



# CFP2000 Result

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**SGI**  
**SGI 2100 1X 350MHz R12k**

SPECfp2000 = --  
SPECfp\_base2000 = 278

SPEC license #: 4 Tested by: SGI Test date: Jan-2001 Hardware Avail: Jun-2000 Software Avail: Mar-2001

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	644	248		
171.swim	3100	1057	293		
172.mgrid	1800	849	212		
173.applu	2100	987	213		
177.mesa	1400	576	243		
178.galgel	2900	355	817		
179.art	2600	300	867		
183.earthquake	1300	655	199		
187.facerec	1900	659	288		
188.ammpp	2200	693	318		
189.lucas	2000	829	241		
191.fma3d	2100	1204	174		
200.sixtrack	1100	643	171		
301.apsi	2600	1171	222		

### Hardware

CPU: R12000  
CPU MHz: 350  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1-8  
Parallel: No  
Primary Cache: 32KBI + 32KBD on chip  
Secondary Cache: 4MB(I+D) off chip  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 1 GB  
Disk Subsystem: 1 x 18 GB FC, 2 x 18 GB FC (striped)  
Other Hardware: None

### Software

Operating System: IRIX 6.5.10f  
Compiler: MIPSpro 7.3.1.2m C, C++, Fortran90  
SCSL 1.3 Math Library  
File System: xfs  
System State: Single-user

## Notes/Tuning Information

Baseline optimization flags (for C benchmarks):

PASS1 : -Ofast=ip27 -IPA:use\_intrinsic -fb\_create /tmp/SPEC2000/FBDIR\_base/\$(EXEBASE)

PASS2 : -Ofast=ip27 -IPA:use\_intrinsic -fb\_opt /tmp/SPEC2000/FBDIR\_base/\$(EXEBASE)

Baseline optimization flags (for Fortran benchmarks): -Ofast=ip27 -LNO:fusion=2 -OPT:fast\_nint=OFF

Portability Flags:

178.galgel: -fixedform

Peak optimization flags:

note: all occurrences of (FEEDBACK) below means compiled with a two-step process:

PASS1 = -fb\_create /tmp/SPEC2000/FBDIR\_peak/\$(EXEBASE)

PASS2 = -fb\_opt /tmp/SPEC2000/FBDIR\_peak/\$(EXEBASE)

168.wupwise: -Ofast=ip27 -IPA:space=1000:linear=on:plimit=10000:callee\_limit=5000 -INLINE:aggressive=on

. -OPT:Olimit=0 -LNO:fusion=2:prefetch Ahead=5

171.swim: -Ofast=ip27 -LNO:cs2=8m

172.mgrid: -Ofast=ip27 -LNO:fusion=2

173.applu: -Ofast=ip27 -LNO:ou\_max=5:ou\_prod\_max=10:prefetch=0:fusion=2

177.mesa: -Ofast=ip27 -OPT:goto=off -LNO:opt=0 (FEEDBACK)

178.galgel: -Ofast=ip27 -LNO:ou\_max=7 -lscs (FEEDBACK)

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## Notes/Tuning Information (Continued)

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.
  RM_SOURCES = lapak.f90
179.art: -Ofast=ip27 -LNO:prefetch=0 -IPA:min_hot=15 (FEEDBACK)
183.quake: -Ofast=ip27 -LNO:prefetch=0 -TENV:X=4 -CG:ld_latency=7 -IPA:space=500 (FEEDBACK)
187.facerec: -Ofast=ip27 -fb_opt /tmp/SPEC2000/FBDIR_peak/$(EXEBASE) -LNO:fusion=2 (FEEDBACK)
188.ammp: -Ofast=ip27 -OPT:goto=off -IPA:space=500:plimit=900 (FEEDBACK)
189.lucas: -Ofast=ip27 -LNO:fusion=2:blocking=off -CG:ld_latency=4 -IPA:min_hot=8 (FEEDBACK)
191.fma3d: -Ofast=ip27 -bigp_off -LNO:prefetch=0 -OPT:goto=off:unroll_size=160:unroll_times_max=4
.
  -CG:ld_latency=2 (FEEDBACK)
200.sixtrack:= -Ofast=ip27 -IPA:maxdepth=2 -LNO:prefetch=0 (FEEDBACK)
301.apsi: -Ofast=ip27 -TENV:X=4 -LNO:prefetch=0:blocking=off -IPA:linear=on:use_intrinsic
  setenv PAGESIZE_DATA 4096 ; setenv PAGESIZE_TEXT 4096 ; setenv PAGESIZE_STACK 4096
  systune -i ; percent_totalmem_4m_pages = 40 ; percent_totalmem_1m_pages = 7
  systune -i ; percent_totalmem_256k_pages = 7 ; percent_totalmem_64k_pages = 7
  limit stacksize 500000
The following is done before building each benchmark that requires (FEEDBACK):
  rm -rf /tmp/SPEC2000/FBDIR_peak/$baseexe ; mkdir -p /tmp/SPEC2000/FBDIR_peak/$baseexe

```