



# SPEC<sup>®</sup> CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint<sup>®</sup>\_rate2006 = 183

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

SPECint\_rate\_base2006 = 177

CPU2006 license: 3

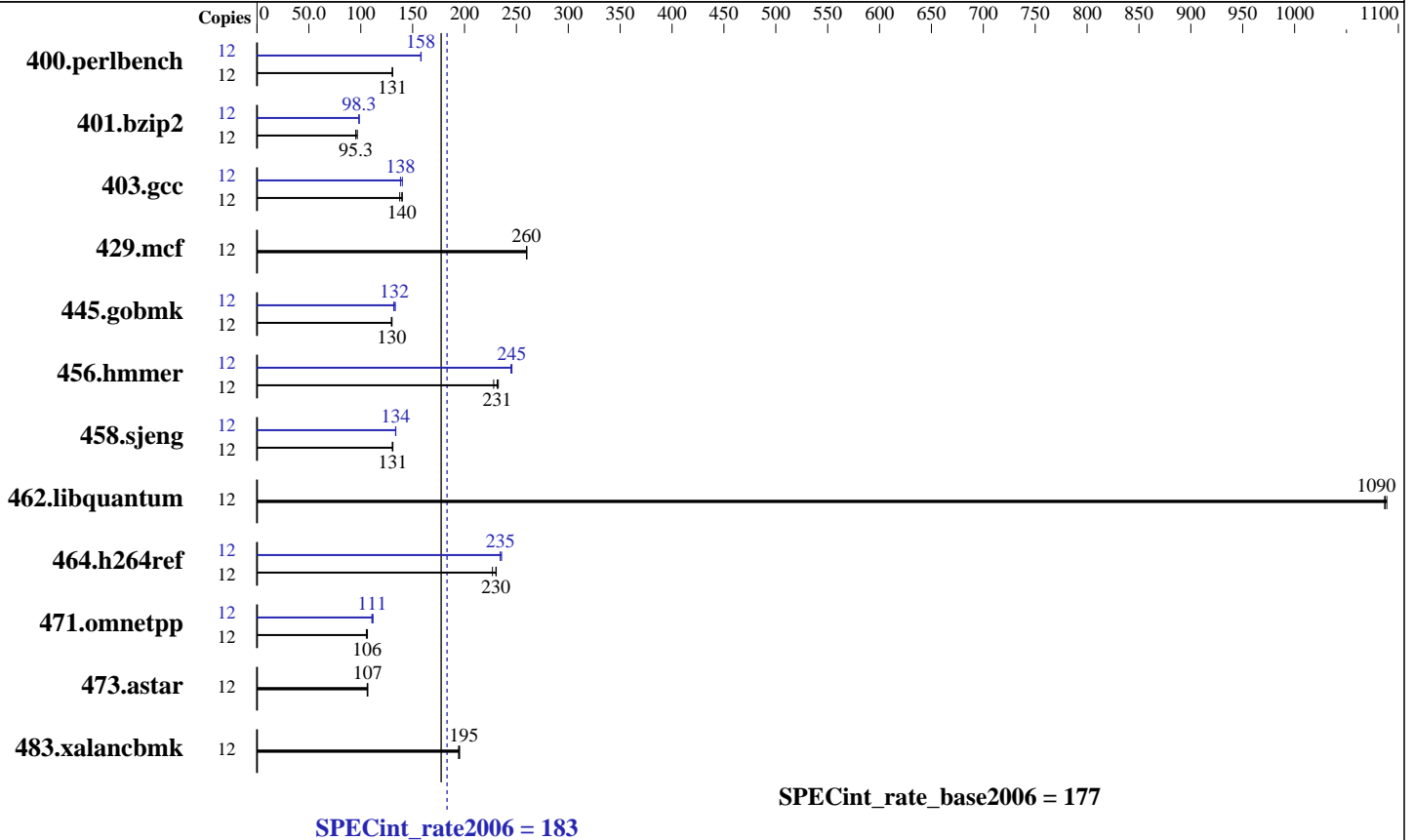
Test date: Jan-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Dec-2013

Tested by: Hewlett-Packard Company

Software Availability: Oct-2013



### Hardware

CPU Name: Intel Xeon E5-4607  
 CPU Characteristics: 2200  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2,4 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: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 5 x 300 GB 15 K SAS, RAID 5  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago)  
 Kernel 2.6.32-358.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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint\_rate2006 = 183

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

SPECint\_rate\_base2006 = 177

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

Test date: Jan-2014  
Hardware Availability: Dec-2013  
Software Availability: Oct-2013

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	898	131	<b>898</b>	<b>131</b>	899	130	12	741	158	<b>742</b>	<b>158</b>	742	158
401.bzip2	12	1198	96.7	<b>1215</b>	<b>95.3</b>	1216	95.2	12	1178	98.3	<b>1178</b>	<b>98.3</b>	1176	98.4
403.gcc	12	<b>692</b>	<b>140</b>	690	140	702	138	12	<b>698</b>	<b>138</b>	699	138	689	140
429.mcf	12	421	260	<b>421</b>	<b>260</b>	421	260	12	421	260	<b>421</b>	<b>260</b>	421	260
445.gobmk	12	967	130	972	129	<b>969</b>	<b>130</b>	12	944	133	956	132	<b>951</b>	<b>132</b>
456.hammer	12	481	233	<b>484</b>	<b>231</b>	491	228	12	<b>456</b>	<b>245</b>	456	246	457	245
458.sjeng	12	1113	130	<b>1111</b>	<b>131</b>	1108	131	12	1087	134	<b>1086</b>	<b>134</b>	1085	134
462.libquantum	12	<b>229</b>	<b>1090</b>	228	1090	229	1090	12	<b>229</b>	<b>1090</b>	228	1090	229	1090
464.h264ref	12	1152	231	<b>1154</b>	<b>230</b>	1170	227	12	<b>1132</b>	<b>235</b>	1126	236	1133	234
471.omnetpp	12	705	106	712	105	<b>708</b>	<b>106</b>	12	671	112	<b>676</b>	<b>111</b>	677	111
473.astar	12	793	106	<b>790</b>	<b>107</b>	790	107	12	793	106	<b>790</b>	<b>107</b>	790	107
483.xalancbmk	12	426	194	<b>425</b>	<b>195</b>	424	195	12	426	194	<b>425</b>	<b>195</b>	424	195

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

### Submit Notes

The taskset 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/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>
```

### Platform Notes

```
BIOS Configuration:
HP Power Profile set to Maximum Performance
Memory Power Savings Mode set to Disabled
Thermal Configuration set so Maximum Cooling
Processor Power and Utilization Monitoring set to Disabled

Sysinfo program /home/cpu/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on PL67 Fri Jan 24 16:15:12 2014
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint\_rate2006 = 183

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

SPECint\_rate\_base2006 = 177

CPU2006 license: 3

Test date: Jan-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Dec-2013

Tested by: Hewlett-Packard Company

Software Availability: Oct-2013

### 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 E5-4607 0 @ 2.20GHz
 1 "physical id"s (chips)
 12 "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 0 1 2 3 4 5
cache size : 12288 KB

```

```

From /proc/meminfo
MemTotal:      132111656 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux PL67 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013 x86_64
x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 24 15:43

```

SPEC is set to: /home/cpu
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_pl67-lv_home
                ext4      1.1T   50G  945G   5% /home

```

```

Additional information from dmidecode:
BIOS HP P77 12/20/2013
Memory:
8x HP 672612-081 16 GB 1067 MHz 2 rank
40x UNKNOWN NOT AVAILABLE

```

(End of data from sysinfo program)  
Regarding the sysinfo display about the memory installed, the correct amount of memory is 128 GB and the dmidecode description should have one line reading as:  
8x HP 672612-081 16 GB 1067 MHz 2 rank



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 183**

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

**SPECint\_rate\_base2006 = 177**

**CPU2006 license:** 3

**Test date:** Jan-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Dec-2013

**Tested by:** Hewlett-Packard Company

**Software Availability:** Oct-2013

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu/libs/32:/home/cpu/libs/64:/home/cpu/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):  
icc -m32

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 183**

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

**SPECint\_rate\_base2006 = 177**

**CPU2006 license:** 3

**Test date:** Jan-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Dec-2013

**Tested by:** Hewlett-Packard Company

**Software Availability:** Oct-2013

## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `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`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 183**

ProLiant DL560 Gen8  
(2.20 GHz, Intel Xeon E5-4607)

**SPECint\_rate\_base2006 = 177**

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

**Test date:** Jan-2014  
**Hardware Availability:** Dec-2013  
**Software Availability:** Oct-2013

## 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>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 21:39:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 11 March 2014.