SPEC® MPIM2007 Result

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Intel Corporation

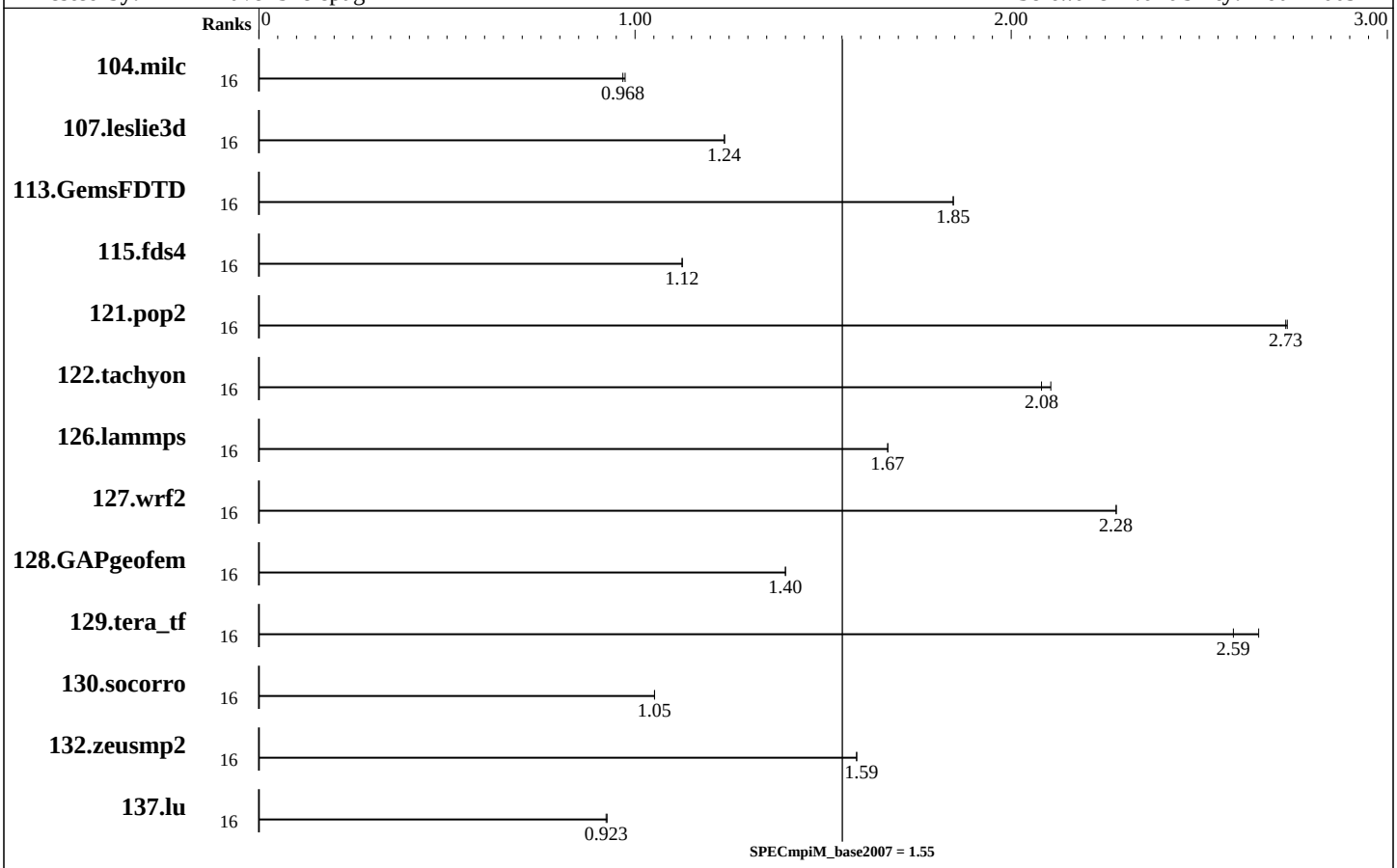
Atlantis (Intel Xeon X5482, 3.20 GHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 1.55

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

Test date: Mar-2009
Hardware Availability: Sep-2008
Software Availability: Jun-2009



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	16	1607	0.974	**1617**	**0.968**									
107.leslie3d	16	**4220**	**1.24**	4216	1.24									
113.GemsFDTD	16	**3418**	**1.85**	3417	1.85									
115.fds4	16	**1735**	**1.12**	1733	1.13									
121.pop2	16	1510	2.73	**1512**	**2.73**									
122.tachyon	16	**1344**	**2.08**	1329	2.11									
126.lammps	16	1743	1.67	**1744**	**1.67**									
127.wrf2	16	3420	2.28	**3421**	**2.28**									
128.GAPgeofem	16	1475	1.40	**1475**	**1.40**									
129.tera_tf	16	**1068**	**2.59**	1041	2.66									

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

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Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	16	**3630**	**1.05**	3629	1.05									
132.zeusmp2	16	**1953**	**1.59**	1952	1.59									
137.lu	16	3971	0.926	**3983**	**0.923**									

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:	Atlantis Node
Interconnects:	IB Switch Gigabit Ethernet
File Server Node:	HOME
Total Compute Nodes:	2
Total Chips:	4
Total Cores:	16
Total Threads:	16
Total Memory:	32 GB
Base Ranks Run:	16
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)

Node Description: Atlantis Node

Hardware

Number of nodes:	2
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

Continued on next page

Software

Adapter:	Intel (ESB2) 82563EB Dual-Port Gigabit Ethernet Controller
Adapter Driver:	e1000
Adapter Firmware:	None
Adapter:	Mellanox MHGH29-XTC
Adapter Driver:	OFED 1.3.1
Adapter Firmware:	2.5.0
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

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Node Description: Atlantis Node

Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	Mellanox MHGH29-XTC
Number of Adapters:	1
Slot Type:	PCIe x16 Gen2
Data Rate:	InfiniBand 4x DDR
Ports Used:	1
Interconnect Type:	InfiniBand

Node Description: HOME

Hardware

Number of nodes:	1
Uses of the node:	fileserver
Vendor:	Intel
Model:	SSR212CC
CPU Name:	Intel Xeon
CPU(s) orderable:	2 chips
Chips enabled:	2
Cores enabled:	2
Cores per chip:	1
Threads per core:	1
CPU Characteristics:	--
CPU MHz:	2800
Primary Cache:	12 KB I + 16 KB D on chip per chip
Secondary Cache:	1 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	2 GB
Disk Subsystem:	3 disks, 500GB/disk, 1.5TB total, 1TB available
Other Hardware:	None
Adapter:	Intel 82546GB 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 82546GB Dual-Port Gigabit Ethernet Controller
Adapter Driver:	e1000
Adapter Firmware:	N/A
Operating System:	RedHat EL 4 Update 4
Local File System:	Linux/ext2
Shared File System:	NFS
System State:	Multi-User
Other Software:	None

Interconnect Description: IB Switch

Hardware

Vendor:	Cisco
Model:	Cisco SFS 9120
Switch Model:	Cisco SFS 9120

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Software Availability: Jun-2009

Interconnect Description: IB Switch

Number of Switches:	1
Number of Ports:	120
Data Rate:	InfiniBand 4x DDR
Firmware:	4.1.1.1.11
Topology:	Single switch
Primary Use:	MPI traffic

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:	Cluster File System

Software

Submit Notes

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

General Notes

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

Base Optimization Flags

C benchmarks:
`-O3 -xT -no-prec-div`

C++ benchmarks:

126.lammps: `-O3 -xT -no-prec-div`

Fortran benchmarks:
`-O3 -xT -no-prec-div`

Benchmarks using both Fortran and C:
`-O3 -xT -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`

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

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