# SPEC® CINT2006 Result

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## Hewlett-Packard Company

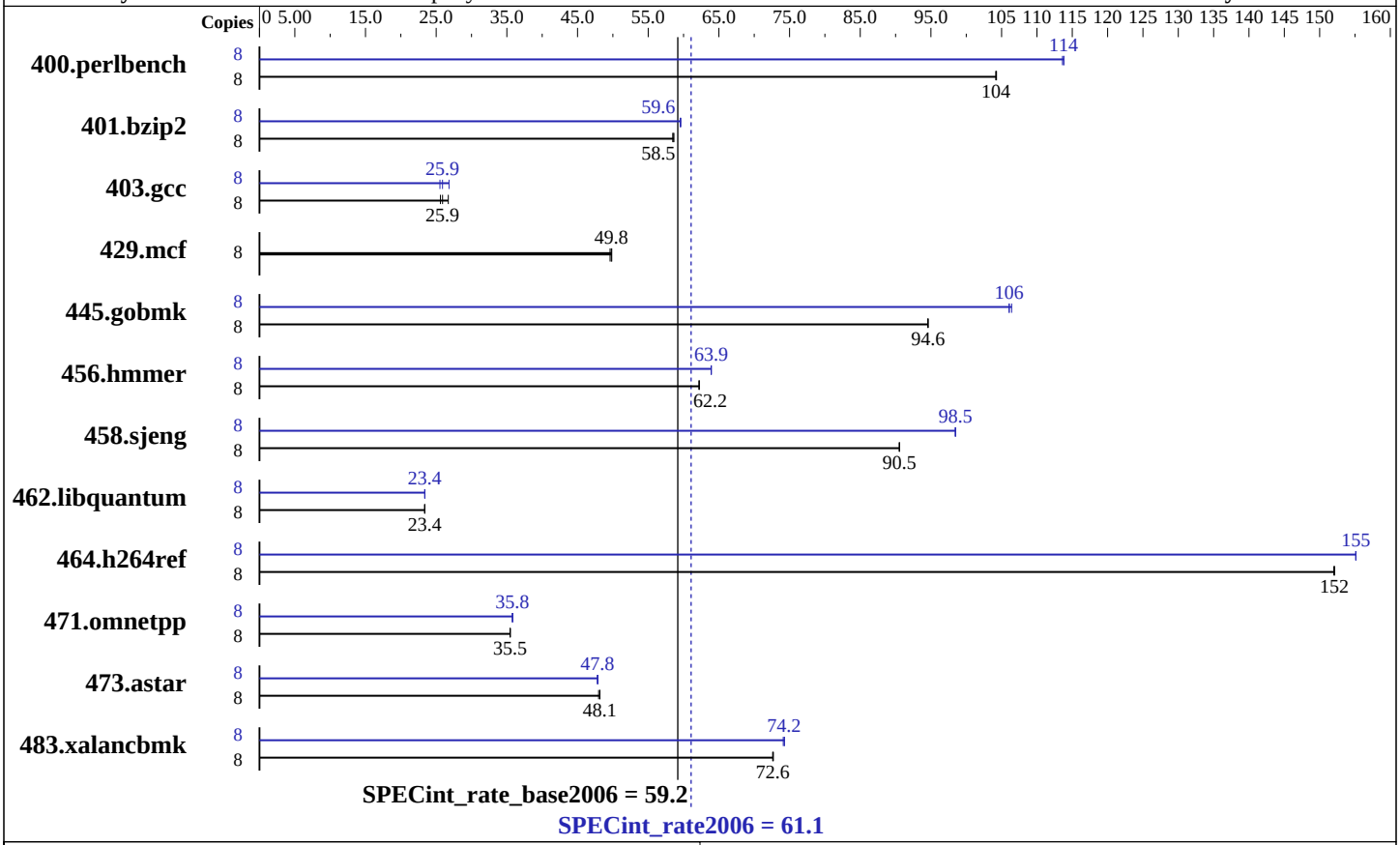
ProLiant BL20p G4
(1.86 GHz, Intel Xeon processor E5320)

SPECint®_rate2006 = 61.1

SPECint_rate_base2006 = 59.2

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

**Test date:** Feb-2007
**Hardware Availability:** Jan-2007
**Software Availability:** Nov-2006




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5320 |
| CPU Characteristics: | 1.86 GHz, 2x4 MB L2 shared, 1066 MHz system bus |
| CPU MHz: | 1860 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 16 GB (8x2 GB PC2-5300 CL5) |
| Disk Subsystem: | 2x72 GB 10k SAS |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Windows Server 2003 Enterprise x64 Edition SP1 |
| Compiler: | Intel C++ Compiler for 32-bit applications, Version 9.1, Build 20061103Z<br>Package ID: W_CC_C_9.1.033<br>Microsoft Visual Studio .NET 2003 (v7.1.3088, for libraries) |
| Auto Parallel: | No |
| File System: | NTFS |
| System State: | Default |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32-bit |
| Other Software: | MicroQuill SmartHeap Library 8.0 |

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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 | 8 | **750** | **104** | 750 | 104 | 750 | 104 | 8 | 688 | 114 | **687** | **114** | 687 | 114 |
| 401.bzip2 | 8 | 1320 | 58.5 | 1317 | 58.6 | **1319** | **58.5** | 8 | **1296** | **59.6** | 1295 | 59.6 | 1297 | 59.5 |
| 403.gcc | 8 | 2516 | 25.6 | **2486** | **25.9** | 2411 | 26.7 | 8 | 2522 | 25.5 | **2487** | **25.9** | 2401 | 26.8 |
| 429.mcf | 8 | 1464 | 49.8 | **1466** | **49.8** | 1471 | 49.6 | 8 | 1464 | 49.8 | **1466** | **49.8** | 1471 | 49.6 |
| 445.gobmk | 8 | 888 | 94.6 | **887** | **94.6** | 887 | 94.6 | 8 | 791 | 106 | **791** | **106** | 789 | 106 |
| 456.hmmer | 8 | **1200** | **62.2** | 1200 | 62.2 | 1200 | 62.2 | 8 | 1168 | 63.9 | 1168 | 63.9 | **1168** | **63.9** |
| 458.sjeng | 8 | 1069 | 90.5 | 1069 | 90.6 | **1069** | **90.5** | 8 | 983 | 98.5 | **983** | **98.5** | 983 | 98.4 |
| 462.libquantum | 8 | 7089 | 23.4 | **7089** | **23.4** | 7089 | 23.4 | 8 | **7086** | **23.4** | 7085 | 23.4 | 7087 | 23.4 |
| 464.h264ref | 8 | 1164 | 152 | **1164** | **152** | 1165 | 152 | 8 | 1141 | 155 | 1141 | 155 | **1141** | **155** |
| 471.omnetpp | 8 | 1409 | 35.5 | 1410 | 35.5 | **1410** | **35.5** | 8 | 1395 | 35.8 | **1397** | **35.8** | 1398 | 35.8 |
| 473.astar | 8 | **1166** | **48.1** | 1170 | 48.0 | 1166 | 48.2 | 8 | 1173 | 47.9 | 1175 | 47.8 | **1174** | **47.8** |
| 483.xalancbmk | 8 | 760 | 72.6 | **760** | **72.6** | 759 | 72.7 | 8 | 743 | 74.3 | 745 | 74.1 | **743** | **74.2** |

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

## Platform Notes

```
Power Regulator set to Static High Performance Mode in BIOS.
Adjacent Sector Prefetch disabled in BIOS.
```

## Base Compiler Invocation

C benchmarks:

```
icl -Qvc7.1 -Qc99
```

C++ benchmarks:

```
icl -Qvc7.1
```

## Base Portability Flags

403.gcc: `-DSPEC_CPU_WIN32`
464.h264ref: `-DSPEC_CPU_NO_INTTYPES -DWIN32`

## Base Optimization Flags

C benchmarks:

```
-fast /F512000000 shlw32m.lib            -link /FORCE:MULTIPLE
```

Continued on next page

## Base Optimization Flags (Continued)

C++ benchmarks:
-fast -Qcxx_features /F512000000 shlw32m.lib
-link /FORCE:MULTIPLE

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks:
icl -Qvc7.1 -Qc99

C++ benchmarks:
icl -Qvc7.1

## Peak Portability Flags

403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DSPEC_CPU_NO_INTTYPES -DWIN32

## Peak Optimization Flags

C benchmarks:

400.perlbench: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F512000000
shlw32m.lib -link /FORCE:MULTIPLE

401.bzip2: Same as 400.perlbench

403.gcc: Same as 400.perlbench

429.mcf: basepeak = yes

445.gobmk: Same as 400.perlbench

456.hmmer: Same as 400.perlbench

458.sjeng: Same as 400.perlbench

Continued on next page

# Peak Optimization Flags (Continued)

462.libquantum: Same as 400.perlbench

464.h264ref: Same as 400.perlbench

C++ benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

# Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/hp-ic91-flags.20090715.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/hp-ic91-flags.20090715.02.xml


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

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