SPEC® CINT2006 Result

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Hewlett-Packard Company

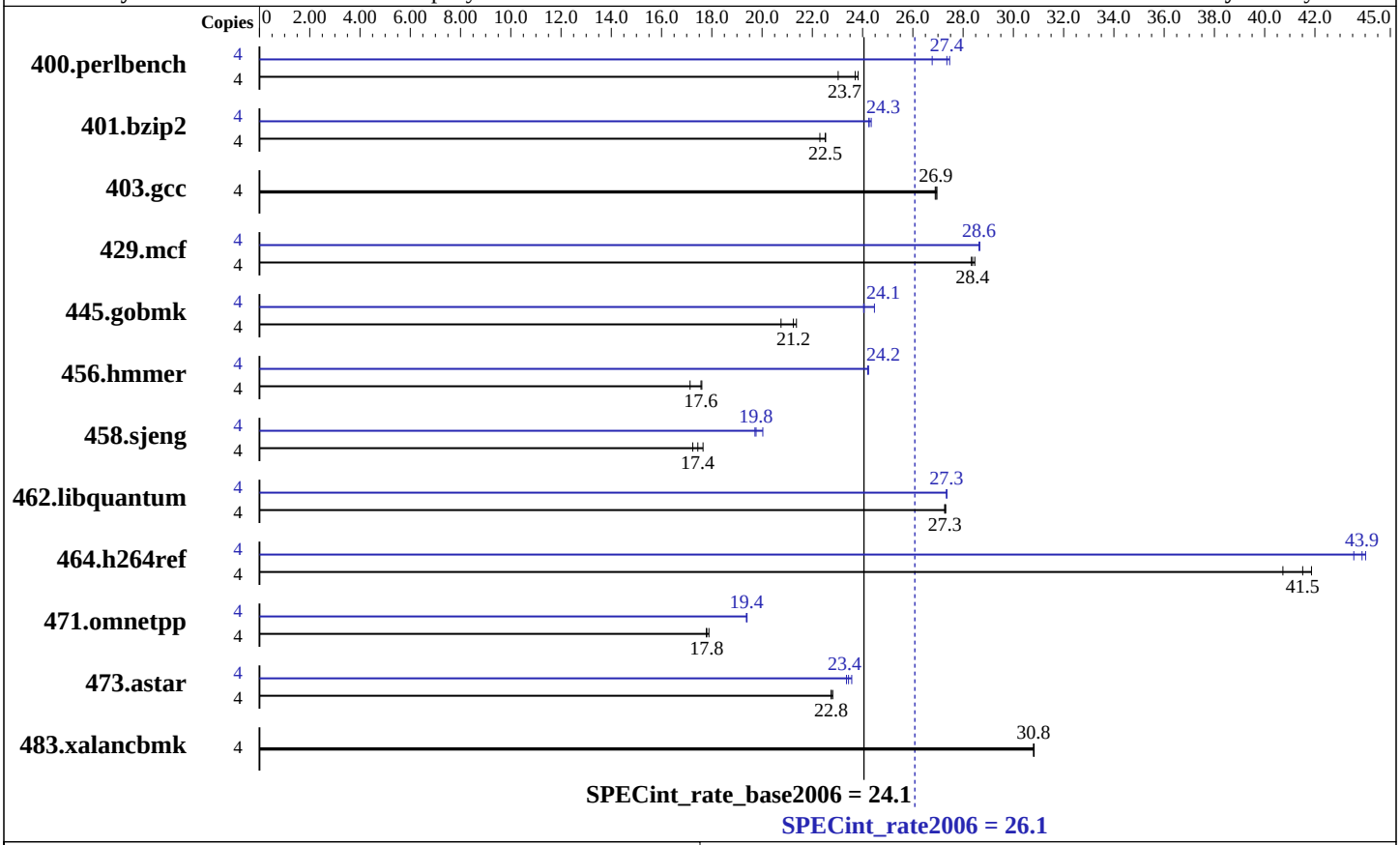
ProLiant DL580 G4
(3.4 GHz, Intel Xeon processor 7140M)

SPECint®_rate2006 = 26.1

SPECint_rate_base2006 = 24.1

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

Test date: Jul-2007
Hardware Availability: Aug-2006
Software Availability: May-2007



Hardware

CPU Name:	Intel Xeon 7140M
CPU Characteristics:	3.4 GHz, 800 MHz system bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-3200R)
Disk Subsystem:	1x72 GB 15 K SAS
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for IA32/EM64T applications, Version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel:	No
File System:	ext2
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap 8.1 libraries

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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	1641	23.8	1697	23.0	**1648**	**23.7**	4	**1429**	**27.4**	1460	26.8	1423	27.5
401.bzip2	4	1713	22.5	**1715**	**22.5**	1731	22.3	4	1592	24.3	1586	24.3	**1591**	**24.3**
403.gcc	4	**1196**	**26.9**	1197	26.9	1194	27.0	4	**1196**	**26.9**	1197	26.9	1194	27.0
429.mcf	4	1282	28.5	**1286**	**28.4**	1288	28.3	4	**1274**	**28.6**	1274	28.6	1273	28.7
445.gobmk	4	2022	20.8	1964	21.4	**1975**	**21.2**	4	1715	24.5	1745	24.0	**1744**	**24.1**
456.hmmer	4	2120	17.6	**2124**	**17.6**	2178	17.1	4	1540	24.2	1542	24.2	**1541**	**24.2**
458.sjeng	4	2807	17.2	**2775**	**17.4**	2742	17.7	4	2455	19.7	2416	20.0	**2449**	**19.8**
462.libquantum	4	**3038**	**27.3**	3040	27.3	3035	27.3	4	3031	27.3	**3031**	**27.3**	3031	27.3
464.h264ref	4	2174	40.7	**2132**	**41.5**	2115	41.9	4	2033	43.5	**2018**	**43.9**	2011	44.0
471.omnetpp	4	1398	17.9	**1405**	**17.8**	1406	17.8	4	**1290**	**19.4**	1289	19.4	1290	19.4
473.astar	4	**1234**	**22.8**	1231	22.8	1234	22.7	4	**1198**	**23.4**	1202	23.4	1191	23.6
483.xalancbmk	4	895	30.8	**896**	**30.8**	896	30.8	4	895	30.8	**896**	**30.8**	896	30.8

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

Platform Notes

```
BIOS configuration:
 Power Regulator Disabled
 Adjacent Sector Prefetch Enabled
 Hardware Prefetcher Enabled
 Hyper-Threading Technology Enabled
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

Continued on next page

Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xP -ipo -O3 -static -no-prec-div

C++ benchmarks:
-xP -ipo -O3 -no-prec-div -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/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -no-prec-div -ansi-alias -prefetch`

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -no-prec-div`

403.gcc: `basepeak = yes`

429.mcf: `-xP -ipo -O3 -static -no-prec-div -prefetch -L/cpu2006/SmartHeap_8.1/lib -lsmartheap`

445.gobmk: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -O2 -ipo -no-prec_div -ansi-alias`

456.hmmer: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -ansi-alias`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll4`

462.libquantum: `Same as 458.sjeng`

464.h264ref: `Same as 456.hmmer`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -O3 -ipo -no-prec_div -ansi-alias -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap`

473.astar: `Same as 471.omnetpp`

483.xalancbmk: `basepeak = yes`

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.20090714.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.03.xml`

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