# SPEC® CINT2006 Result



## Hewlett-Packard Company

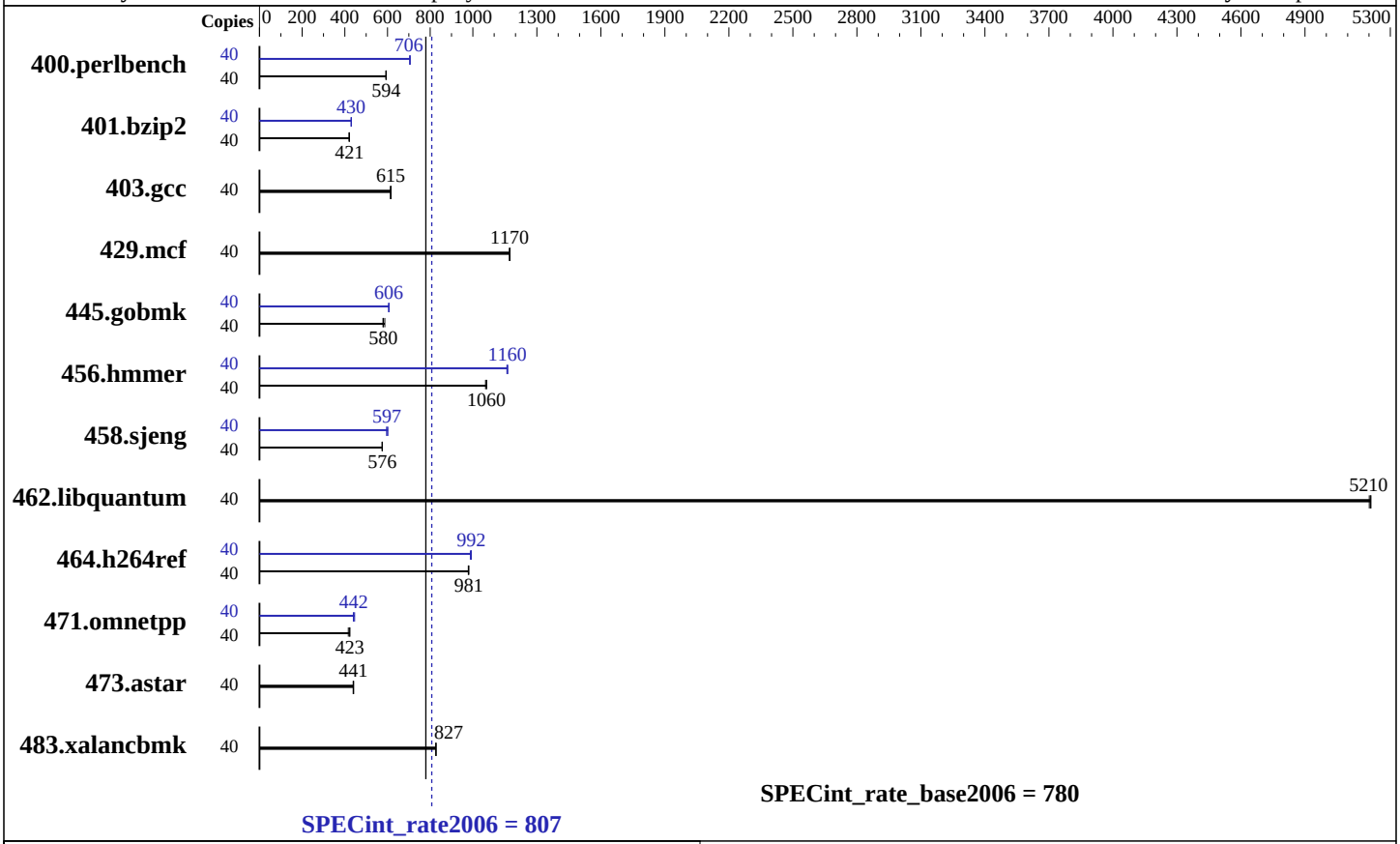
ProLiant DL380p Gen8
(2.50 GHz, Intel Xeon E5-2670 v2)

SPECint®_rate2006 = 807

SPECint_rate_base2006 = 780

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

**Test date:** Nov-2013
**Hardware Availability:** Sep-2013
**Software Availability:** Sep-2013




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2670 v2 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.30 GHz |
| CPU MHz: | 2500 |
| FPU: | Integrated |
| CPU(s) enabled: | 20 cores, 2 chips, 10 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: | 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC) |
| Disk Subsystem: | 1 x 300 GB 10 K SAS, RAID 0 |
| Other Hardware: | None |

### Software

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



## Hewlett-Packard Company

ProLiant DL380p Gen8
(2.50 GHz, Intel Xeon E5-2670 v2)

SPECint_rate2006 = 807

SPECint_rate_base2006 = 780

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

**Test date:** Nov-2013
**Hardware Availability:** Sep-2013
**Software Availability:** Sep-2013

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 40 | 660 | 592 | **658** | **594** | 657 | 594 | 40 | 554 | 706 | 555 | 704 | **554** | **706** |
| 401.bzip2 | 40 | **916** | **421** | 915 | 422 | 920 | 419 | 40 | **897** | **430** | 896 | 431 | 899 | 430 |
| 403.gcc | 40 | 522 | 617 | **523** | **615** | 525 | 614 | 40 | 522 | 617 | **523** | **615** | 525 | 614 |
| 429.mcf | 40 | 311 | 1170 | 312 | 1170 | **311** | **1170** | 40 | 311 | 1170 | 312 | 1170 | **311** | **1170** |
| 445.gobmk | 40 | 725 | 579 | **723** | **580** | 714 | 587 | 40 | **692** | **606** | 692 | 607 | 692 | 606 |
| 456.hmmer | 40 | **351** | **1060** | 351 | 1060 | 352 | 1060 | 40 | 321 | 1160 | 322 | 1160 | **321** | **1160** |
| 458.sjeng | 40 | **841** | **576** | 843 | 574 | 841 | 576 | 40 | 811 | 596 | 804 | 602 | **811** | **597** |
| 462.libquantum | 40 | 159 | 5200 | 159 | 5210 | **159** | **5210** | 40 | 159 | 5200 | 159 | 5210 | **159** | **5210** |
| 464.h264ref | 40 | **903** | **981** | 903 | 981 | 905 | 979 | 40 | 892 | 993 | **892** | **992** | 896 | 988 |
| 471.omnetpp | 40 | **591** | **423** | 601 | 416 | 590 | 423 | 40 | **565** | **442** | 561 | 446 | 568 | 440 |
| 473.astar | 40 | 636 | 441 | **637** | **441** | 640 | 439 | 40 | 636 | 441 | **637** | **441** | 640 | 439 |
| 483.xalancbmk | 40 | 334 | 827 | **334** | **827** | 334 | 827 | 40 | 334 | 827 | **334** | **827** | 334 | 827 |

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>
Used "stop-services" script before the run
```

## Platform Notes

```
BIOS Configuration:
 HP Power Profile set to Maximum Performance
 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
```

Continued on next page

## Platform Notes (Continued)

```
Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on DL380p-Gen8-0YD Sat Nov  2 17:14:52 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 E5-2670 v2 @ 2.50GHz
      2 "physical id"s (chips)
      40 "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  : 20
      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:       264511112 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

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-Gen8-0YD 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 Nov 2 16:56

SPEC is set to: /cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda3      ext4    273G   35G  226G  14% /

Additional information from dmidecode:
  BIOS HP P70 09/08/2013
  Memory:
   16x HP 712383-081 16 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
```

Continued on next page

## Platform Notes (Continued)

```
memory is 256 GB and the dmidecode description should have one line reading as:
   16x HP 712383-081 16 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 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"

 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:

Continued on next page

## Base Other Flags (Continued)

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: `basepeak = yes`

429.mcf: `basepeak = yes`

Continued on next page

## Peak Optimization Flags (Continued)

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`

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`

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 17:27:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 November 2013.