



SPEC® CINT2006 Result

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Sun Microsystems

SPECint®_rate2006 = 78.0

SPARC Enterprise T5220 (gccfss)

SPECint_rate_base2006 = 71.6

CPU2006 license: 6

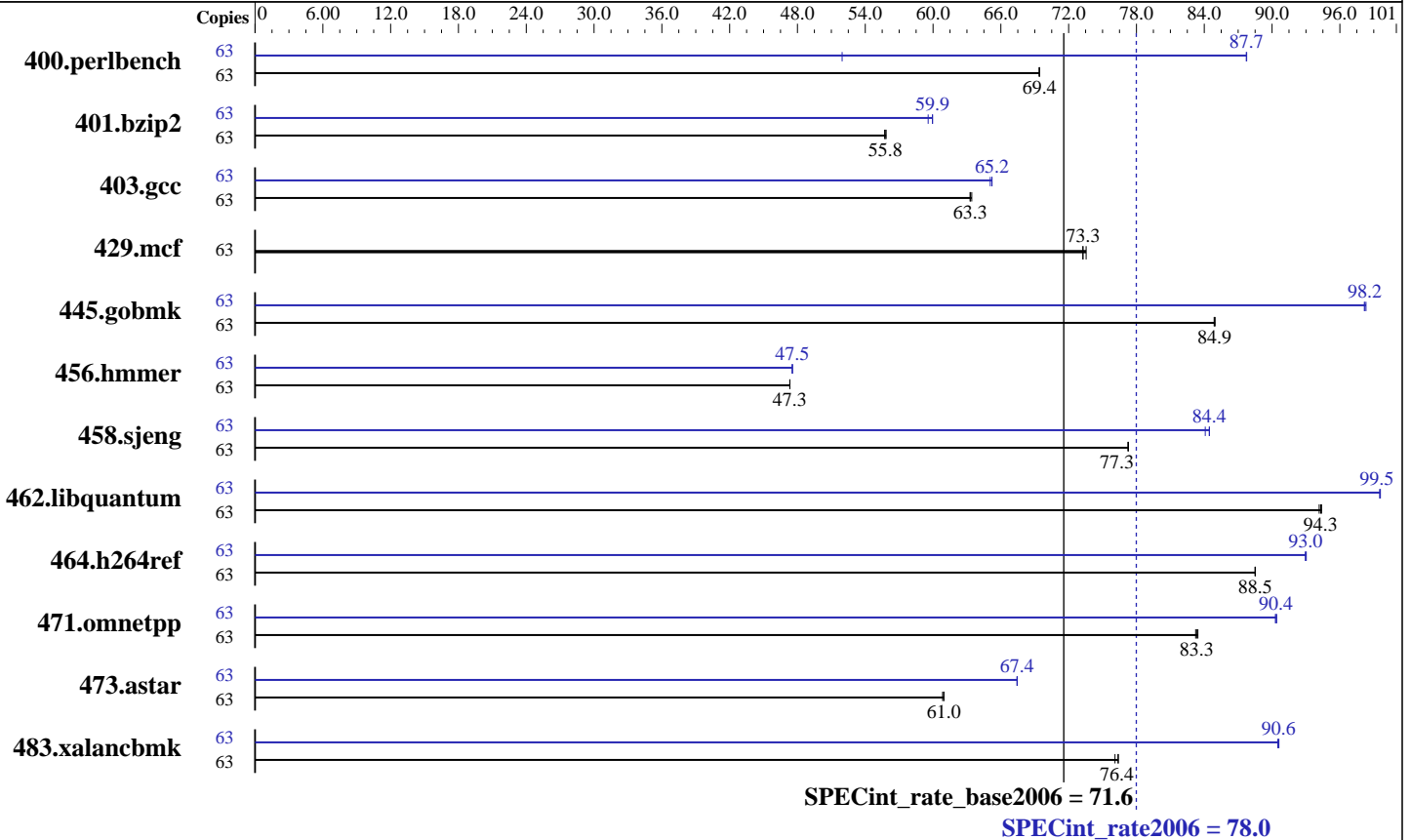
Test date: Sep-2007

Test sponsor: Sun Microsystems

Hardware Availability: Oct-2007

Tested by: Sun Microsystems

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
 Disk Subsystem: 100 GB Solaris Volume Manager
 RAID 0, interlace 384KB, on
 2 x SUN72G 10K RPM SAS
 ufs fragment size 8192 bytes
 Other Hardware: None

Software

Operating System: Solaris 10 8/07 (build s10s_u4wos_12b)
 Compiler: gccfss V4.0.4
 (see detail below)
 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	8870	69.4	8867	69.4	8866	69.4	63	7017	87.7	7014	87.8	11847	52.0
401.bzip2	63	10886	55.8	10901	55.8	10912	55.7	63	10140	60.0	10141	59.9	10206	59.6
403.gcc	63	8014	63.3	7996	63.4	8013	63.3	63	7777	65.2	7795	65.1	7777	65.2
429.mcf	63	7812	73.5	7842	73.3	7842	73.3	63	7812	73.5	7842	73.3	7842	73.3
445.gobmk	63	7786	84.9	7779	85.0	7782	84.9	63	6732	98.2	6729	98.2	6722	98.3
456.hammer	63	12418	47.3	12421	47.3	12418	47.3	63	12362	47.5	12362	47.5	12361	47.6
458.sjeng	63	9863	77.3	9866	77.3	9867	77.3	63	9026	84.5	9027	84.4	9065	84.1
462.libquantum	63	13862	94.2	13842	94.3	13830	94.4	63	13107	99.6	13115	99.5	13114	99.5
464.h264ref	63	15754	88.5	15752	88.5	15751	88.5	63	15000	92.9	14995	93.0	14987	93.0
471.omnetpp	63	4730	83.2	4725	83.3	4719	83.4	63	4361	90.3	4355	90.4	4358	90.4
473.astar	63	7256	61.0	7268	60.8	7256	61.0	63	6559	67.4	6556	67.5	6557	67.4
483.xalancbmk	63	5690	76.4	5712	76.1	5692	76.4	63	4803	90.5	4798	90.6	4799	90.6

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

Compiler Invocation Notes

The compiler is gccfss, "GCC for SPARC Systems", which combines gcc with the Sun Code Generator for SPARC systems. It is invoked as "gcc", and accepts source code compatible with GCC 4.0. For more information, including support, see <http://cooltools.sunsource.net/gcc/>

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`



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Base Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Base Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_NEED_COMPLEX_I
483.xalancbmk: -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -xpagesize=4M -xprefetch_level=2

C++ benchmarks:
-fast -xipo=2 -xpagesize=4M -xprefetch_level=2

Peak Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_NEED_COMPLEX_I
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:
400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=4M -xprefetch_level=2 -xalias_level=std

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Peak Optimization Flags (Continued)

400.perlbench (continued):

-xrestrict -lfast

401.bzip2: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M -xalias_level=strong

403.gcc: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M -xalias_level=std

429.mcf: basepeak = yes

445.gobmk: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M

456.hmmmer: Same as 403.gcc

458.sjeng: Same as 445.gobmk

462.libquantum: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xtarget=ultra3cu -xarch=v8plusb -xpagesize=4M

-xprefetch_level=2

464.h264ref: Same as 403.gcc

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M -xalias_level=std

473.astar: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M -xalias_level=std -lfast

483.xalancbmk: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=4M -lfast

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss.20090714.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss.20090714.xml>



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