SPEC® CINT2006 Result

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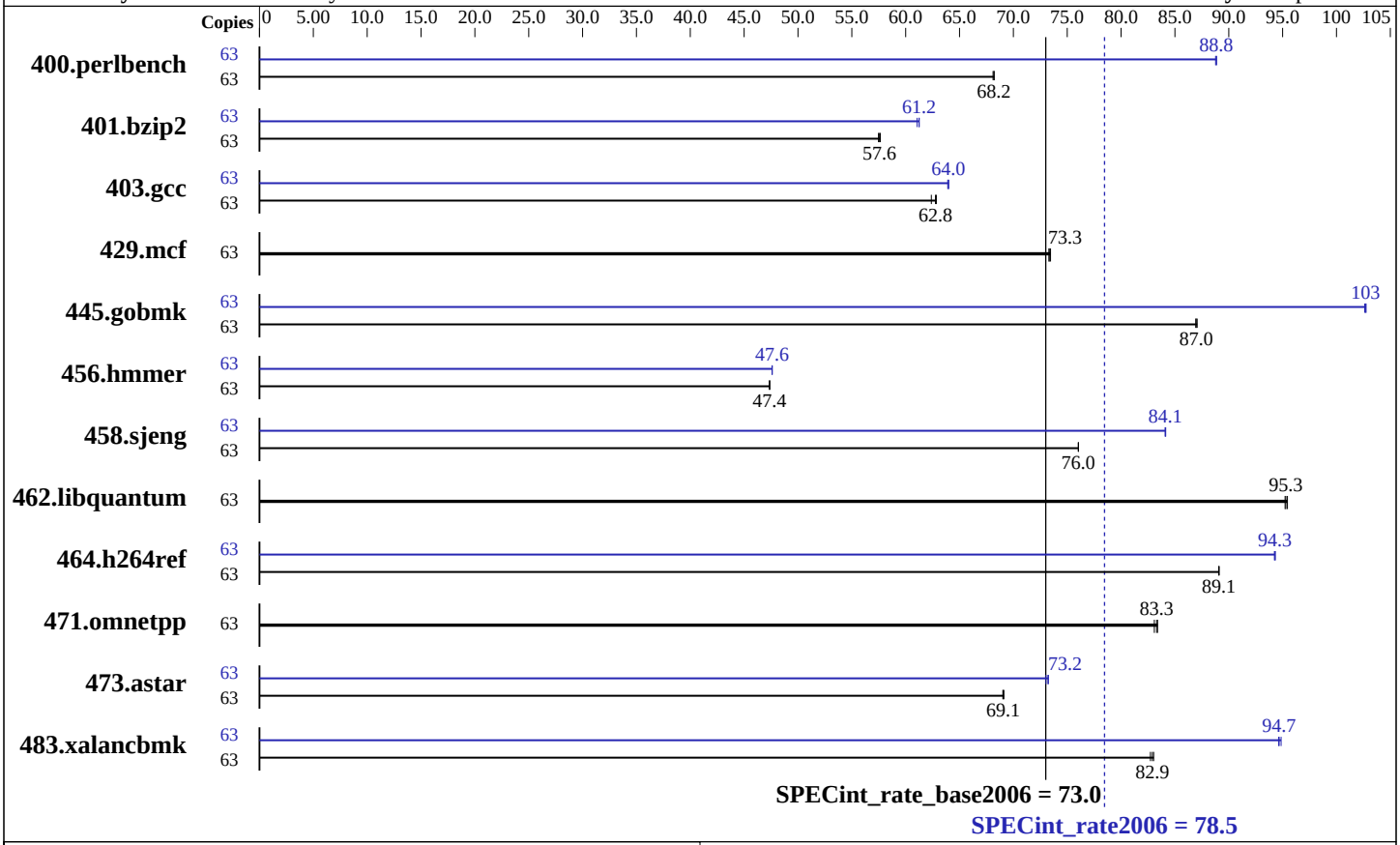
Sun Microsystems
Sun SPARC Enterprise T5220

SPECint®_rate2006 = 78.5

SPECint_rate_base2006 = 73.0

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

Test date: Sep-2007
Hardware Availability: Oct-2007
Software Availability: Sep-2007



Hardware

CPU Name:	UltraSPARC T2
CPU Characteristics:	
CPU MHz:	1417
FPU:	Integrated
CPU(s) enabled:	8 cores, 1 chip, 8 cores/chip, 8 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	16 KB I + 8 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	64 GB (16 x 4 GB)
Disk Subsystem:	275 GB Solaris Volume Manager RAID 0, interlace 384KB, on 5 x SUN72G 10K RPM SAS disks; ufs fragment size 8192 bytes
Other Hardware:	None

Software

Operating System:	Solaris 10 8/07 (build s10s_u4wos_12b)
Compiler:	Sun Studio 12 (patch build 2007/08/30)
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

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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	63	**9026**	**68.2**	9023	68.2	9037	68.1	63	**6929**	**88.8**	6926	88.9	6933	88.8
401.bzip2	63	10578	57.5	10546	57.6	**10561**	**57.6**	63	9956	61.1	9925	61.3	**9927**	**61.2**
403.gcc	63	8070	62.8	**8080**	**62.8**	8130	62.4	63	**7929**	**64.0**	7936	63.9	7925	64.0
429.mcf	63	**7835**	**73.3**	7823	73.4	7838	73.3	63	**7835**	**73.3**	7823	73.4	7838	73.3
445.gobmk	63	**7598**	**87.0**	7602	86.9	7591	87.1	63	6440	103	6432	103	**6433**	**103**
456.hmmer	63	12412	47.4	12409	47.4	**12409**	**47.4**	63	**12348**	**47.6**	12350	47.6	12348	47.6
458.sjeng	63	10025	76.0	**10026**	**76.0**	10026	76.0	63	9059	84.1	9065	84.1	**9063**	**84.1**
462.libquantum	63	**13697**	**95.3**	13708	95.2	13676	95.4	63	**13697**	**95.3**	13708	95.2	13676	95.4
464.h264ref	63	15647	89.1	**15650**	**89.1**	15655	89.1	63	14794	94.2	**14786**	**94.3**	14782	94.3
471.omnetpp	63	4739	83.1	4722	83.4	**4727**	**83.3**	63	4739	83.1	4722	83.4	**4727**	**83.3**
473.astar	63	6399	69.1	**6403**	**69.1**	6407	69.0	63	6037	73.3	**6041**	**73.2**	6056	73.0
483.xalancbmk	63	5255	82.7	**5243**	**82.9**	5236	83.0	63	**4591**	**94.7**	4594	94.6	4583	94.9

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

Compiler Invocation Notes

```
Compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12_patches.jsp
```

Operating System Notes

```
Processes were bound to cores using "submit" and "pbind".

ulimit -s 131072 was used to limit the space
consumed by the stack (and therefore make more
space available to the heap).

 /etc/system parameters
    autoup=600
       Causes pages older than the listed number of seconds to
       be written by fsflush.
    tune_t_fsflushr=10
       Controls how many seconds elapse between runs of the
       page flush daemon, fsflush.

 The "webconsole" service was turned off using
     svcadm disable webconsole
```

Platform Notes

```
This result was measured on a Sun SPARC Enterprise
T5220.  All of these are electronically equivalent:
  - Sun SPARC Enterprise T5120
  - Sun SPARC Enterprise T5220
  - Fujitsu SPARC Enterprise T5120
  - Fujitsu SPARC Enterprise T5220
```

Base Compiler Invocation

C benchmarks:
```
cc
```

C++ benchmarks:
```
CC
```

Base Portability Flags

400.perlbench: `-DSPEC_CPU_SOLARIS_SPARC`
403.gcc: `-DSPEC_CPU_SOLARIS`
462.libquantum: `-DSPEC_CPU_SOLARIS`
483.xalancbmk: `-DSPEC_CPU_SOLARIS`

Base Optimization Flags

C benchmarks:
```
-g -fast -xipo=2 -xpagesize=4M -xprefetch_level=2 -xalias_level=std
```

C++ benchmarks:
```
-g0 -library=stlport4 -fast -xipo=2 -xpagesize=4M -xdepend
-xprefetch_level=1 -xalias_level=compatible
```

Base Other Flags

C benchmarks:
```
-xjobs=32 -V
```

C++ benchmarks:
```
-xjobs=32 -verbose=diags,version
```

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -xipo=2 -Xc -xrestrict -lfast

401.bzip2: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=strong

403.gcc: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -xprefetch_level=2

429.mcf: basepeak = yes

445.gobmk: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -xrestrict

456.hmmer: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2

458.sjeng: Same as 456.hmmer

462.libquantum: basepeak = yes

464.h264ref: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std

Continued on next page

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: `basepeak = yes`

473.astar: `-g0 -library=stlport4 -xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -xpagesize_heap=4M -xpagesize_stack=64K -xdepend -xalias_level=compatible -xipo=2 -xarch=v8plusb -lfast -lbsdmalloc`

483.xalancbmk: `-g0 -library=stlport4 -fast -xpagesize=4M -xdepend -xalias_level=compatible -xipo=2 -xprefetch_level=2 -lfast`

Peak Other Flags

C benchmarks:
`-xjobs=32 -V`

C++ benchmarks:
`-xjobs=32 -verbose=diags,version`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.xml`

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For other inquiries, please contact webmaster@spec.org.

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