SPEC® CINT2006 Result

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SGI

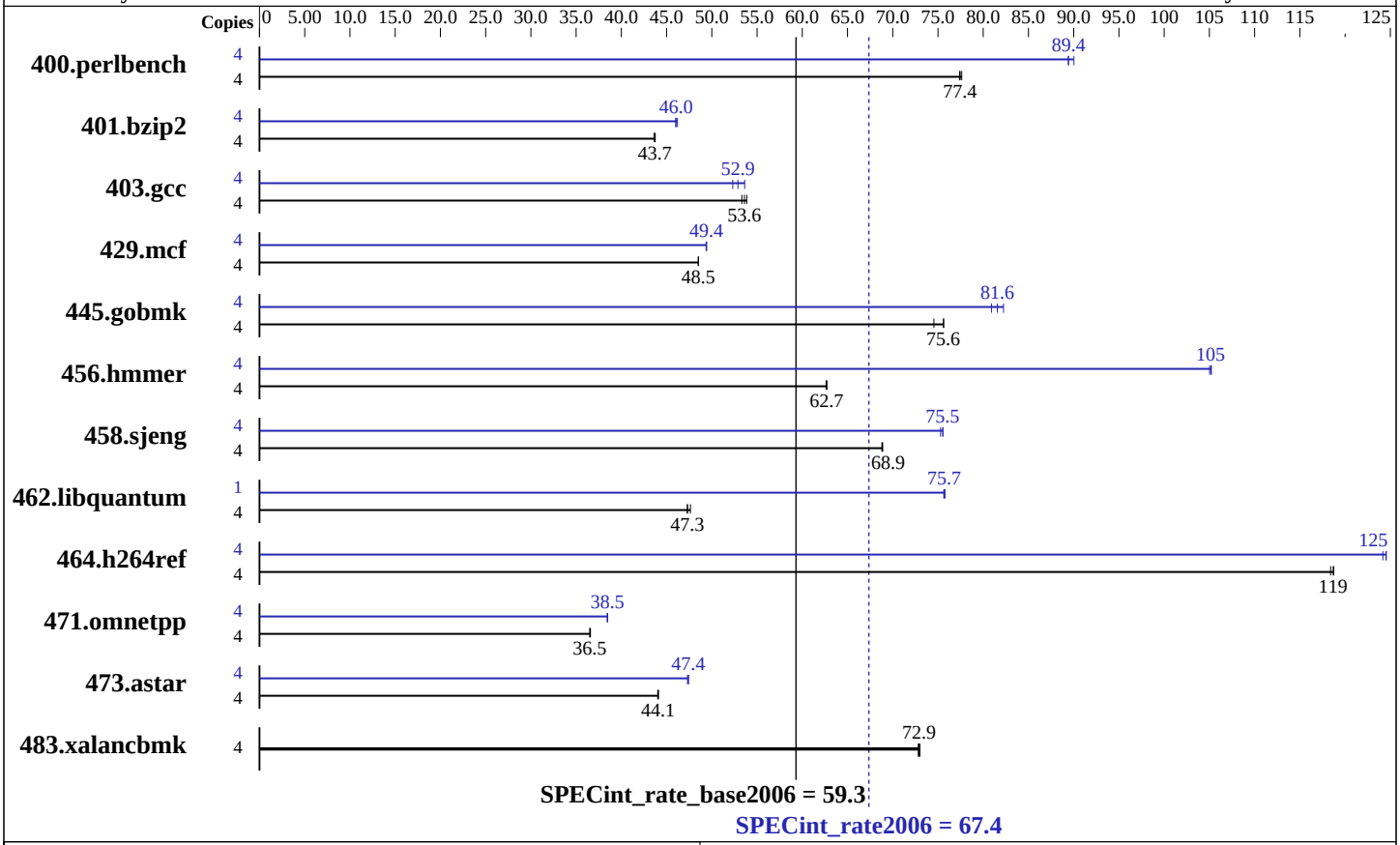
SGI Altix XE 210 (Intel Xeon Processor 5160, 3.0 GHz)

SPECint®_rate2006 = 67.4

SPECint_rate_base2006 = 59.3

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Sep-2007
Hardware Availability: Aug-2006
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon 5160
CPU Characteristics:	Dual Core, 3.0 GHz
CPU MHz:	2992
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
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:	8 GB (8*1GB PC2-5300 FB-DIMMs)
Disk Subsystem:	876 GB RAID 0 12 x 73 GB SAS (Seagate Cheetah 15000 rpm)
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 Kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64, Version 10.1, Build 20070824
Auto Parallel:	Yes
File System:	NFSv3
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SGI ProPack 5 for Linux MicroQuill SmartHeap Library 8 Binutils 2.17

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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	**505**	**77.4**	505	77.4	503	77.6	4	**437**	**89.4**	434	90.0	437	89.4
401.bzip2	4	882	43.7	**883**	**43.7**	885	43.6	4	839	46.0	835	46.2	**838**	**46.0**
403.gcc	4	598	53.9	**601**	**53.6**	604	53.3	4	600	53.6	**609**	**52.9**	616	52.3
429.mcf	4	752	48.5	**752**	**48.5**	752	48.5	4	739	49.4	738	49.4	**738**	**49.4**
445.gobmk	4	555	75.6	563	74.5	**555**	**75.6**	4	**514**	**81.6**	519	80.9	510	82.2
456.hmmer	4	**595**	**62.7**	596	62.6	595	62.7	4	355	105	**355**	**105**	355	105
458.sjeng	4	703	68.9	704	68.8	**703**	**68.9**	4	641	75.5	**641**	**75.5**	643	75.3
462.libquantum	4	**1752**	**47.3**	1752	47.3	1740	47.6	1	274	75.6	273	75.8	**274**	**75.7**
464.h264ref	4	745	119	748	118	**746**	**119**	4	713	124	711	125	**711**	**125**
471.omnetpp	4	685	36.5	**684**	**36.5**	683	36.6	4	**650**	**38.5**	650	38.4	650	38.5
473.astar	4	**637**	**44.1**	638	44.0	637	44.1	4	594	47.3	**592**	**47.4**	592	47.4
483.xalancbmk	4	378	73.0	**379**	**72.9**	379	72.8	4	378	73.0	**379**	**72.9**	379	72.8

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

General Notes

```
BIOS settings:
  Hardware Prefetcher:  enabled
  Adjacent Cacheline Prefetcher:  enabled
462.libquantum (peak) compiled with automatic parallelization
  and run with OMP_NUM_THREADS = 4
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
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 -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc`

401.bzip2: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include`

456.hmmer: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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`

Continued on next page

Peak Optimization Flags (Continued)

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

403.gcc: -fast -inline-calloc -opt-malloc-options=3

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 -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 -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/Intel-ic10-ia32-intel64-linux-flags.20090714.07.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.07.xml

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