# SPEC® CINT2006 Result

**Hewlett-Packard Company**

### ProLiant DL580 Gen8

(3.40 GHz, Intel Xeon E7-8893 v2)

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>1180</th>
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<tbody>
<tr>
<td>SPECint_rate_base2006</td>
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<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>3</th>
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<tr>
<td>Test sponsor:</td>
<td>Hewlett-Packard Company</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Hewlett-Packard Company</td>
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### Hardware

- **CPU Name:** Intel Xeon E7-8893 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
- **CPU MHz:** 3400
- **FPU:** Integrated
- **CPU(s) enabled:** 24 cores, 4 chips, 6 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:** 37.5 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 512 GB (32 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)
- **Disk Subsystem:** 1 x 400 GB SSD SAS, RAID 0
- **Other Hardware:** None

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 6.5 (Santiago)
  - Kernel 2.6.32-431.el6.x86_64
- **Compiler:** C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
- **Auto Parallel:** No
- **File System:** ext4
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V10.0

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Test date: April 2014

Software Availability: November 2013

Hardware Availability: February 2014

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http://www.spec.org/
Hewlett-Packard Company

ProLiant DL580 Gen8
(3.40 GHz, Intel Xeon E7-8893 v2)

SPECint_rate2006 = 1180

SPECint_rate_base2006 = 1140

Results Table

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<th>Ratio</th>
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<td>258</td>
<td>1280</td>
<td>255</td>
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</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 confi file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the confi 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
  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 Disabled

Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $$ e86d102572650a6e4d596a3cee98f191
running on DL580-Gen8-SR Thu Apr 3 17:42:54 2014
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SPEC CINT2006 Result

Hewlett-Packard Company
ProLiant DL580 Gen8
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SPECint_rate2006 = 1180
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Platform Notes (Continued)

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 E7-8893 v2 @ 3.40GHz
4 "physical id"s (chips)
48 "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 3 4 5 6 10 11
physical 1: cores 3 4 5 6 10 11
physical 2: cores 3 4 5 6 10 11
physical 3: cores 3 4 5 6 10 11
cache size: 38400 KB

From /proc/meminfo
MemTotal: 529156280 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release*/etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
Linux DL580-Gen8-SR 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Apr 3 17:41

SPEC is set to: /cpu2006
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 ext4 365G 13G 334G 4% /

Additional information from dmidecode:
BIOS HP P79 02/21/2014
Memory:
32x HP 712383-081 16 GB 1333 MHz 2 rank
64x UNKNOWN NOT AVAILABLE

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 512 GB and the dmidecode description should have one line reading as:
Continued on next page
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Test date: Apr-2014
Hardware Availability: Feb-2014
Software Availability: Nov-2013

Platform Notes (Continued)
32x HP 712383-081 16 GB 1333 MHz 2 rank

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):

```bash
  icc  -m32
  400.perlbench: icc  -m64
  401.bzip2:    icc  -m64
  456.hmmer:    icc  -m64
  458.sjeng:    icc  -m64
```

C++ benchmarks:

```bash
  icpc  -m32
```

## Peak Portability Flags

```bash
  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:

```bash
  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.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
```

Continued on next page
Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
  -03(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)
  -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-revD.xml

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Tested with SPEC CPU2006 v1.2.
Originally published on 6 May 2014.