



# CINT2000 Result

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Sun Microsystems  
Sun Ultra 40

SPECint2000 = 1957  
SPECint\_base2000 = 1783

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	88.7	1579	86.7	1616	
175.vpr	1400	94.8	1477	88.5	1581	
176.gcc	1100	53.1	2072	52.5	2095	
181.mcf	1800	156	1151	147	1221	
186.crafty	1000	55.1	1815	38.8	2574	
197.parser	1800	117	1535	117	1543	
252.eon	1300	44.5	2922	40.3	3229	
253.perlbnk	1800	91.7	1963	85.8	2098	
254.gap	1100	70.2	1567	64.2	1714	
255.vortex	1900	72.9	2608	57.0	3333	
256.bzip2	1500	103	1451	97.8	1533	
300.twolf	3000	153	1964	146	2050	

### Hardware

CPU: AMD Opteron (TM) 256  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1  
 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,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)

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-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"

System was tested in 1 chips configuration  
Default BIOS setting was used