SPEC® CINT2006 Result

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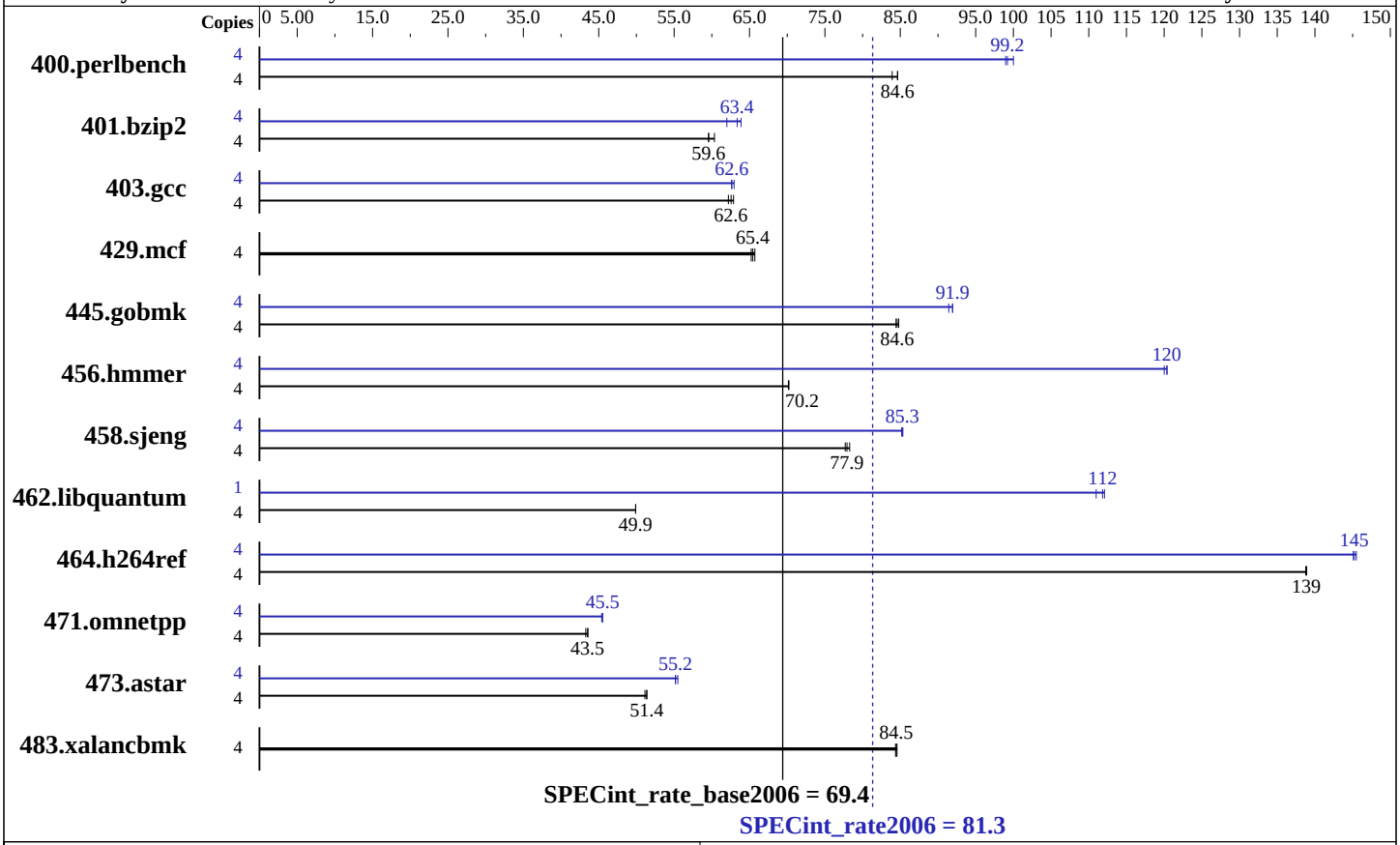
Sun Microsystems
Sun Fire X4150

SPECint®_rate2006 = 81.3

SPECint_rate_base2006 = 69.4

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Dec-2007
Hardware Availability: Feb-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5260
CPU Characteristics:	3.33 GHz, 6 MB L2 shared, 1333 MHz system bus
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 (order by number of 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:	16 GB (8x2GB DDR2 PC2-5300F 2rank CAS 5-5-5 with ECC)
Disk Subsystem:	SAS, 72 GB, 10K RPM
Other Hardware:	None

Software

Operating System:	SUSE LINUX Enterprise Server 10 SP1 for x86_64
Compiler:	Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap library V8.1 Binutils 2.17.50.0.15

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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	466	83.9	462	84.7	**462**	**84.6**	4	395	99.0	391	100	**394**	**99.2**
401.bzip2	4	648	59.6	**648**	**59.6**	640	60.3	4	604	63.9	**609**	**63.4**	623	62.0
403.gcc	4	512	62.9	**515**	**62.6**	518	62.2	4	**514**	**62.6**	514	62.6	511	63.0
429.mcf	4	555	65.7	559	65.2	**557**	**65.4**	4	555	65.7	559	65.2	**557**	**65.4**
445.gobmk	4	495	84.8	**496**	**84.6**	497	84.4	4	459	91.4	456	91.9	**456**	**91.9**
456.hmmer	4	**532**	**70.2**	531	70.2	532	70.2	4	310	120	**310**	**120**	311	120
458.sjeng	4	618	78.3	623	77.7	**621**	**77.9**	4	567	85.3	**568**	**85.3**	568	85.2
462.libquantum	4	**1661**	**49.9**	1661	49.9	1661	49.9	1	**185**	**112**	187	111	185	112
464.h264ref	4	638	139	637	139	**637**	**139**	4	610	145	**609**	**145**	608	145
471.omnetpp	4	574	43.6	**574**	**43.5**	578	43.3	4	**549**	**45.5**	549	45.5	551	45.4
473.astar	4	**547**	**51.4**	549	51.1	547	51.4	4	**509**	**55.2**	506	55.5	509	55.2
483.xalancbmk	4	**327**	**84.5**	327	84.4	326	84.6	4	**327**	**84.5**	327	84.4	326	84.6

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
OMP_NUM_THREADS set to 4
KMP_STACKSIZE set to 64M
KMP_AFFINITY set to physical,0
```

Platform Notes

```
BIOS configuration:
Hardware Prefetch = Disable; Adjacent Sector Prefetch = Disable
```

General Notes

```
All benchmarks were compiled in 32-bit mode except 401.bzip2
and 456.hmmer for peak were compiled in 64-bit mode
```

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`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -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`

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

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: -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include
-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

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

429.mcf: basepeak = yes

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

456.hmmer: -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include
-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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/Intel-ic10-ia32-intel64-linux-flags.20090714.24.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.20090714.24.xml

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