

SPEC[®] MPIL2007 Result

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Intel Corporation

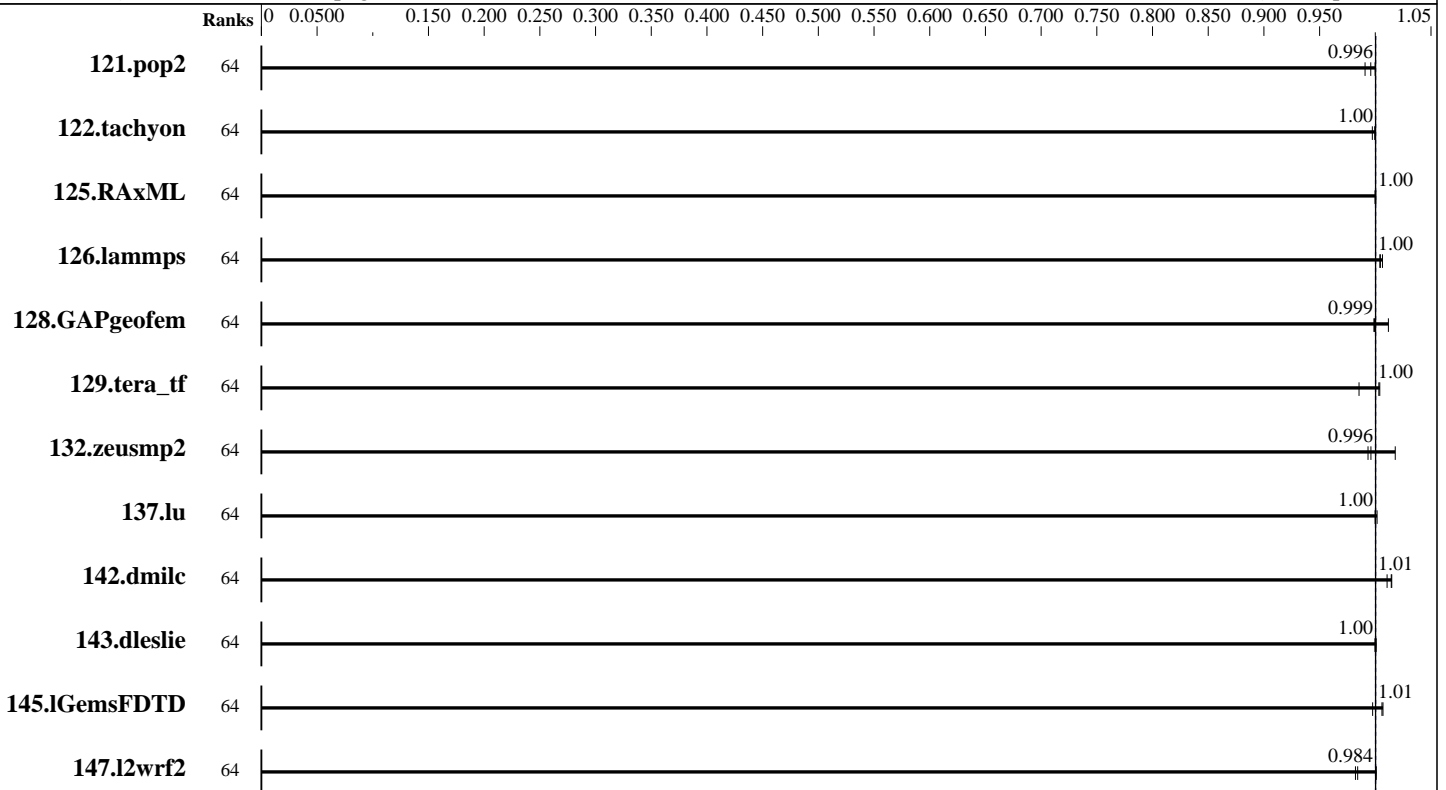
SPECmpiL[™]_peak2007 = 1.00

Atlantis (Intel Xeon X5482, 3.20 GHz)

SPECmpiL_base2007 = 1.00

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

Test date: Jan-2010
 Hardware Availability: Sep-2008
 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

Software

Adapter: --
Adapter Driver: --

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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	Software
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>

Submitted_by: "Shelepugin, Pavel" <Pavel.Shelepugin@intel.com>
Submitted: Tue Jan 26 16:00:28 EST 2010
Submission: mpi2007-20100119-00193.sub

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

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Base Optimization Flags (Continued)

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

https://pro.spec.org/private/hpg/submit/mpi2007/flags/EM64T_Intel111_flags.20100118.html

You can also download the XML flags source by saving the following link:

https://pro.spec.org/private/hpg/submit/mpi2007/flags/EM64T_Intel111_flags.20100118.xml

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

Tested with SPEC MPI2007 v85.
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