## NEC Corporation

**Express5800/R110i-1 (Intel Xeon E3-1260L v5)**

**SPECrate2017_int_base** = 26.2

**SPECrate2017_int_peak** = 27.9

### Hardware

- **CPU Name**: Intel Xeon E3-1260L v5
- **Max MHz.**: 3900
- **Nominal**: 2900
- **Enabled**: 4 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**: 8 MB I+D on chip per chip
- **Other**: None

- **Memory**: 64 GB (4 x 16 GB 2Rx8 PC4-2400T-E, running at 2133)
- **Storage**: 1 x 1 TB SATA, 7200 RPM
- **Other**: None

### Software

- **OS**: Red Hat Enterprise Linux Server release 7.4 (Maipo)
  Kernel 3.10.0-693.21.1.el7.x86_64
- **Compiler**: C/C++: Version 18.0.2.199 of Intel C/C++
  Compiler for Linux:
  Fortran: Version 18.0.2.199 of Intel Fortran
  Compiler for Linux
- **Parallel**: No
- **Firmware**: Version 5.0.3006 02/28/2018 released Apr-2018
  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
SPECCPU2017 Integer Rate Result

NEC Corporation

Express5800/R110i-1 (Intel Xeon E3-1260L v5)

SPECrate2017_int_base = 26.2
SPECrate2017_int_peak = 27.9

CPU2017 License: 9006
Test Sponsor: NEC Corporation
Test Date: Oct-2018
Hardware Availability: Apr-2017
Tested by: NEC Corporation
Software Availability: Mar-2018

Results Table

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</table>

SPECrate2017_int_base = 26.2
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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"

General Notes
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/je5.0.1-64"

Binaries compiled on a system with 1x Intel Core i7-6700K 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

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.

(Continued on next page)
SPEC CPU2017 Integer Rate Result

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NEC Corporation

Express5800/R110i-1 (Intel Xeon E3-1260L v5)

| SPECrate2017_int_base = 26.2 |
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General Notes (Continued)

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:
Power Management Policy: Custom
Energy Performance: Performance
DCU Streamer Prefetcher: Disabled
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on r11011 Fri Oct 19 13:27:21 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 E3-1260L v5 @ 2.90GHz
   1 "physical id"s (chips)
   8 "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 : 8
   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): 8
   On-line CPU(s) list: 0-7
   Thread(s) per core: 2
   Core(s) per socket: 4
   Socket(s): 1
   NUMA node(s): 1
   Vendor ID: GenuineIntel
   CPU family: 6
   Model: 94
   Model name: Intel(R) Xeon(R) CPU E3-1260L v5 @ 2.90GHz
   Stepping: 3
   CPU MHz: 3280.398
   CPU max MHz: 3900.000

(Continued on next page)
SPEC CPU2017 Integer Rate Result

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Platform Notes (Continued)

CPU min MHz: 800.0000
BogoMIPS: 5808.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 256K
L3 cache: 8192K
NUMA node0 CPU(s): 0-7
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
aperfmrperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 fma
cx16 xtpref pdc mc pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abm 3dnowprefetch epb invpcl single intel_pt spec_ctrl
ibpb_support tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2
smep bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt xsaveopt xsavec xgetbv1
dtherm ida arat pln pts hwp hwp_notify hwp_act_window hwp_epp

From /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 4 5 6 7
 node 0 size: 65474 MB
 node 0 free: 63615 MB
 node distances:
 node 0
 0: 10

From /proc/meminfo
 MemTotal: 65915156 kB
 HugePages_Total: 0
 Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*
 os-release:
 NAME="Red Hat Enterprise Linux Server"
 VERSION="7.4 (Maipo)"
 ID=rhel
 ID_LIKE=fedora
 VARIANT=Server
 VARIANT_ID=server
 VERSION_ID=7.4
 PRETTY_NAME="Red Hat Enterprise Linux Server 7.4 (Maipo)"
 redhat-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)

(Continued on next page)
SPEC CPU2017 Integer Rate Result

NEC Corporation

Express5800/R110i-1 (Intel Xeon E3-1260L v5)

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Platform Notes (Continued)

system-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.4:ga:server

uname -a:
    Linux r110i1 3.10.0-693.21.1.el7.x86_64 #1 SMP Fri Feb 23 18:54:16 UTC 2018 x86_64
    x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:
CVE-2017-5754 (Meltdown): Mitigation: PTI
CVE-2017-5753 (Spectre variant 1): Mitigation: Load fences
CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS (kernel)

run-level 3 Oct 19 13:21
SPEC is set to: /home/cpu2017
    Filesystem  Type  Size  Used Avail Use% Mounted on
    /dev/sda3    ext4  909G   87G  776G  11% /

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 American Megatrends Inc. 5.0.3006 02/28/2018
    Memory:
        4x Micron 18ASF2G72AZ-2G3B1 16 GB 2 rank 2400, configured at 2133

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
CC  500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base)
    557.xz_r(base)
==============================================================================
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
==============================================================================

==============================================================================
CC  500.perlbench_r(peak) 502.gcc_r(peak) 505.mcf_r(peak) 525.x264_r(peak)
    557.xz_r(peak)
==============================================================================
icc (ICC) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

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### NEC Corporation

**Express5800/R110i-1 (Intel Xeon E3-1260L v5)**

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#### Compiler Version Notes (Continued)

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

icpc (ICC) 18.0.2 20180210
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) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

FC 548.exchange2_r(base)

ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

FC 548.exchange2_r(peak)

ifort (IFORT) 18.0.2 20180210
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
```

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#### Base Compiler Invocation

**C benchmarks:**

```plaintext
icc -m64 -std=c11
```

**C++ benchmarks:**

```plaintext
icpc -m64
```

**Fortran benchmarks:**

```plaintext
ifort -m64
```
**SPEC CPU2017 Integer Rate Result**

**NEC Corporation**

**Express5800/R110i-1 (Intel Xeon E3-1260L v5)**

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**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-AVX2 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc

**C++ benchmarks:**

-W1, -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:**

-W1, -z, muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs  
-L/usr/local/je5.0.1-64/lib -ljemalloc

**Peak Compiler Invocation**

C benchmarks (except as noted below):

cc -m64 -std=c11

502.gcc_r: cc -m32 -std=c11 -L/home/prasadj/specdev/IC18u2_Internal/lin_18_0_20180210/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):

icpc -m64

523.xalancbmk_r: icpc -m32 -L/home/prasadj/specdev/IC18u2_Internal/lin_18_0_20180210/compiler/lib/ia32_lin

Fortran benchmarks:

ifort -m64
SPEC CPU2017 Integer Rate Result
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NEC Corporation

Express5800/R110i-1 (Intel Xeon E3-1260L v5)

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Test Date: Oct-2018
Hardware Availability: Apr-2017
Software Availability: Mar-2018

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 -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX2 -O3 -no-prec-div -qopt-mem-layout-trans=3
-fno-alias -L/usr/local/je5.0.1-64/lib -ljemalloc

557.xz_r: basepeak = yes

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: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX2 -O3 -no-prec-div -qopt-mem-layout-trans=3

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

**NEC Corporation**
Express5800/R110i-1 (Intel Xeon E3-1260L v5)

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---

### Peak Optimization Flags (Continued)

- 541.leela_r (continued):
  - `-L/usr/local/je5.0.1-64/lib -ljemalloc`

**Fortran benchmarks:**

- 548.exchange2_r: `basepeak = yes`

---

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:


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

Tested with SPEC CPU2017 v1.0.5 on 2018-10-19 00:27:20-0400.  