Hewlett-Packard Company

ProLiant BL460c Gen8
(2.40 GHz, Intel Xeon E5-2630L v2)

**SPECint\_rate2006 = 464**

**SPECint\_rate_base2006 = 445**

<table>
<thead>
<tr>
<th>Test sponsor</th>
<th>Hewlett-Packard Company</th>
<th>Test date:</th>
<th>Oct-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by</td>
<td>Hewlett-Packard Company</td>
<td>Hardware Availability:</td>
<td>Sep-2013</td>
</tr>
<tr>
<td>CPU2006 license:</td>
<td>3</td>
<td>Software Availability:</td>
<td>Sep-2013</td>
</tr>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon E5-2630L v2</td>
<td>Operating System:</td>
<td>Red Hat Enterprise Linux Server release 6.4 (Santiago)</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 2.80 GHz</td>
<td>Compiler:</td>
<td>C++/C Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2400</td>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
<td>File System:</td>
<td>ext4</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>12 cores, 2 chips, 6 cores/chip, 2 threads/core</td>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1 chip</td>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>15 MB I+D on chip per chip</td>
<td>Software</td>
<td></td>
</tr>
<tr>
<td>Other Cache:</td>
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<td></td>
<td></td>
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<tr>
<td>Memory:</td>
<td>128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)</td>
<td></td>
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</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 400 GB SAS SSD, RAID 1</td>
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<td></td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
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<td></td>
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</table>

**Hardware**

**Software**
Hewlett-Packard Company
ProLiant BL460c Gen8
(2.40 GHz, Intel Xeon E5-2630L v2)

SPECint_rate2006 = 464
SPECint_rate_base2006 = 445

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>
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<th>Ratio</th>
<th>Seconds</th>
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<tbody>
<tr>
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<td>401.bzip2</td>
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<td>989</td>
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<td>988</td>
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<td>429.mcf</td>
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<td>473.astar</td>
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<td>262</td>
<td>645</td>
<td>261</td>
<td>641</td>
<td>263</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
Dynamic Power Capping Functionality 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
Continued on next page
Hewlett-Packard Company

SPEC CINT2006 Result

SPECint_rate2006 = 464
SPECint_rate_base2006 = 445

Hewlett-Packard Company
ProLiant BL460c Gen8
(2.40 GHz, Intel Xeon E5-2630L v2)

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

Test date: Oct-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Platform Notes (Continued)

$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d96a3cee98f191 running on BL460cGen8-RFP-BAO Fri Oct  4 15:00:15 2013

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 E5-2630L v2 @ 2.40GHz
2 "physical id"s (chips)
24 "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 : 6
siblings : 12
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB

From /proc/meminfo
MemTotal: 132119288 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 BL460cGen8-RFP-BAO 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 Oct 4 14:57

SPEC is set to: /cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 ext4 360G 8.8G 333G 3% /

Additional information from dmidecode:
BIOS HP I31 09/08/2013
Memory:
16x HP 689911-071 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
**SPEC CINT2006 Result**

Hewlett-Packard Company

ProLiant BL460c Gen8
(2.40 GHz, Intel Xeon E5-2630L v2)

| SPECint_rate2006 | 464 |
| SPECint_rate_base2006 | 445 |

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Test date: Oct-2013
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Hardware Availability: Sep-2013
Software Availability: Sep-2013

---

### 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`

---

Continued on next page
Hewlett-Packard Company

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

Test date: Oct-2013
Hardware Availability: Sep-2013
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: -xSSE4.2 -ipo -O3 -no-prec-div
429.mcf: 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

Continued on next page
Hewlett-Packard Company
ProLiant BL460c Gen8
(2.40 GHz, Intel Xeon E5-2630L v2)

SPECint_rate2006 = 464
SPECint_rate_base2006 = 445

Peak Optimization Flags (Continued)

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
        -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
        -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
        -o3(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.xalanchbmk: 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/HP-Platform-Flags-Intel-V1.2-revB.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html

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-revB.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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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