



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

**SPECint®\_rate2006 = 1990**

ProLiant DL980 G7 (2.26 GHz, Intel Xeon E7-2860)

**SPECint\_rate\_base2006 = 1890**

CPU2006 license: 3

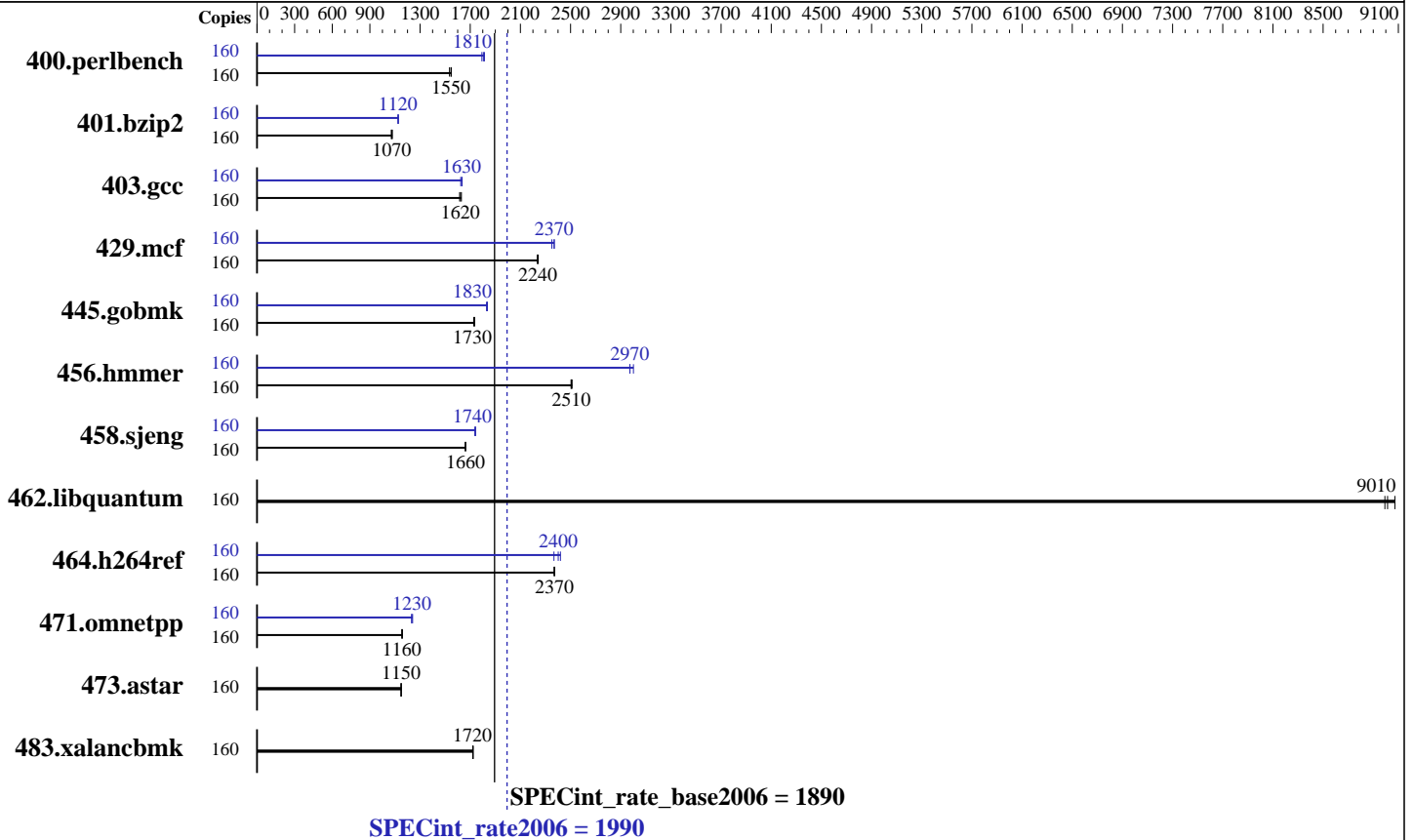
Test date: Aug-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2011

Tested by: Hewlett-Packard Company

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E7-2860  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 80 cores, 8 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 4, 8 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: 24 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 1 TB (128 x 8 GB 2Rx4 PC3L-10600R-9, ECC, running at 1066 MHz)  
 Disk Subsystem: 2 x 146 GB 15 K SAS  
 Other Hardware: 512 MB FBWC Module for P410i SmartArray

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Compiler XE 2011 for IA-32 and Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Hewlett-Packard Company

SPECint\_rate2006 = 1990

ProLiant DL980 G7 (2.26 GHz, Intel Xeon E7-2860)

SPECint\_rate\_base2006 = 1890

CPU2006 license: 3

Test date: Aug-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2011

Tested by: Hewlett-Packard Company

Software Availability: Jan-2011

## Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	160	1010	1550	1019	1530	<u>1010</u>	<u>1550</u>	160	872	1790	862	1810	<u>866</u>	<u>1810</u>
401.bzip2	160	1431	1080	1442	1070	<u>1437</u>	<u>1070</u>	160	1370	1130	1373	1120	<u>1373</u>	<u>1120</u>
403.gcc	160	790	1630	<u>794</u>	<u>1620</u>	797	1620	160	788	1640	<u>790</u>	<u>1630</u>	793	1620
429.mcf	160	653	2230	651	2240	<u>652</u>	<u>2240</u>	160	616	2370	<u>616</u>	<u>2370</u>	621	2350
445.gobmk	160	967	1740	972	1730	<u>969</u>	<u>1730</u>	160	914	1840	<u>915</u>	<u>1830</u>	917	1830
456.hammer	160	<u>596</u>	<u>2510</u>	596	2500	594	2510	160	497	3000	502	2970	<u>502</u>	<u>2970</u>
458.sjeng	160	1164	1660	1166	1660	<u>1165</u>	<u>1660</u>	160	1111	1740	<u>1112</u>	<u>1740</u>	1115	1740
462.libquantum	160	365	9070	<u>368</u>	<u>9010</u>	369	8990	160	365	9070	<u>368</u>	<u>9010</u>	369	8990
464.h264ref	160	<u>1494</u>	<u>2370</u>	1492	2370	1495	2370	160	1464	2420	<u>1474</u>	<u>2400</u>	1496	2370
471.omnetpp	160	<u>865</u>	<u>1160</u>	866	1150	862	1160	160	806	1240	811	1230	<u>810</u>	<u>1230</u>
473.astar	160	979	1150	976	1150	<u>977</u>	<u>1150</u>	160	979	1150	976	1150	<u>977</u>	<u>1150</u>
483.xalancbmk	160	<u>642</u>	<u>1720</u>	640	1720	642	1720	160	<u>642</u>	<u>1720</u>	640	1720	642	1720

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

```
SPEC files placed in /dev/shm/cpu2006 with /dev/shm, size=500G
mounted as tmpfs with mpol=interleave
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'nodenv /mnt/hugetlbfs hugetlbfs defaults 0 0' added to /etc/fstab
echo 160000 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib/libhugetlbfs.so
```

## Platform Notes

BIOS Settings:  
Power Regulator set to HP Static High Performance Mode

## General Notes

Binaries were compiled on RHEL5.5



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint\_rate2006 = 1990

ProLiant DL980 G7 (2.26 GHz, Intel Xeon E7-2860)

SPECint\_rate\_base2006 = 1890

CPU2006 license: 3

Test date: Aug-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2011

Tested by: Hewlett-Packard Company

Software Availability: Jan-2011

## 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  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/smartheap -lsmartheap  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint\_rate2006 = 1990

ProLiant DL980 G7 (2.26 GHz, Intel Xeon E7-2860)

SPECint\_rate\_base2006 = 1890

CPU2006 license: 3

Test date: Aug-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2011

Tested by: Hewlett-Packard Company

Software Availability: Jan-2011

## Peak Compiler Invocation (Continued)

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)  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint\_rate2006 = 1990

ProLiant DL980 G7 (2.26 GHz, Intel Xeon E7-2860)

SPECint\_rate\_base2006 = 1890

CPU2006 license: 3

Test date: Aug-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2011

Tested by: Hewlett-Packard Company

Software Availability: Jan-2011

## Peak Optimization Flags (Continued)

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/smartheap -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-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.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 v1.1.

Report generated on Thu Jul 24 01:40:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 11 October 2011.