CFP2000 Result

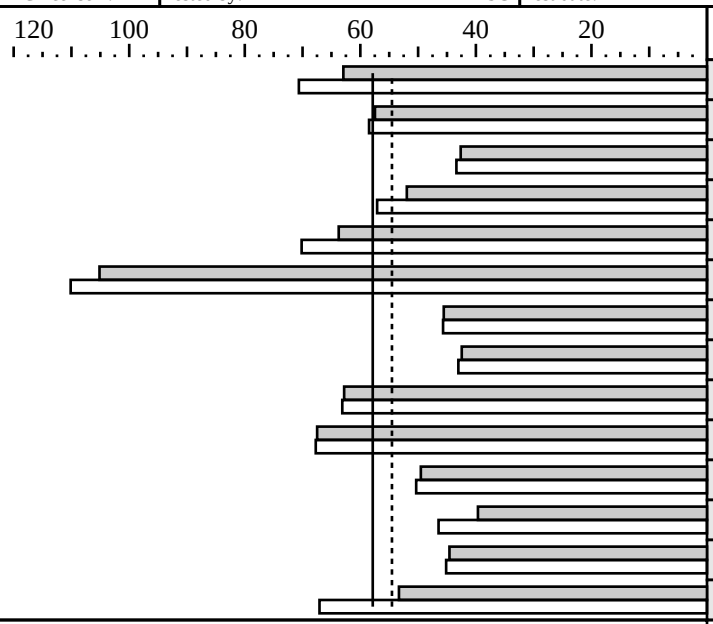
Copyright ©1999-2004, Standard Performance Evaluation Corporation

SGI
SGI Origin 300 16X 500MHz R14k

SPECfp_rate2000 = 57.9

SPECfp_rate_base2000 = 54.5

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	16	472	62.9	16	420	70.6
171.swim	16	1001	57.5	16	984	58.5
172.mgrid	16	784	42.6	16	770	43.4
173.applu	16	750	52.0	16	683	57.1
177.mesa	16	408	63.7	16	370	70.2
178.galgel	16	512	105	16	489	110
179.art	16	1059	45.6	16	1056	45.7
183.equake	16	568	42.4	16	561	43.0
187.facerec	16	562	62.8	16	559	63.1
188.ammp	16	605	67.5	16	603	67.7
189.lucas	16	749	49.5	16	737	50.3
191.fma3d	16	983	39.6	16	839	46.5
200.sixtrack	16	458	44.6	16	452	45.1
301.apsi	16	905	53.3	16	720	67.1

Hardware

CPU:	R14000
CPU MHz:	500
FPU:	Integrated
CPU(s) enabled:	16 cores, 16 chips, 1 core/chip
CPU(s) orderable:	2-32
Parallel:	No
Primary Cache:	32KBI + 32KBD on chip
Secondary Cache:	2MB(I+D) off chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	16 GB
Disk Subsystem:	1 x 18 GB SCSI, 2 x 18 GB SCSI (striped)
Other Hardware:	None

Software

Operating System:	IRIX 6.5.14f
Compiler:	MIPSpro 7.3.1.2m 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=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 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=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 -CG:ld_latency=10
172.mgrid: -Ofast=ip27 -LNO:fusion=2
173.applu: -Ofast=ip27 -LNO:ou_max=5:ou_prod_max=10:prefetch=0:fusion=2 -CG:ld_latency=3
177.mesa: -Ofast=ip27 -OPT:goto=off -LNO:opt=0 -CG:ld_latency=6 (FEEDBACK)
178.galgel: -Ofast=ip27 -LNO:ou_max=7 -CG:ld_latency=3 -lscs (FEEDBACK)
```

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
.           RM_SOURCES = lapak.f90
179.art: -Ofast=ip27 -LNO:prefetch=0 -IPA:min_hot=15 -CG:ld_latency=3 (FEEDBACK)
183.equake: -Ofast=ip27 -LNO:prefetch=0 -TENV:X=4  -CG:ld_latency=7 -IPA:space=500 (FEEDBACK)
187.facerec: -Ofast=ip27 -LNO:fusion=2
188.ammp: -Ofast=ip27 -OPT:goto=off -IPA:space=500:plimit=900 -CG:ld_latency=7 (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 -CG:ld_latency=2
.          -OPT:goto=off:unroll_size=160:unroll_times_max=4 (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
   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.
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
```