**SPECint®2006 =** 63.7

**SPECint_base2006 =** 59.3

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### Hardware

**CPU Name:** Intel Xeon E7-8891 v2  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
**CPU MHz:** 3200  
**FPU:** Integrated  
**CPU(s) enabled:** 40 cores, 4 chips, 10 cores/chip  
**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:** 1 TB (64 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)  
**Disk Subsystem:** 2 x 500 GB SAS, 10 K RPM, RAID 1  
**Other Hardware:** None

### Software

**Operating System:** SUSE Linux Enterprise Server 11 (x86_64) SP3  
**Kernel:** 3.0.76-0.11-default  
**Compiler:** C/C++: Version 14.0.0.0.80 of Intel C++ Studio XE for Linux  
**Auto Parallel:** Yes  
**File System:** ext3  
**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 DL580 Gen8  
(3.20 GHz, Intel Xeon E7-8891 v2)

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**Tested by:** Hewlett-Packard Company

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**Test sponsor:** Hewlett-Packard Company

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**CPU2006 license:** 3  
**Test date:** Feb-2014  
**Hardware Availability:** Feb-2014  
**Software Availability:** Sep-2013
**SPEC CINT2006 Result**

Hewlett-Packard Company
ProLiant DL580 Gen8 (3.20 GHz, Intel Xeon E7-8891 v2)

SPECint2006 = 63.7
SPECint_base2006 = 59.3

**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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<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>33.8</td>
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<td><strong>5690</strong></td>
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<td>54.4</td>
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<td>33.6</td>
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<tr>
<td>483.xalancbmk</td>
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<td>58.8</td>
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<td>58.8</td>
<td>116</td>
<td>59.3</td>
<td>116</td>
<td>59.3</td>
</tr>
</tbody>
</table>

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

### 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

### Platform Notes

BIOS Configuration:
- HP Power Profile was set to Maximum Performance
- Intel Minimum Processor Idle Power State was set to C6 State
- Intel Minimum Processor Idle Power Package State was set to Package C6 State
- Intel Hyperthreading Options 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 dl580-rwen Fri Feb 21 00:19:23 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

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E7-8891 v2 @ 3.20GHz
  4 "physical id"s (chips)
  40 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with

Continued on next page
Hewlett-Packard Company
ProLiant DL580 Gen8
(3.20 GHz, Intel Xeon E7-8891 v2)

SPECint2006 = 63.7
SPECint_base2006 = 59.3

Platform Notes (Continued)

cautions.)
  cpu cores : 10
  siblings : 10
  physical 0: cores 2 3 4 5 6 7 8 10 11 12
  physical 1: cores 2 3 4 5 6 7 8 10 11 12
  physical 2: cores 2 3 4 5 6 7 8 10 11 12
  physical 3: cores 2 3 4 5 6 7 8 10 11 12
  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 21 00:14 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

(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
Hewlett-Packard Company
ProLiant DL580 Gen8
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cpu2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "40"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

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

Base Optimization Flags

C benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
  -Wl,-z,muldefs -L/sh -lsmartheap64

Base Other Flags

C benchmarks:

Continued on next page
Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m64

  400.perlbench: icc -m32
  445.gobmk: icc -m32
  464.h264ref: icc -m32

C++ benchmarks (except as noted below):
  icpc -m32

  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
473.astar: -DSPEC_CPU_LP64
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)
  -opt-prefetch -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
  -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
  -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
  -opt-malloc-options=3 -auto-ilp32
Hewlett-Packard Company

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**Software Availability:** Sep-2013

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**Peak Optimization Flags (Continued)**

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias

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

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)
-opt-ra-region-strategy=block -ansi-alias

-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

---

**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
Hewlett-Packard Company

| SPECint2006 = | 63.7 |
| SPECint_base2006 = | 59.3 |

ProLiant DL580 Gen8
(3.20 GHz, Intel Xeon E7-8891 v2)

- 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

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

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