



# SPEC<sup>®</sup> MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021  
Test sponsor: Scali, Inc  
Tested by: Scali, Inc

Test date: Feb-2008  
Hardware Availability: Sep-2007  
Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

Ranks
104.milc
107.leslie3d
113.GemsFDTD
115.fds4
121.pop2
122.tachyon
126.lammps
127.wrf2
128.GAPgeofem
129.tera_tf
132.zeus_np2
137.lu

**Non-Compliant**



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021  
Test sponsor: Scali, Inc  
Tested by: Scali, Inc

Test date: Feb-2008  
Hardware Availability: Sep-2007  
Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

### Results Table

Benchmark	Base								Peak							
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
104.milc	128	NC	NC	NC	NC	NC	NC									
107.leslie3d	128	NC	NC	NC	NC	NC	NC									
113.GemsFDTD	128	NC	NC	NC	NC	NC	NC									
115.fds4	128	NC	NC	NC	NC	NC	NC									
121.pop2	128	NC	NC	NC	NC	NC	NC									
122.tachyon	128	NC	NC	NC	NC	NC	NC									
126.lammps	128	NC	NC	NC	NC	NC	NC									
127.wrf2	128	NC	NC	NC	NC	NC	NC									
128.GAPgeofem	128	NC	NC	NC	NC	NC	NC									
129.tera_tf	128	NC	NC	NC	NC	NC	NC									
130.socorro	128	NC	NC	NC	NC	NC	NC									
132.zeusmp2	128	NC	NC	NC	NC	NC	NC									
137.lu	128	NC	NC	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: Homogenous  
 Compute Node: Linux Networx LS-1  
 Interconnect: InfiniBand  
 File Server Node: Linux Networx LS1 I/O Nodes  
 Total Compute Nodes: 32  
 Total Chips: 64  
 Total Cores: 128  
 Total Threads: 128  
 Total Memory: 256 GB  
 Base Ranks Run: 128  
 Minimum Peak Ranks: --  
 Maximum Peak Ranks: --

#### Software Summary

C Compiler: Intel C Compiler 10.1 for Linux (10.1.008)  
 C++ Compiler: Intel C++ Compiler 10.1 for Linux (10.1.008)  
 Fortran Compiler: Intel Fortran Compiler 10.1 for Linux (10.1.008)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 MPI Library: Scali MPI Connect 5.6.1-58818  
 Other MPI Info: IB Gold VAPI  
 Pre-processors: None  
 Other Software: None



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networkx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021  
Test sponsor: Scali, Inc  
Tested by: Scali, Inc

Test date: Feb-2008  
Hardware Availability: Sep-2007  
Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

### Node Description: Linux Networkx LS-1

Hardware		Software	
Number of nodes:	32	Adapter:	Mellanox MHGA28-XTC
Uses of the node:	compute		PCI-Express DDR InfiniBand HCA
Vendor:	Linux Networkx, Inc.	Adapter Driver:	IBGD 1.8.2
Model:	LS-1	Adapter Firmware:	5.1.4
CPU Name:	Intel Xeon 5160	Operating System:	SLES9 SP3
CPU(s) orderable:	1-2 chips	Local File System:	Not applicable
Chips enabled:	2	Shared File System:	GPFS
Cores enabled:	4	System State:	multi-user
Cores per chip:	2	Other Software:	None
Threads per core:	1		
CPU Characteristics:	1333 Mhz FSB		
CPU MHz:	3000		
Primary Cache:	32 KB I-Cache, 32 KB D-Cache on chip per core		
Secondary Cache:	4 MB L2-Cache on chip per chip		
L3 Cache:	None		
Other Cache:	None		
Memory:	8 GB (4 x 1GB DIMMs 667 MHz)		
Disk Subsystem:	250GB SATA hard drive		
Other Hardware:	None		
Adapter:	Mellanox MHGA28-XTC		
	PCI-Express DDR InfiniBand HCA		
Number of Adapters:	1		
Slot:	PCIe x8		
Data Rate:	InfiniBand 4x DDR		
Ports Used:	1		
Interconnect Type:	Infiniband		



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021  
Test sponsor: Scali, Inc  
Tested by: Scali, Inc

Test date: Feb-2008  
Hardware Availability: Sep-2007  
Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

### Node Description: Linux Networx LS1 I/O Nodes

Hardware		Software	
Number of nodes:	8	Adapter:	Mellanox MHGA28-XTC
Uses of the node:	file server		PCI-X DDR InfiniBand HCA
Vendor:	Linux Networx, Inc.	Adapter Driver:	IBGD 1.8.2
Model:	LS1	Adapter Firmware:	5.2.0
CPU Name:	Intel Xeon 5150	Operating System:	SLES9 SP3
CPU(s) orderable:	1-2 chips	Local File System:	Not applicable
Chips enabled:	2	Shared File System:	GPFS
Cores enabled:	4	System State:	multi-user
Cores per chip:	2	Other Software:	None
Threads per core:	1		
CPU Characteristics:	1333 Mhz FSB		
CPU MHz:	2660		
Primary Cache:	32 KB I-Cache, 32 KB D-Cache on chip per core		
Secondary Cache:	4 MB L2-Cache on chip per chip		
L3 Cache:	None		
Other Cache:	None		
Memory:	4 GB x 1GB DIMMs 667 MHz)		
Disk Subsystem:	18 TB SAN interconnected by FC4		
Other Hardware:	None		
Adapter:	Mellanox MHGA28-XTC		
	PCI-X DDR InfiniBand HCA		
Number of Adapters:	1		
Slot:	PCIe x8		
Data Rate:	InfiniBand 4x DDR		
Ports Used:	1		
Interconnect Type:	InfiniBand		



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021  
Test sponsor: Scali, Inc  
Tested by: Scali, Inc

Test date: Feb-2008  
Hardware Availability: Sep-2007  
Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

### Interconnect Description: InfiniBand

	Hardware	Software
Vendor:	QLogic	
Model:	QLogic Silverstorm 9120 Fabric Director	
Switch Model:	9120	
Number of Switches:	1	
Number of Ports:	144	
Data Rate:	InfiniBand 4x SDR and InfiniBand 4x DDR	
Firmware:	4.1.1.1.11	
Topology:	Single switch (star)	
Primary Use:	MPI and filesystem traffic	

### General Notes

The following approved compilers are used  
tera\_tf - fixbugger  
wrf2 - fixcalling

### Base Compiler Invocation

```
/opt/scali/bin/mpicc -ccl icc
```

C++ benchmarks:

```
126.lammps: /opt/scali/bin/mpicc -ccl icpc
```

Fortran benchmarks:

```
/opt/scali/bin/mpif77 -ccl ifort
```

Benchmarks using both Fortran and C:

```
/opt/scali/bin/mpicc -ccl icc /opt/scali/bin/mpif77 -ccl ifort
```



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021

Test sponsor: Scali, Inc

Tested by: Scali, Inc

Test date: Feb-2008

Hardware Availability: Sep-2007

Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

## Base Portability Flags

121.pop2: -DSPEC\_MPI\_CASE\_FLAG  
127.wrf2: -DSPEC\_MPI\_LINUX -DSPEC\_MPI\_CASE\_FLAG

## Base Optimization Flags

C benchmarks:

-O3 -no-prec-div -fno-alias

C++ benchmarks:

126.lammps: -O3 -no-prec-div -fno-alias -xT

Fortran benchmarks:

-O3 -no-prec-div -fno-alias -xT

Benchmarks using both Fortran and C:

-O3 -no-prec-div -fno-alias -xT

The flags files that were used to format this result can be browsed at

[http://www.spec.org/mpi2007/flags/MPI2007\\_flags.20080611.html](http://www.spec.org/mpi2007/flags/MPI2007_flags.20080611.html)  
[http://www.spec.org/mpi2007/flags/MPI2007\\_flags.0.20080611.html](http://www.spec.org/mpi2007/flags/MPI2007_flags.0.20080611.html)

You can also download the XML flags sources by saving the following links:

[http://www.spec.org/mpi2007/flags/MPI2007\\_flags.20080611.xml](http://www.spec.org/mpi2007/flags/MPI2007_flags.20080611.xml)  
[http://www.spec.org/mpi2007/flags/MPI2007\\_flags.0.20080611.xml](http://www.spec.org/mpi2007/flags/MPI2007_flags.0.20080611.xml)



# SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Linux Networx

LS-1,  
Scali MPI Connect 5.6.1,  
Intel 10.1 compilers

SPECmpiM\_peak2007 = Not Run

SPECmpiM\_base2007 = NC

MPI2007 license: 021

Test sponsor: Scali, Inc

Tested by: Scali, Inc

Test date: Feb-2008

Hardware Availability: Sep-2007

Software Availability: Feb-2008

**SPEC has determined that this result was not in compliance with the SPEC MPI2007 run and reporting rules. Specifically, the result did not meet the requirement for baseline optimization flags to not use assertion flags (the flag -fno-alias is a violation of this rule). The result was found to be performance neutral compared to runs without -fno-alias. Replacement results could not be produced because of system access limitations.**

**Non-Compliant**

SPEC and SPEC MPI are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC MPI2007 v1.0.  
Report generated on Tue Jul 22 13:33:31 2014 by SPEC MPI2007 PS/PDF formatter v1463.  
Originally published on 31 March 2008.