IBM

iDP (Intel Xeon L5420, 2.50 GHz)

<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>
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<th>Seconds</th>
<th>Ratio</th>
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<td>NC</td>
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</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.
### Hardware Summary

- **Type of System:** Homogeneous
- **Compute Nodes:** iDP node
- **Interconnects:** Gigabit Ethernet, IB Switch
- **Total Compute Nodes:** 8
- **Total Chips:** 16
- **Total Cores:** 64
- **Total Threads:** 64
- **Total Memory:** 256 GB
- **Base Ranks Run:** 64
- **Minimum Peak Ranks:** --
- **Maximum Peak Ranks:** --

### 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

### Results Table (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Ranks</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
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<td>NC</td>
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</tbody>
</table>

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

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This document is a non-compliant SPEC MPIM2007 Result report for IBM iDP (Intel Xeon L5420, 2.50 GHz). The SPECmpiM_peak2007 benchmark was not run. The SPECmpiM_base2007 benchmark resulted in "NC."
**IBM**

iDP (Intel Xeon L5420, 2.50 GHz)

### SPEC mpiM_result 2007

**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

### Node Description: iDP node

#### Hardware

| Number of nodes | 8 |
| 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 1 + 32 KB D on chip per core |
| Secondary Cache | 12 MB 1+D on chip per chip / MB shared / 2 cores |
| L3 Cache | None |
| Other Cache | None |
| Memory | 32 GB (16x4-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 |
| Interconnect Type | Ethernet |
| Adapters: | Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0) |
| Number of Adapters: | 1 |
| Slot Type: | PCIe x8 Gen2 |
| Data Rate: | InfiniBand 4x DDR |
| Ports Used: | 1 |
| Interconnect Type: | InfiniBand |

#### Software

- **Adapter:** Intel Corporation 80003ES2LAN Gigabit Ethernet Controller (Copper) (rev 01)
  - **Adapter Driver:** OS default (e1000, v7.3.20-k2-NAPI)
  - **Adapter Firmware:** 2.4-0
- **Adapter:** Mellanox Technologies MT26418 [ConnectX IB DDR, PCIe 2.0 5GT/s] (rev a0)
  - **Adapter Driver:** OFED 1.3.1
  - **Adapter Firmware:** 2.5.0
- **Operating System:** RedHat EL v4.7
  - **2.6.9-67.0.22.EL_lustre.1.6.7custom**
  - **Linux/ext3**
  - **IBM N5500 NAS via NFSv3**
  - **Multi-User**
  - **lustre 1.6.7 kernel patches**

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**Non-Compliant**
## SPEC MPI2007 Result

**IBM**

iDP (Intel Xeon L5420, 2.50 GHz)

### SPECmpiM_peak2007

Not Run

### SPECmpiM_base2007

NC

#### MPI2007 license: 45

- **Test date:** Apr-2009
- **Test sponsor:** Indiana University
- **Tested by:** Scott Teige

#### Hardware Interconnect Description: Gigabit Ethernet

- **Vendor:** ProCurve Networking
- **Model:** HP ProCurve Switch 5406zl Intelligent Edge J8697A
- **Switch Model:** HP ProCurve Switch 5406zl Intelligent Edge J8697A
- **Number of Switches:** 1
- **Number of Ports:** 144
- **Data Rate:** 1Gbps Ethernet
- **Firmware:** --
- **Topology:** Single switch
- **Primary Use:** Cluster File System

#### Hardware Interconnect Description: IB Switch

- **Vendor:** Cisco
- **Model:** Cisco SFS 7024-D
- **Switch Model:** Cisco SFS 7024-D
- **Number of Switches:** 1
- **Number of Ports:** 288
- **Data Rate:** InfiniBand 4x DDR
- **Firmware:** 4.1.1.1.1
- **Topology:** Single switch
- **Primary Use:** MPI traffic

### Interconnect Description: IB Switch

#### Software

- **Submit Notes**
  
  The config file option 'submit' was used.

### Base Compiler Invocation

- **C benchmarks:** 
  
  mpicc

- **Continued on next page**

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Non-Compliant
IBM

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**MPI2007 license:** 45

**Test sponsor:** Indiana University

**Tested by:** Scott Teige

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<tbody>
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<td>Hardware Availability</td>
<td>Sep-2008</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Jan-2009</td>
</tr>
</tbody>
</table>

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**Base Compiler Invocation (Continued)**

C++ benchmarks:

126.lammps: mpicxx

Fortran benchmarks:

mpif90

Benchmarks using both Fortran and C:

mpicc mpif90

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**Base Portability Flags**

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

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**Base Optimization Flags**

C benchmarks:

-O3 -xT -ipo -no-prec-div

C++ benchmarks:

126.lammps: -O3 -xT -ipo -no-prec-div

Fortran benchmarks:

-03 -xT -ipo -no-prec-div

Benchmarks using both Fortran and C:

-03 -xT -ipo -no-prec-div
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

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC MPI2007 v1.1.
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