes (Continued)**

<table>
<thead>
<tr>
<th>C</th>
<th>502.gcc_r(peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416</td>
<td></td>
</tr>
<tr>
<td>Copyright (C) 1985-2019 Intel Corporation. All rights reserved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.4.227 Build 20190416</td>
<td></td>
</tr>
<tr>
<td>Copyright (C) 1985-2019 Intel Corporation. All rights reserved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C++</th>
<th>523.xalancbmk_r(peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416</td>
<td></td>
</tr>
<tr>
<td>Copyright (C) 1985-2019 Intel Corporation. All rights reserved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C++</th>
<th>520.omnetpp_r(base, peak) 523.xalancbmk_r(base) 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.4.227 Build 20190416</td>
<td></td>
</tr>
<tr>
<td>Copyright (C) 1985-2019 Intel Corporation. All rights reserved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C++</th>
<th>523.xalancbmk_r(peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel(R) C++ Intel(R) 64 Compiler for applications running on IA-32, Version 19.0.4.227 Build 20190416</td>
<td></td>
</tr>
<tr>
<td>Copyright (C) 1985-2019 Intel Corporation. All rights reserved.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C++</th>
<th>520.omnetpp_r(base, peak) 523.xalancbmk_r(base) 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)</th>
</tr>
</thead>
</table>

(Continued on next page)
NEC Corporation
Express5800/R120h-1M (Intel Xeon Gold 6258R)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrater®2017_int_base = 325
SPECrater®2017_int_peak = 341

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

Test Date: Jul-2020
Hardware Availability: May-2020
Software Availability: Sep-2019

Compiler Version Notes (Continued)

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

Base Optimization Flags

C benchmarks:
-W1,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div

(Continued on next page)
Base Optimization Flags (Continued)

C benchmarks (continued):
-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

502gcc_r: icc -m32 -std=c11 -L/usr/local/IntelCompiler19/compilers_and_libraries_2019.4.227/linux/compiler/lib/ia32_lin

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

523xalancbmk_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
531.deepsjeng_r: -DSPEC_LP64

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

### NEC Corporation

Express5800/R120h-1M (Intel Xeon Gold 6258R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 325</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak = 341</td>
</tr>
</tbody>
</table>

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

---

### Peak Portability Flags (Continued)

- 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-1M (Intel Xeon Gold 6258R)

SPECrate®2017_int_base = 325
SPECrate®2017_int_peak = 341

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Tested by: NEC Corporation
Test Date: Jul-2020
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
http://www.spec.org/cpu2017/flags/NEC-Platform-Settings-V1.2-R120h-RevE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/NEC-Platform-Settings-V1.2-R120h-RevE.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.

Tested with SPEC CPU®2017 v1.1.0 on 2020-07-02 21:06:08-0400.
Originally published on 2020-07-21.