SPEC® MPIM2007 Result

Huawei

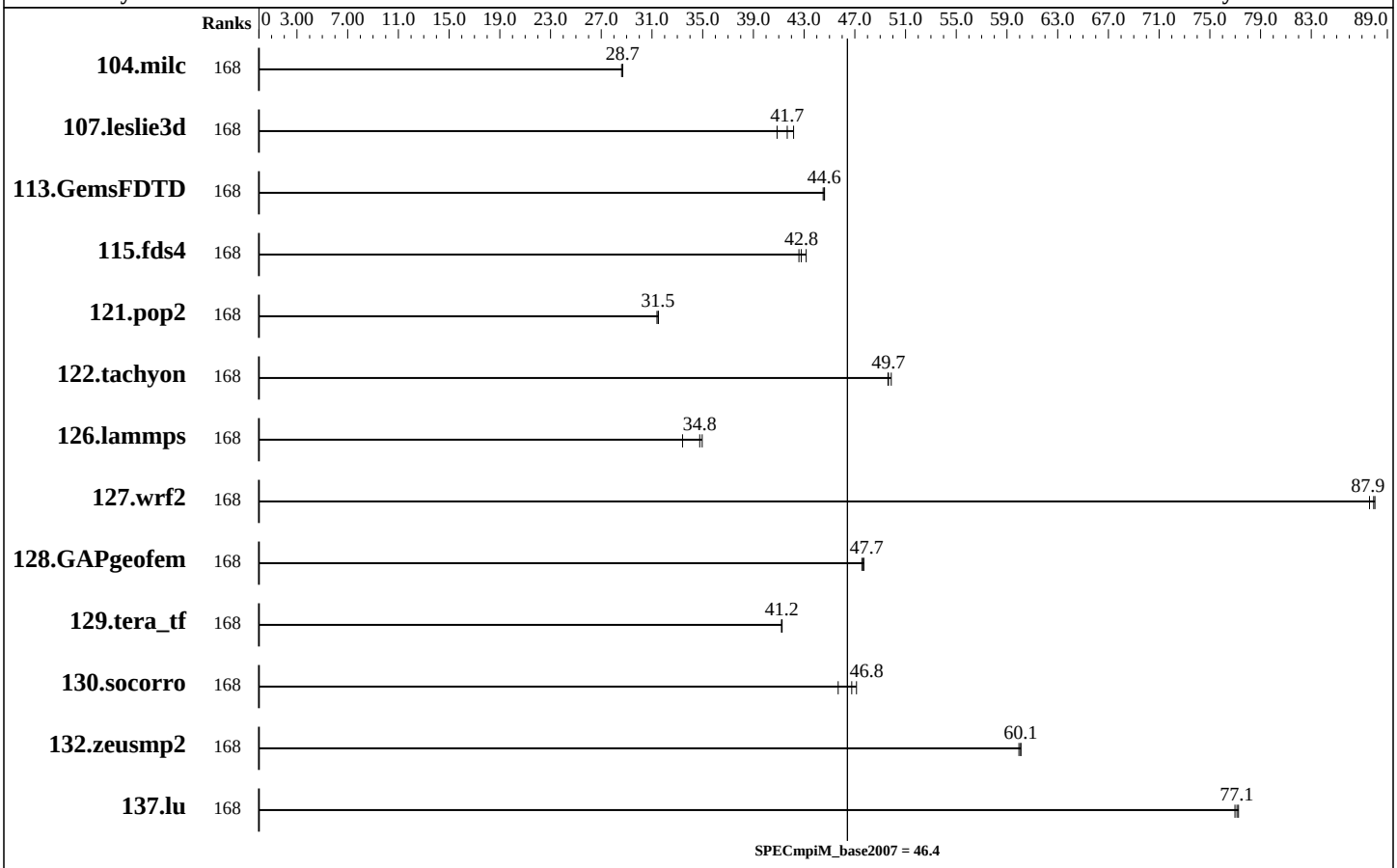
Huawei Kunlun 9008 V5 (Intel Xeon Platinum 8280 CPU, 2.70 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 46.4

MPI2007 license: 27
Test sponsor: Huawei
Tested by: Huawei

Test date: Mar-2019
Hardware Availability: Jun-2019
Software Availability: Feb-2019



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	168	**54.6**	**28.7**	54.5	28.7	54.7	28.6							
107.leslie3d	168	124	42.2	128	40.9	**125**	**41.7**							
113.GemsFDTD	168	**141**	**44.6**	141	44.6	142	44.5							
115.fds4	168	45.2	43.2	**45.6**	**42.8**	45.8	42.6							
121.pop2	168	131	31.4	**131**	**31.5**	131	31.5							
122.tachyon	168	**56.3**	**49.7**	56.4	49.6	56.1	49.9							
126.lammps	168	87.2	33.4	83.4	35.0	**83.8**	**34.8**							
127.wrf2	168	89.0	87.6	88.6	88.0	**88.7**	**87.9**							
128.GAPgeofem	168	43.3	47.7	43.4	47.6	**43.3**	**47.7**							
129.tera_tf	168	**67.1**	**41.2**	67.1	41.3	67.2	41.2							

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	168	83.5	45.7	**81.6**	**46.8**	81.0	47.1							
132.zeusmp2	168	**51.6**	**60.1**	51.8	59.9	51.6	60.1							
137.lu	168	47.6	77.3	**47.7**	**77.1**	47.8	77.0							

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

Hardware Summary

Type of System:	Homogeneous
Compute Node:	Huawei Kunlun 9008 V5
File Server Node:	Huawei Kunlun 9008 V5
Head Node:	Huawei Kunlun 9008 V5
Total Compute Nodes:	1
Total Chips:	6
Total Cores:	168
Total Threads:	168
Total Memory:	1152 GB
Base Ranks Run:	168
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Composer XE 2018 for Linux, Version 18.0.5
C++ Compiler:	Intel C++ Composer XE 2018 for Linux, Version 18.0.5
Fortran Compiler:	Intel Fortran Composer XE 2018 for Linux, Version 18.0.5
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
MPI Library:	Intel MPI Library for Linux, Version 2018 Update 4
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

Node Description: Huawei Kunlun 9008 V5

Hardware

Number of nodes:	1
Uses of the node:	head, compute, fileserver
Vendor:	Huawei
Model:	Huawei Kunlun 9008 V5
CPU Name:	Intel Xeon Platinum 8280
CPU(s) orderable:	2,4,6,8 chip
Chips enabled:	6
Cores enabled:	168
Cores per chip:	28
Threads per core:	1
CPU Characteristics:	None
CPU MHz:	2700
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:	1152 GB (36 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem:	2 x 900 GB 10K RPM SAS HDD,RAID 0
Other Hardware:	None
Adapter:	N/A
Number of Adapters:	0
Slot Type:	N/A
Data Rate:	N/A

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Software

Adapter:	N/A
Adapter Driver:	N/A
Adapter Firmware:	N/A
Operating System:	SUSE Linux Enterprise Server 12 SP4 4.12.14-94.41-default
Local File System:	btrfs
Shared File System:	None
System State:	Multi-User, run level 3
Other Software:	None

Node Description: Huawei Kunlun 9008 V5

Ports Used:	0
Interconnect Type:	N/A

Submit Notes

```
The config file option 'submit' was used.
```

General Notes

```
 MPI startup command:
   mpiexec.hydra command was used to start MPI jobs.

 BIOS settings:
   Intel Hyper-Threading Technology :Disabled
   Intel Turbo Boost Technology :Enabled (default is Enabled)
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:
`mpiicc`

C++ benchmarks:

126.lammps: `mpiicpc`

Fortran benchmarks:
`mpiifort`

Benchmarks using both Fortran and C:
`mpiicc mpiifort`

Base Portability Flags

121.pop2: `-DSPEC_MPI_CASE_FLAG`
126.lammps: `-DMPICH_IGNORE_CXX_SEEK`
127.wrf2: `-DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX`

Base Optimization Flags

C benchmarks:
`-O3 -xCORE-AVX2 -no-prec-div`

C++ benchmarks:

126.lammps: `-O3 -xCORE-AVX2 -no-prec-div`

Fortran benchmarks:
`-O3 -xCORE-AVX2 -no-prec-div`

Benchmarks using both Fortran and C:
`-O3 -xCORE-AVX2 -no-prec-div`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/mpi2007/flags/Huawei_x86_64_Intel_linux.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/mpi2007/flags/Huawei_x86_64_Intel_linux.xml`

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

Tested with SPEC MPI2007 v2.0.1.
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