SPEC® MPIM2007 Result

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license:	0001	**Test date:**	May-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	May-2007
Tested by:	HPCD	**Software Availability:**	May-2007

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

130.socorro

132.zeusmp2

137.lu

SPEC MPIM2007 Result

Non-Compliant

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license:	0001	**Test date:**	May-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	May-2007
Tested by:	HPCD	**Software Availability:**	May-2007

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	32	NC	NC	NC	NC	NC	NC							
107.leslie3d	32	NC	NC	NC	NC	NC	NC							
113.GemsFDTD	32	NC	NC	NC	NC	NC	NC							
115.fds4	32	NC	NC	NC	NC	NC	NC							
121.pop2	32	NC	NC	NC	NC	NC	NC							
122.tachyon	32	NC	NC	NC	NC	NC	NC							
126.lammps	32	NC	NC	NC	NC	NC	NC							
127.wrf2	32	NC	NC	NC	NC	NC	NC							
128.GAPgeofem	32	NC	NC	NC	NC	NC	NC							
129.tera_tf	32	NC	NC	NC	NC	NC	NC							
130.socorro	32	NC	NC	NC	NC	NC	NC							
132.zeusmp2	32	NC	NC	NC	NC	NC	NC							
137.lu	32	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:	HP XC Cluster
Interconnect:	DDR InfiniBand
File Server Node:	HP ProLiant DL380 G4 file server
Total Compute Nodes:	8
Total Chips:	16
Total Cores:	32
Total Threads:	32
Total Memory:	64 GB
Base Ranks Run:	32
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C 9.1.045
C++ Compiler:	Intel C++ 9.1.045
Fortran Compiler:	Intel Fortran 9.1.040
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	HP-MPI 2.2.5
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license:	0001	**Test date:**	May-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	May-2007
Tested by:	HPCD	**Software Availability:**	May-2007

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: HP XC Cluster

Hardware

Number of nodes:	8
Uses of the node:	compute
Vendor:	Hewlett-Packard Company
Model:	XC3000
CPU Name:	Intel Xeon 5160
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	4
Cores per chip:	2
Threads per core:	1
CPU Characteristics:	1333 MHz FSB
CPU MHz:	3000
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB
Disk Subsystem:	Ext 3
Other Hardware:	None
Adapter:	PCI-Express DDR InfiniBand HCA
Number of Adapters:	1
Slot Type:	Mezzanine - PCIe x8
Data Rate:	Infiniband 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Software

Adapter:	PCI-Express DDR InfiniBand HCA
Adapter Driver:	Voltiare GridStack 3.5.5_25
Adapter Firmware:	Hp 1.2
Operating System:	Redhat 4 Update 4
Local File System:	VXFS
Shared File System:	NFS
System State:	Multi User
Other Software:	None

SPEC MPIM2007 Result

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license:	0001	**Test date:**	May-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	May-2007
Tested by:	HPCD	**Software Availability:**	May-2007

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: HP ProLiant DL380 G4 file server

Hardware

Number of nodes:	1
Uses of the node:	file server
Vendor:	Hewlett-Packard Company
Model:	DL380 G4
CPU Name:	Intel Xeon
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	2
Cores per chip:	1
Threads per core:	1
CPU Characteristics:	None
CPU MHz:	3800
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	6 GB
Disk Subsystem:	SCSI
Other Hardware:	None
Adapter:	PCI-Express DDR InfiniBand HCA
Number of Adapters:	1
Slot Type:	PCIe x4
Data Rate:	Infiniband 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Software

Adapter:	PCI-Express DDR InfiniBand HCA
Adapter Driver:	Voltiare GridStack 3.5.5_25
Adapter Firmware:	Hp 1.2
Operating System:	Redhat 4 Update 4
Local File System:	2 x 146GB Ultra320 SCSI 10k RPM Disks RAID 0+1
Shared File System:	N/A
System State:	Multi User
Other Software:	None

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license: 0001
Test sponsor: Hewlett-Packard Company
Tested by: HPCD

Test date: May-2007
Hardware Availability: May-2007
Software Availability: May-2007

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: DDR InfiniBand

Hardware

Vendor:	Voltaire
Model:	ISR
Switch Model:	HP 4X DDR IB Switch Module for HP BladeSystem C-Class
Number of Switches:	1
Number of Ports:	16
Data Rate:	Infiniband 4x DDR
Firmware:	1.30
Switch Model:	Voltaire 24 port External switch for subnet management ISR 9024
Number of Switches:	1
Number of Ports:	24
Data Rate:	Infiniband 4x DDR
Firmware:	0.8.6
Topology:	two level, 1 for subnet manager, and 1 for leaf.
Primary Use:	MPI and file system traffic

Software

General Notes

```
T[illegible] mpi2007 on XC3000 cluster.
module load mpi
. ./.shrc
. /opt/intel/fc/9.1.040/bin/ifortvars.sh
. /opt/intel/cc/9.1.045/bin/iccvars.sh
runspec -c linux_amd_intel medium  --reportable --ranks=NN --define CMD_PREFIX= --define MPIRUN_OPTIONS= --flagsurl=hpmpi-intel.xml -o cfg,txt,html,check
cluster launch performed via slurm's srun
  submit=  \$MPI_ROOT/bin/mpirun  -srun $command
```

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 Compiler Invocation

C benchmarks:
`mpicc -mpicc icc`

C++ benchmarks:

126.lammps: `mpiCC -mpicxx icpc`

Fortran benchmarks:

107.leslie3d: `mpif90 -mpif90 ifort`

113.GemsFDTD: `mpif90 -mpif90 ifort`

115.fds4: `mpif90 -mpif90 ifort`

129.tera_tf: `mpif90 -mpif90 ifort`

132.zeusmp2: `mpif90 -mpif90 ifort`

137.lu: `mpif90 -mpif90 ifort`

Benchmarks using both Fortran and C (except as noted below):
`mpicc -mpicc icc mpif90 -mpif90 ifort`

Base Portability Flags

121.pop2: `-DSPEC_MPI_CASE_FLAG`
127.wrf2: `-DSPEC_MPI_LINUX -DSPEC_MPI_CASE_FLAG`

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 Optimization Flags

C benchmarks:
`-O3 -no-prec-div -ftz -fno-alias -xT`

C++ benchmarks:

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

Fortran benchmarks:

107.leslie3d: `-O3 -no-prec-div -ftz -fno-alias -xT`

113.GemsFDTD: `-O3 -no-prec-div -ftz -fno-alias -xT`

115.fds4: `-O3 -no-prec-div -ftz -fno-alias -xT`

129.tera_tf: `-O3 -no-prec-div -ftz -fno-alias -xT`

132.zeusmp2: `-O3 -no-prec-div -ftz -fno-alias -xT`

137.lu: `-O3 -no-prec-div -ftz -fno-alias -xT`

Benchmarks using both Fortran and C:

121.pop2: `-O3 -no-prec-div -ftz -fno-alias -xT`

127.wrf2: `Same as 121.pop2`

128.GAPgeofem: `Same as 121.pop2`

130.socorro: `Same as 121.pop2`

SPEC MPIM2007 Result

Hewlett Packard Company

HP Proliant BL460c blade Cluster Platform 3000BL

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = NC

MPI2007 license:	0001	**Test date:**	May-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	May-2007
Tested by:	HPCD	**Software Availability:**	May-2007

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.

The flags file that was used to format this result can be browsed at
`http://www.spec.org/mpi2007/flags/MPI2007_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/mpi2007/flags/MPI2007_flags.xml`

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

Tested with SPEC MPI2007 v59.
Report generated on Tue Jul 22 13:32:29 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 16 July 2007.