IBM
iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = NC

MPI2007 license: 45
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Apr-2009
Hardware Availability: Sep-2008
Software Availability: Jan-2009

Ranks
104.milc
107.leslie3d
113.GemsFDTD
115.fds4
121.pop2
122.tachyon
126.lammps
127.wrf2
128.GAPgeofem
129.tera_tf
130.socorro
132.zeusmp2
137.lu

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>104.milc</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>107.leslie3d</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
Intel Xeon L5420, 2.50 GHz

**SPECmpM_peak2007** = Not Run

**SPECmpM_base2007** = NC

**MPI2007 license:** 45
**Test date:** Apr-2009
**Test sponsor:** Indiana University

**Hardware Availability:** Sep-2008

**Software Availability:** Jan-2009

**Tested by:** Scott Teige

### Results Table (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Ranks</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>113.GemsFDTD</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>115.fds4</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>121.pop2</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>122.tachyon</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>126.lammps</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>127.wrf2</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>128.GAPgeofem</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>129.tera_tf</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>130.socorro</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>132.zeusmp2</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>137.lu</td>
<td>32</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

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:** iDP node
- **Interconnects:** Gigabit Ethernet, IB Switch
- **Total Compute Nodes:** 4
- **Total Chips:** 8
- **Total Cores:** 32
- **Total Threads:** 32
- **Total Memory:** 128 GB

### Software Summary

- **C Compiler:** Intel C++ Compiler 10.1 for Linux (10.1.013)
- **C++ Compiler:** Intel C++ Compiler 10.1 for Linux (10.1.013)
- **Fortran Compiler:** Intel Fortran Compiler 10.1 for Linux (10.1.013)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **MPI Library:** OpenMPI 1.3.1
- **Other MPI Info:** None
- **Pre-processors:** No
- **Other Software:** None
### SPEC MPI2007 Result

**IBM**

**iDP (Intel Xeon L5420, 2.50 GHz)**

<table>
<thead>
<tr>
<th>MPI2007 license:</th>
<th>45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Indiana University</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Scott Teige</td>
</tr>
</tbody>
</table>

**SPECmpiM_peak2007 = Not Run**

**SPECmpiM_base2007 = NC**

---

**Node Description: iDP node**

#### Hardware

- **Number of nodes:** 4
- **Uses of the node:** compute
- **Vendor:** IBM
- **Model:** System x iDataPlex dx340
- **CPU Name:** Intel Xeon L5420
- **CPU(s) orderable:** 1-2 chips
- **Chips enabled:** 2
- **Cores enabled:** 8
- **Cores per chip:** 4
- **Threads per core:** 1
- **CPU Characteristics:** 1333 MHz FSB
- **CPU MHz:** 2500
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 12 MB I+D on chip per chip, 12 MB shared / 2 cores
- **L3 Cache:** None
- **Other Cache:** None
- **Memory:** 32 GB (L3D Dimm 8x4-GB 667 MHz)
- **Disk Subsystem:** Western Digital 160 GB WD160YS-23SHBO
- **Other Hardware:** None
- **Adapter:** Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) (rev 01)
- **Number of Adapters:** 2
- **Slot Type:** --
- **Data Rate:** Gigabit Ethernet
- **Ports Used:** 1
- **Interconnect Type:** Ethernet
- **Adapter Driver:** OS default (e1000, v7.3.20-k2-NAPI)
- **Adapter Firmware:** 2.4-0
- **Adapter Driver:** OFED 1.3.1
- **Adapter Firmware:** 2.5.0
- **Operating System:** RedHat EL v4.7
- **Local File System:** 2.6.9-67.0.22.EL_lustre.1.6.7custom
- **Shared File System:** IBM N5500 NAS via NFSv3
- **System State:** Multi-User
- **Other Software:** lustre 1.6.7 kernel patches

---

**Software**

#### Adapter:

**Adapter Driver:** Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) (rev 01)

**Adapter Firmware:** OS default (e1000, v7.3.20-k2-NAPI)

**Adapter Driver:** OFED 1.3.1

**Adapter Firmware:** 2.5.0

**Operating System:** RedHat EL v4.7

**Local File System:** 2.6.9-67.0.22.EL_lustre.1.6.7custom

**Shared File System:** IBM N5500 NAS via NFSv3

**System State:** Multi-User

**Other Software:** lustre 1.6.7 kernel patches

---

**Note:** This node is not compliant.
## IBM

iDP (Intel Xeon L5420, 2.50 GHz)

<table>
<thead>
<tr>
<th>SPECmpiM_peak2007</th>
<th>Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECmpiM_base2007</td>
<td>NC</td>
</tr>
</tbody>
</table>

### MPI2007 license: 45

<table>
<thead>
<tr>
<th>Test date:</th>
<th>Apr-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Indiana University</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Scott Teige</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Sep-2008</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Jan-2009</td>
</tr>
</tbody>
</table>

### Interconnect Description: Gigabit Ethernet

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor: ProCurve Networking</td>
<td></td>
</tr>
<tr>
<td>Model: HP ProCurve Switch 5406zl Intelligent Edge J8697A</td>
<td></td>
</tr>
<tr>
<td>Switch Model: HP ProCurve Switch 5406zl Intelligent Edge J8697A</td>
<td></td>
</tr>
<tr>
<td>Number of Switches: 1</td>
<td></td>
</tr>
<tr>
<td>Number of Ports: 144</td>
<td></td>
</tr>
<tr>
<td>Data Rate: 1Gbps Ethernet</td>
<td></td>
</tr>
<tr>
<td>Firmware: --</td>
<td></td>
</tr>
<tr>
<td>Topology: Single switch</td>
<td></td>
</tr>
<tr>
<td>Primary Use: Cluster File System</td>
<td></td>
</tr>
</tbody>
</table>

### Interconnect Description: IB Switch

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor: Cisco</td>
<td></td>
</tr>
<tr>
<td>Model: Cisco SFS 7024D</td>
<td></td>
</tr>
<tr>
<td>Switch Model: Cisco SFS 7024D</td>
<td></td>
</tr>
<tr>
<td>Number of Switches: 1</td>
<td></td>
</tr>
<tr>
<td>Number of Ports: 288</td>
<td></td>
</tr>
<tr>
<td>Data Rate: InfiniBand 4x DDR</td>
<td></td>
</tr>
<tr>
<td>Firmware: 4.1.1.1.11</td>
<td></td>
</tr>
<tr>
<td>Topology: Single switch</td>
<td></td>
</tr>
<tr>
<td>Primary Use:</td>
<td></td>
</tr>
</tbody>
</table>

### Submit Notes

The config file option 'submit' was used.

### Base Compiler Invocation

C benchmarks: mpicc

Continued on next page
IBM
iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = NC

MPI2007 license: 45
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Apr-2009
Hardware Availability: Sep-2008
Software Availability: Jan-2009

Base Compiler Invocation (Continued)

C++ benchmarks:
126.lammps: mpicxx

Fortran benchmarks:
mpif90

Benchmarks using both Fortran and C:
mpicc mpif90

Base Portability Flags

121.pop2: -DSPEC_MPI_CASE_FLAG
126.lammps: -DMPICEEDSNORE_CXXSEEK
127.wrf2: -DSPEC_MPI_LINUX -DSPEC_MPI_CASE_FLAG

Base Optimization Flags

C benchmarks:
-O3 -xT -ipo -no-prec-div

C++ benchmarks:
126.lammps: -O3 -xT -ipo -no-prec-div

Fortran benchmarks:
-O3 -xT -ipo -no-prec-div

Benchmarks using both Fortran and C:
-O3 -xT -ipo -no-prec-div

Non-Compliant
IBM

iDP (Intel Xeon L5420, 2.50 GHz)

SPECmpiM_peak2007 = Not Run
SPECmpiM_base2007 = NC

MPI2007 license: 45
Test sponsor: Indiana University
Tested by: Scott Teige

Test date: Apr-2009
Hardware Availability: Sep-2008
Software Availability: Jan-2009

The flags file that was used to format this result can be browsed at:
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20090520.00.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/mpi2007/flags/EM64T_Intel101_flags.20090520.00.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 v1.1.
Originally published on 20 May 2009.