



# CINT2000 Result

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Sun Microsystems  
Sun Fire X4100

SPECint2000 = 2020  
SPECint\_base2000 = 1798

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	77.9	1796	77.7	1802	
175.vpr	1400	102	1377	96.5	1451	
176.gcc	1100	54.3	2025	54.6	2016	
181.mcf	1800	237	759	149	1211	
186.crafty	1000	38.2	2621	37.0	2704	
197.parser	1800	133	1357	106	1699	
252.eon	1300	42.7	3043	36.5	3559	
253.perlbnk	1800	89.7	2006	80.2	2244	
254.gap	1100	57.1	1925	56.5	1946	
255.vortex	1900	66.3	2864	61.6	3084	
256.bzip2	1500	92.3	1625	92.3	1625	
300.twolf	3000	194	1547	148	2025	

### Hardware

CPU: AMD Opteron (TM) 256  
CPU MHz: 3000  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1,2 (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: SAS,36GB,10K RPM  
Other Hardware: None

### Software

Operating System: SUSE LINUX Enterprise Server 9 SP3 (x86\_64)  
Compiler: PathScale EKOPath(TM) Compiler Suite, Version 2.3  
File System: ufs  
System State: Multi-user

## Notes/Tuning Information

### Portability flags:

186.crafty: -DLINUX\_i386  
252.eon: -DHAS\_ERRLIST -DSPEC\_CPU2000\_LP64  
253.perlbnk: -DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL  
-DSPEC\_CPU2000\_GLIBC22 -DSPEC\_CPU2000\_LP64  
254.gap: -DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO -DSYS\_HAS\_TIME\_PROTO  
-DSYS\_HAS\_CALLOC\_PROTO -DSPEC\_CPU2000\_LP64  
255.vortex: -DSPEC\_CPU2000\_LP64

### Feedback Optimization:

+FDO: PASS1=-fb\_create fbdata PASS2=-fb\_opt fbdata

### Baseline Optimization Flags:

C programs: -Ofast +FDO  
C++ programs: -Ofast +FDO

### Peak Tuning Flags:

164.gzip: -O3 -ipa -WOPT:val=0 -OPT:unroll\_size=0 +FDO  
175.vpr: -O3 -ipa -m32 +FDO  
176.gcc: -O3 -IPA:plimit=10000 -LNO:opt=0 -OPT:goto=off +FDO



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## Notes/Tuning Information (Continued)

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181.mcf:      -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty:   -Ofast -CG:local_fwd_sched=on -LNO:opt=0 -WOPT:val=0 +FDO
197.parser:   -O3 -ipa -m32 -IPA:ctype=on +FDO
252.eon:      -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off -IPA:plimit=4000
              -OPT:treeheight=on -TENV:X=4:frame_pointer=off -fno-exceptions
              -LNO:fu=10:full_unroll_outer=on -GRA:optimize_boundary=on +FDO
253.perlbnk:  -O2 -ipa -OPT:Ofast:transform_to_memlib=off
              -fno-math-errno -IPA:plimit=10000 +FDO
254.gap:      -Ofast -IPA:min_hotness=5 -OPT:alias=disjoint -CG:movnti=1 +FDO
255.vortex:   -Ofast -OPT:goto=off +FDO
256.bzip2:    basepeak = true
300.twolf:    -O2 -CG:gcm=off:p2align_freq=100000
              -OPT:Ofast:unroll_times_max=8:unroll_size=256:alias=disjoint
              -WOPT:mem_opnds=on -m32 +FDO

```

Default BIOS settings was used.  
System was tested in 1-chip configuration.

This result was measured on the Sun Fire X4200.  
Sun Fire X4100 and Sun Fire X4200 are electronically equivalent.