



# SPEC<sup>®</sup> CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint<sup>®</sup>\_rate2006 = 593

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

SPECint\_rate\_base2006 = 567

CPU2006 license: 3

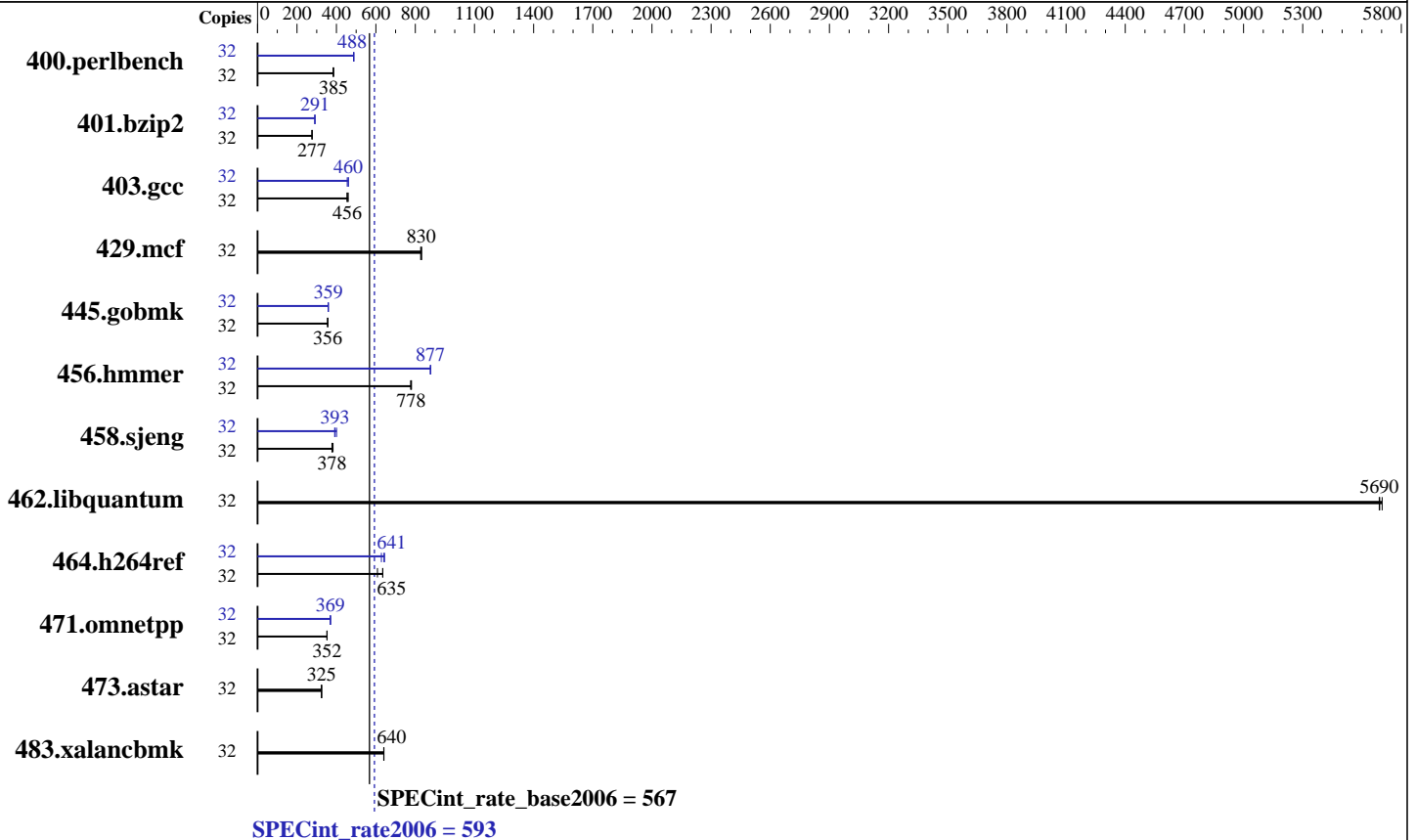
Test date: Dec-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2014

Tested by: Hewlett-Packard Company

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2630L v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz  
 CPU MHz: 1800  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)  
 Disk Subsystem: 2 x 400 GB SAS SSD, RAID 1  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)  
 Kernel 3.10.0-123.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: xfs  
 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 2006-2015 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint\_rate2006 = 593

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

SPECint\_rate\_base2006 = 567

CPU2006 license: 3

Test date: Dec-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2014

Tested by: Hewlett-Packard Company

Software Availability: Sep-2014

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	<b>812</b>	<b>385</b>	816	383	811	385	32	641	488	<b>641</b>	<b>488</b>	641	488
401.bzip2	32	1115	277	1120	276	<b>1117</b>	<b>277</b>	32	<b>1061</b>	<b>291</b>	1064	290	1061	291
403.gcc	32	560	460	568	453	<b>565</b>	<b>456</b>	32	559	461	567	455	<b>560</b>	<b>460</b>
429.mcf	32	<b>352</b>	<b>830</b>	353	827	351	832	32	<b>352</b>	<b>830</b>	353	827	351	832
445.gobmk	32	943	356	<b>943</b>	<b>356</b>	945	355	32	<b>935</b>	<b>359</b>	935	359	938	358
456.hammer	32	<b>384</b>	<b>778</b>	385	776	382	781	32	340	878	341	876	<b>340</b>	<b>877</b>
458.sjeng	32	1026	377	1011	383	<b>1025</b>	<b>378</b>	32	966	401	990	391	<b>985</b>	<b>393</b>
462.libquantum	32	116	5700	117	5690	<b>117</b>	<b>5690</b>	32	116	5700	117	5690	<b>117</b>	<b>5690</b>
464.h264ref	32	1116	635	<b>1116</b>	<b>635</b>	1165	608	32	<b>1105</b>	<b>641</b>	1128	628	1100	644
471.omnetpp	32	569	352	<b>568</b>	<b>352</b>	567	353	32	539	371	<b>542</b>	<b>369</b>	543	369
473.astar	32	695	323	691	325	<b>692</b>	<b>325</b>	32	695	323	691	325	<b>692</b>	<b>325</b>
483.xalancbmk	32	<b>345</b>	<b>640</b>	344	641	345	640	32	<b>345</b>	<b>640</b>	344	641	345	640

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/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 Custom  
HP Power Regulator set to HP Static High Performance Mode  
Minimum Processor Idle Power Core State set to C6 State  
Minimum Processor Idle Power Package State set to No Package State  
Thermal Configuration set to Maximum Cooling  
Collaborative Power Control set to Disabled  
QPI Snoop Configuration set to Early Snoop  
Processor Power and Utilization Monitoring set to Disabled  
Memory Refresh Rate set to 1x Refresh  
Sysinfo program /cpu2006/config/sysinfo.rev6914

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint\_rate2006 = 593

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

SPECint\_rate\_base2006 = 567

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

**Test date:** Dec-2014  
**Hardware Availability:** Sep-2014  
**Software Availability:** Sep-2014

### Platform Notes (Continued)

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on W-bl460c\_gen9-VP2.1 Mon Dec 8 15:32:14 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 E5-2630L v3 @ 1.80GHz
 2 "physical id"s (chips)
 32 "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 : 8
  siblings  : 16
  physical 0: cores 0 1 2 3 4 5 6 7
  physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal:      263844364 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

```
uname -a:
Linux W-bl460c_gen9-VP2.1 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT
2014 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Dec 8 15:22

```
SPEC is set to: /cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4       xfs   277G  41G  237G  15% /
```

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  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 593**

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

**SPECint\_rate\_base2006 = 567**

**CPU2006 license:** 3

**Test date:** Dec-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Sep-2014

**Tested by:** Hewlett-Packard Company

**Software Availability:** Sep-2014

## Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS HP I36 08/26/2014

Memory:

16x HP NOT AVAILABLE 16 GB 2 rank 2133 MHz, configured at 1866 MHz

(End of data from sysinfo program)

## 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 i5-4670K CPU + 16GB memory using RedHat EL 7.0

## Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 593**

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

**SPECint\_rate\_base2006 = 567**

**CPU2006 license:** 3

**Test date:** Dec-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Sep-2014

**Tested by:** Hewlett-Packard Company

**Software Availability:** Sep-2014

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## 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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Hewlett-Packard Company**

**SPECint\_rate2006 = 593**

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

**SPECint\_rate\_base2006 = 567**

**CPU2006 license:** 3

**Test date:** Dec-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Sep-2014

**Tested by:** Hewlett-Packard Company

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3

456.hmmcr: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-HSW-revE.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

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



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

**SPECint\_rate2006 = 593**

ProLiant BL460c Gen9  
(1.80 GHz, Intel Xeon E5-2630L v3)

**SPECint\_rate\_base2006 = 567**

**CPU2006 license:** 3

**Test date:** Dec-2014

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Sep-2014

**Tested by:** Hewlett-Packard Company

**Software Availability:** Sep-2014

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 Mon Jan 12 11:06:53 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 9 January 2015.