



SPEC[®] MPIM2007 Result

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Intel Corporation

SPECmpiM_peak2007 = Not Run

Atlantis (Intel Xeon X5482, 3.20 GHz)

SPECmpiM_base2007 = 1.55

MPI2007 license: 13

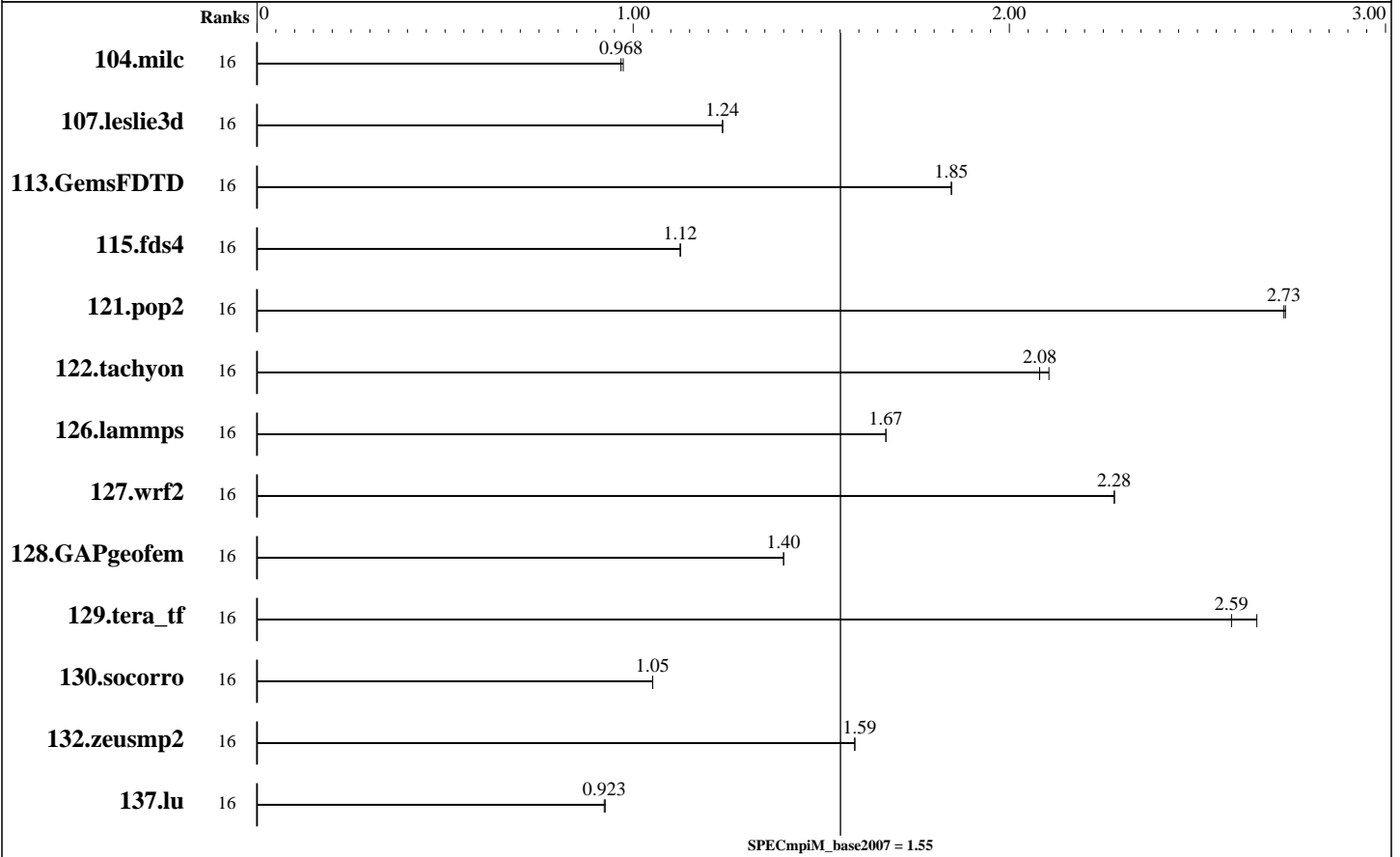
Test sponsor: Intel Corporation

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

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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Software Availability: Jun-2009

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

Software

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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 | 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: | Cluster File System | |

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



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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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