



CINT2000 Result

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Sun Microsystems
Sun Fire V1280 (900MHz)

SPECint_rate2000 = 72.9
SPECint_rate_base2000 = 65.0

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2003 Hardware Avail: Feb-2003 Software Avail: May-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	12	393	49.6	12	323	60.4
175.vpr	12	350	55.7	12	326	59.8
176.gcc	12	229	66.7	12	207	73.9
181.mcf	12	397	63.1	12	332	75.4
186.crafty	12	202	68.9	12	174	80.1
197.parser	12	422	59.3	12	368	68.1
252.eon	12	227	79.7	12	218	83.2
253.perlbnk	12	380	66.0	12	354	70.8
254.gap	12	337	45.5	12	283	54.1
255.vortex	12	259	102	12	233	113
256.bzip2	12	290	72.1	12	271	76.9
300.twolf	12	610	68.4	12	566	73.8

Hardware

CPU: UltraSPARC III Cu
CPU MHz: 900
FPU: Integrated
CPU(s) enabled: 12 cores, 12 chips, 1 core/chip
CPU(s) orderable: 4,8,12
Parallel: No
Primary Cache: 32KBI+64KBD on chip
Secondary Cache: 8MB(I+D) off chip
L3 Cache: None
Other Cache: None
Memory: 24GB 16-way interleaved
Disk Subsystem: 2 x 36GB 10K RPM LVD Disk, Sun P/N XTA-3310-36GB-10K
Other Hardware: None

Software

Operating System: Solaris 9 9/02
Compiler: Sun ONE Studio 8 (pre-FCS build 1/28)
Sun Performance Library 8 (pre-FCS build 1/28)
File System: ufs with ufs logging
System State: Multi-User

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: CC
F90: f90
F77: f90

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=100
175.vpr: -fast -xalias_level=std -xipo=2
-Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100 -lmopt -lm
176.gcc: -fast -xipo=2 -l12amm
181.mcf: -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1
186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
Feedback adds -xlinkopt in PASS2



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Notes/Tuning Information (Continued)

```

197.parser: -fast -xipo=2 -xalias_level=strong
            -Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon:    -fast -xipo=2 -xalias_level=compatible -noex
            -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
253.perlbnk: -xO5 -xtarget=native -xipo -xalias_level=std -xsafe=mem
            -Wc,-Qeps:enabled=1,-Qeps:ws=8,-Qiselect-sw_pf_tbl_th=20,
            -Qiselect-funcalign=32,-Qicache-chbab=1
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
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.perlbnk: -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=4M
MPSSSTACK=4M
LD_PRELOAD=mpss.so.1
LD_LIBRARY_PATH=/usr/lib:/export/home/compilers/EA2-FCS
/20030128_k2/prod/lib/v8plusb

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```