



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®\_rate2006 = 34.5

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

SPECint\_rate\_base2006 = 33.3

CPU2006 license: 3

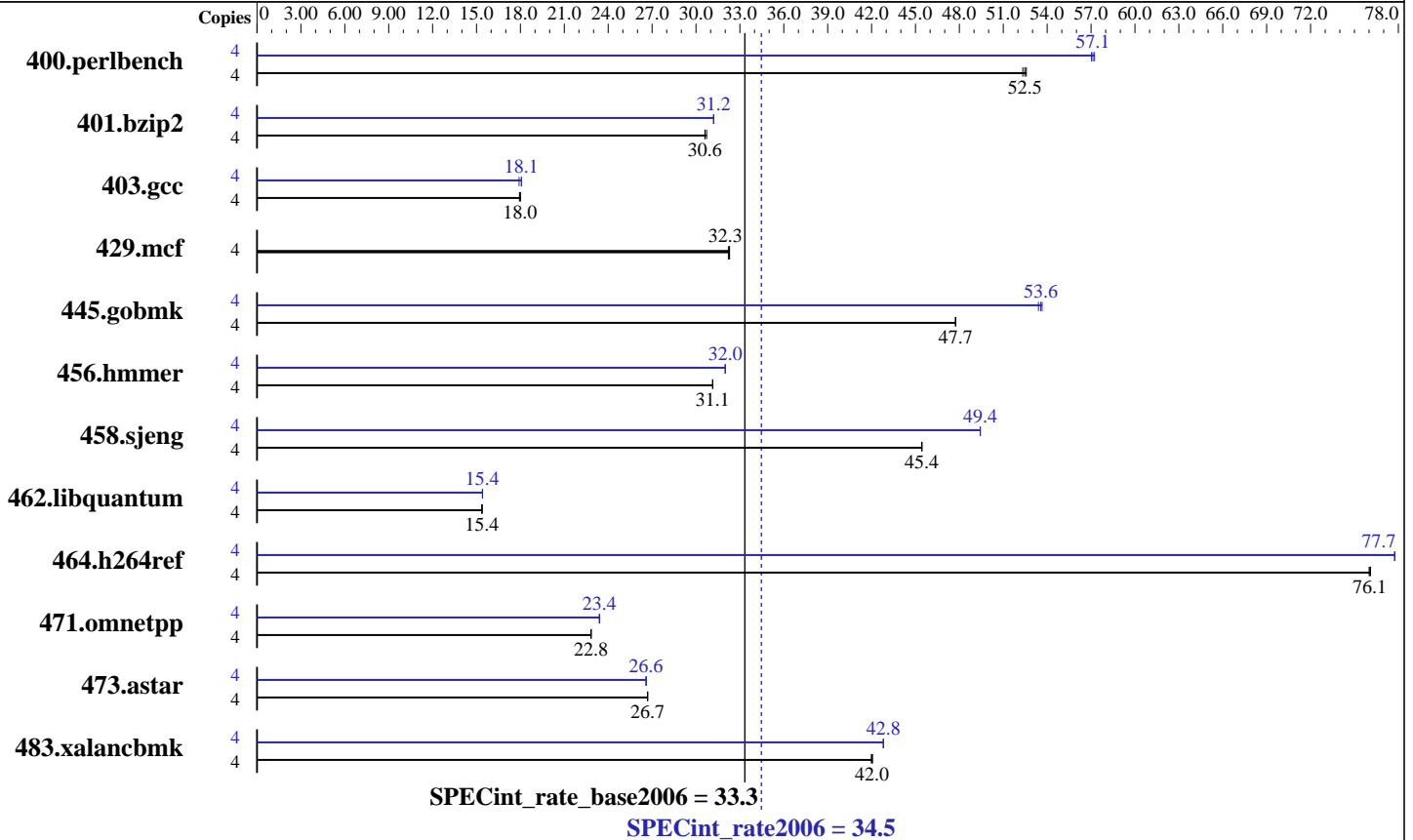
Test date: Feb-2007

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 PC2-5300 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  
 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	743	52.6	<b>745</b>	<b>52.5</b>	747	52.3	4	685	57.0	683	57.2	<b>684</b>	<b>57.1</b>
401.bzip2	4	1256	30.7	<b>1261</b>	<b>30.6</b>	1261	30.6	4	<b>1237</b>	<b>31.2</b>	1237	31.2	1237	31.2
403.gcc	4	<b>1791</b>	<b>18.0</b>	1795	17.9	1788	18.0	4	<b>1782</b>	<b>18.1</b>	1798	17.9	1782	18.1
429.mcf	4	1130	32.3	<b>1130</b>	<b>32.3</b>	1132	32.2	4	1130	32.3	<b>1130</b>	<b>32.3</b>	1132	32.2
445.gobmk	4	879	47.7	<b>879</b>	<b>47.7</b>	879	47.7	4	<b>783</b>	<b>53.6</b>	786	53.4	782	53.7
456.hammer	4	1198	31.1	1198	31.1	<b>1198</b>	<b>31.1</b>	4	<b>1166</b>	<b>32.0</b>	1166	32.0	1166	32.0
458.sjeng	4	1065	45.5	1066	45.4	<b>1065</b>	<b>45.4</b>	4	<b>979</b>	<b>49.4</b>	979	49.4	979	49.4
462.libquantum	4	5392	15.4	<b>5392</b>	<b>15.4</b>	5387	15.4	4	<b>5378</b>	<b>15.4</b>	5377	15.4	5382	15.4
464.h264ref	4	1165	76.0	<b>1164</b>	<b>76.1</b>	1163	76.1	4	1138	77.8	1139	77.7	<b>1139</b>	<b>77.7</b>
471.omnetpp	4	1095	22.8	1095	22.8	<b>1095</b>	<b>22.8</b>	4	1069	23.4	<b>1068</b>	<b>23.4</b>	1068	23.4
473.astar	4	1052	26.7	1051	26.7	<b>1052</b>	<b>26.7</b>	4	<b>1056</b>	<b>26.6</b>	1056	26.6	1056	26.6
483.xalancbmk	4	657	42.0	656	42.1	<b>657</b>	<b>42.0</b>	4	645	42.8	<b>645</b>	<b>42.8</b>	645	42.8

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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