SPEC® CINT2006 Result

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Hewlett-Packard Company

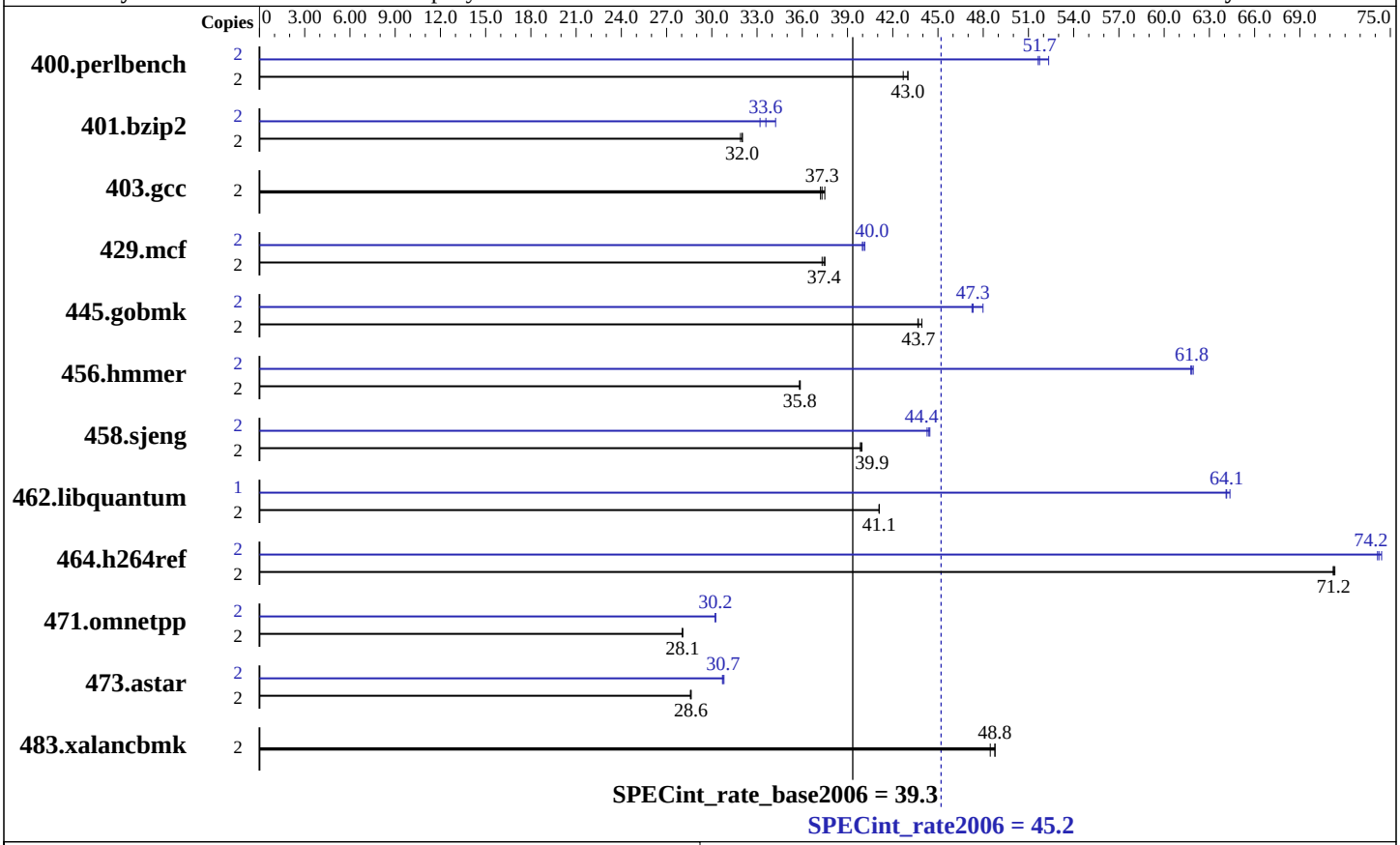
ProLiant DL160 G5
(3.4 GHz, Intel Xeon X5272)

SPECint®_rate2006 = 45.2

SPECint_rate_base2006 = 39.3

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

Test date: Jul-2008
Hardware Availability: May-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5272
CPU Characteristics:	3.4 GHz, 6 MB L2 shared, 1600 MHz system bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (8x4 GB PC2-6400F CL6)
Disk Subsystem:	1x250 GB 7.2 K SATA
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 8.1 binutils-2.17.50

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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	**454**	**43.0**	454	43.0	458	42.7	2	**378**	**51.7**	373	52.3	378	51.6
401.bzip2	2	603	32.0	**603**	**32.0**	605	31.9	2	564	34.2	**575**	**33.6**	581	33.2
403.gcc	2	433	37.2	**432**	**37.3**	429	37.5	2	433	37.2	**432**	**37.3**	429	37.5
429.mcf	2	486	37.5	489	37.3	**487**	**37.4**	2	456	40.0	**455**	**40.0**	454	40.1
445.gobmk	2	478	43.9	480	43.7	**480**	**43.7**	2	**443**	**47.3**	444	47.3	437	48.0
456.hmmer	2	520	35.9	**521**	**35.8**	521	35.8	2	301	61.9	**302**	**61.8**	302	61.8
458.sjeng	2	**607**	**39.9**	606	40.0	607	39.9	2	544	44.5	**545**	**44.4**	547	44.3
462.libquantum	2	1009	41.1	1008	41.1	**1008**	**41.1**	1	323	64.1	**323**	**64.1**	322	64.4
464.h264ref	2	**621**	**71.2**	621	71.3	622	71.2	2	**596**	**74.2**	595	74.4	597	74.2
471.omnetpp	2	**446**	**28.1**	446	28.0	445	28.1	2	414	30.2	**413**	**30.2**	413	30.2
473.astar	2	491	28.6	**491**	**28.6**	490	28.6	2	**457**	**30.7**	457	30.7	456	30.8
483.xalancbmk	2	285	48.5	**283**	**48.8**	283	48.8	2	285	48.5	**283**	**48.8**	283	48.8

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
 OMP_NUM_THREADS set to number of cores
 KMP_AFFINITY set to physical,0
 KMP_STACKSIZE set to 64M
```

Platform Notes

```
BIOS configuration:
  Power Regulator set to Static High Performance Mode
  Adjacent Sector Prefetch Disabled
```

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:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -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/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/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) `-fast -ansi-alias -prefetch`

401.bzip2: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -prefetch`

403.gcc: `basepeak = yes`

429.mcf: `-fast -prefetch`

445.gobmk: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O2 -ipo -no-prec-div -ansi-alias`

456.hmmer: `-fast -unroll2 -ansi-alias -opt-multi-version-aggressive`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4`

462.libquantum: `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap`

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-Intel-ic10.1-linux-int-flags.20090713.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090713.00.xml`

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