



# SPEC® MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

## Intel Corporation

SPECmpiL\_peak2007 = 1.00

## Atlantis (Intel Xeon X5482, 3.20 GHz)

SPECmpiL\_base2007 = 1.00

MPI2007 license: 13

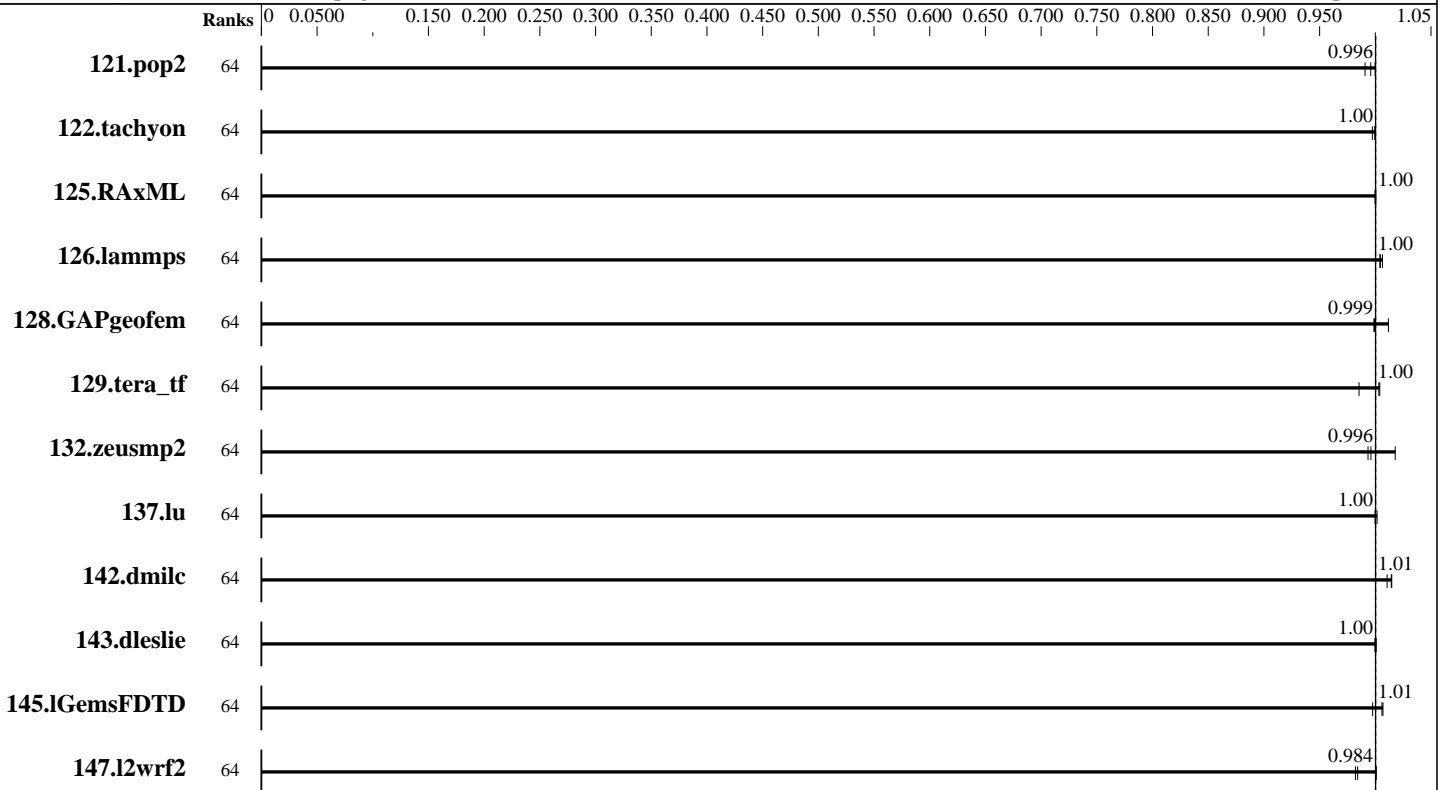
Test sponsor: Intel Corporation

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

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

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

SPECmpiL\_peak2007 = 1.00

Atlantis (Intel Xeon X5482, 3.20 GHz)

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

## 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: --

Continued on next page

Continued on next page



# SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Intel Corporation

SPECmpiL\_peak2007 = 1.00

Atlantis (Intel Xeon X5482, 3.20 GHz)

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

## 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

Continued on next page



# SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

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

## 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



# SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

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

## 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](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](http://www.spec.org/mpi2007/flags/EM64T_Intel111_flags.20100202.xml)

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 v85.  
Report generated on Tue Jul 22 13:39:22 2014 by SPEC MPI2007 PS/PDF formatter v1463.  
Originally published on 2 February 2010.