**SPEC® CINT2006 Result**

Hewlett-Packard Company

ProLiant BL460c Gen9
(2.30 GHz, Intel Xeon E5-2699 v3)

| SPECint®2006 | = | NC |
| SPECint_base2006 | = | NC |

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

<table>
<thead>
<tr>
<th>SPECint Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td></td>
</tr>
<tr>
<td>483.</td>
<td></td>
</tr>
</tbody>
</table>

**Non-Compliant**

SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

---

**Hardware**

- **CPU Name:** Intel Xeon E5-2699 v3
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.60 GHz
- **CPU MHz:** 2300
- **CPU(s) enabled:** 18 cores, 1 chip, 18 cores/chip
- **CPU(s) orderable:** 1 chip
- **Primary Cache:** 32 KB I + 32 KB D on chip per core

**Software**

- **Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo)
- **Compiler:** Kernel 3.10.0-123.el7.x86_64
- **C/C++:** Version 15.0.0.0.090 of Intel C++ Studio XE for Linux
- **Auto Parallel:** Yes
- **File System:** xfs
- **System State:** Run level 3 (multi-user)

---

Non-Compliant
SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Ratio</td>
</tr>
<tr>
<td>400.perlbench</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>403.gcc</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>429.mcf</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>473.astar</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage(enabled

Non-Compliant
SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submittter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

Platform Notes

BIOS Configuration:
HP Power Profile set to Custom
HP Power Regulator set to HP Static High Performance Mode
Minimum Processor Idle Power Package C-State set to No Package State
Energy/Performance Bias set to Maximum Performance
QPI Snoop Configuration set to Early Snoop
Thermal Configuration set to Maximum Cooling
Processor Power and Utilization Monitoring set to Disabled
Memory Refresh Rate set to 1x Refresh
Intel Hyperthreading Options set to Disabled
Sysinfo program /cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25#$ e3fbb8667b5a285932ceab81e28219e1
running on W-b1460c_gen9-VP2.1 Mon Feb  2 14:30:55 2015

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 E5-2699 v3 @ 2.30GHz
 1 "physical id"s (chips)
 18 "processor"s
cores, siblings: Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.
   cores : 18
   siblings : 18
   physical 0: cores 0 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
   cache size : 46080 KB

From /proc/meminfo
MemTotal: 131733928 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
Continued on next page
SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

Platform Notes (Continued)

ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
P pretty_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname -a:
Linux W-bl460c_gen9-VP2.1 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014 x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Feb 2 14:56

SPEC is set to: /cpu2006
Filesystem      Size  Use% Mounted on
/dev/sda4      277G  137G  141G  50% /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data, which is "intended to allow hardware to be accurately determined, but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS in 159 08/26/2014
Memory:
8x HP NOT AVAILABLE 16 GB 2 rank 2133 MHz
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:
8x HP NOT AVAILABLE 16 GB 2 rank 2133 MHz
**SPEC CINT2006 Result**

**Hewlett-Packard Company**

ProLiant BL460c Gen9  
(2.30 GHz, Intel Xeon E5-2699 v3)  

| SPECint2006 = | NC |
| SPECint_base2006 = | NC |

**CPU2006 license**: 3  
**Test date**: Feb-2015  
**Test sponsor**: Hewlett-Packard Company  
**Hardware Availability**: Sep-2014  
**Tested by**: Hewlett-Packard Company  
**Software Availability**: Jun-2014

SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

### General Notes

Environment variables set by runspec before the start of the run:
- KMP_AFFINITY = "granularity=fine,scatter"
- LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64:/cpu2006/sh"
- OMP_NUM_THREADS = "18"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

### Base Compiler Invocation

- C benchmarks: `icc -m64`
- C++ benchmarks: `icpc -m64`

### Base Portability Flags

- 400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
- 401.bzip2: `-DSPEC_CPU_LP64`
- 403.gcc: `-DSPEC_CPU_LP64`
- 429.mcf: `-DSPEC_CPU_LP64`
- 445.gobmk: `-DSPEC_CPU_LP64`
- 456.hmmer: `-DSPEC_CPU_LP64`
- 458.sjeng: `-DSPEC_CPU_LP64`
- 462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
- 464.h264ref: `-DSPEC_CPU_LP64`
- 471.omnetpp: `-DSPEC_CPU_LP64`
- 473.astar: `-DSPEC_CPU_LP64`
- 483.xalancbmk: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
SPEC CINT2006 Result

Hewlett-Packard Company
ProLiant BL460c Gen9
(2.30 GHz, Intel Xeon E5-2699 v3)

<table>
<thead>
<tr>
<th>SPECint2006 =</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006 =</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

### Base Optimization Flags

- **C benchmarks:**
  - `-xCORE-AVX2`
  - `-ipo`
  - `-O3`
  - `-no-prec-div`
  - `-parallel`
  - `-opt-prefetch`
  - `-auto-p32`

- **C++ benchmarks:**
  - `-xCORE-AVX2`
  - `-ipo`
  - `-O3`
  - `-no-prec-div`
  - `-opt-prefetch`
  - `-auto-p32`
  - `-Wl,-z,muldefs`
  - `-L/sh -lsmartheap64`

### Base Other Flags

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

### Peak Compiler Invocation

- **C benchmarks (except as noted below):**
  - `icc`: `-m64`
  - `400.perlbench`: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`
  - `445.gobmk`: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

- **C++ benchmarks (except as noted below):**
  - `icpc`: `-m64`
  - `471.omnetpp`: `icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

### Peak Portability Flags

- `400.perlbench`: `DSPEC_CPU_LINUX_IA32`

Continued on next page.
**SPEC CINT2006 Result**

Hewlett-Packard Company  
ProLiant BL460c Gen9  
(2.30 GHz, Intel Xeon E5-2699 v3)

<table>
<thead>
<tr>
<th>SPECint2006</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

**Non-Compliant**

SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

### Peak Portability Flags (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>401.bzip2</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>403.gcc</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>429.mcf</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>473.astar</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
</tbody>
</table>

### Peak Optimization Flags

**C benchmarks:**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>403.gcc</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -inline-cALLOC -opt-malloc-options=3 -auto-ilp32</td>
</tr>
<tr>
<td>429.mcf</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4</td>
</tr>
</tbody>
</table>

Continued on next page
SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

### Peak Optimization Flags (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>462.libquantum</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>C++ benchmarks:</td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -o3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-ra-reg-strategy=block -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap</td>
</tr>
<tr>
<td>473.astar</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>basepeak = yes</td>
</tr>
</tbody>
</table>

### Peak Other Flags

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>403.gcc</td>
<td>-Dalloca=_alloca</td>
</tr>
</tbody>
</table>

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

- [http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html](http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html)

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

- [http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml)
- [http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-HSW-revE.xml](http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-HSW-revE.xml)
Hewlett-Packard Company

ProLiant BL460c Gen9
(2.30 GHz, Intel Xeon E5-2699 v3)

SPECint2006 = NC
SPECint_base2006 = NC

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

Test date: Feb-2015
Hardware Availability: Sep-2014
Software Availability: Jun-2014

SPEC has determined that this result is not in compliance with the SPEC OSG Guidelines for General Availability and the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a memory configuration that is not supported by Hewlett-Packard with the given processor configuration.

SPEC and SPECint 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 CPU2006 v1.2.
Originally published on 7 April 2015.