



CINT2000 Result

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Sun Microsystems
Sun Ultra 40

SPECint_rate2000 = 21.4
SPECint_rate_base2000 = 19.9

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2006 Hardware Avail: Jan-2006 Software Avail: Nov-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	1	94.3	17.2	1	92.6	17.5
175.vpr	1	94.0	17.3	1	93.1	17.5
176.gcc	1	56.1	22.7	1	55.3	23.1
181.mcf	1	155	13.5	1	152	13.7
186.crafty	1	58.9	19.7	1	40.4	28.7
197.parser	1	120	17.4	1	124	16.9
252.eon	1	47.8	31.5	1	42.9	35.1
253.perlbnk	1	97.6	21.4	1	91.6	22.8
254.gap	1	74.2	17.2	1	67.9	18.8
255.vortex	1	76.6	28.8	1	62.3	35.4
256.bzip2	1	103	16.9	1	103	16.9
300.twolf	1	161	21.6	1	155	22.4

Hardware

CPU: AMD Opteron (TM) 254
 CPU MHz: 2800
 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: 64KBI + 64KBD (on chip) per core
 Secondary Cache: 1024KB (I+D) (on chip) per core
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 8GB (4x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
 Disk Subsystem: SATA,250GB,7200 RPM
 Other Hardware: None

Software

Operating System: Solaris 10 3/05 HW2
 Compiler: Sun Studio 11
 File System: ufs
 System State: Multi-user

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: CC

FDO: PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback
fdo_pre0: rm -rf ./feedback.profile

Integer base flags:

Base tuning for C programs : -fast -xcrossfile -xalias_level=std +FDO ONESTEP=yes
Base tuning for C++ programs: -fast -xcrossfile -xarch=amd64 +FDO ONESTEP=yes

Integer peak flags:

ONESTEP=yes +FDO for all benchmarks

164.gzip: -fast -xpagesize=2m -xcrossfile -M /usr/lib/ld/map.bssalign
 175.vpr: -fast -xpagesize=2m -W2,-Ainline:inc=200:cs=500 -M /usr/lib/ld/map.bssalign -lmopt -lm
 176.gcc: -fast -xipo=2 -Wd,-iropt-prof -xalias_level=strong -xrestrict
 181.mcf: -fast -xpagesize=2m -xcrossfile -M /usr/lib/ld/map.bssalign
 186.crafty: -fast -xrestrict -xipo=2 -xprefetch -xarch=amd64 -xpagesize=2m
 -M /usr/lib/ld/map.bssalign -Wd,-iropt-prof -W2,-Ashort_ldst:ldld



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Notes/Tuning Information (Continued)

```
-W2,-Ainline:rs=50
197.parser: -fast -xpagesize=2m -xipo=2 -W2,-Ainline:inc=200:cs=500 -M /usr/lib/ld/map.bssalign
252.eon: -fast -xipo=2 -qoption CC -iropt-prof -xvector -qoption iropt -Abcopy -xalias_level
        -xarch=amd64 -xrestrict -Qoption ube -xcallee=yes -xregs=frameptr
253.perlbnk: -fast -xcrossfile -M /usr/lib/ld/map.bssalign -lbsdmalloc
254.gap: -fast -xipo=2 -Wd,-iropt-prof -xvector -W2,-Abcopy -lbsdmalloc -xprefetch
        -W2,-Ainline:cp=5:rs=1300:irs=3300:inc=100 -W2,-Arestrict_g
255.vortex: -fast -xipo=2 -Wd,-iropt-prof -lbsdmalloc -xrestrict -xprefetch -M /usr/lib/ld/map.bssalign
256.bzip2: -fast -xpagesize=2m -xcrossfile -xarch=sse2 -Xc -M /usr/lib/ld/map.bssalign -lbsdmalloc
300.twolf: -fast -xipo=2 -Wd,-iropt-prof -xrestrict -M /usr/lib/ld/map.bssalign
```

Portability:

```
186.crafty (base): -DSOLARIS_X86
186.crafty (peak): -DSOLARIS_X64
252.eon: -DSPEC_CPU2000_LP64 -DUSE_STRERROR
253.perlbnk: -DSPEC_CPU2000_SOLARIS_X86
254.gap: -DSYS_IS_USG -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_TIME_PROTO -DSYS_HAS_CALLOC_PROTO
```

Shell Environments:

Stack size set to unlimited via "ulimit -s unlimited"

Default BIOS setting was used ; Only one CPU was present on the system