



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

**SPECint®2006 = 11.9**

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

**SPECint\_base2006 = 11.4**

CPU2006 license: 3

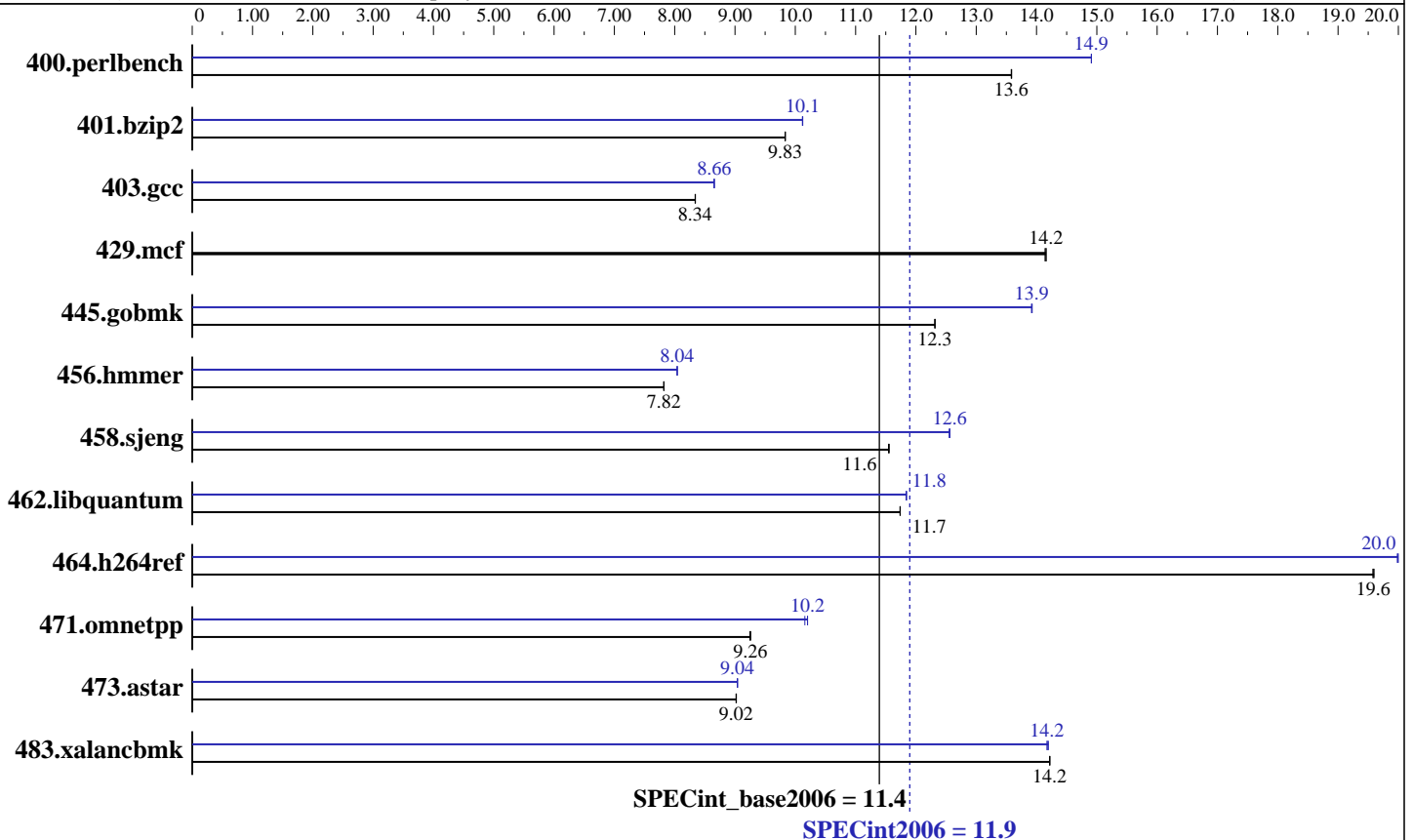
Test date: Feb-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2007

Tested by: Hewlett-Packard Company

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: 4 cores, 1 chip, 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 PC2-5300F 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  
 Package ID: W\_CC\_C\_9.1.033  
 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        |             |             |             |            |             |
|----------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
|                | Seconds     | Ratio       | Seconds     | Ratio       | Seconds    | Ratio       | Seconds     | Ratio       | Seconds     | Ratio       | Seconds    | Ratio       |
| 400.perlbench  | <b>719</b>  | <b>13.6</b> | 719         | 13.6        | 719        | 13.6        | 655         | 14.9        | <b>655</b>  | <b>14.9</b> | 655        | 14.9        |
| 401.bzip2      | <b>982</b>  | <b>9.83</b> | 981         | 9.84        | 982        | 9.83        | 953         | 10.1        | <b>953</b>  | <b>10.1</b> | 954        | 10.1        |
| 403.gcc        | 965         | 8.34        | 965         | 8.34        | <b>965</b> | <b>8.34</b> | <b>930</b>  | <b>8.66</b> | 930         | 8.66        | 930        | 8.65        |
| 429.mcf        | <b>644</b>  | <b>14.2</b> | 644         | 14.2        | 645        | 14.1        | <b>644</b>  | <b>14.2</b> | 644         | 14.2        | 645        | 14.1        |
| 445.gobmk      | 852         | 12.3        | <b>852</b>  | <b>12.3</b> | 852        | 12.3        | <b>754</b>  | <b>13.9</b> | 753         | 13.9        | 754        | 13.9        |
| 456.hmmer      | 1193        | 7.82        | <b>1193</b> | <b>7.82</b> | 1193       | 7.82        | 1160        | 8.04        | <b>1160</b> | <b>8.04</b> | 1160       | 8.04        |
| 458.sjeng      | 1047        | 11.6        | <b>1047</b> | <b>11.6</b> | 1048       | 11.5        | <b>963</b>  | <b>12.6</b> | 963         | 12.6        | 964        | 12.6        |
| 462.libquantum | <b>1765</b> | <b>11.7</b> | 1765        | 11.7        | 1765       | 11.7        | 1749        | 11.8        | <b>1750</b> | <b>11.8</b> | 1750       | 11.8        |
| 464.h264ref    | <b>1130</b> | <b>19.6</b> | 1130        | 19.6        | 1129       | 19.6        | <b>1107</b> | <b>20.0</b> | 1107        | 20.0        | 1107       | 20.0        |
| 471.omnetpp    | <b>675</b>  | <b>9.26</b> | 676         | 9.25        | 675        | 9.26        | <b>613</b>  | <b>10.2</b> | 613         | 10.2        | 615        | 10.2        |
| 473.astar      | 778         | 9.02        | <b>778</b>  | <b>9.02</b> | 778        | 9.02        | <b>776</b>  | <b>9.04</b> | 776         | 9.04        | 777        | 9.04        |
| 483.xalancbmk  | <b>485</b>  | <b>14.2</b> | 485         | 14.2        | 485        | 14.2        | 487         | 14.2        | 486         | 14.2        | <b>487</b> | <b>14.2</b> |

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

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## 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.hmmmer: Same as 400.perlbench
```

```
458.sjeng: Same as 400.perlbench
```

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## 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](mailto:webmaster@spec.org).

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