# SPEC® CINT2006 Result



## Hewlett-Packard Company

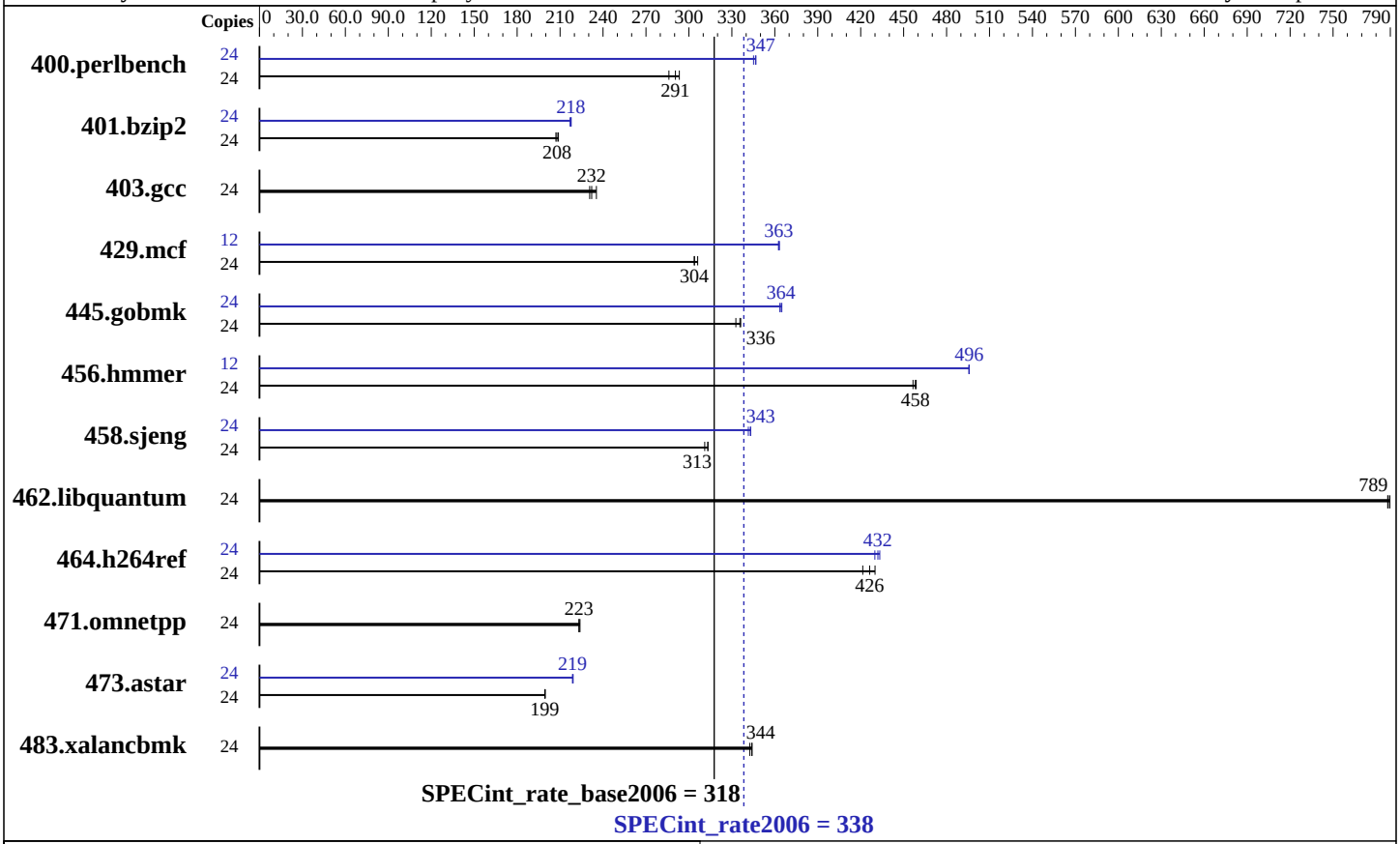
ProLiant BL460c G6
(2.67 GHz, Intel Xeon X5650)

SPECint®_rate2006 = 338

SPECint_rate_base2006 = 318

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

**Test date:** May-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Sep-2009




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5650 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.06 GHz |
| CPU MHz: | 2667 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 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: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12x4 GB 2Rx4 PC3-10600R CL9) |
| Disk Subsystem: | 2x146 GB 2.5" 10 K SAS |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 5.4<br>Kernel 2.6.18-164.el5 |
| Compiler: | Intel C++ Compiler 11.1 for Linux<br>Build 20090827 Package ID: l_cproc_p_11.1.056 |
| 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 V8.1<br>Binutils 2.17.50.0.18 |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 24 | 799 | 293 | 820 | 286 | **807** | **291** | 24 | 679 | 345 | 676 | 347 | **677** | **347** |
| 401.bzip2 | 24 | **1115** | **208** | 1118 | 207 | 1109 | 209 | 24 | **1064** | **218** | 1067 | 217 | 1064 | 218 |
| 403.gcc | 24 | **832** | **232** | 821 | 235 | 838 | 231 | 24 | **832** | **232** | 821 | 235 | 838 | 231 |
| 429.mcf | 24 | **720** | **304** | 715 | 306 | 721 | 304 | 12 | 302 | 363 | 301 | 363 | **302** | **363** |
| 445.gobmk | 24 | 749 | 336 | **750** | **336** | 756 | 333 | 24 | 693 | 364 | **691** | **364** | 690 | 365 |
| 456.hmmer | 24 | 490 | 457 | 488 | 459 | **489** | **458** | 12 | **226** | **496** | 226 | 496 | 226 | 496 |
| 458.sjeng | 24 | 927 | 313 | **927** | **313** | 934 | 311 | 24 | **847** | **343** | 846 | 343 | 850 | 342 |
| 462.libquantum | 24 | **631** | **789** | 631 | 788 | 630 | 790 | 24 | **631** | **789** | 631 | 788 | 630 | 790 |
| 464.h264ref | 24 | 1260 | 421 | **1246** | **426** | 1235 | 430 | 24 | 1235 | 430 | **1229** | **432** | 1226 | 433 |
| 471.omnetpp | 24 | **672** | **223** | 670 | 224 | 672 | 223 | 24 | **672** | **223** | 670 | 224 | 672 | 223 |
| 473.astar | 24 | 845 | 199 | **845** | **199** | 844 | 200 | 24 | **770** | **219** | 770 | 219 | 769 | 219 |
| 483.xalancbmk | 24 | **481** | **344** | 483 | 343 | 481 | 344 | 24 | **481** | **344** | 483 | 343 | 481 | 344 |

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

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
```

## Platform Notes

```
BIOS configuration:
 HP Power Profile set to Maximum Performance
 Thermal Configuration set to Increased Cooling
 Memory Speed with 2 DIMMs per Channel set to 1333 MHz Maximum
 Data Reuse set to Disabled
```

# Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

## 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 -static -inline-calloc -opt-malloc-options=3 -opt-prefetch`

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap`

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):
`icc`

401.bzip2: `/opt/intel/Compiler/11.1/056/bin/intel64/icc`

456.hmmer: `/opt/intel/Compiler/11.1/056/bin/intel64/icc`

458.sjeng: `/opt/intel/Compiler/11.1/056/bin/intel64/icc`

C++ benchmarks:
`icpc`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`

Continued on next page

## Peak Portability Flags (Continued)

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) -static(pass 2)
-prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -static(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) -static(pass 2)
-prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -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=routine -Wl,-z,muldefs
-L/cpu2006/SmartHeap_8.1/lib -lsmartheap

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-Intel-Linux-Settings-flags.20100525.html`
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.xml`
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.xml`



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

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