SPEC® CINT2006 Result

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Sun Microsystems

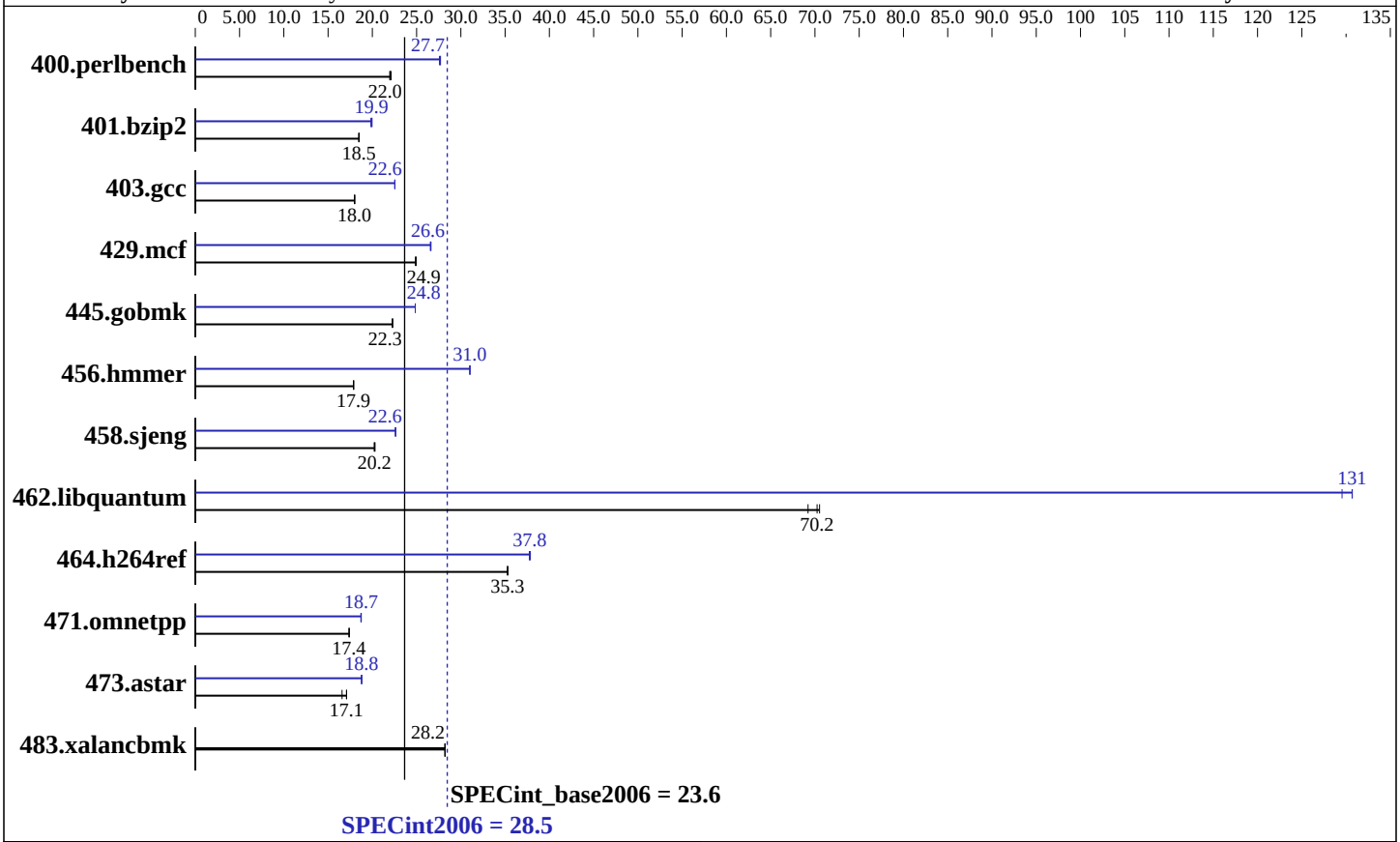
Sun Fire X2250 (Intel Xeon X5272 3.4GHz)

SPECint®2006 = 28.5

SPECint_base2006 = 23.6

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

Test date: Aug-2008
Hardware Availability: Aug-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5272
CPU Characteristics:	
CPU MHz:	3400
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:	16 GB (4*4GB Dual-rank PC2-6400 CL5-5-5 FB-DIMMs)
Disk Subsystem:	SATA, 500 GB, 7200 RPM
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 Linux32 and Linux64 version 10.1 Build 20070913
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 8.1 32-bit Library for Linux Binutils 2.17.10.50

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	445	22.0	442	22.1	**444**	**22.0**	354	27.6	353	27.7	**353**	**27.7**
401.bzip2	521	18.5	523	18.5	**522**	**18.5**	**485**	**19.9**	487	19.8	483	20.0
403.gcc	**447**	**18.0**	448	18.0	447	18.0	**357**	**22.6**	357	22.6	357	22.5
429.mcf	**366**	**24.9**	366	24.9	367	24.9	343	26.6	**343**	**26.6**	343	26.6
445.gobmk	471	22.3	471	22.3	**471**	**22.3**	422	24.8	422	24.8	**422**	**24.8**
456.hmmer	521	17.9	**522**	**17.9**	522	17.9	301	31.0	**301**	**31.0**	301	31.0
458.sjeng	596	20.3	598	20.2	**598**	**20.2**	536	22.6	535	22.6	**535**	**22.6**
462.libquantum	294	70.5	299	69.2	**295**	**70.2**	160	130	**159**	**131**	159	131
464.h264ref	627	35.3	628	35.3	**627**	**35.3**	**586**	**37.8**	586	37.7	585	37.9
471.omnetpp	359	17.4	**360**	**17.4**	360	17.4	333	18.8	334	18.7	**334**	**18.7**
473.astar	411	17.1	423	16.6	**411**	**17.1**	373	18.8	**374**	**18.8**	374	18.8
483.xalancbmk	244	28.2	**245**	**28.2**	245	28.2	244	28.2	**245**	**28.2**	245	28.2

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

Compiler Invocation Notes

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
```

Platform Notes

```
BIOS configuration :
Hardware Prefetch : Enabled; Adjacent Sector Prefetch : Enabled
```

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 -vec-guard-write -parallel -par-runtime-control`

C++ benchmarks:
`-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs`
`-L/data1/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`

462.libquantum: `/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 -auto-ilp32

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 -auto-ilp32

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/data1/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/data1/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/Intel-ic10-ia32-intel64-linux-flags.20090714.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.xml`

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