CINT2000 Result

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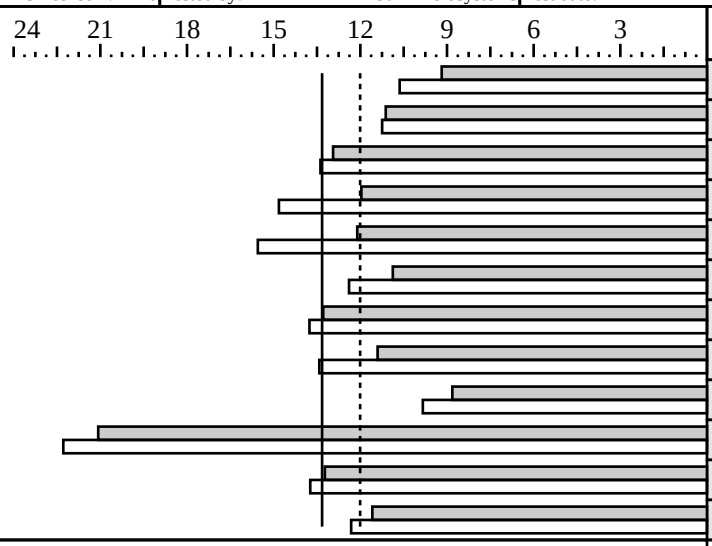
Sun Microsystems
Sun Fire V490 (1 processor)

SPECint_rate2000 = 13.3

SPECint_rate_base2000 = 12.0

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Sep-2004 | Hardware Avail: Sep-2004 | Software Avail: Jul-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	354	9.18	2	305	10.6
175.vpr	2	292	11.1	2	289	11.2
176.gcc	2	197	12.9	2	191	13.4
181.mcf	2	349	12.0	2	282	14.8
186.crafty	2	192	12.1	2	149	15.5
197.parser	2	384	10.9	2	337	12.4
252.eon	2	227	13.3	2	219	13.8
253.perlbmk	2	366	11.4	2	311	13.4
254.gap	2	290	8.82	2	259	9.84
255.vortex	2	209	21.1	2	198	22.3
256.bzip2	2	263	13.2	2	253	13.7
300.twolf	2	601	11.6	2	565	12.3

Hardware

CPU:	UltraSPARC IV
CPU MHz:	1050
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	2,4 (order by # of chips)
Parallel:	No
Primary Cache:	32KBI+64KBD per core on chip (64KBI+128KBD on chip)
Secondary Cache:	8MB(I+D) per core off chip (16MB(I+D) off chip)
L3 Cache:	None
Other Cache:	None
Memory:	8GB 4-way interleaved
Disk Subsystem:	1 x 73GB
Other Hardware:	None

Software

Operating System:	Solaris 9 4/04 with patch 116561-03, 112233-12
Compiler:	Sun Studio 9
File System:	ufs with ufs logging
System State:	Multi-User

Notes/Tuning Information

```
Compiler invocation:
  C: cc
  CXX: CC


Integer base flags:
     -fast -xipo=2 with ONESTEP=yes and feedback

Integer peak flags:
 ONESTEP=yes and feedback for all benchmarks

 164.gzip:    -xO4  -xbuiltin=%all -xtarget=native -xalias_level=std
              -xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=30,
              -Qeps:do_spec_load=1
 175.vpr:     -fast -xalias_level=std -xipo=2
              -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
              -Qeps:do_spec_load=1 -lmopt -lm
 176.gcc:     -fast -xipo=2 -ll2amm
 181.mcf:     -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1
 186.crafty:  -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
```

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Notes/Tuning Information (Continued)

```
                Feedback adds -xlinkopt in PASS2
 197.parser:    -fast -xipo=2 -xalias_level=strong
                -Wc,-Qgsched-T6,-Qipa:valueprediction
 252.eon:       -fast -xipo=2  -noex
                -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
 253.perlbmk:   -xO5 -xtarget=native  -xmemalign=4s -xipo -Wc,-Qeps:enabled=1
                -Qeps:ws=8, -xalias_level=std -xsafe=mem -Wc,
                -Qiselect-funcalign=32 -Qicache-chbab=1, -Wc,
                -Qiselect-sw_pf_tbl_th=20,-Qeps:do_spec_load=1 -xprefetch=no
 254.gap:       -fast -xipo=2 -xalias_level=strong -xvector
                -xprefetch_level=3 -W2,-Abcopy
 255.vortex:    -fast -xrestrict -xipo=2
                -W2,-crit,-Ainline:recursion=1:cs=500:irs=6000
                -Wc,-Qeps:enabled=1,-Qdepgraph-early_cross_call=1,
                -Qiselect-funcalign=32,-Qpeep-Sh0 -ll2amm
 256.bzip2:     -fast -xipo -xalias_level=strong -xrestrict
                -Wc,-Qeps:enabled=1 -xsafe=mem -Qeps:rp_filtering_margin=99
 300.twolf:     -fast -xalias_level=strong -xsafe=mem -xipo=2
                -xprefetch=no%auto -Wc,-Qms_pipe+intdivusefp

Feedback is done as follows, unless otherwise noted:
 fdo_pre0:  rm -rf ./feedback.profile ./SunWS_cache
 PASS1:     -xprofile=collect:./feedback
 PASS2:     -xprofile=use:./feedback

Portability:
 176.gcc:     -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
 186.crafty:  -DSUN
 252.eon:     -library=iostream
 253.perlbmk: -DSPEC_CPU2000_SOLARIS
 254.gap:     -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO
              -DSYS_HAS_CALLOC_PROTO -DSYS_HAS_IOCTL_PROTO

Shell Environments:
  Stack size set to unlimited via "ulimit -s unlimited"
  MPSSHEAP=512K
  MPSSSTACK=512K
  LD_PRELOAD=mpss.so.1

Kernel Parameters (/etc/system):
 autoup=900
 tune_t_fsflushr=1
2nd chip disabled at boot time by using /etc/system
parameter "cpu_bringup_set"
```