Lenovo Global Technology

ThinkSystem SR655 (AMD EYPC 7742 CPU, 2.25GHz)

SPECompG_base2012 = 21.6

SPECompG_peak2012 = Not Run

| Threads | 2.00 | 4.00 | 6.00 | 8.00 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 | 24.0 | 26.0 | 28.0 | 30.0 | 32.0 | 34.0 | 36.0 | 38.0 | 40.0 | 42.0 | 44.0 | 46.0 | 48.0 | 50.0 | 52.0 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 350.md  | 52.0 |
| 351.bwaves | 13.0 |
| 352.nab  | 22.8 |
| 357.bt331| 19.1 |
| 358.botsalgn | 51.0 |
| 359.botsspar | 18.4 |
| 360.ilbdc | 11.1 |
| 362.fma3d | 17.1 |
| 363.swim | 11.1 |
| 367.imagick | 42.9 |
| 370.mgrid331 | 9.48 |
| 371.applu331 | 43.9 |
| 372.smithwa | 24.7 |
| 376.kdmtree | 24.7 |

Hardware

CPU Name: AMD EPYC 7742 CPU
CPU Characteristics: Turbo up to 3.4 GHz
CPU MHz: 2250
CPU MHz Maximum: 3400
CPU(s) enabled: 128 cores, 1 chip, 64 cores/chip, 2 threads/core
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 512 KB I+D on chip per core
L3 Cache: 256 MB I+D on chip per chip, 16 MB shared / 4 cores
Other Cache: None
Memory: 256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R)
Disk Subsystem: 1 x 1 TB SATA Hard Drive
Other Hardware: None
Base Threads Run: 128

Software

Operating System: Red Hat Enterprise Linux Server release 7.6, Kernel 3.10.0-957.el7.x86_64
Compiler: C/C++/Fortran: Version 19.0.3.199 of Intel Parallel Studio XE for Linux 64 Build 20190206
Auto Parallel: No
File System: xfs
System State: Multi-user, run level 3
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other Software: None

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Lenovo Global Technology

ThinkSystem SR655 (AMD EYP 7742 CPU, 2.25GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 21.6

OMP2012 license: 9017
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Minimum Peak Threads: --
Maximum Peak Threads: --

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</tbody>
</table>

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

Platform Notes

Sysinfo program /home/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on AMD2U Tue Jul 16 18:39:06 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/omp2012/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : AMD EPYC 7742 64-Core Processor
  1 "physical id"s (chips)
  128 "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 : 64
  siblings : 128
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
  22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
  47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
  cache size : 512 KB

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**Lenovo Global Technology**

**ThinkSystem SR655(AMD EYP 7742 CPU, 2.25GHz)**

**SPECompG_peak2012 = Not Run**

**SPECompG_base2012 = 21.6**

**Platform Notes (Continued)**

From `/proc/meminfo`

- MemTotal: 263788332 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

From `/etc/*release* /etc/*version*`

- 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 AMD2U 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 Jul 17 02:34

SPEC is set to: `/home/omp2012`

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 876G 42G 834G 5% /home

Additional information from dmidecode:

- BIOS Lenovo CFE103A 07/04/2019
- Memory:
  - 8x 32 GB
  - 8x Samsung M393A4K40DB2-CWE 32 GB 3200 MT/s 2 rank
  - 8x Unknown Unknown

(End of data from sysinfo program)

**General Notes**

==============================================

**General OMP Library Settings**


- ENV_KMP_STACKSIZE = 292M

- ENV_KMP_BLOCKTIME = infinite

- ENV_KMP_LIBRARY = turnaround

Continued on next page
Lenovo Global Technology

ThinkSystem SR655 (AMD EYPC 7742 CPU, 2.25GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 21.6

**General Notes (Continued)**

- ENV_OMP_DYNAMIC = FALSE
- ENV_OMP_NESTED = FALSE
- ENV_OMP_SCHEDULE = static

BIOS Setting notes:
- Choose Operating Mode set to Maximum Performance
- NUMA nodes per socket set as NPS4
- LLC as NUMA node set as Enabled
- EfficiencyModeEn set as Auto
- SVM Mode set as Disabled
- IOMMU set as Disabled

Yes: The test sponsor attests, as of date of publication, the CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, the 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-2017-5754 (Spectre variant 2) is mitigated in the system as tested and documented.

**Base Compiler Invocation**

- C benchmarks: icc
- C++ benchmarks: icpc
- Fortran benchmarks: ifort

**Base Portability Flags**

- 350.md: -FR
- 357.bt331: -mcmode=medium
- 363.swim: -mcmode=medium
- 367.imagick: -std=c99

**Base Optimization Flags**

- C benchmarks:
  - -O3 -openmp -march=core-avx2 -no-prec-div
  - -qopt-streaming-stores=auto -unroll-aggressive -ansi-alias
- C++ benchmarks:
  - -O3 -openmp -march=core-avx2 -no-prec-div
  - -qopt-streaming-stores=auto -unroll-aggressive -ansi-alias

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Lenovo Global Technology

ThinkSystem SR655(AMD EYPC 7742 CPU, 2.25GHz)

SPECompG_peak2012 = Not Run
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Base Optimization Flags (Continued)

Fortran benchmarks:
-03 -qopenmp -march=core-avx2 -no-prec-div
-qopt-streaming-stores=auto -unroll-aggressive  -align array64byte

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Lenovo-OMP2012-Rome7742.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/omp2012/flags/Lenovo-OMP2012-Rome7742.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 OMP2012 v1.0.
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