



# CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**SGI**  
SGI Origin 3400 32X 400MHz R12k

SPECfp\_rate2000 = 134  
SPECfp\_rate\_base2000 = 125

SPEC license #: 4 Tested by: SGI Test date: Aug-2000 Hardware Avail: Sep-2000 Software Avail: Sep-2000

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	32	539	110	32	446	133
171.swim	32	991	116	32	997	115
172.mgrid	32	716	93.3	32	694	96.2
173.applu	32	779	100	32	725	107
177.mesa	32	480	108	32	452	115
178.galgel	32	291	370	32	252	428
179.art	32	256	377	32	258	375
183.equake	32	522	92.5	32	513	94.1
187.facerec	32	448	157	32	442	160
188.amp	32	562	145	32	563	145
189.lucas	32	718	103	32	716	104
191.fma3d	32	1015	76.8	32	875	89.1
200.sixtrack	32	560	72.9	32	555	73.5
301.apsi	32	962	100	32	708	136

**Hardware**

CPU: R12000  
CPU MHz: 400  
FPU: Integrated  
CPU(s) enabled: 32 cores, 32 chips, 1 core/chip  
CPU(s) orderable: 4-32  
Parallel: No  
Primary Cache: 32KBI + 32KBD on chip  
Secondary Cache: 8MB(I+D) off chip  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 32GB  
Disk Subsystem: 1 x 18 GB FC, 12 x 18 GB FC (striped)  
Other Hardware: None

**Software**

Operating System: IRIX 6.5.9m  
Compiler: MIPSpro 7.3.1.1m C, C++, Fortran90  
SCSL 1.2 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  
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:cs2=8m:blocking=off  
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)



# CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**SGI**  
SGI Origin 3400 32X 400MHz R12k

SPECfp\_rate2000 = 134  
SPECfp\_rate\_base2000 = 125

SPEC license #: 4 | Tested by: SGI | Test date: Aug-2000 | Hardware Avail: Sep-2000 | Software Avail: Sep-2000

## Notes/Tuning Information (Continued)

```

.
  RM_SOURCES = lapak.f90
179.art: -Ofast=ip27 -bigp_off -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

```