



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®2006 = **61.8**

ProLiant DL380p Gen8  
(2.80 GHz, Intel Xeon E5-2680 v2)

SPECint\_base2006 = **57.0**

CPU2006 license: 3

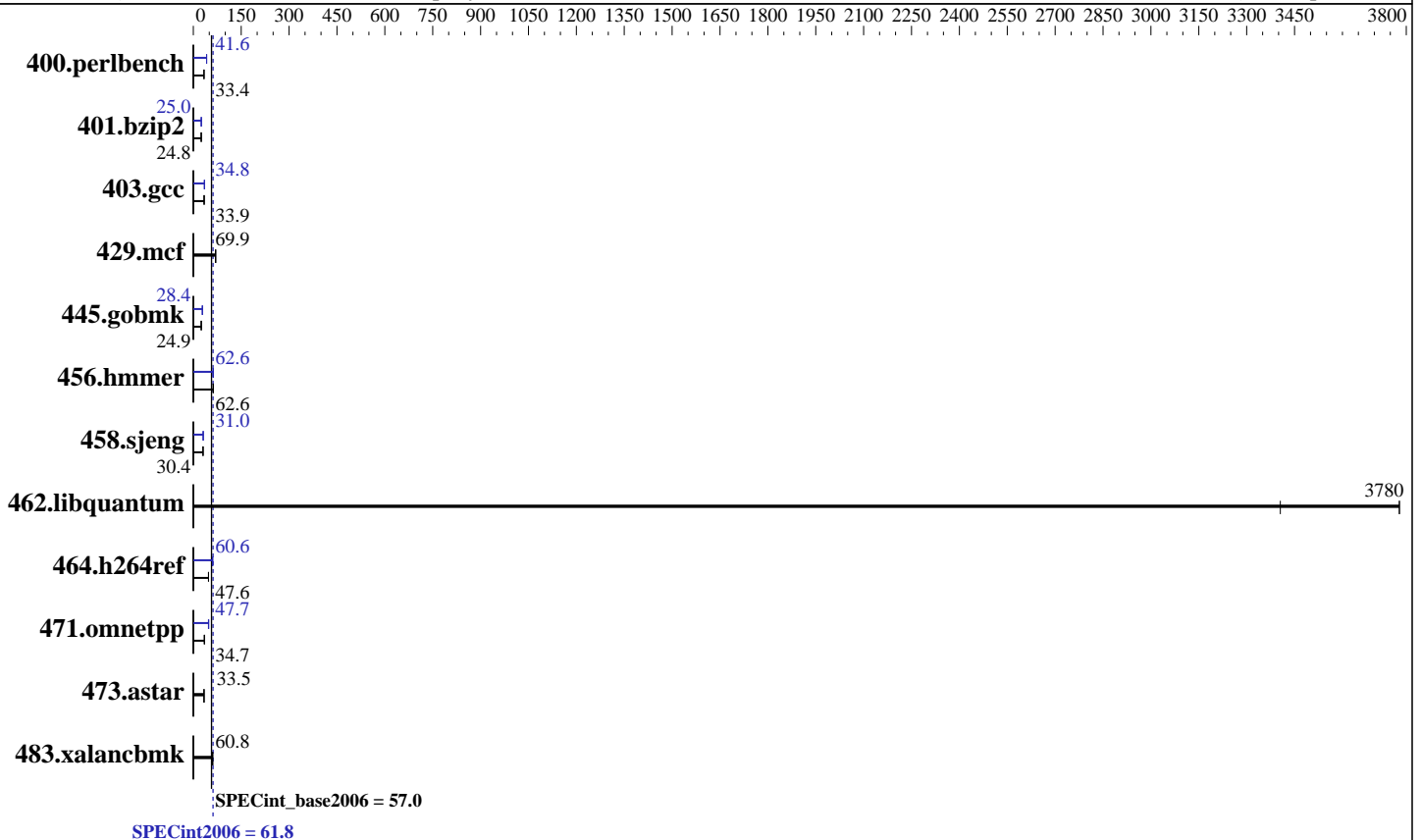
Test date: Nov-2013

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2680 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip  
 CPU(s) orderable: 1,2 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x 300 GB 10 K SAS, RAID 0  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 SP3 (x86\_64)  
 Kernel 3.0.76-0.11-default  
 Compiler: C/C++; Version 14.0.0.080 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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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	293	33.4	<u>293</u>	<u>33.4</u>	292	33.4	234	41.8	235	41.6	<u>235</u>	<u>41.6</u>
401.bzip2	<u>390</u>	<u>24.8</u>	389	24.8	390	24.8	385	25.0	386	25.0	<u>386</u>	<u>25.0</u>
403.gcc	238	33.8	<u>238</u>	<u>33.9</u>	237	33.9	231	34.8	231	34.8	<u>231</u>	<u>34.8</u>
429.mcf	131	69.8	130	69.9	<u>131</u>	<u>69.9</u>	131	69.8	130	69.9	<u>131</u>	<u>69.9</u>
445.gobmk	422	24.9	<u>422</u>	<u>24.9</u>	423	24.8	369	28.4	369	28.4	<u>369</u>	<u>28.4</u>
456.hammer	151	61.9	<u>149</u>	<u>62.6</u>	149	62.7	<u>149</u>	<u>62.6</u>	152	61.4	148	62.9
458.sjeng	398	30.4	<u>398</u>	<u>30.4</u>	399	30.4	390	31.0	391	30.9	<u>391</u>	<u>31.0</u>
462.libquantum	5.48	3780	<u>5.48</u>	<u>3780</u>	6.08	3410	5.48	3780	<u>5.48</u>	<u>3780</u>	6.08	3410
464.h264ref	<u>465</u>	<u>47.6</u>	465	47.6	466	47.5	<u>365</u>	<u>60.6</u>	365	60.6	366	60.5
471.omnetpp	179	34.9	181	34.6	<u>180</u>	<u>34.7</u>	132	47.4	<u>131</u>	<u>47.7</u>	129	48.4
473.astar	210	33.5	<u>210</u>	<u>33.5</u>	210	33.5	210	33.5	<u>210</u>	<u>33.5</u>	210	33.5
483.xalancbmk	116	59.5	<u>113</u>	<u>60.8</u>	113	60.9	116	59.5	<u>113</u>	<u>60.8</u>	113	60.9

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"
Reclaim mode enabled with:
  echo 1 > /proc/sys/vm/zone_reclaim_mode
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
runspec command invoked through numactl i.e.:
  numactl --localalloc runspec <etc>
Disabled unused Linux services through "stop_services.sh" before running.
```

## Platform Notes

```
BIOS Configuration:
Intel Hyperthreading Options set to Disabled
HP Power Profile set to Maximum Performance
Minimum Processor Idle Power Core State set to C1E
Minimum Processor Idle Power Package State set to C6 (retention)
Energy/Performance Bias is set to Maximum Performance
Memory Power Savings Mode set to Maximum Performance
Thermal Configuration set to Maximum Cooling
Collaborative Power Control set to Disabled
Dynamic Power Capping Functionality set to Disabled
Processor Power and Utilization Monitoring set to Disabled
Memory Refresh Rate set to 1x
```

Sysinfo program /cpu2006/config/sysinfo.rev6818

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### Platform Notes (Continued)

\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on dl380p-gen8-0sb Sat Nov 2 08:20:28 2013

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 E5-2680 v2 @ 2.80GHz
 2 "physical id"s (chips)
 20 "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 : 10
  siblings  : 10
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB
```

```
From /proc/meminfo
MemTotal:      132130192 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 dl380p-gen8-0sb 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 Nov 1 19:41 last=S
```

```
SPEC is set to: /cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext3  274G  12G  261G   5% /
```

```
Additional information from dmidecode:
BIOS HP P70 09/08/2013
Memory:
16x HP 712382-071 8 GB 1866 MHz
8x UNKNOWN NOT AVAILABLE
```

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of  
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## Platform Notes (Continued)

memory is 128 GB and the dmidecode description should have one line reading as:  
16x HP 712382-071 8 GB 1866 MHz  
Regarding the sysinfo display about the CPU cores from /proc/cpuinfo, the correct mapping should display as cores 0 through 9. The mapping should read as the following:  
physical 0: cores 0 1 2 3 4 5 6 7 8 9  
physical 1: cores 0 1 2 3 4 5 6 7 8 9

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/cpu2006/libs/32:/cpu2006/libs/64:/cpu2006/sh"  
OMP\_NUM\_THREADS = "20"

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.hmmmer: -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.xalanbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## Base Optimization Flags

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

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.2 -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

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

## 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\_LP64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

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## Peak Optimization Flags (Continued)

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

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: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.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.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 17:34:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 November 2013.