



SPEC® MPIM2007 Result

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SGI

SPECmpiM_peak2007 = Not Run

SGI Altix 4700 Bandwidth System (Itanium 2 Processor 9040 1.6GHz/18M)

SPECmpiM_base2007 = 3.64

MPI2007 license: 4

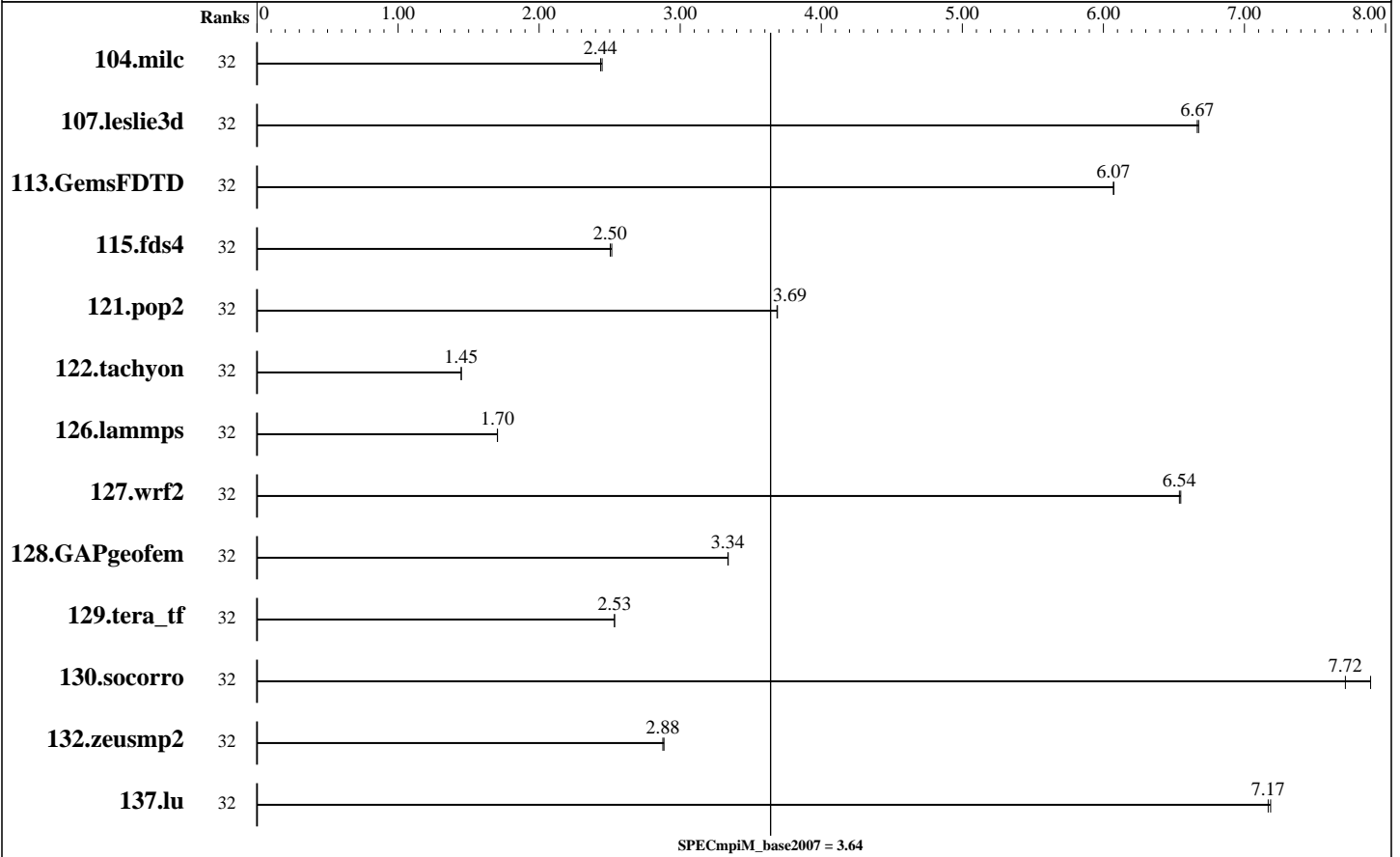
Test date: May-2007

Test sponsor: SGI

Hardware Availability: Jul-2006

Tested by: SGI

Software Availability: Apr-2007



Results Table

Benchmark	Base								Peak					
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	32	<u>643</u>	<u>2.44</u>	640	2.45									
107.leslie3d	32	782	6.68	<u>783</u>	<u>6.67</u>									
113.GemsFDTD	32	1039	6.07	<u>1039</u>	<u>6.07</u>									
115.fds4	32	776	2.51	<u>779</u>	<u>2.50</u>									
121.pop2	32	1119	3.69	<u>1120</u>	<u>3.69</u>									
122.tachyon	32	<u>1932</u>	<u>1.45</u>	1932	1.45									
126.lammps	32	<u>1711</u>	<u>1.70</u>	1710	1.70									
127.wrf2	32	1190	6.55	<u>1192</u>	<u>6.54</u>									
128.GAPgeofem	32	618	3.34	<u>619</u>	<u>3.34</u>									
129.tera_tf	32	1092	2.53	<u>1092</u>	<u>2.53</u>									

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	32	484	7.89	<u>495</u>	<u>7.72</u>											
132.zeusmp2	32	1076	2.88	<u>1079</u>	<u>2.88</u>											
137.lu	32	<u>513</u>	<u>7.17</u>	512	7.19											

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

Hardware Summary

Type of System: SMP
 Compute Node: SMP
 File Server Node: SMP
 Total Compute Nodes: 1
 Total Chips: 16
 Total Cores: 32
 Total Threads: 32
 Total Memory: 128 GB
 Base Ranks Run: 32
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C Itanium Compiler for Itanium-based Applications Version 9.1 (Build 20070320)
 C++ Compiler: Intel C++ Itanium Compiler for Itanium-based Applications Version 9.1 (Build 20070320)
 Fortran Compiler: Intel Fortran Itanium Compiler for Itanium-based Applications Version 9.1 (Build 20070320)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: SGI Message Passing Toolkit (MPT) Version 1.15
 Other MPI Info: None
 Pre-processors: None
 Other Software: None

Node Description: SMP

Hardware

Number of nodes: 1
 Uses of the node: compute, file server
 Vendor: SGI
 Model: SGI Altix 4700 Bandwidth System (Itanium 2 Processor 9040 1.6GHz/18M)
 CPU Name: Dual-Core Intel Itanium 2 9040
 CPU(s) orderable: 1-512 chips
 Chips enabled: 16
 Cores enabled: 32
 Cores per chip: 2
 Threads per core: 1
 CPU Characteristics: 533MHz FSB
 CPU MHz: 1600
 Primary Cache: 16 KB I + 16 KB D on chip per core
 Secondary Cache: 1 MB I + 256 KB D on chip per core
 L3 Cache: 9 MB I+D on chip per core
 Other Cache: None
 Memory: 128 GB (8*1GB DDR2-400 DIMMS per 2 core module)
 Disk Subsystem: 36 x 73 GB FibreChannel (Seagate Cheetah 15k rpm)
 Other Hardware: None
 Adapter: None
 Number of Adapters: 0
 Slot Type: Not applicable
 Data Rate: Not applicable
 Ports Used: 0

Software

Adapter: None
 Adapter Driver: Not applicable
 Adapter Firmware: Not applicable
 Operating System: SUSE Linux Enterprise Server 10 + SGI ProPack 5 Service Pack 1
 Local File System: 36 x 73 GB FibreChannel (Seagate Cheetah 15k rpm)
 Shared File System: None
 System State: Multi-user
 Other Software: None

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Node Description: SMP

Interconnect Type: None

General Notes

```

setenv MPI_DSM_DISTRIBUTE 1
  Ensures that each MPI process gets a unique CPU and physical
  memory on the node with which that CPU is associated. The
  CPUs are chosen by simply starting at cpuset-relative CPU 0
  and incrementing until all MPI processes have been forked.
setenv MPI_REQUEST_MAX 65536
  Determines the maximum number of nonblocking sends and
  receives that can simultaneously exist for any single MPI
  process. MPI generates an error message if this limit
  (or the default, if not set) is exceeded. Default: 16384
limit stacksize unlimited
  Removes limits on the maximum size of the automatically-
  extended stack region of the current process and each
  process it creates.

```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
126.lammps: icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

```

121.pop2: -DSPEC_MPI_CASE_FLAG
127.wf2: -DSPEC_MPI_LINUX -DSPEC_MPI_CASE_FLAG

```

Base Optimization Flags

C benchmarks:
-O3 -ipo -IPF-fp-relaxed -lmpi

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Base Optimization Flags (Continued)

C++ benchmarks:

126.lammps: -O3 -ipo -IPF-fp-relaxed -ansi-alias -lmpi

Fortran benchmarks:

-O3 -ipo -IPF-fp-relaxed -lmpi

Benchmarks using both Fortran and C:

-O3 -ipo -IPF-fp-relaxed -lmpi

The flags file that was used to format this result can be browsed at

<http://www.spec.org/mpi2007/flags/Intel-ic91-ipf.html>

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

<http://www.spec.org/mpi2007/flags/Intel-ic91-ipf.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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