Hewlett-Packard Company

ProLiant BL680c G7
(2.27 GHz, Intel Xeon E7-4860)

SPECint\_rate2006 = Not Run
SPECint\_rate\_base2006 = 995

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jun-2012
Hardware Availability: Apr-2011
Software Availability: Dec-2011

Hardware

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E7-4860</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 2.67 GHz</td>
</tr>
<tr>
<td>CPU MHZ</td>
<td>2267</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>40 cores, 4 chips, 10 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>2,4 chips</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache</td>
<td>24 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>512 GB (32 x 16 GB 4Rx4 PC3-8500R-7, ECC)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>2 x 146 GB 10 K SAS</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

Operating System: Red Hat Enterprise Linux Server release 6.2, Kernel 2.6.32-220.el6.x86_64
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01
Hewlett-Packard Company

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SPEC CINT2006 Result

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>80</td>
<td>1022</td>
<td>765</td>
<td>1015</td>
<td>770</td>
<td>1013</td>
<td>772</td>
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<tr>
<td>401.bzip2</td>
<td>80</td>
<td>1401</td>
<td>551</td>
<td>1402</td>
<td>551</td>
<td>1403</td>
<td>550</td>
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<tr>
<td>403.gcc</td>
<td>80</td>
<td>825</td>
<td>780</td>
<td>832</td>
<td>774</td>
<td>825</td>
<td>781</td>
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<tr>
<td>429.mcf</td>
<td>80</td>
<td>515</td>
<td>1420</td>
<td>515</td>
<td>1420</td>
<td>515</td>
<td>1420</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>80</td>
<td>980</td>
<td>856</td>
<td>983</td>
<td>854</td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>80</td>
<td>617</td>
<td>1210</td>
<td>617</td>
<td>1210</td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>80</td>
<td>1176</td>
<td>823</td>
<td>1176</td>
<td>823</td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>80</td>
<td>271</td>
<td>6130</td>
<td>272</td>
<td>6100</td>
<td>271</td>
<td>6110</td>
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<tr>
<td>464.h264ref</td>
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<td>1533</td>
<td>1150</td>
<td>1529</td>
<td>1160</td>
<td></td>
<td></td>
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<tr>
<td>471.omnetpp</td>
<td>80</td>
<td>886</td>
<td>564</td>
<td>888</td>
<td>563</td>
<td>884</td>
<td>566</td>
</tr>
<tr>
<td>473.astar</td>
<td>80</td>
<td>974</td>
<td>577</td>
<td>979</td>
<td>574</td>
<td>979</td>
<td>574</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>80</td>
<td>536</td>
<td>1030</td>
<td>535</td>
<td>1030</td>
<td>539</td>
<td>1030</td>
</tr>
</tbody>
</table>

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling
Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aa42e583f96b07f99d3
running on BL685cG7-Bao Mon Jun 25 12:14:02 2012

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Continued on next page
Hewlett-Packard Company
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Platform Notes (Continued)

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) CPU E7- 4860 @ 2.27GHz
  4 "physical id"s (chips)
  80 "processors"
  cores, siblings (Caution: counting these is hw and system dependent. The
  following excerpts from /proc/cpuinfo might not be reliable. Use with
  caution.)
  cpu cores : 10
  siblings : 20
  physical 0: cores 0 1 2 8 9 16 17 18 24 25
  physical 1: cores 0 1 2 8 9 16 17 18 24 25
  physical 2: cores 0 1 2 8 9 16 17 18 24 25
  physical 3: cores 0 1 2 8 9 16 17 18 24 25
  cache size : 24576 KB

From /proc/meminfo
  MemTotal:       529265540 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

uname -a:
  Linux BL685cG7-Bao 2.6.32-220.e16.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 25 07:14

SPEC is set to: /cpu2006
  Filesystem    Type    Size  Used Avail Use% Mounted on
  /dev/sda3     ext4    127G  8.8G  112G   8% /

Additional information from dmidecode:
  BIOS HP I25 04/20/2012
  Memory:
    32x Not Specified Not Specified 16 GB 1067 MHz 4 rank

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
Continued on next page
Hewlett-Packard Company

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**SPEC CINT2006 Result**

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### General Notes (Continued)

memory using RHEL5.5

### Base Compiler Invocation

C benchmarks:
- `icc -m32`

C++ benchmarks:
- `icpc -m32`

### Base Portability Flags

- `400.perlbench: -DSPEC_CPU_LINUX_IA32`
- `462.libquantum: -DSPEC_CPU_LINUX`
- `483.xalancbmk: -DSPEC_CPU_LINUX`

### Base Optimization Flags

C benchmarks:
- `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:
- `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`
- `-Wl,-z,muldefs -L/smartheap -lsmartheap`

### Base Other Flags

C benchmarks:
- `403.gcc: -Dalloca=_alloca`

The flags files that were used to format this result can be browsed at:


You can also download the XML flags sources by saving the following links:

- [http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.xml](http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.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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