CINT2000 Result

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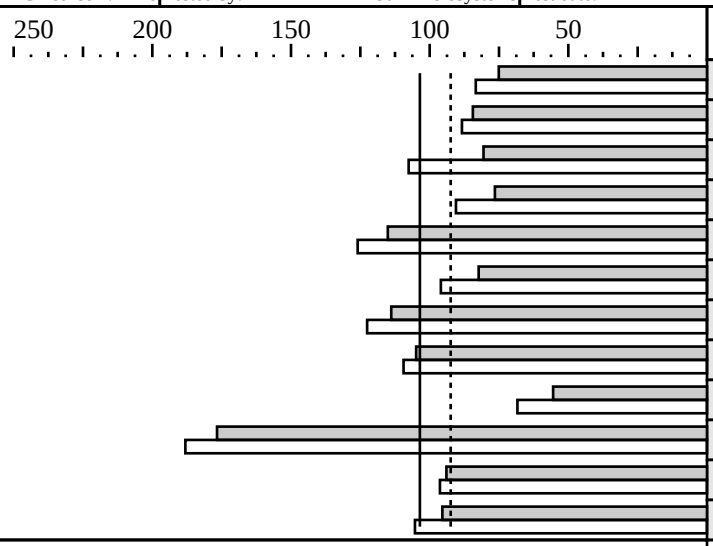
Sun Microsystems
Sun Fire V490 (4 processor)

SPECint_rate2000 = 104

SPECint_rate_base2000 = 92.4

SPEC license #: 6 | Tested by: Sun Microsystems | Test date: Jun-2006 | Hardware Avail: Aug-2006 | Software Avail: Jan-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	173	75.1	8	156	83.4
175.vpr	8	154	84.4	8	147	88.4
176.gcc	8	127	80.6	8	94.9	108
181.mcf	8	218	76.5	8	185	90.5
186.crafty	8	80.6	115	8	73.7	126
197.parser	8	203	82.3	8	174	96.0
252.eon	8	106	114	8	98.4	123
253.perlbmk	8	159	105	8	153	109
254.gap	8	184	55.5	8	149	68.4
255.vortex	8	99.8	177	8	93.7	188
256.bzip2	8	148	94.0	8	145	96.3
300.twolf	8	292	95.4	8	264	105

Hardware

CPU:	UltraSPARC IV+
CPU MHz:	1800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	2,4 (order by number of chips)
Parallel:	No
Primary Cache:	64KBI+64KBD per core on chip
Secondary Cache:	2MB (I+D) per chip (on chip)
L3 Cache:	32MB (I+D) perf chip (off chip)
Other Cache:	None
Memory:	32GB (8-way interleaved, 32x1GB DIMMs)
Disk Subsystem:	1x146GB (10k rpm, Hitachi DK32EJ)
Other Hardware:	None

Software

Operating System:	Solaris 10 1/06
Compiler:	Sun Studio 11
File System:	ufs
System State:	Multi-User

Notes/Tuning Information

```
Compiler invocation:
  C:   cc
  C++: CC

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

Integer peak flags:
  ONESTEP=yes for all benchmarks
  Profile feedback used for those marked with +FDO

  164.gzip:   -x04 -xbuiltin=%all -xtarget=native -xalias_level=std
              -xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=30,
              -Qeps:do_spec_load=1 +FDO
  175.vpr:    -fast -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,
              -Qeps:rp_filtering_margin=30 -xipo=2 -xpagesize_stack=8K
              -lmopt -lm +FDO
  176.gcc:    -fast -xipo=2 -Wc,-Qicache-chbab=1 -Wc,-Qeps:enabled=1
              -Qeps:ws=32 -Wc,-Qdepgraph-early_cross_call=1
              -Wc,-Qms_pipe-pref_prolog  +FDO
```

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Notes/Tuning Information (Continued)

```
                -ll2amm
    181.mcf:    -fast -xipo=2 -xprefetch_level=2
    186.crafty: -fast -xpagesize=8k -xipo=2 -xalias_level=strong
                -W2,-Ashort_ldst -xinline= -xprefetch -xrestrict
                +FDO (-xlinkopt during pass2)
    197.parser: -fast -xipo=2 -xalias_level=strong -Wc,Qgsched-T6
                -Wc,-Qipa:valueprediction -Wc,-Qms_pipe-prefstrong=0,
                -Qlp-pt=weak +FDO
    252.eon:    -fast -xipo=2 -xalias_level=compatible -Qoption cg
                -Qeps:enabled=1 -xvector -Qoption iropt -Abcopy -xunroll=16
                +FDO
    253.perlbmk:-fast -xipo -Wc,-Qeps:enabled=1,-Qeps:ws=16 -xalias_level=std
                -xsafe=mem -Wc,-Qiselect-funcalign=128,-Qicache-chbab=1
                -Wc,-Qiselect-sw_pf_tbl_th=40,-Qeps:do_spec_load=1 +FDO
    254.gap:    -fast -xipo=2 -xalias_level=strong -xvector -xprefetch_level=3
                -W2,-Abcopy +FDO
    255.vortex: -fast -xrestrict -xipo=2 -Wc,-Qeps:enabled=1
                -W2,-Ainline:recursion=1:cs=400:irs=5000
                -Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcaligh=64
                -Wc,-Qpeep-Sh0 -W2,-crit -xprefetch=latx:1.7 -fsimple=1
                -Wc,-Qiselect-sw_pf_tbl_th=30 -Wc,-Qicache-chbab=1
                -W2,-Ainline:inc=300 +FDO
                -ll2amm
    256.bzip2:  -fast -xipo=2 -xalias_level=strong -xrestrict
                -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1 +FDO
    300.twolf:  -fast -xalias_level=strong -xsafe=mem -xipo=2
                -xprefetch=no%auto -Wc,-Qms_pipe_intdivusefp -xinline= +FDO

  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
    253.perlbmk: -DSPEC_CPU2000_SOLARIS
    254.gap:     -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_CALLOC_PROTO

  Shell Environments:
    Stack size set to unlimited via "ulimit -s unlimited"
    MPSSHEAP=4M
    MPSSSTACK=4M
    LD_PRELOAD=mpss.so.1

  Kernel Parameters (/etc/system):
    autoup=900
    tune_t_fsflushr=1
```