



SPEC[®] MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX
(AMD Opteron 6180 SE, 2.5GHz)

SPECmpiL_peak2007 = Not Run

SPECmpiL_base2007 = 3.92

MPI2007 license: 4

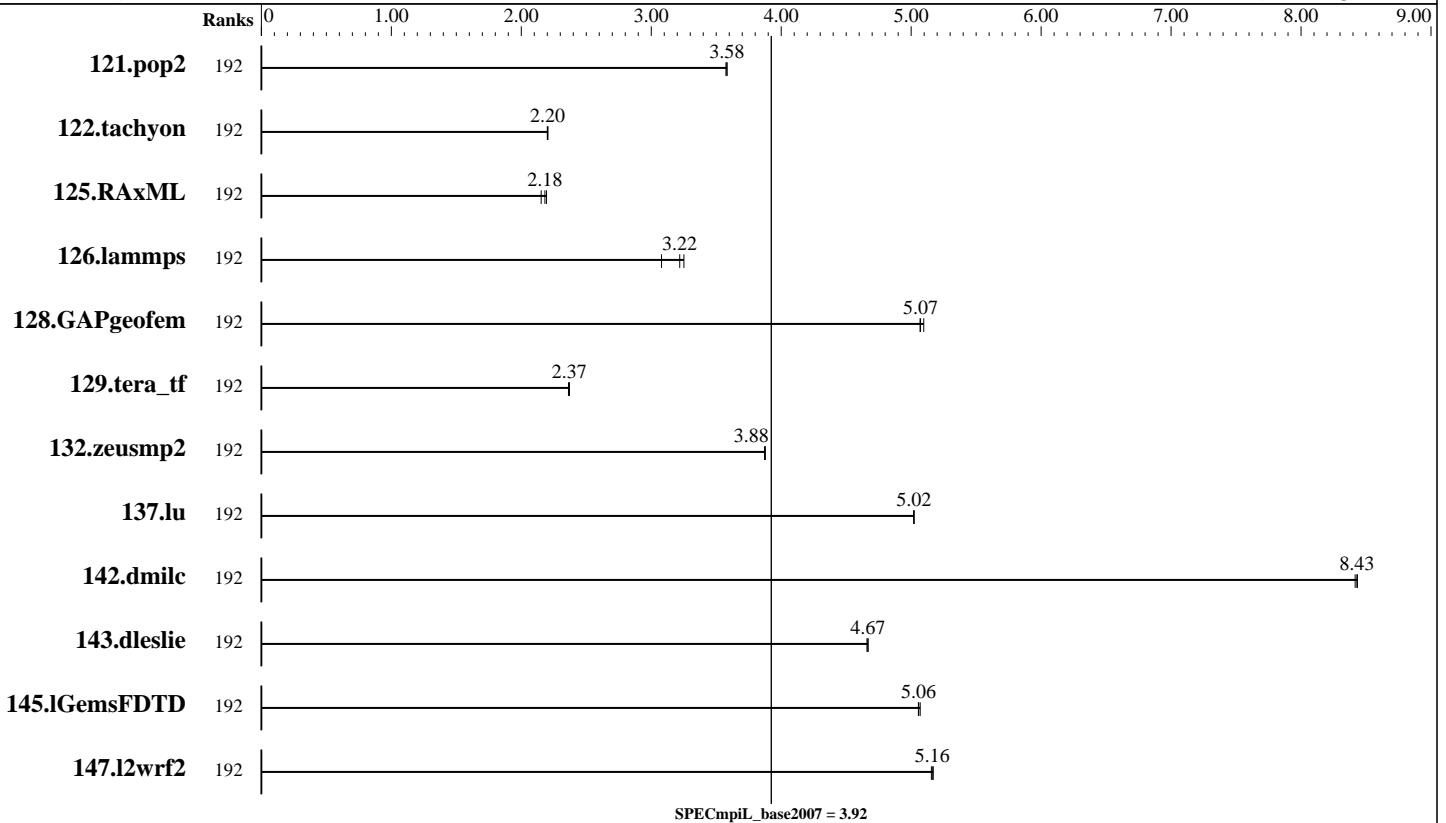
Test sponsor: SGI

Tested by: SGI

Test date: Jun-2011

Hardware Availability: Mar-2011

Software Availability: Aug-2011



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
121.pop2	192	1089	3.57	1086	3.58	1086	3.58							
122.tachyon	192	884	2.20	882	2.20	882	2.20							
125.RAxML	192	1330	2.19	1338	2.18	1356	2.15							
126.lammps	192	756	3.25	764	3.22	799	3.08							
128.GAPgeofem	192	1170	5.07	1171	5.07	1164	5.10							
129.tera_tf	192	465	2.36	464	2.37	464	2.37							
132.zeusmp2	192	547	3.88	547	3.88	548	3.87							
137.lu	192	837	5.02	837	5.02	837	5.02							
142.dmilc	192	437	8.43	437	8.43	438	8.42							
143.dleslie	192	665	4.66	664	4.67	664	4.67							
145.lGemsFDTD	192	870	5.07	872	5.06	873	5.06							
147.l2wrf2	192	1589	5.16	1591	5.16	1587	5.17							

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

SGI

SPECmpiL_peak2007 = Not Run

SGI Altix ICE 8400EX
(AMD Opteron 6180 SE, 2.5GHz)

SPECmpiL_base2007 = 3.92

MPI2007 license: 4

Test sponsor: SGI

Tested by: SGI

Test date: Jun-2011

Hardware Availability: Mar-2011

Software Availability: Aug-2011

Hardware Summary

Type of System: Homogeneous
 Compute Node: SGI Altix ICE 8400EX Compute Node
 Interconnect: InfiniBand (MPI and I/O)
 File Server Node: SGI InfiniteStorage 4000
 Total Compute Nodes: 8
 Total Chips: 16
 Total Cores: 192
 Total Threads: 192
 Total Memory: 512 GB
 Base Ranks Run: 192
 Minimum Peak Ranks: --
 Maximum Peak Ranks: --

Software Summary

C Compiler: Intel C++ Composer XE 2011 for Linux, Version 12.0.3.174 Build 20110309
 C++ Compiler: Intel C++ Composer XE 2011 for Linux, Version 12.0.3.174 Build 20110309
 Fortran Compiler: Intel Fortran Composer XE 2011 for Linux, Version 12.0.3.174 Build 20110309
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 MPI Library: SGI MPT 2.04 Patch 10789
 Other MPI Info: OFED 1.4.2
 Pre-processors: None
 Other Software: None

Node Description: SGI Altix ICE 8400EX Compute Node

Hardware

Number of nodes: 8
 Uses of the node: compute
 Vendor: SGI
 Model: SGI Altix ICE 8400EX (AMD Opteron 6180 SE, 2.5GHz)
 CPU Name: AMD Opteron 6180 SE
 CPU(s) orderable: 1-2 chips
 Chips enabled: 2
 Cores enabled: 24
 Cores per chip: 12
 Threads per core: 1
 CPU Characteristics: 12 Cores/chip, 2.5 GHz
 CPU MHz: 2500
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 12 MB I+D on chip per chip, 6 MB shared / 6 cores
 Other Cache: None
 Memory: 64 GB (16 x 4 GB, 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: None
 Other Hardware: None
 Adapter: Mellanox MT26428 ConnectX IB QDR (PCIe x8 Gen2 5 GT/s)
 Number of Adapters: 1
 Slot Type: PCIe x8 Gen2
 Data Rate: InfiniBand 4x QDR
 Ports Used: 2
 Interconnect Type: InfiniBand

Software

Adapter: Mellanox MT26428 ConnectX IB QDR (PCIe x8 Gen2 5 GT/s)
 Adapter Driver: OFED-1.4.2
 Adapter Firmware: 2.7.0
 Operating System: SUSE Linux Enterprise Server 11 SP1 (x86_64) Kernel 2.6.32.27-0.2-default
 Local File System: NFSv3
 Shared File System: NFSv3 IPoIB
 System State: Run Level 3 (Multi-User)
 Other Software: SGI Performance Suite 1.0, Build 702r19.sles11-1010072114
 SGI Tempo Compute Node 2.2, Build 702r19.sles11-1010072114



SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX
(AMD Opteron 6180 SE, 2.5GHz)

SPECmpiL_peak2007 = Not Run

SPECmpiL_base2007 = 3.92

MPI2007 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Jun-2011
Hardware Availability: Mar-2011
Software Availability: Aug-2011

Node Description: SGI InfiniteStorage 4000

Hardware

Number of nodes: 1
Uses of the node: fileserver
Vendor: SGI
Model: SGI Altix 450 (Intel Itanium 2, 1.6GHz)
CPU Name: Intel Itanium 2 9030
CPU(s) orderable: 2-38 chips
Chips enabled: 2
Cores enabled: 4
Cores per chip: 2
Threads per core: 1
CPU Characteristics: 1.6GHz/8MB, 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: 4 MB I+D on chip per core
Other Cache: None
Memory: 24 GB (12 x 2 GB, 2Rx4 PC2-3200-3, ECC)
Disk Subsystem: 16 TB RAID 5
32 x 500 GB SATA (Seagate Barracuda 7.2K)
Other Hardware: None
Adapter: Mellanox MT25208 InfiniHost III Ex
(PCIe x8 Gen1 2.5 GT/s)
Number of Adapters: 2
Slot Type: PCIe x8 Gen1
Data Rate: InfiniBand 4x DDR
Ports Used: 2
Interconnect Type: InfiniBand

Software

Adapter: Mellanox MT25208 InfiniHost III Ex
(PCIe x8 Gen1 2.5 GT/s)
Adapter Driver: OFED-1.4.2
Adapter Firmware: 5.3.0
Operating System: SUSE Linux Enterprise Server 11 SP1 (ia64)
Kernel 2.6.32.12-0.7-default
Local File System: xfs
Shared File System: --
System State: Run Level 3 (Multi-User)
Other Software: SGI ProPack 7SP1 for Linux,
Build 701r2.sles11-1005242307

Interconnect Description: InfiniBand (MPI and I/O)

Hardware

Vendor: Mellanox Technologies
Model: None
Switch Model: Mellanox Infiniscale-IV
Number of Switches: 1
Number of Ports: 36
Data Rate: InfiniBand 4x QDR
Firmware: 5040005
Topology: Enhanced HyperCube
Primary Use: MPI and I/O traffic

Software



SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX
(AMD Opteron 6180 SE, 2.5GHz)

SPECmpiL_peak2007 = Not Run

SPECmpiL_base2007 = 3.92

MPI2007 license: 4

Test sponsor: SGI

Tested by: SGI

Test date: Jun-2011

Hardware Availability: Mar-2011

Software Availability: Aug-2011

Submit Notes

The config file option 'submit' was used.

General Notes

Software environment:

```
export MPI_REQUEST_MAX=65536
```

```
export MPI_TYPE_MAX=32768
```

```
export MPI_BUFS_THRESHOLD=1
```

```
ulimit -s unlimited
```

BIOS settings:

```
AMI BIOS version 1.0a
```

Job Placement:

Each MPI job is assigned to a topologically compact set of nodes, i.e. the minimal needed number of switches was used for each job: 1 switch for up to 192 ranks, 2 switches for 384 ranks, 4 switches for 768 ranks, 8 switches for 1536 ranks and 16 switches for 3072 ranks.

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
```

Base Optimization Flags

C benchmarks:

```
-O3 -xSSE2 -no-prec-div
```

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC MPIL2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX
(AMD Opteron 6180 SE, 2.5GHz)

SPECmpiL_peak2007 = Not Run

SPECmpiL_base2007 = 3.92

MPI2007 license: 4

Test sponsor: SGI

Tested by: SGI

Test date: Jun-2011

Hardware Availability: Mar-2011

Software Availability: Aug-2011

Base Optimization Flags (Continued)

C++ benchmarks:

126.lammps: -O3 -xSSE2 -no-prec-div -ansi-alias

Fortran benchmarks:

-O3 -xSSE2 -no-prec-div

Benchmarks using both Fortran and C:

-O3 -xSSE2 -no-prec-div

Base Other Flags

C benchmarks:

-lmpi

C++ benchmarks:

126.lammps: -lmpi

Fortran benchmarks:

-lmpi

Benchmarks using both Fortran and C:

-lmpi

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

http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel12_flags.html

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

http://www.spec.org/mpi2007/flags/SGI_x86_64_Intel12_flags.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.

Tested with SPEC MPI2007 v2.0.
Report generated on Tue Jul 22 13:43:28 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 14 July 2011.