SPEC® MPIM2007 Result

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Huawei

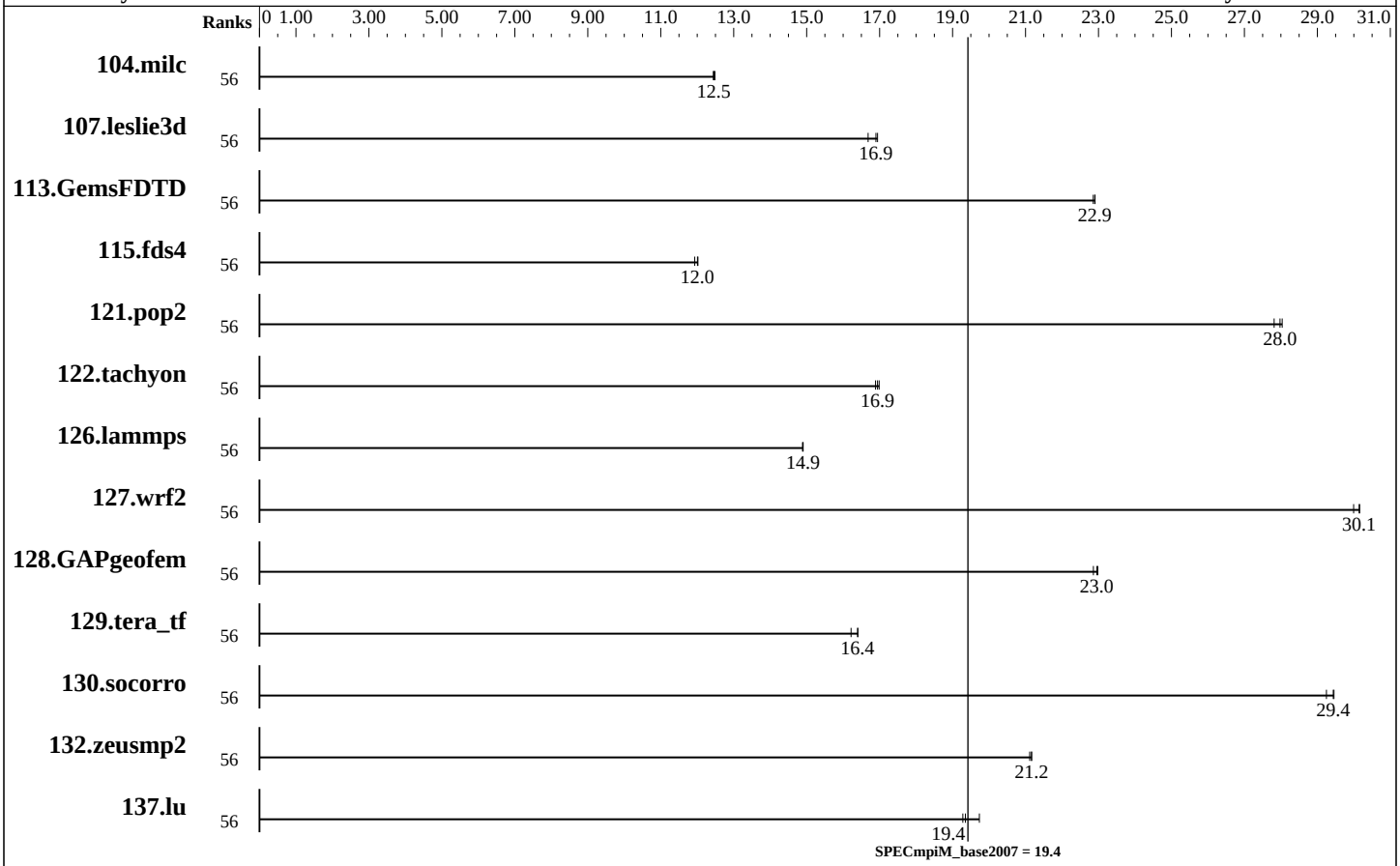
Huawei 2288H V5 (Intel Xeon Platinum 8280 CPU, 2.70 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 19.4

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

Test date: Jan-2019
Hardware Availability: Apr-2019
Software Availability: Dec-2018



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	56	126	12.4	125	12.5	**126**	**12.5**							
107.leslie3d	56	313	16.7	**309**	**16.9**	308	16.9							
113.GemsFDTD	56	**275**	**22.9**	276	22.9	275	22.9							
115.fds4	56	162	12.0	164	11.9	**162**	**12.0**							
121.pop2	56	148	27.8	**148**	**28.0**	147	28.0							
122.tachyon	56	**165**	**16.9**	165	17.0	166	16.9							
126.lammps	56	196	14.9	**196**	**14.9**	196	14.9							
127.wrf2	56	260	30.0	**259**	**30.1**	258	30.2							
128.GAPgeofem	56	89.9	23.0	**90.0**	**23.0**	90.3	22.9							
129.tera_tf	56	**169**	**16.4**	169	16.4	171	16.2							

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	56	131	29.2	130	29.5	**130**	**29.4**							
132.zeusmp2	56	147	21.1	147	21.2	**147**	**21.2**							
137.lu	56	191	19.3	**190**	**19.4**	186	19.7							

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 2288H V5
File Server Node:	Huawei 2288H V5
Head Node:	Huawei 2288H V5
Total Compute Nodes:	1
Total Chips:	2
Total Cores:	56
Total Threads:	56
Total Memory:	768 GB
Base Ranks Run:	56
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Composer XE 2018 for Linux, Version 18.0.5.274 Build 20180823
C++ Compiler:	Intel C++ Composer XE 2018 for Linux, Version 18.0.5.274 Build 20180823
Fortran Compiler:	Intel C++ Composer XE 2018 for Linux, Version 18.0.5.274 Build 20180823
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
MPI Library:	Intel MPI Library for Linux OS, Version 2018 Update 4 Build 20180823
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

Node Description: Huawei 2288H V5

Hardware

Number of nodes:	1
Uses of the node:	head, compute, fileserver
Vendor:	Huawei
Model:	Huawei 2288H V5
CPU Name:	Intel Xeon Platinum 8280
CPU(s) orderable:	1,2 chip
Chips enabled:	2
Cores enabled:	56
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:	768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem:	1 x 1200 GB 10K RPM SAS
Other Hardware:	None
Adapter:	N/A
Number of Adapters:	0
Slot Type:	N/A
Data Rate:	N/A
Ports Used:	0

Continued on next page

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:	xfs
Shared File System:	None
System State:	Multi-User, run level 3
Other Software:	None

Node Description: Huawei 2288H V5

Interconnect Type: N/A	

Submit Notes

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

General Notes

```
BIOS configuration:
Power Policy Set to Performance
Hyper-Threading Set to Disabled
XPT Prefetch Set to 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`

Continued on next page

Base Portability Flags (Continued)

127.wrf2: -DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX

Base Optimization Flags

C benchmarks:
-O3 -xCORE-AVX512 -no-prec-div

C++ benchmarks:

126.lammps: -O3 -xCORE-AVX512 -no-prec-div

Fortran benchmarks:
-O3 -xCORE-AVX512 -no-prec-div

Benchmarks using both Fortran and C:
-O3 -xCORE-AVX512 -no-prec-div

The flags files that were used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/Huawei_x86_64_Intel_linux.20190402.html
http://www.spec.org/mpi2007/flags/Huawei-SPECmpi2007-Platform-Settings-SKL-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/mpi2007/flags/Huawei_x86_64_Intel_linux.20190402.xml
http://www.spec.org/mpi2007/flags/Huawei-SPECmpi2007-Platform-Settings-SKL-V1.0.xml

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

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