SPEC® MPIM2007 Result

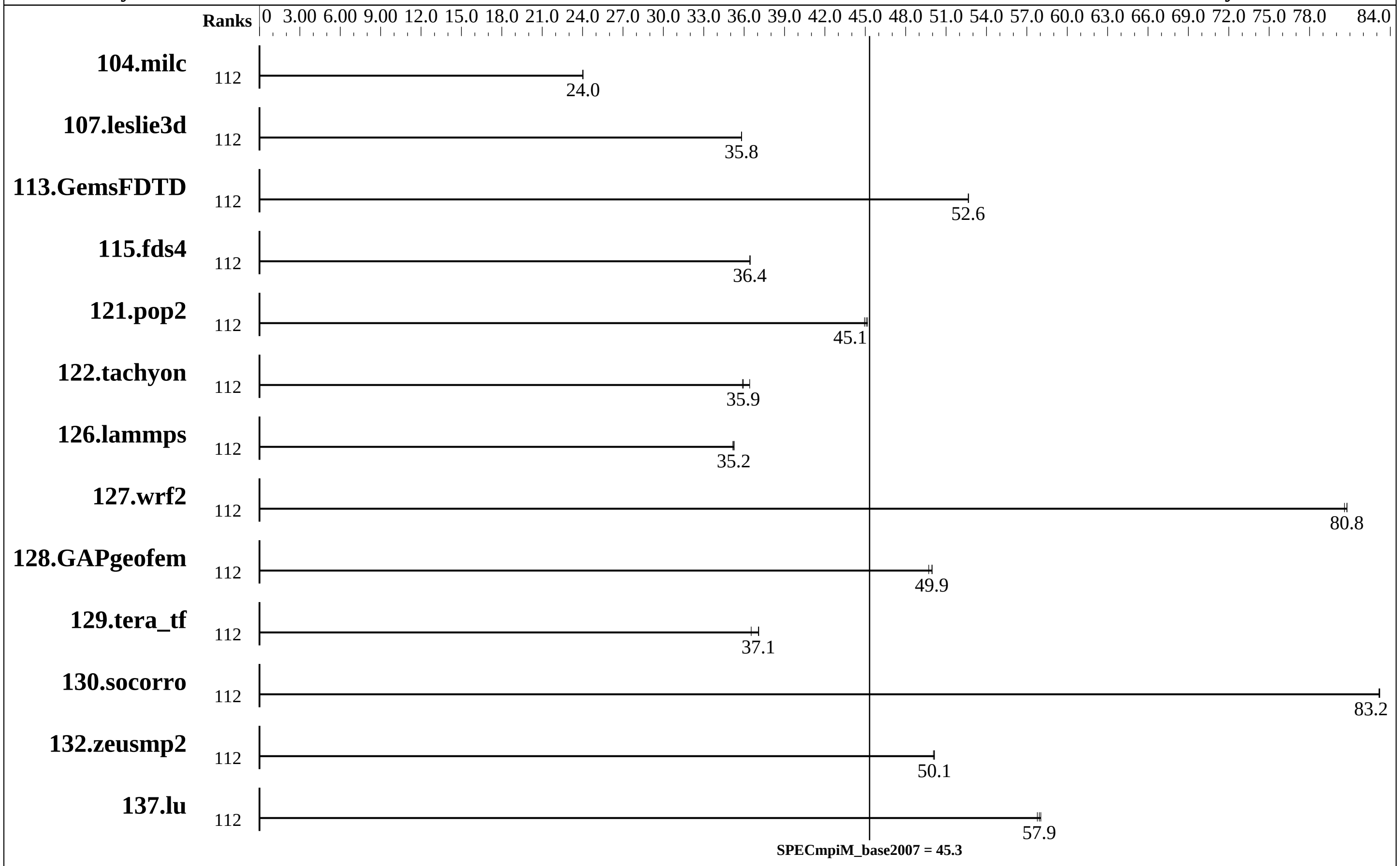
xFusion
FusionServer XH321 V7

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 45.3

MPI2007 license: 6488
Test sponsor: xFusion
Tested by: xFusion

Test date: Dec-2022
Hardware Availability: Jan-2023
Software Availability: Jul-2022



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	112	65.2	24.0	65.1	24.0	**65.1**	**24.0**							
107.leslie3d	112	146	35.8	**146**	**35.8**	146	35.8							
113.GemsFDTD	112	**120**	**52.6**	120	52.6	120	52.7							
115.fds4	112	53.5	36.5	53.6	36.4	**53.6**	**36.4**							
121.pop2	112	**91.6**	**45.1**	91.8	44.9	91.4	45.2							
122.tachyon	112	78.0	35.9	**77.8**	**35.9**	76.8	36.4							
126.lammps	112	82.9	35.2	**82.7**	**35.2**	82.7	35.3							
127.wrf2	112	**96.5**	**80.8**	96.7	80.6	96.5	80.8							
128.GAPgeofem	112	41.5	49.7	**41.3**	**49.9**	41.3	50.0							
129.tera_tf	112	75.8	36.5	**74.7**	**37.1**	74.6	37.1							

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

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	112	**45.9**	**83.2**	45.9	83.2	45.9	83.2							
132.zeusmp2	112	62.0	50.1	61.9	50.1	**61.9**	**50.1**							
137.lu	112	**63.5**	**57.9**	63.3	58.0	63.6	57.8							

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

Hardware Summary

Type of System:	Heterogenous
Compute Node:	FusionServer XH321 V7 Node
File Server Node:	FusionServer XH321 V7 Node
Head Node:	FusionServer XH321 V7 Node
Total Compute Nodes:	1
Total Chips:	2
Total Cores:	112
Total Threads:	112
Total Memory:	512 GB
Base Ranks Run:	112
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	C/C++: Version 2022.2.1 of Intel oneAPI DPC++/C++ Compiler for Linux Build 20221020;
C++ Compiler:	C/C++: Version 2022.2.1 of Intel oneAPI DPC++/C++ Compiler for Linux Build 20221020;
Fortran Compiler:	Fortran: Version 2021.7.1 of Intel Fortran Compiler for Linux Build 20221019;
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
MPI Library:	Intel MPI Library for Linux OS, Version 2021.7 Build 20221022
Other MPI Info:	None
Pre-processors:	No
Other Software:	jemalloc memory allocator V5.2.1

Node Description: FusionServer XH321 V7 Node

Hardware

Number of nodes:	1
Uses of the node:	head, compute, fileserver
Vendor:	xFusion
Model:	FusionServer XH321 V7
CPU Name:	Intel Xeon Platinum 8480+
CPU(s) orderable:	1, 2 chips
Chips enabled:	2
Cores enabled:	112
Cores per chip:	56
Threads per core:	1
CPU Characteristics:	Enable LP [Global] disabled
CPU MHz:	1900
Primary Cache:	32 KB I + 48 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per core
L3 Cache:	105 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)
Disk Subsystem:	1 x 1920 GB SATA SSD
Other Hardware:	None
Adapter:	None
Number of Adapters:	0
Slot Type:	None
Data Rate:	None

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Software

Adapter:	None
Adapter Driver:	None
Adapter Firmware:	None
Operating System:	Red Hat Enterprise Linux release 9.0 (Plow) 5.14.0-70.13.1.el9_0.x86_64
Local File System:	xfs
Shared File System:	None
System State:	Multi-User
Other Software:	jemalloc memory allocator V5.2.1

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Node Description: FusionServer XH321 V7 Node

Ports Used:	0
Interconnect Type:	None

Submit Notes

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

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-AVX512 -no-prec-div -L/usr/local/lib`
`-Wl,--rpath=/usr/local/lib -ljemalloc`

C++ benchmarks:

126.lammps: `-O3 -xCORE-AVX512 -no-prec-div -L/usr/local/lib`
`-Wl,--rpath=/usr/local/lib -ljemalloc`

Fortran benchmarks:
`-O3 -xCORE-AVX512 -no-prec-div -L/usr/local/lib`
`-Wl,--rpath=/usr/local/lib -ljemalloc`

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-O3 -xCORE-AVX512 -no-prec-div -L/usr/local/lib
-Wl,--rpath=/usr/local/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/xFusion_x86_64_Intel_linux.html
http://www.spec.org/mpi2007/flags/xfusion-specmpi-platform-flag.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/mpi2007/flags/xFusion_x86_64_Intel_linux.xml
http://www.spec.org/mpi2007/flags/xfusion-specmpi-platform-flag.xml

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

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