SPEC® CINT2006 Result

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SGI

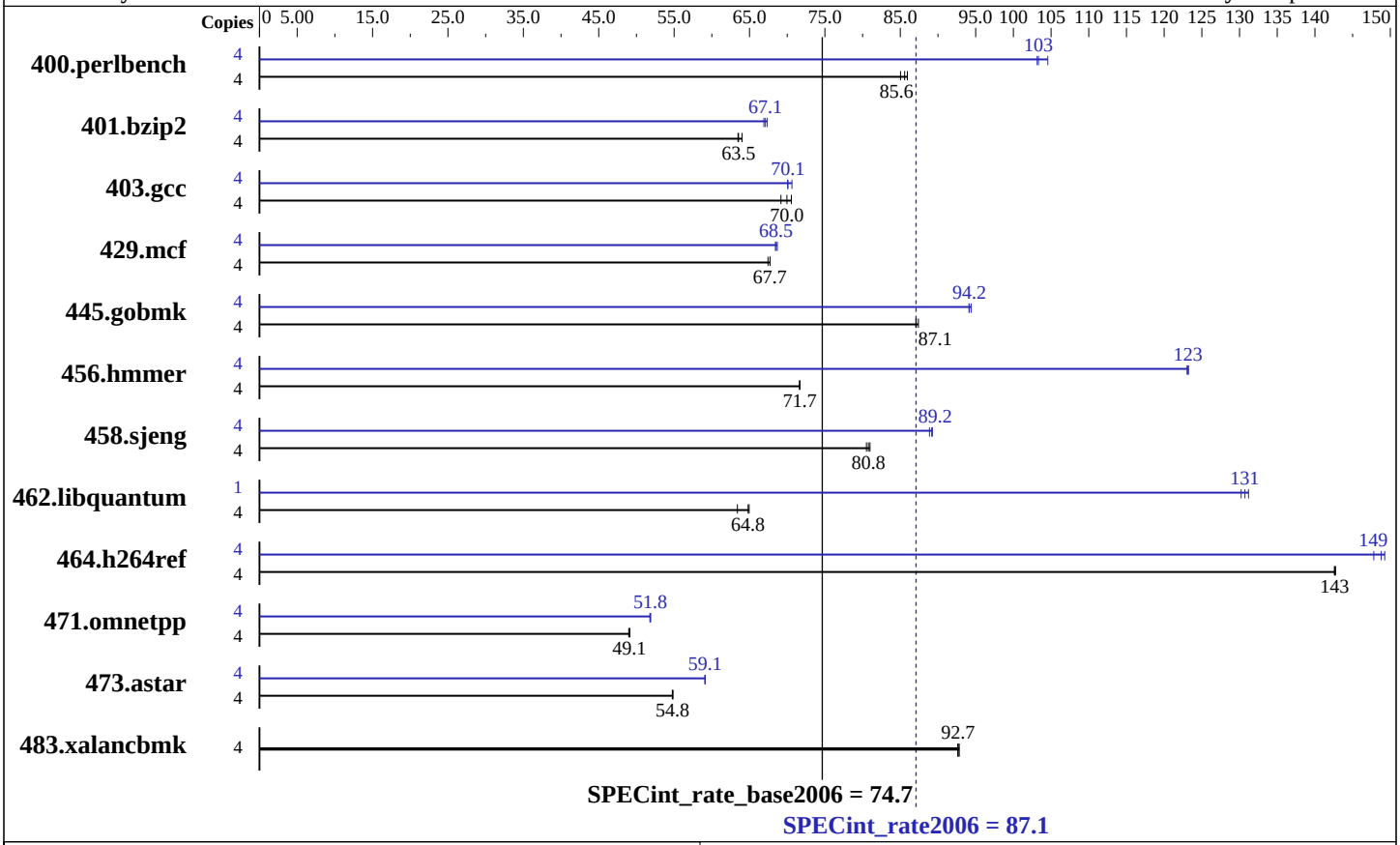
SGI Altix XE 250 (Intel Xeon X5272 3.4GHz)

SPECint®_rate2006 = 87.1

SPECint_rate_base2006 = 74.7

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

Test date: May-2008
Hardware Availability: Feb-2008
Software Availability: Apr-2008



Hardware

CPU Name:	Intel Xeon X5272
CPU Characteristics:	Dual Core, 3.4 GHz
CPU MHz:	3391
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:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4*2GB PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem:	1 x 300 GB SAS (Seagate Cheetah 15000rpm)
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++ and Fortran Compiler for Linux Version 10.1, Build 20070913
Auto Parallel:	Yes
File System:	xfs
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SGI ProPack 5 for Linux Service Pack 5 Binutils 2.17 SmartHeap library V8.1

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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	**457**	**85.6**	455	85.9	460	85.0	4	**378**	**103**	379	103	374	105
401.bzip2	4	608	63.5	**607**	**63.5**	603	64.0	4	573	67.4	577	66.9	**575**	**67.1**
403.gcc	4	**460**	**70.0**	466	69.2	456	70.6	4	456	70.6	460	70.1	**459**	**70.1**
429.mcf	4	**539**	**67.7**	539	67.7	541	67.5	4	533	68.4	531	68.7	**532**	**68.5**
445.gobmk	4	**482**	**87.1**	480	87.4	482	87.1	4	444	94.4	**446**	**94.2**	446	94.1
456.hmmer	4	521	71.6	**521**	**71.7**	521	71.7	4	303	123	**303**	**123**	303	123
458.sjeng	4	**599**	**80.8**	598	81.0	601	80.5	4	545	88.9	**543**	**89.2**	542	89.3
462.libquantum	4	1307	63.4	1276	65.0	**1279**	**64.8**	1	**159**	**131**	159	130	158	131
464.h264ref	4	620	143	**621**	**143**	621	143	4	**595**	**149**	593	149	599	148
471.omnetpp	4	510	49.0	**509**	**49.1**	509	49.1	4	**482**	**51.8**	483	51.8	482	51.9
473.astar	4	512	54.8	513	54.8	**512**	**54.8**	4	475	59.1	475	59.1	**475**	**59.1**
483.xalancbmk	4	297	92.8	298	92.6	**298**	**92.7**	4	297	92.8	298	92.6	**298**	**92.7**

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

General Notes

```
BIOS settings:
  Snoop Filter:             Enabled
  Hardware Prefetcher:      Enabled
  Adjacent Sector Prefetch: Enabled
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
The taskset utility was used to bind processes to cores
Parallel settings for 462.libquantum peak:
  OMP_NUM_THREADS = 4
  KMP_AFFINITY = physical,0
  KMP_STACKSIZE = 64M
```

Base Compiler Invocation

C benchmarks:

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

C++ benchmarks:

```
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

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):
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

401.bzip2: /sw/sdev/intel-cc/x86_64/10.1.008/bin/icc
-L/sw/sdev/intel-cc/x86_64/10.1.008/lib
-I/sw/sdev/intel-cc/x86_64/10.1.008/include

456.hmmer: /sw/sdev/intel-cc/x86_64/10.1.008/bin/icc
-L/sw/sdev/intel-cc/x86_64/10.1.008/lib
-I/sw/sdev/intel-cc/x86_64/10.1.008/include

C++ benchmarks:
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

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: `-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:

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Peak Other Flags (Continued)

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.20090714.04.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.20090714.04.xml`

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