Lenovo Global Technology
Intel Xeon Platinum 8280 CPU
ThinkSystem SR650

<table>
<thead>
<tr>
<th>SPECaccel_omp_base</th>
<th>6.79</th>
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</thead>
</table>

**Hardware**

- **CPU Name:** (Intel Xeon Platinum 8280 CPU, 2.7 GHz)
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.0 GHz
- **CPU MHz:** 2700
- **CPU MHz Maximum:** 4000
- **FPU:** Integrated
- **CPU(s) enabled:** 56 cores, 2 chips, 28 cores/chip, 2 threads/core
- **CPU(s) orderable:** 1,2 Chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 1 MB I+D on chip per core
- **L3 Cache:** 38.5 MB I+D on chip per chip
- **Other Cache:** None

**Accelerator**

- **Accel Model Name:** Intel Xeon Platinum 8280 CPU
- **Accel Vendor:** Intel
- **Accel Name:** Intel Xeon Platinum 8280 CPU
- **Type of Accel:** CPU
- **Accel Connection:** 10.4 GT/s UPI
- **Does Accel Use ECC:** Yes
- **Accel Description:** 2 x Intel Xeon Platinum 8280 CPU
- **Accel Driver:** None

---

**SPEC ACCEL™ OMP Result**

Copyright 2015-2019 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

**Intel Xeon Platinum 8280 CPU**

**ThinkSystem SR650**

**SPECaccel_omp_base = 6.79**

**SPECaccel_omp_peak = Not Run**

**ACCEL license:** 16

**Test sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test date:** Mar-2019

**Hardware Availability:** Apr-2019

**Software Availability:** Apr-2019

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** Apr-2019

**Software Availability:** Apr-2019

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**503.postencil**

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**504.polbm**

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**514.pomriq**

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**550.pmd**

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**551.ppalm**

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**552.pep**

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**553.pclvrleaf**

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**554.pcg**

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**555.pseismic**

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**556.psp**

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**559.pmniGhost**

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**560.pilbdc**

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**563.pswim**

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**570.pbt**

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Lenovo Global Technology
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SPECaccel_omp_peak = Not Run

SPECaccel_omp_base = 6.79

ACCEL license: 16
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Apr-2019

Hardware (Continued)
Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem: 1 X Lenovo 1 TB SAS 2.5" HDD
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 7.6, kernel 3.10.0.957.el7.x86_64
Compiler: Intel C/C++/Fortran 18.0 Update 3 for Linux Version 18.0.3 Build 20180210
File System: xfs
System State: Default
Other Software: FFTW 3.3.8

Results Table

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<th>Base Seconds</th>
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</table>

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

Submit Notes
The config file option 'submit' was used.
Lenovo Global Technology
Intel Xeon Platinum 8280 CPU
ThinkSystem SR650

SPECaccel_omp_peak = Not Run
SPECaccel_omp_base = 6.79

ACCEL license: 16
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Apr-2019

Platform Notes
Sysinfo program /home/ACCEL1.2/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21#$ c05a7f14b1b1765e3fe1df68447e8a35
running on slave5 Wed Mar 09 04:13:48 2019

This section contains SUT (System Under Test) info as seen by
some common utilities. To remove or add to this section, see:
http://www.spec.org/accel/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Platinum 8280 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
cautions.)
cpu cores : 28
siblings : 56
physical 0: cores 0 1 2 3 4 5 6 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 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
  25 26 27 28 29 30
cache size : 39424 KB

From /proc/meminfo
MemTotal: 792031280 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.6 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VARIANT="Server"
  VARIANT_ID="server"
  VERSION_ID="7.6"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.6 (Maipo)"
redhat-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)

uname -a:
Linux slave5 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51 UTC 2018 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 Mar 09 16:15
SPEC is set to: /home/ACCEL1.2

Continued on next page
Lenovo Global Technology
Intel Xeon Platinum 8280 CPU
ThinkSystem SR650

SPECaccel_omp_peak = Not Run
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ACCEL license: 16
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Platform Notes (Continued)

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 221G 42G 179G 20% /home

Additional information from dmidecode:

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 Lenovo -[IVE135S-2.10]- 03/08/2019
Memory:
24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933 MT/s

(End of data from sysinfo program)

General Notes
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.

Base Compiler Invocation
C benchmarks:
  icc
Fortran benchmarks:
  ifort
Benchmarks using both Fortran and C:
  icc ifort

Base Portability Flags

503.postencil: -DSPEC_USE_INNER_SIMD
504.polbm: -DSPEC_USE_INNER_SIMD
514.pomriq: -DSPEC_USE_INNER_SIMD
550.pmd: -DSPEC_USE_INNER_SIMD -80
551.ppalm: -DSPEC_USE_INNER_SIMD
552.pep: -DSPEC_USE_INNER_SIMD

Continued on next page
## Lenovo Global Technology

**Intel Xeon Platinum 8280 CPU**  
**ThinkSystem SR650**

<table>
<thead>
<tr>
<th>ACCEL license</th>
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<tbody>
<tr>
<td>16</td>
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**Test date:** Mar-2019  
**Hardware Availability:** Apr-2019  
**Software Availability:** Apr-2019  

### Base Portability Flags (Continued)

<table>
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<th>Flags File</th>
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<tbody>
<tr>
<td>553.pclvleaf</td>
<td>-DSPEC_USE_INNER_SIMD</td>
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<tr>
<td>554.pcg</td>
<td>-DSPEC_USE_INNER_SIMD</td>
</tr>
<tr>
<td>555.pseismic</td>
<td>-DSPEC_USE_INNER_SIMD</td>
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<tr>
<td>556.psp</td>
<td>-DSPEC_USE_INNER_SIMD</td>
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<td>557.psp:</td>
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<tr>
<td>559.pmniGhost</td>
<td>-DSPEC_USE_INNER_SIMD -nofor-main</td>
</tr>
<tr>
<td>560.pilbdc:</td>
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<td>563.pswim:</td>
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<tr>
<td>570.pbt:</td>
<td>-DSPEC_USE_INNER_SIMD</td>
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</tbody>
</table>

### Base Optimization Flags

**C benchmarks:**

- -O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

**Fortran benchmarks:**

- -O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

**Benchmarks using both Fortran and C:**

- -O3 -xCOMMON-AVX512 -qopenmp -qopenmp-offload=host

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

- [https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.html](https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.html)
- [https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.html](https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.html)

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

- [https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.xml](https://www.spec.org/accel/flags/Lenovo-SPECACCEL1.2_Platform_Flags.xml)
- [https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.xml](https://www.spec.org/accel/flags/Intel-icc17.0-linux64.20190321.xml)

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For questions about this result, please contact the tester.

For other inquiries, please contact webmaster@spec.org.

**Tested with SPEC ACCEL v1.2.**


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