SPEC® MPIM2007 Result

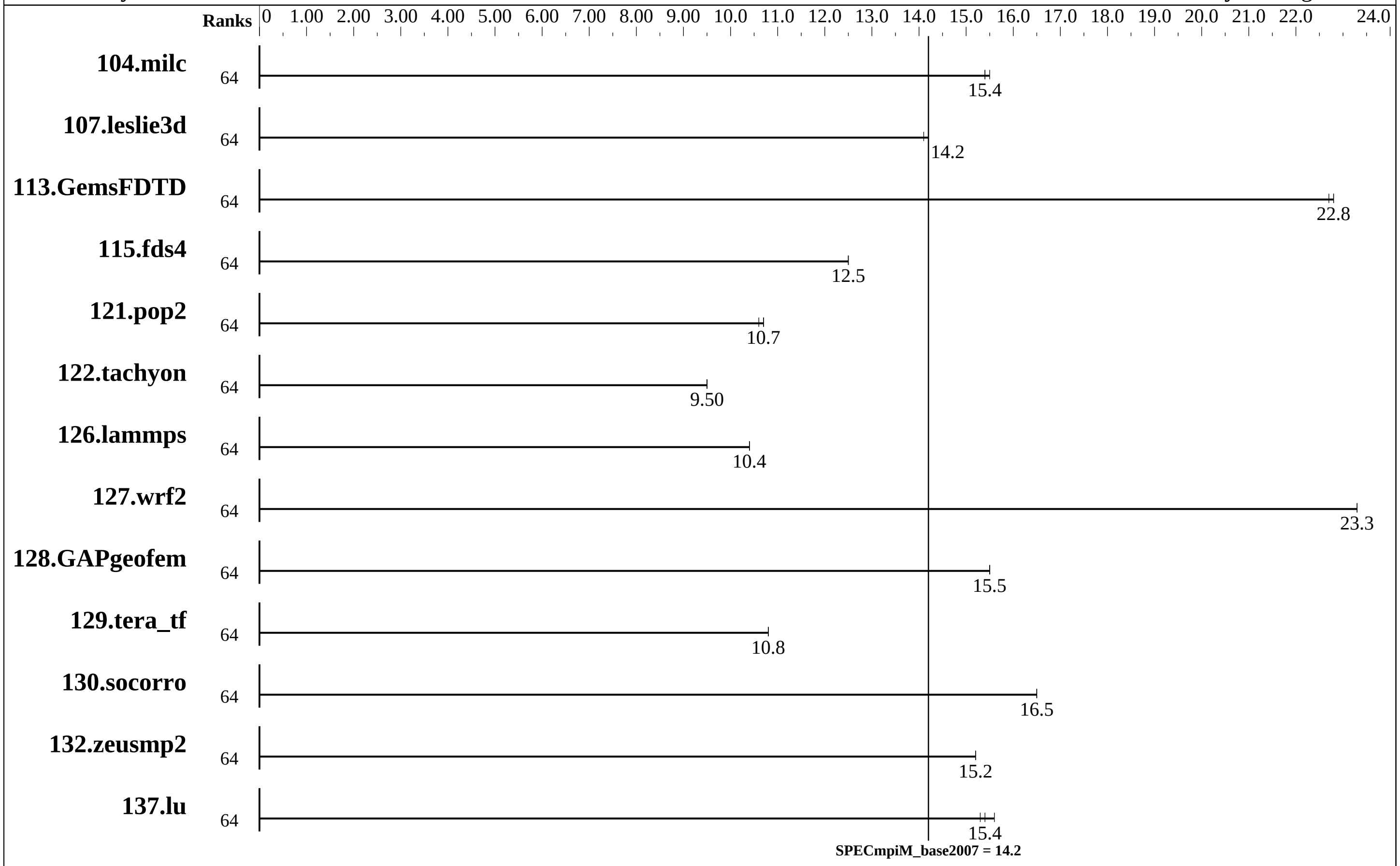
Gateway

GW2000h-GW170hq (Intel Xeon X5570, 2.93 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 14.2

MPI2007 license:	4113	**Test date:**	Mar-2011
Test sponsor:	Fraunhofer SCAI	**Hardware Availability:**	Jan-2010
Tested by:	Steffen Claus	**Software Availability:**	Aug-2010



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	64	**101**	**15.4**	101	15.4	101	15.5							
107.leslie3d	64	369	14.1	368	14.2	**368**	**14.2**							
113.GemsFDTD	64	278	22.7	277	22.8	**277**	**22.8**							
115.fds4	64	**156**	**12.5**	156	12.5	156	12.5							
121.pop2	64	**388**	**10.7**	387	10.7	388	10.6							
122.tachyon	64	295	9.50	**295**	**9.50**	295	9.50							
126.lammps	64	**281**	**10.4**	281	10.4	281	10.4							
127.wrf2	64	**334**	**23.3**	334	23.3	334	23.3							
128.GAPgeofem	64	**133**	**15.5**	134	15.5	133	15.5							
129.tera_tf	64	257	10.8	257	10.8	**257**	**10.8**							

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

SPEC MPIM2007 Result

Gateway

GW2000h-GW170hq (Intel Xeon X5570, 2.93 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 14.2

MPI2007 license: 4113
Test sponsor: Fraunhofer SCAI
Tested by: Steffen Claus

Test date: Mar-2011
Hardware Availability: Jan-2010
Software Availability: Aug-2010

Results Table (Continued)

Benchmark	Base Ranks	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Ranks	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
130.socorro	64	231	16.5	231	16.5	**231**	**16.5**							
132.zeusmp2	64	**204**	**15.2**	205	15.2	204	15.2							
137.lu	64	240	15.3	**238**	**15.4**	236	15.6							

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: Gateway GW2000h
Interconnects: Infiniband Switch
Ethernet Switch
Total Compute Nodes: 8
Total Chips: 16
Total Cores: 64
Total Threads: 64
Total Memory: 192 GB
Base Ranks Run: 64
Minimum Peak Ranks: --
Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C++ Compiler 11.1 for Windows (11.1.067)
C++ Compiler: Intel C++ Compiler 11.1 for Windows (11.1.067)
Fortran Compiler: Intel Fortran Compiler 11.1 for Windows (11.1.067)
Base Pointers: 64-bit
Peak Pointers: 64-bit
MPI Library: MS MPI Version 4.0 Update 1 Build 8/18/2010
Other MPI Info: --
Pre-processors: No
Other Software: --

Node Description: Gateway GW2000h

Hardware

Number of nodes: 8
Uses of the node: compute
Vendor: Gateway
Model: GW2000h-GW170hq
CPU Name: Intel Xeon X5570 @ 2.93 GHz
CPU(s) orderable: 1-2 chips
Chips enabled: 2
Cores enabled: 8
Cores per chip: 4
Threads per core: 1
CPU Characteristics: --
CPU MHz: 2930
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 8 MB I+D on chip per chip, 8 MB shared / 4 cores
Other Cache: None
Memory: 24 GB
Disk Subsystem: --
Other Hardware: None
Adapter: Intel 82574L Gigabit Network Connection
Number of Adapters: 2
Slot Type: onboard
Data Rate: Gigabit Ethernet
Ports Used: 1

Continued on next page

Software

Adapter: Intel 82574L Gigabit Network Connection
Adapter Driver: --
Adapter Firmware: --
Adapter: Mellanox Technologies MT26418
Adapter Driver: Mellanox WinOF (v. 2.1.2)
Adapter Firmware: 2.7.200
Operating System: Windows HPC Server 2008 R2
Service Pack 1
Local File System: --
Shared File System: Network shared Ramdisk
System State: --
Other Software: --

Node Description: Gateway GW2000h

Interconnect Type:	Ethernet
Adapter:	Mellanox Technologies MT26418
Number of Adapters:	1
Slot Type:	onboard
Data Rate:	QDR
Ports Used:	1
Interconnect Type:	InfiniBand

Interconnect Description: Infiniband Switch

Hardware

Vendor:	Mellanox
Model:	MTS3600
Switch Model:	Mellanox MTS3600
Number of Switches:	1
Number of Ports:	36
Data Rate:	QDR
Firmware:	EFM_PPC_405EX
Topology:	Single switch
Primary Use:	MPI traffic

Software

Interconnect Description: Ethernet Switch

Hardware

Vendor:	Extreme Networks
Model:	Summit
Switch Model:	Summit X450-24 t
Number of Switches:	1
Number of Ports:	24
Data Rate:	Gigabit Ethernet
Firmware:	ExtremeWare XOS 11.4.3.4 v1143b4
Topology:	Single Switch
Primary Use:	CIFS traffic

Software

Submit Notes

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

General Notes

```
MPI startup command:
  mpiexec command was used to start MPI jobs. This command starts
  an independent ring of mpd daemons, launches an MPI job, and shuts
  down the mpd ring upon the job termination.
```

Continued on next page

General Notes (Continued)

```
Batch system:
  The internal Job Scheduler of Windows HPC Server 2008 was used.

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

RAM configuration:
  Compute nodes have 6x4-GB dual rank DDR3-1333 RAM.
  Head node has 4x2GB single rank DDR2-667 RAM.

Network:
  Windows HPC Server topology no. 3. Head node and all compute nodes are interconnected
  by 1GB Ethernet and QDR Infiniband. Each interconnect type has one single switch.
```

Base Compiler Invocation

C benchmarks:
icl

C++ benchmarks:

126.lammps: icl

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl ifort

Base Portability Flags

115.fds4: /DSPEC_MPI_UC_NO_TRAILING_UNDERSCORE /fpscomp:general
121.pop2: /DSPEC_MPI_WINDOWS_ICL
127.wrf2: /DSPEC_MPI_WINDOWS_ICL /DSPEC_MPI_COMM_F2C /DSPEC_MPI_CASE_FLAG /us /Qlowercase
129.tera_tf: /fpscomp:general
130.socorro: /DSPEC_NO_UNDERSCORE /DSPEC_MPI_COMM_F2C /Qlowercase
132.zeusmp2: /DSPEC_MPI_WINDOWS_ICL /fpscomp:general

Base Optimization Flags

C benchmarks:
/O3 /QxSSE4.2 /Qipo /Qprec-div- /F3950000000

Continued on next page

Base Optimization Flags (Continued)

C++ benchmarks:

126.lammps: /O3 /QxSSE4.2 /Qipo /Qprec-div- /F3950000000

Fortran benchmarks:
/O3 /QxSSE4.2 /Qipo /Qprec-div- /F3950000000

Benchmarks using both Fortran and C:
/O3 /QxSSE4.2 /Qipo /Qprec-div- /F3950000000

Base Other Flags

C benchmarks:
/I:C:/Program Files/Microsoft HPC Pack 2008 SDK/Include /link
/libpath:C:/Program Files/Microsoft HPC Pack 2008 SDK/Lib/amd64 msmpifec.lib msmpifmc.lib msmpi.lib
/out:options.exe

C++ benchmarks:

126.lammps: /I:C:/Program Files/Microsoft HPC Pack 2008 SDK/Include /link
/libpath:C:/Program Files/Microsoft HPC Pack 2008 SDK/Lib/amd64 msmpifec.lib msmpifmc.lib msmpi.lib
/out:options.exe

Fortran benchmarks:
/I:C:/Program Files/Microsoft HPC Pack 2008 SDK/Include /link
/libpath:C:/Program Files/Microsoft HPC Pack 2008 SDK/Lib/amd64 msmpifec.lib msmpifmc.lib msmpi.lib
/out:options.exe

Benchmarks using both Fortran and C:
/I:C:/Program Files/Microsoft HPC Pack 2008 SDK/Include /link
/libpath:C:/Program Files/Microsoft HPC Pack 2008 SDK/Lib/amd64 msmpifec.lib msmpifmc.lib msmpi.lib
/out:options.exe

The flags file that was used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/dell.ic10.windows.flags.20120720.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/mpi2007/flags/dell.ic10.windows.flags.20120720.xml

Gateway

GW2000h-GW170hq (Intel Xeon X5570, 2.93 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 14.2

MPI2007 license:	4113	**Test date:**	Mar-2011
Test sponsor:	Fraunhofer SCAI	**Hardware Availability:**	Jan-2010
Tested by:	Steffen Claus	**Software Availability:**	Aug-2010

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

Tested with SPEC MPI2007 v2.0.
Report generated on Tue Jul 22 13:42:13 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 29 June 2011.