SPEC® CINT2006 Result

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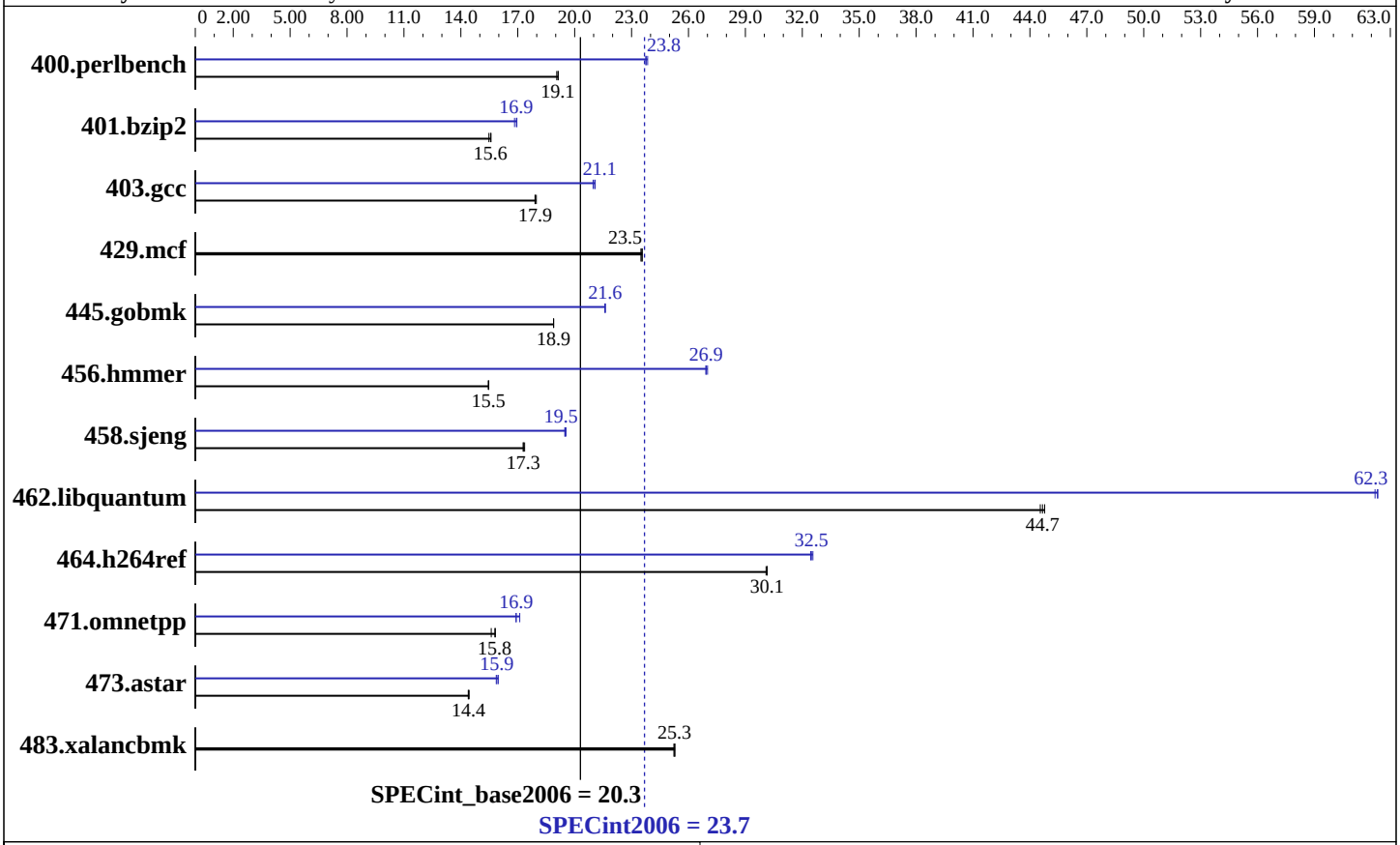
Sun Microsystems
Sun Ultra 24

SPECint®2006 = 23.7

SPECint_base2006 = 20.3

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

Test date: Dec-2007
Hardware Availability: Oct-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Extreme QX6850
CPU Characteristics:	3.00 GHz 1333 MHz FSB
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 (order by number of chips)
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2GB DDR2 PC2-5300 2rank CAS 5-5-5 with ECC)
Disk Subsystem:	SATA, 250 GB, 7200 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 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 library V8.1 Binutils 2.17.50.0.15

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	513	19.1	**511**	**19.1**	511	19.1	**411**	**23.8**	411	23.7	410	23.8
401.bzip2	623	15.5	**620**	**15.6**	619	15.6	569	17.0	573	16.8	**570**	**16.9**
403.gcc	448	18.0	**449**	**17.9**	449	17.9	**382**	**21.1**	382	21.1	384	21.0
429.mcf	387	23.6	388	23.5	**387**	**23.5**	387	23.6	388	23.5	**387**	**23.5**
445.gobmk	555	18.9	555	18.9	**555**	**18.9**	**485**	**21.6**	485	21.6	486	21.6
456.hmmer	603	15.5	604	15.4	**604**	**15.5**	345	27.0	**346**	**26.9**	347	26.9
458.sjeng	**700**	**17.3**	697	17.4	700	17.3	621	19.5	**621**	**19.5**	619	19.5
462.libquantum	465	44.5	463	44.8	**464**	**44.7**	**332**	**62.3**	332	62.3	333	62.2
464.h264ref	**734**	**30.1**	735	30.1	734	30.1	680	32.6	682	32.4	**681**	**32.5**
471.omnetpp	395	15.8	**396**	**15.8**	401	15.6	**369**	**16.9**	365	17.1	370	16.9
473.astar	488	14.4	**487**	**14.4**	486	14.4	442	15.9	439	16.0	**441**	**15.9**
483.xalancbmk	273	25.3	273	25.2	**273**	**25.3**	273	25.3	273	25.2	**273**	**25.3**

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_AFFINITY set to physical,0
```

Platform Notes

```
Default BIOS configurations were used.
```

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

C++ benchmarks:
`-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs`
`-L/data1/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: `/opt/intel/cce/10.1.008-64bit/bin/icc`
`-L/opt/intel/cce/10.1.008-64bit/lib`
`-I/opt/intel/cce/10.1.008-64bit/include`

456.hmmer: `/opt/intel/cce/10.1.008-64bit/bin/icc`
`-L/opt/intel/cce/10.1.008-64bit/lib`
`-I/opt/intel/cce/10.1.008-64bit/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`

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Peak Portability Flags (Continued)

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: basepeak = yes

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/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/data1/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.20090714.27.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.20090714.27.xml`

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