SPEC® MPIL2007 Result

Intel Corporation

Atlantis (Intel Xeon X5482, 3.20 GHz)

SPECmpiL_peak2007 = 1.00

SPECmpiL_base2007 = 1.00

MPI2007 license:	13	**Test date:**	Jan-2010
Test sponsor:	Intel Corporation	**Hardware Availability:**	Sep-2008
Tested by:	Pavel Shelepugin	**Software Availability:**	Sep-2009

SPECmpiL_base2007 = 1.00

SPECmpiL_peak2007 = 1.00

Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
121.pop2	64	3927	0.991	**3907**	**0.996**	3892	1.00	64	3927	0.991	**3907**	**0.996**	3892	1.00
122.tachyon	64	1944	1.00	1949	0.997	**1945**	**1.00**	64	1944	1.00	1949	0.997	**1945**	**1.00**
125.RAxML	64	**2918**	**1.00**	2920	1.00	2918	1.00	64	**2918**	**1.00**	2920	1.00	2918	1.00
126.lammps	64	2443	1.01	2449	1.00	**2448**	**1.00**	64	2443	1.01	2449	1.00	**2448**	**1.00**
128.GAPgeofem	64	5941	0.999	**5938**	**0.999**	5865	1.01	64	5941	0.999	**5938**	**0.999**	5865	1.01
129.tera_tf	64	**1096**	**1.00**	1115	0.985	1095	1.00	64	**1096**	**1.00**	1115	0.985	1095	1.00
132.zeusmp2	64	2134	0.993	**2128**	**0.996**	2083	1.02	64	2134	0.993	**2128**	**0.996**	2083	1.02
137.lu	64	4195	1.00	4203	1.00	**4202**	**1.00**	64	4195	1.00	4203	1.00	**4202**	**1.00**
142.dmilc	64	3630	1.01	**3632**	**1.01**	3645	1.01	64	3630	1.01	**3632**	**1.01**	3645	1.01
143.dleslie	64	**3100**	**1.00**	3101	1.00	3097	1.00	64	**3100**	**1.00**	3101	1.00	3097	1.00
145.lGemsFDTD	64	4422	0.998	**4385**	**1.01**	4381	1.01	64	4422	0.998	**4385**	**1.01**	4381	1.01
147.l2wrf2	64	8353	0.982	8196	1.00	**8336**	**0.984**	64	8353	0.982	8196	1.00	**8336**	**0.984**

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

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Hardware Summary

Type of System:	Homogeneous
Compute Node:	Atlantis Node
Interconnect:	Gigabit Ethernet
File Server Node:	Panasas Fileserver
Total Compute Nodes:	8
Total Chips:	16
Total Cores:	64
Total Threads:	64
Total Memory:	128 GB
Base Ranks Run:	64
Minimum Peak Ranks:	64
Maximum Peak Ranks:	64

Software Summary

C Compiler:	Intel C++ Compiler 11.1.035 for Linux
C++ Compiler:	Intel C++ Compiler 11.1.035 for Linux
Fortran Compiler:	Intel Fortran Compiler 11.1.035 for Linux
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	Intel MPI Library 3.2.2 for Linux
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

Node Description: Atlantis Node

Hardware

Number of nodes:	8
Uses of the node:	compute
Vendor:	Intel
Model:	SR1560SF
CPU Name:	Intel Xeon X5482
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	8
Cores per chip:	4
Threads per core:	1
CPU Characteristics:	1600 MHz FSB
CPU MHz:	3200
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 (FBDIMM 8x2-GB 667 MHz)
Disk Subsystem:	Seagate Barracuda ES 250 GB ST3250620NS
Other Hardware:	None
Adapter:	Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller
Number of Adapters:	1
Slot Type:	PCI-Express x8
Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet

Software

Adapter:	Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller
Adapter Driver:	e1000
Adapter Firmware:	None
Operating System:	RedHat EL 5 Update 2, kernel 2.6.18-92
Local File System:	Linux/ext2
Shared File System:	NFS
System State:	Multi-User
Other Software:	PBS Pro 8.0

Node Description: Panasas Fileserver

Hardware

Number of nodes:	1
Uses of the node:	fileserver

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Software

Adapter:	--
Adapter Driver:	--

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Test sponsor:	Intel Corporation	**Hardware Availability:**	Sep-2008
Tested by:	Pavel Shelepugin	**Software Availability:**	Sep-2009

Node Description: Panasas Fileserver

Vendor:	Panasas
Model:	ActiveStor 3050
CPU Name:	--
CPU(s) orderable:	1-2 chips
Chips enabled:	1
Cores enabled:	1
Cores per chip:	1
Threads per core:	1
CPU Characteristics:	--
CPU MHz:	0
Primary Cache:	None
Secondary Cache:	None
L3 Cache:	None
Other Cache:	None
Memory:	1 MB
Disk Subsystem:	64 disks, 250GB/disk, 16TB total, 4 Shelves
Other Hardware:	None
Adapter:	--
Number of Adapters:	1
Slot Type:	--
Data Rate:	1Gbps Ethernet
Ports Used:	16
Interconnect Type:	Ethernet

Adapter Firmware:	N/A
Operating System:	3.0.7.c-241513.8
Local File System:	PanFS
Shared File System:	DirectFlow
System State:	Multi-User
Other Software:	None

Interconnect Description: Gigabit Ethernet

Hardware

Vendor:	Cisco
Model:	Cisco Catalyst 4506
Switch Model:	Cisco Catalyst 4506
Number of Switches:	1
Number of Ports:	144
Data Rate:	1Gbps Ethernet
Firmware:	--
Topology:	Star
Primary Use:	MPI traffic, FS traffic

Software

Submit Notes

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

General Notes

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

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General Notes (Continued)

```
    down the mpd ring upon the job termination.
    The mpirun command automatically detects if an MPI job is submitted
    in a session allocated using a job scheduler (like PBS Pro). In this
    case, the mpirun command extracts the host list from the respective
    environment and uses these nodes automatically.

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

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`

Base Optimization Flags

C benchmarks:
`-O2`

C++ benchmarks:

126.lammps: `-O2`

Fortran benchmarks:
`-O2`

Benchmarks using both Fortran and C:
`-O2`

Peak Optimization Flags

C benchmarks:

122.tachyon: `basepeak = yes`

125.RAxML: `basepeak = yes`

142.dmilc: `basepeak = yes`

C++ benchmarks:

126.lammps: `basepeak = yes`

Fortran benchmarks:

129.tera_tf: `basepeak = yes`

137.lu: `basepeak = yes`

143.dleslie: `basepeak = yes`

145.lGemsFDTD: `basepeak = yes`

Benchmarks using both Fortran and C:

121.pop2: `basepeak = yes`

128.GAPgeofem: `basepeak = yes`

132.zeusmp2: `basepeak = yes`

147.l2wrf2: `basepeak = yes`

The flags file that was used to format this result can be browsed at
http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.20100202.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.20100202.xml

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

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