## SPEC® CINT2006 Result

### Hewlett-Packard Company

ProLiant ML350p Gen8  
(2.60 GHz, Intel Xeon E5-2650 v2)

**SPECint\_rate2006 = Not Run**  
**SPECint\_rate\_base2006 = 660**

| Copies | 0 | 150 | 300 | 450 | 600 | 1100 | 1500 | 1700 | 1900 | 2100 | 2300 | 2500 | 2700 | 2900 | 3100 | 3300 | 3500 | 3700 | 3900 | 4100 | 4400 |
|--------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 400.perlbench | 32 | 492 | | | | | | | | | | | | | | | | | | | | |
| 401.bzip2 | 32 | 352 | | | | | | | | | | | | | | | | | | | | |
| 403.gcc | 32 | 526 | | | | | | | | | | | | | | | | | | | | |
| 429.mcf | 32 | | | | 1030 | | | | | | | | | | | | | | | | | | |
| 445.gobmk | 32 | 480 | | | | | | | | | | | | | | | | | | | | |
| 456.hmmer | 32 | | | | 896 | | | | | | | | | | | | | | | | | | |
| 458.sjeng | 32 | 478 | | | | | | | | | | | | | | | | | | | | |
| 462.libquantum | 32 | | | | | | | | | | | | | | | | | | | | |
| 464.h264ref | 32 | 813 | | | | | | | | | | | | | | | | | | | | |
| 471.omnetpp | 32 | 366 | | | | | | | | | | | | | | | | | | | | |
| 473.astar | 32 | 379 | | | | | | | | | | | | | | | | | | | | |
| 483.xalancbmk | 32 | | | | 727 | | | | | | | | | | | | | | | | | | |

### Hardware

- **CPU Name:** Intel Xeon E5-2650 v2  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.40 GHz  
- **CPU MHz:** 2600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1,2 chips  
- **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  
- **Other Cache:** None  
- **Memory:** 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)  
- **Disk Subsystem:** 2 x 300 GB 15 K SAS, RAID 1  
- **Other Hardware:** None

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 6.5, (Santiago)  
- **Compiler:** C/C++: Version 14.0.0.080 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 V10.0
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

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SPECint_rate_base2006 = 660

Test date: Apr-2014
Hardware Availability: Dec-2013
Software Availability: Nov-2013

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>636</td>
<td>492</td>
<td>636</td>
<td>492</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>880</td>
<td>351</td>
<td>876</td>
<td>352</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>494</td>
<td>522</td>
<td>488</td>
<td>528</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>285</td>
<td>1030</td>
<td>284</td>
<td>1030</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>700</td>
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<td>334</td>
<td>895</td>
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<td>477</td>
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<td>32</td>
<td>152</td>
<td>4360</td>
<td>152</td>
<td>4360</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>32</td>
<td>871</td>
<td>813</td>
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<td>471.omnetpp</td>
<td>32</td>
<td>546</td>
<td>366</td>
<td>545</td>
<td>367</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>592</td>
<td>380</td>
<td>592</td>
<td>379</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>304</td>
<td>727</td>
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<td>727</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
  Collaborative Power Control set to Disabled
  Memory Power Savings Mode set to Maximum Performance
  Thermal Configuration set so Maximum Cooling
  Processor Power and Utilization Monitoring set to Disabled
  Memory Refresh Rate set to 1x Refresh

Sysinfo program /home/cpu/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
Continued on next page
SPEC CINT2006 Result

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Platform Notes (Continued)

running on pl16.epc.external.hp.com Wed Apr 16 16:01:10 2014

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

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2650 v2 @ 2.60GHz
  2 "physical id"s (chips)
  32 "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 : 8
  siblings : 16
  physical 0: cores 0 1 2 3 4 5 6 7
  physical 1: cores 0 1 2 3 4 5 6 7
  cache size : 20480 KB

From /proc/meminfo
MemTotal:       132119084 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
  Linux pl16.epc.external.hp.com 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10
  22:19:54 EST 2013 x86_64 x86_64 x86_64 GNU/Linux
  run-level 3 Apr 16 15:02

SPEC is set to: /home/cpu
  Filesystem            Type  Size  Used Avail Use% Mounted on
  /dev/mapper/vg_pl16-lv_home ext4  222G  58G  153G  28% /home

Additional information from dmidecode:
  BIOS HP P72 12/20/2013
  Memory:
    16x HP 712382-071 8 GB 1866 MHz 2 rank
    8x UNKNOWN NOT AVAILABLE

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of
memory is 128 GB and the dmidecode description should have one line reading as:
  16x HP 712382-071 8 GB 1866 MHz 2 rank
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General Notes

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

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

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/sh -lsmartheap

Base Other Flags

C benchmarks:
   403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revD.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revD.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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