CFP2000 Result

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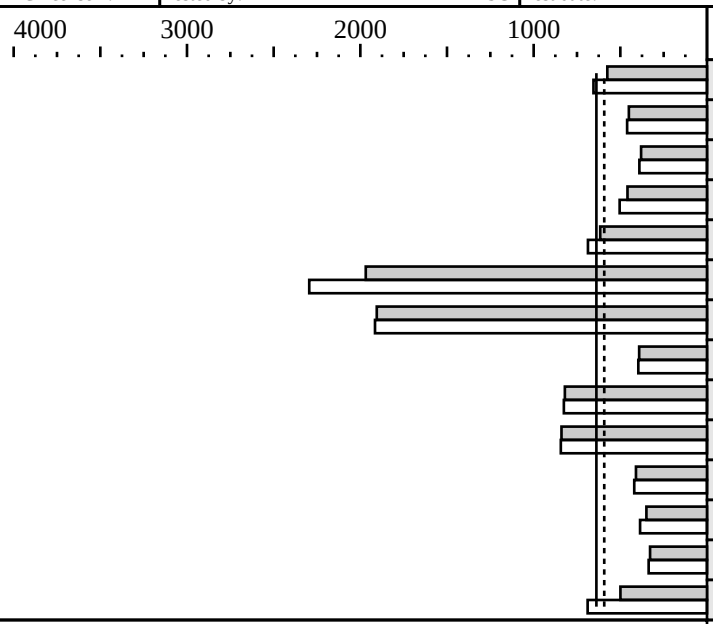
SGI
SGI Origin 3800 128X 600MHz R14k

SPECfp_rate2000 = 638

SPECfp_rate_base2000 = 593

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	128	413	575	128	363	655
171.swim	128	1021	451	128	999	461
172.mgrid	128	703	380	128	685	390
173.applu	128	680	459	128	619	504
177.mesa	128	337	616	128	303	687
178.galgel	128	219	1969	128	188	2295
179.art	128	203	1905	128	202	1915
183.equake	128	493	391	128	487	396
187.facerec	128	344	820	128	342	826
188.ammp	128	389	839	128	387	843
189.lucas	128	725	410	128	708	420
191.fma3d	128	892	350	128	808	386
200.sixtrack	128	497	328	128	485	337
301.apsi	128	773	499	128	561	689

Hardware

CPU:	R14000
CPU MHz:	600
FPU:	Integrated
CPU(s) enabled:	128 cores, 128 chips, 1 core/chip
CPU(s) orderable:	4-512
Parallel:	No
Primary Cache:	32KBI + 32KBD on chip
Secondary Cache:	8MB(I+D) off chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	128 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.
```