



CFP2000 Result

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SGI
SGI Origin 3200 4X 400MHz R12k

SPECfp_rate2000 = 16.9
SPECfp_rate_base2000 = 15.9

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	529	14.0	4	435	17.1
171.swim	4	980	14.7	4	994	14.5
172.mgrid	4	711	11.7	4	690	12.1
173.applu	4	787	12.4	4	730	13.3
177.mesa	4	480	13.5	4	453	14.3
178.galgel	4	291	46.2	4	251	53.6
179.art	4	233	51.7	4	241	50.1
183.equake	4	520	11.6	4	510	11.8
187.facerec	4	438	20.1	4	432	20.4
188.amp	4	560	18.2	4	561	18.2
189.lucas	4	711	13.0	4	716	13.0
191.fma3d	4	973	10.0	4	849	11.5
200.sixtrack	4	556	9.17	4	550	9.28
301.apsi	4	923	13.1	4	707	17.1

Hardware

CPU: R12000
CPU MHz: 400
FPU: Integrated
CPU(s) enabled: 4 cores, 4 chips, 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: 4GB
Disk Subsystem: 1 x 18 GB FC, 2 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)

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Notes/Tuning Information (Continued)

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

```