SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 13
Test sponsor: Intel Corporation
Tested by: Pavel Shelepugin

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.h

Ranks

104.milc

107.leslie3d

113.GemsFDTD

115.fds4

121.pop2

122.tachyon

126.lammps

127.wrf2

128.GAPgeofem

129.tera_tf

130.socorro

132.zeusmp2

137.lu

Non-Compliant

Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	512	NC	NC	NC	NC									
107.leslie3d	512	NC	NC	NC	NC									

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
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 13	**Test date:** Mar-2009
Test sponsor: Intel Corporation	**Hardware Availability:** Mar-2009
Tested by: Pavel Shelepugin	**Software Availability:** Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.html

Results Table (Continued)

Benchmark	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
113.GemsFDTD	512	NC	NC	NC	NC									
115.fds4	512	NC	NC	NC	NC									
121.pop2	512	NC	NC	NC	NC									
122.tachyon	512	NC	NC	NC	NC									
126.lammps	512	NC	NC	NC	NC									
127.wrf2	512	NC	NC	NC	NC									
128.GAPgeofem	512	NC	NC	NC	NC									
129.tera_tf	512	NC	NC	NC										
130.socorro	512	NC	NC	NC	NC									
132.zeusmp2	512	NC	NC	NC	NC									
137.lu	512	NC	NC	NC	NC									

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:	Endeavor Node
Interconnect:	IB Switch
File Server Node:	NFS
Total Compute Nodes:	64
Total Chips:	128
Total Cores:	512
Total Threads:	512
Total Memory:	1152 GB
Base Ranks Run:	512
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Compiler 11.1 for Linux
C++ Compiler:	Intel C++ Compiler 11.1 for Linux
Fortran Compiler:	Intel Fortran Compiler 11.1 for Linux
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	Intel MPI Library 3.2 for Linux
Other MPI Info:	None
Pre-processors:	No
Other Software:	Intel MPI Library 3.2 for Linux Multi-Purpose Daemon (MPD)

Non-Compliant

SPEC MPIM2007 Result
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 13		**Test date:**	Mar-2009
Test sponsor: Intel Corporation		**Hardware Availability:**	Mar-2009
Tested by: Pavel Shelepugin		**Software Availability:**	Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.html

Node Description: Endeavor Node

Hardware		**Software**	
Number of nodes:	64	Adapter:	Mellanox MHQH29-XTC
Uses of the node:	compute	Adapter Driver:	OFED 1.3.1
Vendor:	Intel	Adapter Firmware:	2.5.9
Model:	Supermicro X8DTN+	Operating System:	Red Hat EL 5.2, kernel 2.6.18-53
CPU Name:	Intel Xeon X5560	Local File System:	Linux/ext2
CPU(s) orderable:	1-2 chips	Shared File System:	Lustre FS
Chips enabled:	2	System State:	Multi-User
Cores enabled:	8	Other Software:	PBS Pro 8.0
Cores per chip:	4		
Threads per core:	1		
CPU Characteristics:	Intel Turbo Boost Technology up to 3.06 GHz, 6.4 GT/s QPI, Hyper-Threading disabled		
CPU MHz:	2800		
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:	18 GB (RDIMM 6x2-GB, 6x1-GB DDR3-1066 MHz)		
Disk Subsystem:	Seagate 320 GB ST3500320NS		
Other Hardware:	None		
Adapter:	Mellanox MHQH29-XTC		
Number of Adapters:	1		
Slot Type:	PCIe x8 Gen2		
Data Rate:	InfiniBand 4x QDR		
Ports Used:	1		
Interconnect Type:	InfiniBand		

Node Description: LFS

Hardware		**Software**	
Number of nodes:	8	Adapter:	Mellanox MHGH28-XTC
Uses of the node:	fileserver	Adapter Driver:	OFED 1.3.1
Vendor:	DataDirect Networks	Adapter Firmware:	2.5.0
Model:	SR1560SF	Operating System:	Red Hat EL 5.2
CPU Name:	Intel Xeon E5462	Local File System:	None

Continued on next page   *Continued on next page*

SPEC MPIM2007 Result
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 =   NC

MPI2007 license:	13	**Test date:**	Mar-2009
Test sponsor:	Intel Corporation	**Hardware Availability:**	Mar-2009
Tested by:	Pavel Shelepugin	**Software Availability:**	Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.h

Node Description: LFS

CPU(s) orderable:	1-2 chips	Shared File System:	Lustre FS
Chips enabled:	2	System State:	Multi-User
Cores enabled:	8	Other Software:	None
Cores per chip:	4		
Threads per core:	1		
CPU Characteristics:	1600 MHz FSB		
CPU MHz:	2800		
Primary Cache:	32 KB I + 32 KB D on chip per core		
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores		
L3 Cache:	None		
Other Cache:	None		
Memory:	16 GB DDR2 16x1- GB 667 MHz		
Disk Subsystem:	160 disks, 300GB/disk, 48TB total, 35TB available		
Other Hardware:	None		
Adapter:	Mellanox MHGH28-XTC		
Number of Adapters:	1		
Slot Type:	PCIe x8 Gen 2		
Data Rate:	InfiniBand 4x QDR		
Ports Used:	1		
Interconnect Type:	InfiniBand		

Interconnect Description: IB Switch

Hardware		Software
Vendor:	Mellanox	
Model:	Mellanox MTS3600Q-1UNC	
Switch Model:	Mellanox MTS3600Q-1UNC	
Number of Switches:	9	
Number of Ports:	36	
Data Rate:	InfiniBand 4x QDR	
Firmware:	7.1.000	
Topology:	Fat tree	
Primary Use:	MPI traffic, FS traffic	

SPEC MPIM2007 Result
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 13		**Test date:**	Mar-2009
Test sponsor: Intel Corporation		**Hardware Availability:**	Mar-2009
Tested by: Pavel Shelepugin		**Software Availability:**	Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.h

Submit Notes

The config file option 'submit' was used.

General Notes

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

RAM configuration notes: compute nodes have
  1x2-GB and 1x1-GB RDIMM on each memory channel,
  2-GB RDIMM is closer to the CPU.

Network notes: nine 36-port switches, 3 core switches and 6 leaf switches.
  Each leaf has 6 links to each core. Remaining 18 ports on 5 of 6 leafs are
  used for compute nodes. On the sixth leaf 8 ports are used for FS nodes,
  remaining 10 ports are open.

PBS Pro was used for job submission. It has no impact on performance.
  Can be found at: http://www.altair.com

Lustre File System 1.6.0 was used. Download from:
  http://www.sun.com/software/products/lustre
```

Base Compiler Invocation

mpiicc

C++ benchmarks:

   126.lammps: mpiicpc

Fortran benchmarks:
   mpiifort

Benchmarks using both Fortran and C:
   mpiicc mpiifort

SPEC MPIM2007 Result
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 =   NC

MPI2007 license: 13		**Test date:**	Mar-2009
Test sponsor: Intel Corporation		**Hardware Availability:**	Mar-2009
Tested by: Pavel Shelepugin		**Software Availability:**	Jun-2009

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.h

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 -xSSE4.2 -no-prec-div
```

C++ benchmarks:

```
126.lammps: -O3 -xSSE4.2 -no-prec-div
```

Fortran benchmarks:
```
-O3 -xSSE4.2 -no-prec-div
```

Benchmarks using both Fortran and C:
```
-O3 -xSSE4.2 -no-prec-div
```

The flags file that was used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.xml

SPEC MPIM2007 Result
Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

Endeavor (Intel Xeon X5560, 2.80 GHz, SMT off, Turbo on)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result does not comply with the recent interpretation changes to run rule 3.2.6 in the latest version. Replacement results can be found at http://www.spec.org/mpi2007/results/res2009q3/mpi2007-20090825-00174.h

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

Tested with SPEC MPI2007 v1.1.
Report generated on Tue Jul 22 13:36:30 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 15 April 2009.