**SPEC® CINT2006 Result**

### Hewlett-Packard Company

ProLiant BL660c Gen8
(2.60 GHz, Intel Xeon E5-4620 v2)

<table>
<thead>
<tr>
<th>Software</th>
<th>Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler: C/C++: Version 14.0.0.0.80 of Intel C++ Studio XE for Linux</td>
<td></td>
</tr>
<tr>
<td>Auto Parallel: No</td>
<td></td>
</tr>
<tr>
<td>File System: ext4</td>
<td></td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
<td></td>
</tr>
<tr>
<td>Base Pointers: 32-bit</td>
<td></td>
</tr>
<tr>
<td>Peak Pointers: 32/64-bit</td>
<td></td>
</tr>
<tr>
<td>Other Software: Microquill SmartHeap V10.0</td>
<td></td>
</tr>
</tbody>
</table>

| CPU2006 license: 3 | Test date: Feb-2014 |
| Test sponsor: Hewlett-Packard Company | Hardware Availability: Mar-2014 |
| Tested by: Hewlett-Packard Company | Software Availability: Sep-2013 |

**Copy of SPECint_rate2006 = 1280**

**SPECint_rate_base2006 = 1230**

### Hardware

| CPU Name: Intel Xeon E5-4620 v2 |
| CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz |
| CPU MHz: 2600 |
| FPU: Integrated |
| CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core |
| CPU(s) orderable: 2.4 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: 256 GB (32 x 8 GB 2Rx4 PC3-14900R-13, ECC, running at 1600 MHz and CL11) |
| Disk Subsystem: 1 x 300 GB 15 K SAS, RAID 0 |
| Other Hardware: None |

### Test Results

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>914</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>675</td>
</tr>
<tr>
<td>403.gcc</td>
<td>975</td>
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<tr>
<td>429.mcf</td>
<td>1910</td>
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<tr>
<td>445.gobmk</td>
<td>937</td>
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<tr>
<td>456.hmmer</td>
<td>1840</td>
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<tr>
<td>458.sjeng</td>
<td>1670</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>8120</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>1580</td>
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<tr>
<td>471.omnetpp</td>
<td>728</td>
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<tr>
<td>473.astar</td>
<td>688</td>
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<tr>
<td>483.xalancbmk</td>
<td>1330</td>
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</tbody>
</table>

**Copy of SPECint_rate_base2006 = 1230**

**SPECint_rate_base2006 = 1230**
Results Table

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<thead>
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<tbody>
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<td>332</td>
<td>1330</td>
<td></td>
<td></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>
Disabled unused Linux services through "stop_services.sh" before running.

Platform Notes

BIOS Configuration:
  HP Power Profile set to Maximum Performance
  Memory Power Savings Mode set to Maximum Performance
  Collaborative Power Control set to Disabled
  Thermal Configuration set to Maximum Cooling
  Processor Power and Utilization Monitoring set to Disabled
  Memory Refresh Rate set to 1x

Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
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SPEC CINT2006 Result

Hewlett-Packard Company

ProLiant BL660c Gen8
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SPECint_rate2006 = 1280
SPECint_rate_base2006 = 1230

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

Platform Notes (Continued)

running on BL660-gen8 Mon Feb 24 18:37:31 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 E5-4620 v2 @ 2.60GHz
4 "physical id"s (chips)
64 "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
physical 2: cores 0 1 2 3 4 5 6 7
physical 3: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal: 264633624 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

uname -a:
Linux BL660-gen8 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 24 18:36

SPEC is set to: /cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 ext4 273G 14G 246G 6% /

Additional information from dmidecode:
BIOS HP I32 02/02/2014
Memory:
32x HP 712382-071 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
Hewlett-Packard Company
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General Notes

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

Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m32
  400.perlbench: icc -m64

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**Software Availability:** Sep-2013

**Peak Compiler Invocation (Continued)**

401.bzip2: icc -m64  
456.hmmer: icc -m64  
458.sjeng: icc -m64

C++ benchmarks:  
icpc -m32

**Peak Portability Flags**

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64  
401.bzip2: -DSPEC_CPU_LP64  
456.hmmer: -DSPEC_CPU_LP64  
458.sjeng: -DSPEC_CPU_LP64  
462.libquantum: -DSPEC_CPU_LINUX  
483.xalancbmk: -DSPEC_CPU_LINUX

**Peak Optimization Flags**

C benchmarks:  
400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes  
429.mcfc: basepeak = yes  
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3  
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32  
462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

Peak 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-rev0.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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