



CFP2000 Result

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SGI
SGI Origin 3200 1X 600MHz R14k

SPECfp2000 = **529**
SPECfp_base2000 = **499**

SPEC license #: 4 Tested by: SGI Test date: Feb-2002 Hardware Avail: Jan-2002 Software Avail: Nov-2001

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	369	434	315	508	
171.swim	3100	586	529	584	531	
172.mgrid	1800	474	379	475	379	
173.applu	2100	551	381	508	414	
177.mesa	1400	329	425	295	474	
178.galgel	2900	208	1398	183	1585	
179.art	2600	181	1436	181	1439	
183.earthquake	1300	375	347	369	352	
187.facerec	1900	294	647	294	647	
188.ammpp	2200	384	573	384	572	
189.lucas	2000	453	442	449	445	
191.fma3d	2100	686	306	641	328	
200.sixtrack	1100	370	298	368	299	
301.apsi	2600	641	406	509	511	

Hardware

CPU: R14000
CPU MHz: 600
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 2-8
Parallel: No
Primary Cache: 32KBI + 32KBD on chip
Secondary Cache: 8MB(I+D) off chip
L3 Cache: N/A
Other Cache: N/A
Memory: 1 GB
Disk Subsystem: 1 x 18 GB FC, 4 x 18 GB FC (striped)
Other Hardware: None

Software

Operating System: IRIX 6.5.14m
Compiler: MIPSpro 7.3.1.3m C, Fortran90
SCSL 1.4 Math Library
File System: xfs
System State: Single-user

Notes/Tuning Information

Baseline optimization flags (for C benchmarks):

PASS1 : -Ofast=ip35 -fb_create /tmp/SPEC2000/FBDIR_base/\$(EXEBASE)

PASS2 : -Ofast=ip35 -fb_opt /tmp/SPEC2000/FBDIR_base/\$(EXEBASE)

Baseline optimization flags (for Fortran benchmarks): -Ofast=ip35 -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=ip35 -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=ip35 -CG:ld_latency=10

172.mgrid: -Ofast=ip35 -LNO:fusion=2

173.applu: -Ofast=ip35 -LNO:ou_max=5:ou_prod_max=10:prefetch=0:fusion=2 -CG:ld_latency=3

177.mesa: -Ofast=ip35 -OPT:goto=off -LNO:opt=0 -CG:ld_latency=6 (FEEDBACK)

178.galgel: -Ofast=ip35 -LNO:ou_max=7 -CG:ld_latency=3 -lscs (FEEDBACK)

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Notes/Tuning Information (Continued)

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RM_SOURCES = lapak.f90
179.art: -Ofast=ip35 -LNO:prefetch=0 -IPA:min_hot=15 -CG:ld_latency=3 (FEEDBACK)
183.equake: -Ofast=ip35 -LNO:prefetch=0 -TENV:X=4 -CG:ld_latency=7 -IPA:space=500 (FEEDBACK)
187.facerec: -Ofast=ip35 -LNO:fusion=2
188.ammp: -Ofast=ip35 -OPT:goto=off -IPA:space=500:plimit=900 -CG:ld_latency=7 (FEEDBACK)
189.lucas: -Ofast=ip35 -LNO:fusion=2:blocking=off -CG:ld_latency=4 -IPA:min_hot=8 (FEEDBACK)
191.fma3d: -Ofast=ip35 -bigp_off -LNO:prefetch=0 -CG:ld_latency=2
-OPT:goto=off:unroll_size=160:unroll_times_max=4 (FEEDBACK)
200.sixtrack:= -Ofast=ip35 -IPA:maxdepth=2 -LNO:prefetch=0 (FEEDBACK)
301.apsi: -Ofast=ip35 -TENV:X=4 -LNO:prefetch=0:blocking=off -IPA:linear=on:use_intrinsic
The following O/S parameters were set:
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
systune -i ; r12k_bdiag = 0x4000000
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
 The first disk mentioned in the Disk Subsystem is the system disk. A striped XFS filesystem was created using the rest of the disks and the benchmark was run on this.