SPEC® MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Huawei

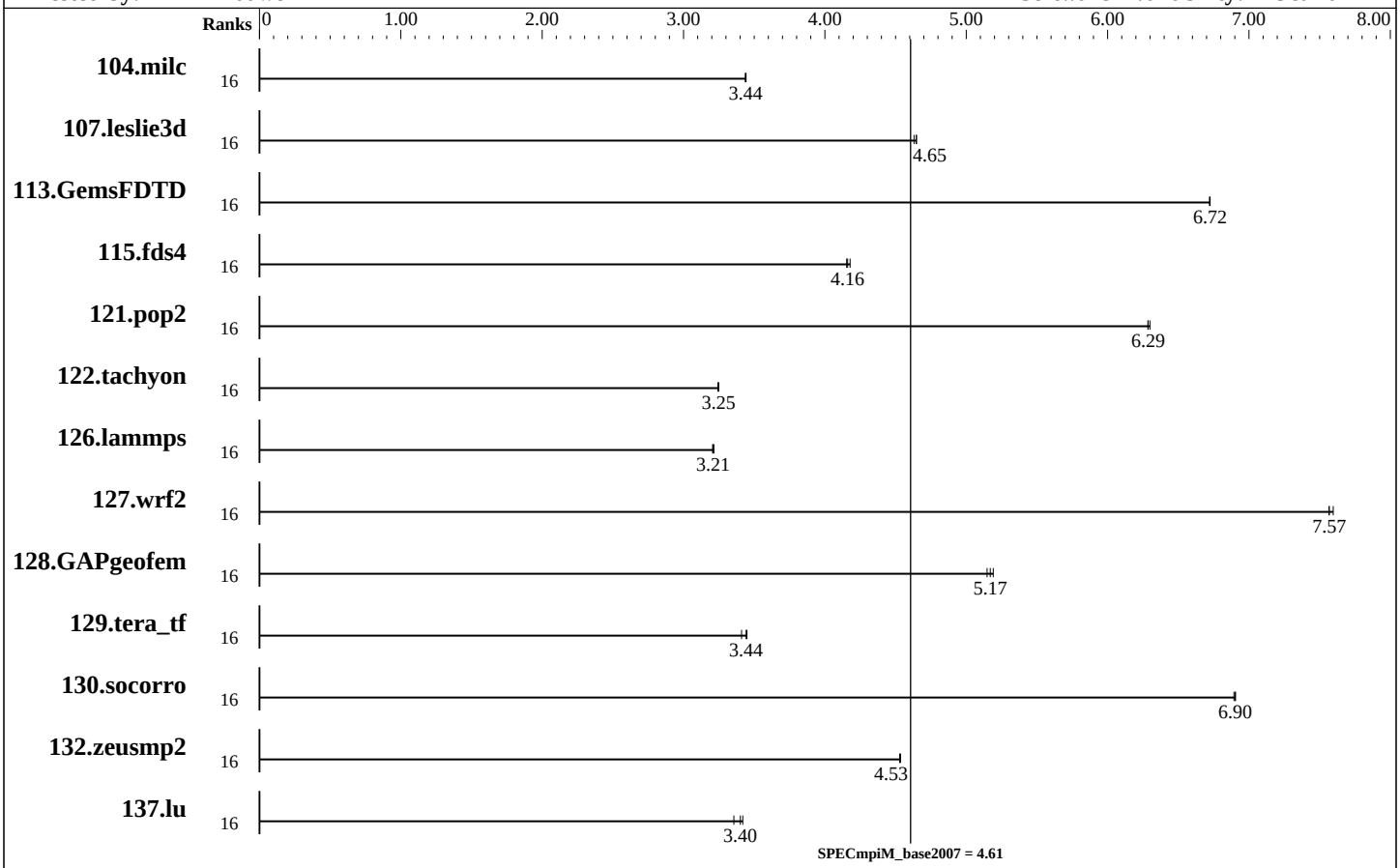
Tecal RH2288 V2 (Intel Xeon E5-2690, 2.90 GHz, DDR3-1600 MHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.61

MPI2007 license: 24
Test sponsor: Huawei
Tested by: Huawei

Test date: Apr-2013
Hardware Availability: Mar-2012
Software Availability: Oct-2012



Results Table

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
104.milc	16	455	3.44	**455**	**3.44**	455	3.44							
107.leslie3d	16	**1123**	**4.65**	1123	4.65	1127	4.63							
113.GemsFDTD	16	939	6.72	**938**	**6.72**	938	6.72							
115.fds4	16	467	4.18	470	4.15	**469**	**4.16**							
121.pop2	16	**657**	**6.29**	655	6.30	657	6.28							
122.tachyon	16	**861**	**3.25**	861	3.25	863	3.24							
126.lammps	16	909	3.21	907	3.21	**908**	**3.21**							
127.wrf2	16	1026	7.60	**1030**	**7.57**	1030	7.57							
128.GAPgeofem	16	**399**	**5.17**	401	5.15	398	5.19							
129.tera_tf	16	812	3.41	**804**	**3.44**	803	3.45							

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Huawei

Tecal RH2288 V2 (Intel Xeon E5-2690, 2.90 GHz, DDR3-1600 MHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.61

MPI2007 license: 24
Test sponsor: Huawei
Tested by: Huawei

Test date: Apr-2013
Hardware Availability: Mar-2012
Software Availability: Oct-2012

Results Table (Continued)

Benchmark	Base							Peak						
	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Ranks	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
130.socorro	16	554	6.89	553	6.90	**553**	**6.90**							
132.zeusmp2	16	685	4.53	684	4.53	**685**	**4.53**							
137.lu	16	**1081**	**3.40**	1095	3.36	1075	3.42							

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:	RH2288 V2
Interconnects:	IB Switch Gigabit Ethernet
File Server Node:	Tecal RH2285
Total Compute Nodes:	1
Total Chips:	2
Total Cores:	16
Total Threads:	16
Total Memory:	64 GB
Base Ranks Run:	16
Minimum Peak Ranks:	--
Maximum Peak Ranks:	--

Software Summary

C Compiler:	Intel C++ Composer XE for Linux, Version 13.0.1.117 Build 20121010
C++ Compiler:	Intel C++ Composer XE for Linux, Version 13.0.1.117 Build 20121010
Fortran Compiler:	Intel Fortran Composer XE for Linux, Version 13.0.1.117 Build 20121010
Base Pointers:	64-bit
Peak Pointers:	64-bit
MPI Library:	Intel MPI Library 4.1 Build 20120831 for Linux
Other MPI Info:	None
Pre-processors:	No
Other Software:	None

Node Description: RH2288 V2

Hardware

Number of nodes:	1
Uses of the node:	compute
Vendor:	Huawei
Model:	Tecal RH2288 V2 rack server
CPU Name:	Intel Xeon E5-2690
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	16
Cores per chip:	8
Threads per core:	1
CPU Characteristics:	Intel Turbo Boost Technology up to 3.8 GHz, 8.0 GT/s QPI, Hyper-Threading disabled
CPU MHz:	2900
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	20 MB I+D on chip per chip, 20 MB shared / 8 cores
Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	Seagate ST9146803SS, 146 GB SAS 10K RPM
Other Hardware:	None
Adapter:	Onboard Intel 82580 Ethernet Controller

Continued on next page

Software

Adapter:	Onboard Intel 82580 Ethernet Controller
Adapter Driver:	3.0.6-k
Adapter Firmware:	3.2-9
Adapter:	MCX353A-QCBT
Adapter Driver:	MLNX_OFED_LINUX-1.5.3-3.1.0-rhel6.2-x86_64
Adapter Firmware:	2.11.500
Operating System:	Red Hat EL 6.2, kernel 2.6.32-220.el6.x86_64
Local File System:	Linux/ext4
Shared File System:	NFS
System State:	Multi-User
Other Software:	None

SPEC MPIM2007 Result

Copyright 2006-2010 Standard Performance Evaluation Corporation

Huawei

Tecal RH2288 V2 (Intel Xeon E5-2690, 2.90 GHz, DDR3-1600 MHz)

SPECmpiM_peak2007 = Not Run

SPECmpiM_base2007 = 4.61

MPI2007 license: 24
Test sponsor: Huawei
Tested by: Huawei

Test date: Apr-2013
Hardware Availability: Mar-2012
Software Availability: Oct-2012

Node Description: RH2288 V2

Number of Adapters:	1
Slot Type:	PCI-Express x8
Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet
Adapter:	MCX353A-QCBT
Number of Adapters:	1
Slot Type:	PCIe x8 Gen2
Data Rate:	InfiniBand 4x QDR
Ports Used:	1
Interconnect Type:	InfiniBand

Node Description: Tecal RH2285

Hardware

Number of nodes:	1
Uses of the node:	fileserver
Vendor:	Huawei
Model:	Tecal RH2285
CPU Name:	Intel Xeon X5670 CPU
CPU(s) orderable:	1-2 chips
Chips enabled:	2
Cores enabled:	12
Cores per chip:	6
Threads per core:	1
CPU Characteristics:	N/A
CPU MHz:	2930
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB
Disk Subsystem:	1 x 500 GB SATA 7200 RPM
Other Hardware:	None
Adapter:	Dual port Broadcom BCM 5709 Ethernet Controller
Number of Adapters:	1
Slot Type:	Integrated
Data Rate:	1Gbps Ethernet
Ports Used:	1
Interconnect Type:	Ethernet

Software

Adapter:	Dual port Broadcom BCM 5709 Ethernet Controller
Adapter Driver:	2.2.3
Adapter Firmware:	4.6.4
Operating System:	Red Hat EL 6.2, kernel 2.6.32-220.el6.x86_64
Local File System:	None
Shared File System:	NFS
System State:	Multi-User
Other Software:	None

Interconnect Description: IB Switch

Hardware		Software
Vendor:	Mellanox	
Model:	Mellanox IS5025	
Switch Model:	1U IB Switch	
Number of Switches:	1	
Number of Ports:	36	
Data Rate:	InfiniBand 4x QDR	
Firmware:	7.4.0000	
Topology:	Fat tree	
Primary Use:	MPI traffic	

Interconnect Description: Gigabit Ethernet

Hardware		Software
Vendor:	Huawei	
Model:	Quidway S5328	
Switch Model:	Quidway S5328	
Number of Switches:	1	
Number of Ports:	28	
Data Rate:	1Gbps Ethernet	
Firmware:	5.1.2	
Topology:	Fat tree	
Primary Use:	Cluster File System	

Submit Notes

```
The config file option 'submit' was used.
mpiexec.hydra -f /mpi/nodes -genv I_MPI_DEVICE rdssm
-genv I_MPI_FALLBACK_DEVICE disable -n $ranks $command
```

General Notes

```
130.socorro (base): "nullify_ptrs" src.alt was used.

 MPI startup command:
   mpiexec.hydra command was used to start MPI jobs.

 BIOS settings:
   Intel Hyper-Threading Technology (SMT): Disabled (default is Enabled)
   Intel Turbo Boost Technology (Turbo)  : Enabled (default is Enabled)

 RAM configuration:
   Compute nodes have 1x8-GB RDIMM on each memory channel.

 Network:
   One 20-port switch
```

Continued on next page

General Notes (Continued)

```
Compute Node Environment:
  ulimit -s = unlimited
  ulimit -l = unlimited
  File "/etc/modprobe.d/mlx4_core.conf" modified to contain "options
  mlx4_core log_mtts_per_seg=5"
```

Base Compiler Invocation

C benchmarks:
`mpiicc`

C++ benchmarks:

126.lammps: `mpiicpc`

Fortran benchmarks:
`mpiifort`

Benchmarks using both Fortran and C:
`mpiicc mpiifort`

Base Portability Flags

121.pop2: `-DSPEC_MPI_CASE_FLAG`
126.lammps: `-DMPICH_IGNORE_CXX_SEEK`
127.wrf2: `-DSPEC_MPI_CASE_FLAG -DSPEC_MPI_LINUX`
130.socorro: `-assume nostd_intent_in`

Base Optimization Flags

C benchmarks:
`-O3 -xAVX -no-prec-div`

C++ benchmarks:

126.lammps: `-O3 -xAVX -no-prec-div`

Fortran benchmarks:
`-O3 -xAVX -no-prec-div`

Continued on next page

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
`-O3 -xAVX -no-prec-div`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/mpi2007/flags/EM64T_Huawei_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/mpi2007/flags/EM64T_Huawei_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 v2.0.1.
Report generated on Tue Jul 22 13:46:30 2014 by SPEC MPI2007 PS/PDF formatter v1463.
Originally published on 1 May 2013.