CFP2000 Result

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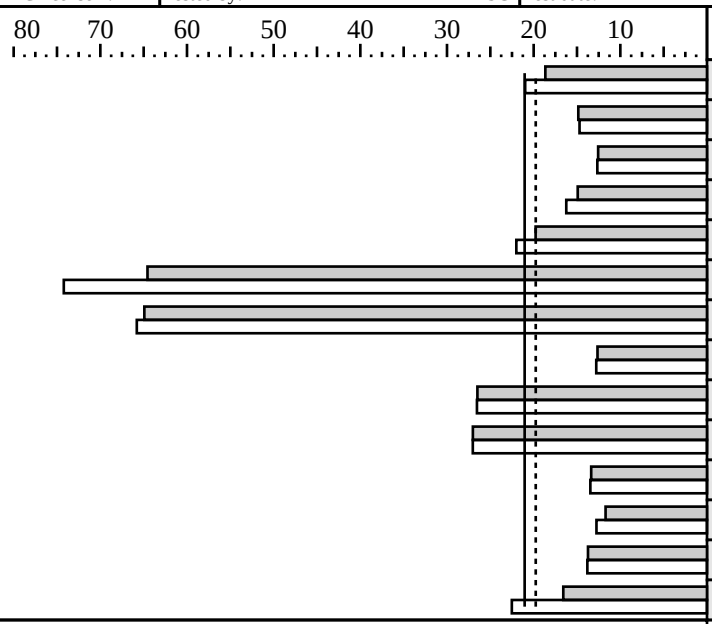
SGI
SGI Origin 3200 4X 600MHz R14k

SPECfp_rate2000 = 21.0

SPECfp_rate_base2000 = 19.8

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	398	18.7	4	354	21.0
171.swim	4	969	14.8	4	978	14.7
172.mgrid	4	665	12.6	4	660	12.7
173.applu	4	653	14.9	4	600	16.2
177.mesa	4	328	19.8	4	295	22.0
178.galgel	4	208	64.6	4	181	74.2
179.art	4	186	64.9	4	183	65.8
183.equake	4	477	12.6	4	472	12.8
187.facerec	4	333	26.5	4	332	26.5
188.ammp	4	378	27.0	4	378	27.0
189.lucas	4	695	13.4	4	689	13.5
191.fma3d	4	833	11.7	4	764	12.8
200.sixtrack	4	372	13.7	4	370	13.8
301.apsi	4	728	16.6	4	536	22.5

Hardware

CPU:	R14000
CPU MHz:	600
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:	4 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 occurances 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)

```
.           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
 Jobs are submitted using dplace. Contents of the placement file submit.pf:
 memories 1 in topology physical near $NODE
 threads 1
 run thread 0 on memory 0 using cpu $CPU
 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.
```