**Hewlett-Packard Company**

ProLiant DL580 Gen8  
(2.80 GHz, Intel Xeon E7-4890 v2)

<table>
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<th>SPECint_rate2006</th>
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<tbody>
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</table>

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

<table>
<thead>
<tr>
<th><strong>CPU Name:</strong></th>
<th>Intel Xeon E7-4890 v2</th>
</tr>
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<tbody>
<tr>
<td><strong>CPU Characteristics:</strong></td>
<td>Intel Turbo Boost Technology up to 3.40 GHz</td>
</tr>
<tr>
<td><strong>CPU MHz:</strong></td>
<td>2800</td>
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<tr>
<td><strong>FPU:</strong></td>
<td>Integrated</td>
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<tr>
<td><strong>CPU(s) enabled:</strong></td>
<td>60 cores, 4 chips, 15 cores/chip, 2 threads/core</td>
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<tr>
<td><strong>Primary Cache:</strong></td>
<td>32 KB I + 32 KB D on chip per core</td>
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<td><strong>Secondary Cache:</strong></td>
<td>256 KB I+D on chip per core</td>
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<td><strong>L3 Cache:</strong></td>
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<tr>
<td><strong>Other Cache:</strong></td>
<td>None</td>
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<tr>
<td><strong>Memory:</strong></td>
<td>1 TB (64 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)</td>
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<tr>
<td><strong>Disk Subsystem:</strong></td>
<td>2 x 500 GB SAS, 10 K RPM, RAID 1</td>
</tr>
</tbody>
</table>

| **Operational System:** | SUSE Linux Enterprise Server 11 (x86_64) SP3 |
| **Compiler:** | C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux |
| **Auto Parallel:** | No |
| **File System:** | ext3 |
| **System State:** | Run level 3 (multi-user) |
| **Base Pointers:** | 32-bit |
| **Peak Pointers:** | 32/64-bit |
| **Other Software:** | Microquill SmartHeap V10.0 |

Software Availability: Feb-2014  
Hardware Availability: Sep-2013  
Test date: Feb-2014
SPEC CINT2006 Result

Hewlett-Packard Company

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SPECint_rate2006 = 2370
SPECint_rate_base2006 = 2300

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

Test date: Feb-2014
Hardware Availability: Feb-2014
Software Availability: Sep-2013

Results Table

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</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/transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches
runcspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Platform Notes

BIOS Configuration:
HP Power Profile was set to Maximum Performance
Thermal Configuration was set to Maximum Cooling
Collaborative Power Control was set to Disabled
Memory Double Refresh Rate was set to Disabled
Processor Power and Utilization Monitoring was set to Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6874.hp
$Rev: 6874 $ $Date:: 2013-11-20 #$ e05b96ddac6c3d74bfe176502a0a2391
running on d1580-rwen Thu Feb 13 15:13:00 2014

This section contains SUT (System Under Test) info as seen by
Continued on next page
Hewlett-Packard Company
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Software Availability: Sep-2013

Platform Notes (Continued)

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 E7-4890 v2 @ 2.80GHz
   4 "physical id"s (chips)
   120 "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 : 15
   siblings : 30
   physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   cache size : 38400 KB

From /proc/meminfo
   MemTotal: 1058730268 kB
   HugePages_Total: 0
   Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
SuSE-release:
   SUSE Linux Enterprise Server 11 (x86_64)
   VERSION = 11
   PATCHLEVEL = 3

uname -a:
   Linux dl580-rwen 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
      (ccab990) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 13 15:05 last=S

SPEC is set to: /home/cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb3 ext3 275G 8.7G 265G 4% /

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 P79 02/03/2014
Memory:
   64x HP 712383-081 16 GB 1866 MHz, configured at 1333 MHz
   32x UNKNOWN NOT AVAILABLE

Continued on next page
SPEC CINT2006 Result

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Platform Notes (Continued)

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 1 TB and the dmidecode description should have one line reading as:
64x HP 712383-081 16 GB 1866 MHz, configured at 1333 MHz

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/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
## SPEC CINT2006 Result

### Hewlett-Packard Company

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### Peak Compiler Invocation

C benchmarks (except as noted below):

- `icc -m32`
- `icc -m64`
- `icc -m64`
- `icc -m64`
- `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`
Hewlett-Packard Company
ProLiant DL580 Gen8
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
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.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-revB.20131009.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-revB.20131009.xml

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For other inquiries, please contact webmaster@spec.org.

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