Lenovo Global Technology
ThinkSystem SR950

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 40.2

OMP2012 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test date: Sep-2017
Hardware Availability: Aug-2017
Software Availability: Aug-2017

| Threads | 0 | 10.0 | 20.0 | 30.0 | 40.0 | 50.0 | 60.0 | 70.0 | 80.0 | 90.0 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 189 |
|---------|---|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 350.md  | 224 |      |      |      | 38.0 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 351.bwaves | 224 |      |      |      | 32.0 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 352.nab  | 224 |      |      |      | 49.7 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 357.bt331 | 224 |      |      |      | 36.8 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 358.botsalgn | 224 |      |      |      | 22.0 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 359.botsspar | 224 |      |      |      | 29.3 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360.ilbdc | 224 |      |      |      | 29.0 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 362.fma3d | 224 |      |      |      | 45.8 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 367.imagick | 224 |      |      |      | 26.1 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 370.mgrid331 | 224 |      |      |      | 41.1 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 371.applu331 | 224 |      |      |      | 82.0 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 372.smithwa | 224 |      |      |      | 35.5 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |

Hardware
CPU Name: Intel Xeon Platinum 8180
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2500
CPU MHz Maximum: 3800
FPU: Integrated
CPU(s) enabled: 112 cores, 4 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable: 2,4,8 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
Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V)
Disk Subsystem: ThinkSystem M.2 32GB SSD
Other Hardware: None
Base Threads Run: 224
Minimum Peak Threads: --

Software
Operating System: Red Hat Enterprise Linux Server release 7.3, Kernel 3.10.0-514.el7.x86_64
Compiler: C/C++/Fortran: Version 18.0.0.128 of Intel Composer XE for Linux Build 20170811
Auto Parallel: No
File System: xfs
System State: Default
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other Software: None

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ThinkSystem SR950

SPEC OMPG2012 Result

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OMP2012 license: 28
Test sponsor: Lenovo Global Technology
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Maximum Peak Threads: --

Results Table

<table>
<thead>
<tr>
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<th>Threads</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 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963ae67685e50647
running on tvan.labs.lenovo.com Sat Sep 16 23:06:27 2017

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 : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
    4 "physical id"s (chips)
    224 "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 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
    physical 2: 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

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Lenovo Global Technology  
ThinkSystem SR950

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**Platform Notes (Continued)**

physical 3: 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: 791977888 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB

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

```
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
```

```
uname -a:
Linux tvan.labs.lenovo.com 3.10.0-514.e17.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Sep 15 22:02
```

Additional information from dmidecode:

```
BIOS Lenovo -[PSE105V-1.00]- 08/11/2017
Memory:
48x NO DIMM NO DIMM
48x Samsung M393A2K43BB1-CTD 16 GB 2666 MHZ 2 rank
```

**General Notes**

```
General base OMP Library Settings
ENV_KMP_AFFINITY=compact,1
```

```
General OMP Library Settings
KMP_LIBRARY=turnaround
KMP_STACKSIZE=16G
```

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### Lenovo Global Technology

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### General Notes (Continued)

- KMP_BLOCKTIME=infinite
- OMP_DYNAMIC=FALSE
- OMP_NESTED=FALSE
- OMP_SCHEDULE=static

---

### BIOS setting notes:

Operating Mode set to Maximum Performance Mode

---

### Base Compiler Invocation

- **C benchmarks:**
  - icc

- **C++ benchmarks:**
  - icpc

- **Fortran benchmarks:**
  - ifort

### Base Portability Flags

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

### Base Optimization Flags

- **C benchmarks:**
  - -O2 -qopenmp -ipo -xHOST -ansi-alias

- **C++ benchmarks:**
  - -O2 -qopenmp -ipo -xHOST -ansi-alias

- **Fortran benchmarks:**
  - -O2 -qopenmp -ipo -xHOST -align array64byte

---

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

- [http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.html](http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.html)
### Lenovo Global Technology

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

- [http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.xml](http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.xml)

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**SPEC OMPG2012 Result**

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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.