



CINT2000 Result

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Sun Microsystems
Sun Ultra 40

SPECint_rate2000 = 45.3
SPECint_rate_base2000 = 41.2

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	89.1	36.5	2	86.7	37.5
175.vpr	2	95.0	34.2	2	88.7	36.6
176.gcc	2	53.8	47.4	2	53.2	48.0
181.mcf	2	159	26.3	2	149	28.0
186.crafty	2	55.1	42.1	2	38.9	59.7
197.parser	2	117	35.6	2	117	35.8
252.eon	2	44.5	67.8	2	40.2	74.9
253.perlbnk	2	92.2	45.3	2	86.4	48.3
254.gap	2	70.7	36.1	2	64.3	39.7
255.vortex	2	72.5	60.8	2	57.0	77.3
256.bzip2	2	103	33.6	2	97.9	35.5
300.twolf	2	153	45.6	2	146	47.6

Hardware

CPU: AMD Opteron (TM) 256
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 2 chips, 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: 16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
 Disk Subsystem: SATA,250GB,7200RPM
 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
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"

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used