SPEC® CINT2006 Result

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Hewlett-Packard Company

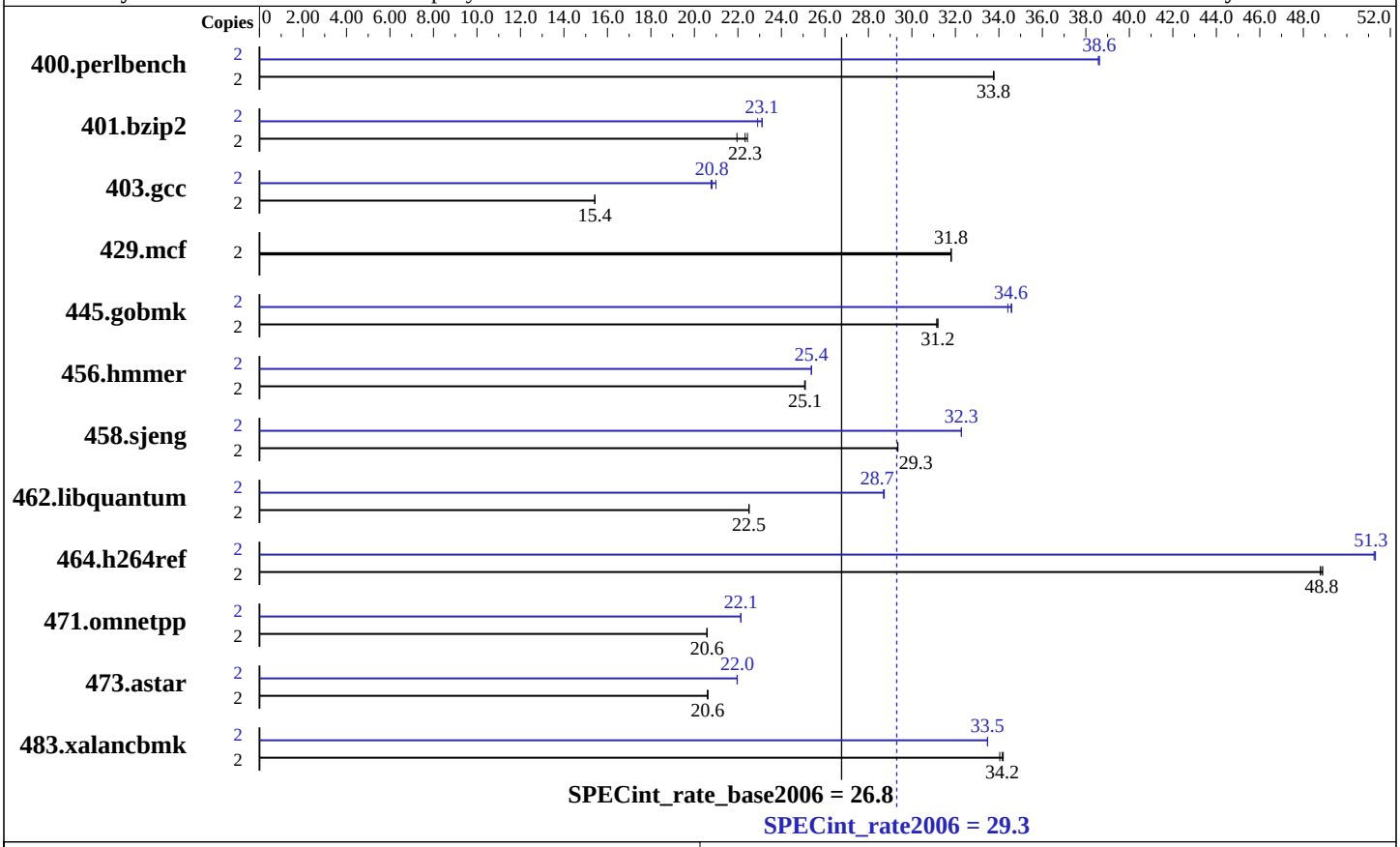
ProLiant ML310 G4
(2.4 GHz, Intel Xeon processor 3060)

SPECint®_rate2006 = 29.3

SPECint_rate_base2006 = 26.8

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

Test date: Oct-2007
Hardware Availability: Sep-2006
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon 3060
CPU Characteristics:	2.4 GHz, 4 MB L2, 1066 MHz system bus
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	2 GB (4x512 MB PC2-5300E CL5)
Disk Subsystem:	2x250 GB SATA
Other Hardware:	None

Software

Operating System:	Windows Server 2003 Standard Edition R2
Compiler:	Intel C++ Compiler for IA32 version 10.0 Build 20070613 Package ID: W_CC_P_10.0.026 Microsoft Visual Studio .Net 2003 (for libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	SmartHeap Library Version 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	2	579	33.7	**579**	**33.8**	578	33.8	2	506	38.6	**506**	**38.6**	507	38.6
401.bzip2	2	879	22.0	860	22.4	**864**	**22.3**	2	835	23.1	843	22.9	**835**	**23.1**
403.gcc	2	1044	15.4	1044	15.4	**1044**	**15.4**	2	**774**	**20.8**	767	21.0	775	20.8
429.mcf	2	**574**	**31.8**	574	31.8	573	31.8	2	**574**	**31.8**	574	31.8	573	31.8
445.gobmk	2	674	31.1	**673**	**31.2**	673	31.2	2	610	34.4	**607**	**34.6**	606	34.6
456.hmmer	2	**744**	**25.1**	744	25.1	744	25.1	2	**735**	**25.4**	735	25.4	735	25.4
458.sjeng	2	825	29.3	824	29.4	**825**	**29.3**	2	750	32.3	750	32.3	**750**	**32.3**
462.libquantum	2	**1841**	**22.5**	1841	22.5	1841	22.5	2	**1443**	**28.7**	1444	28.7	1442	28.7
464.h264ref	2	907	48.8	905	48.9	**906**	**48.8**	2	862	51.3	864	51.3	**863**	**51.3**
471.omnetpp	2	607	20.6	608	20.6	**607**	**20.6**	2	565	22.1	**565**	**22.1**	565	22.1
473.astar	2	681	20.6	**681**	**20.6**	681	20.6	2	**639**	**22.0**	639	22.0	639	22.0
483.xalancbmk	2	403	34.2	**404**	**34.2**	405	34.0	2	412	33.5	412	33.5	**412**	**33.5**

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

Operating System Notes

```
The start /b /wait /affinity command is used to bind CPU(s) to processes.
```

Platform Notes

```
BIOS configuration:
  Power Regulator set to Static High Performance Mode
  Adjacent Sector Prefetch Enabled
  Hardware Prefetcher Enabled
```

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
```

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 -Qansi-alias -Qprefetch /F512000000 shlw32m.lib -link /FORCE:MULTIPLE`

401.bzip2: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast /F512000000 shlw32m.lib -link /FORCE:MULTIPLE`

403.gcc: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast /F512000000 -link /FORCE:MULTIPLE`

429.mcf: `basepeak = yes`

Continued on next page

Peak Optimization Flags (Continued)

445.gobmk: -Qprof_gen(pass 1) -Qprof_use(pass 2) -QxT -O2 -Qipo -Qprec_div- -Qansi-alias /F512000000 -link /FORCE:MULTIPLE

456.hmmer: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Qansi-alias /F512000000 shlw32m.lib -link /FORCE:MULTIPLE

458.sjeng: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll4 /F512000000 shlw32m.lib -link /FORCE:MULTIPLE

462.libquantum: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll4 -Ob0 -Qprefetch -Qopt-streaming-stores:always /F512000000 shlw32m.lib -link /FORCE:MULTIPLE

464.h264ref: Same as 456.hmmer

C++ benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qansi-alias -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-ic10-flags.20090714.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.01.xml

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