# SPEC® CINT2006 Result



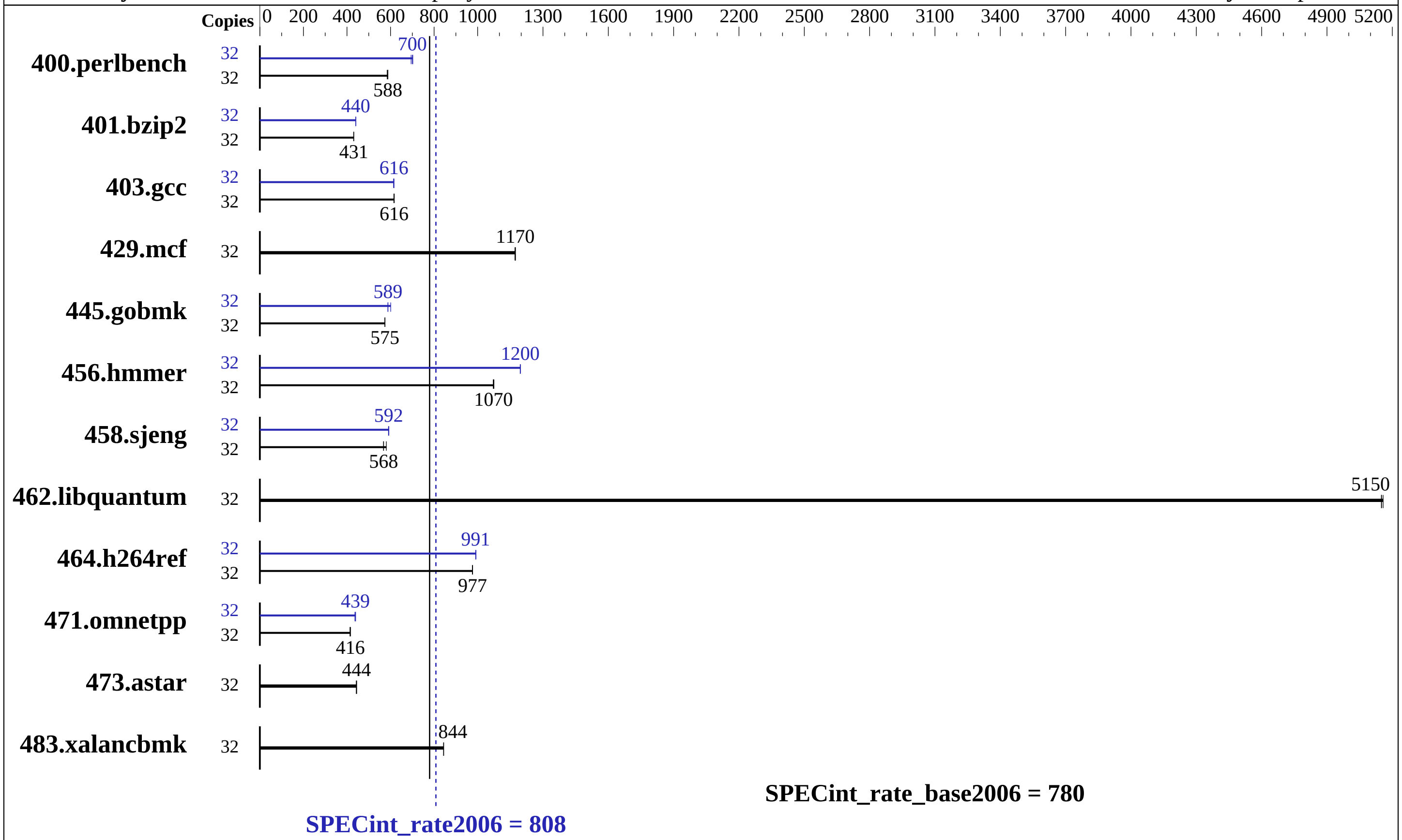
## Hewlett-Packard Company

ProLiant DL380p Gen8
(3.30 GHz, Intel Xeon E5-2667 v2)

SPECint®_rate2006 = 808

SPECint_rate_base2006 = 780

**CPU2006 license:** 3
**Test sponsor:** Hewlett-Packard Company
**Tested by:** Hewlett-Packard Company
**Test date:** Feb-2014
**Hardware Availability:** Dec-2013
**Software Availability:** Sep-2013




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2667 v2 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 4.00 GHz |
| CPU MHz: | 3300 |
| FPU: | Integrated |
| CPU(s) enabled: | 16 cores, 2 chips, 8 cores/chip, 2 threads/core |
| 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 GB 10 K SAS, RAID 0 |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.4<br>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 |

## Results Table

| Benchmark | Base Copies | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Peak Copies | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.perlbench | 32 | **532** | **588** | 535 | 585 | 532 | 588 | 32 | **446** | **700** | 445 | 702 | 450 | 695 |
| 401.bzip2 | 32 | **716** | **431** | 716 | 431 | 717 | 430 | 32 | **701** | **440** | 701 | 440 | 702 | 440 |
| 403.gcc | 32 | 417 | 617 | 419 | 615 | **418** | **616** | 32 | 418 | 616 | **418** | **616** | 420 | 614 |
| 429.mcf | 32 | 249 | 1170 | **249** | **1170** | 249 | 1170 | 32 | 249 | 1170 | **249** | **1170** | 249 | 1170 |
| 445.gobmk | 32 | **584** | **575** | 585 | 574 | 584 | 575 | 32 | 559 | 601 | **570** | **589** | 571 | 588 |
| 456.hmmer | 32 | 278 | 1070 | 279 | 1070 | **278** | **1070** | 32 | 249 | 1200 | **250** | **1200** | 250 | 1200 |
| 458.sjeng | 32 | 682 | 568 | **681** | **568** | 667 | 581 | 32 | 656 | 591 | 654 | 592 | **654** | **592** |
| 462.libquantum | 32 | 129 | 5160 | 129 | 5150 | **129** | **5150** | 32 | 129 | 5160 | 129 | 5150 | **129** | **5150** |
| 464.h264ref | 32 | 726 | 976 | 725 | 977 | **725** | **977** | 32 | **715** | **991** | 714 | 992 | 715 | 991 |
| 471.omnetpp | 32 | 483 | 414 | 481 | 416 | **481** | **416** | 32 | 455 | 440 | 458 | 436 | **455** | **439** |
| 473.astar | 32 | 507 | 443 | **506** | **444** | 505 | 445 | 32 | 507 | 443 | **506** | **444** | 505 | 445 |
| 483.xalancbmk | 32 | **262** | **844** | 262 | 844 | 262 | 844 | 32 | **262** | **844** | 262 | 844 | 262 | 844 |

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 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
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
```

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## Platform Notes (Continued)

```
running on DL380p-Gen8-0SB Sat Feb 22 05:41:22 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 E5-2667 v2 @ 3.30GHz
      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 1 2 3 4 8 9 10 11
      physical 1: cores 1 2 3 4 8 9 10 11
   cache size : 25600 KB

From /proc/meminfo
   MemTotal:       132119284 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 DL380p-Gen8-0SB 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 Feb 22 05:28

SPEC is set to: /cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda3      ext4    273G   92G  168G  36% /

Additional information from dmidecode:
  BIOS HP P70 12/20/2013
  Memory:
   16x HP 712382-071 8 GB 1866 MHz 2 rank
   8x 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:
   16x HP 712382-071 8 GB 1866 MHz 2 rank
Regarding the sysinfo display about the CPU cores from /proc/cpuinfo, the correct
mapping should display as cores 0 through 7. The mapping should read as the
following:
```

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## Platform Notes (Continued)

```
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
```

## 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 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`

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`

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## 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/HP-Platform-Flags-Intel-V1.2-revB.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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