



CINT2000 Result

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Sun Microsystems
Sun Ultra 45

SPECint2000 = 872
SPECint_base2000 = 779

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	188	744	169	829	
175.vpr	1400	216	650	213	658	
176.gcc	1100	146	756	113	973	
181.mcf	1800	408	441	294	613	
186.crafty	1000	101	992	89.6	1116	
197.parser	1800	273	660	240	750	
252.eon	1300	122	1065	115	1134	
253.perlbnk	1800	206	874	191	942	
254.gap	1100	168	656	151	731	
255.vortex	1900	133	1434	130	1467	
256.bzip2	1500	222	677	219	686	
300.twolf	3000	373	805	334	899	

Hardware

CPU: UltraSPARC IIIi
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip
 CPU(s) orderable: 1,2 (order by # of chips)
 Parallel: No
 Primary Cache: 32KBI+64KBD per chip (on chip)
 Secondary Cache: 1MB(I+D) per chip (on chip)
 L3 Cache: None
 Other Cache: None
 Memory: 16GB(8x2GB DIMMs)
 Disk Subsystem: SATA,250GB,7200 RPM
 Other Hardware: None

Software

Operating System: Solaris 10 1/06
 Compiler: Sun Studio 11
 File System: ufs (default ufs logging on with Solaris 10)
 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 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 -l12amm +FDO



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Notes/Tuning Information (Continued)

```

181.mcf: -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1 -W2,-Apf:l1list=3:noninnerl1list
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.perlbnk: -fast -xipo -Wc,-Qeps:enabled=1,-Qeps:ws=16 -xalias_lvel=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 -l12amm +FDO
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.perlbnk: -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

```

Only one CPU was present on the system