### Hardware

<table>
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<th>Benchmark</th>
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<tr>
<td>perlbench</td>
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<td>gcc</td>
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<td>mcf</td>
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<td>sjeng</td>
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<tr>
<td>libquantum</td>
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<tr>
<td>h264ref</td>
<td>57.8</td>
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<tr>
<td>omnetpp</td>
<td>32.0</td>
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<tr>
<td>astar</td>
<td>34.8</td>
</tr>
<tr>
<td>xalancbmk</td>
<td>68.3</td>
</tr>
</tbody>
</table>

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo)
- **Compiler:** C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
- **Auto Parallel:** Yes
- **File System:** ext4
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V10.0

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**Hewlett-Packard Company**

ProLiant DL380 Gen9
(3.50 GHz, Intel Xeon E5-2637 v3)

**SPECint®2006 =** 63.3

**SPECint_base2006 =** 60.8
Hewlett-Packard Company
ProLiant DL380 Gen9
(3.50 GHz, Intel Xeon E5-2637 v3)

SPECint2006 = 63.3
SPECint_base2006 = 60.8

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<th>Seconds</th>
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<td>101</td>
<td>68.4</td>
<td>101</td>
<td>68.2</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
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Platform Notes
BIOS Configuration:
HP Power Profile set to Custom
HP Power Regulator to HP Static High Performance Mode
Minimum Processor Idle Power Core State set to C6 State
Minimum Processor Idle Power Package State set to No Package State
QPI Snoop Configuration set to Early Snoop
Thermal Configuration set to Maximum Cooling
Collaborative Power Control set to Disabled
Processor Power and Utilization Monitoring set to Disabled
Memory Double Refresh Rate set to 1x Refresh
Intel Hyperthreading Options set to Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on KLAUS-DL380gen9VP3-r110 Tue Nov 11 20:52:58 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

Continued on next page
Platform Notes (Continued)

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E5-2637 v3 @ 3.50GHz
2 "physical id"s (chips)
8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 4
siblings : 4
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5
cache size : 15360 KB

From /proc/meminfo

MemTotal: 263847792 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*

os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
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 KLAUS-DL380gen9VP3-r110 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 Nov 11 20:51

SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 ext4 364G 232G 114G 68% /

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 HP P89 08/26/2014
Memory:
16x HP NOT AVAILABLE 16 GB 2 rank 2133 MHz

Continued on next page
Hewlett-Packard Company

ProLiant DL380 Gen9
(3.50 GHz, Intel Xeon E5-2637 v3)

SPECint2006 = 63.3
SPECint_base2006 = 60.8

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

Test date: Nov-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Platform Notes (Continued)

8x UNKNOWN NOT AVAILABLE

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of
memory is 256 GB and the dmidecode description should have one line reading as:
16x HP 752369-081 16 GB 2 rank 2133 MHz

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "8"

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:
lcpc -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

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
Hewlett-Packard Company

ProLiant DL380 Gen9
(3.50 GHz, Intel Xeon E5-2637 v3)

**SPECint2006 = 63.3**

**SPECint_base2006 = 60.8**

**CPU2006 license:** 3

**Test sponsor:** Hewlett-Packard Company

**Test date:** Nov-2014

**Tested by:** Hewlett-Packard Company

**Hardware Availability:** Sep-2014

**Software Availability:** Sep-2014

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### Base Optimization Flags (Continued)

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 `-m32` `-L/opt/intel/composer_xe_2015/lib/ia32`

473.astar: icpc `-m64`

---

### Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

401.bzip2: `-DSPEC_CPU_LP64`

403.gcc: `-DSPEC_CPU_LP64`

429.mcf: `-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`

473.astar: `-DSPEC_CPU_LP64`

483.xalancbmk: `-DSPEC_CPU_LINUX`

---

### Peak Optimization Flags

C benchmarks:

Continued on next page
Peak Optimization Flags (Continued)

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
-opt-prefetch -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -03 -no-prec-div -inline-calloc
-opt-prefetch -ansi-alias

429.mcf: -xCORE-AVX2 -ipo -03 -no-prec-div -parallel
-opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xCORE-AVX2 -ipo -03 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca
**SPEC CINT2006 Result**

Hewlett-Packard Company

ProLiant DL380 Gen9  
(3.50 GHz, Intel Xeon E5-2637 v3)

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<td>Hewlett-Packard Company</td>
<td>Software Availability: Sep-2014</td>
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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/HP-Platform-Flags-Intel-V1.2-HSW-revE.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/HP-Platform-Flags-Intel-V1.2-HSW-revE.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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