



CFP2000 Result

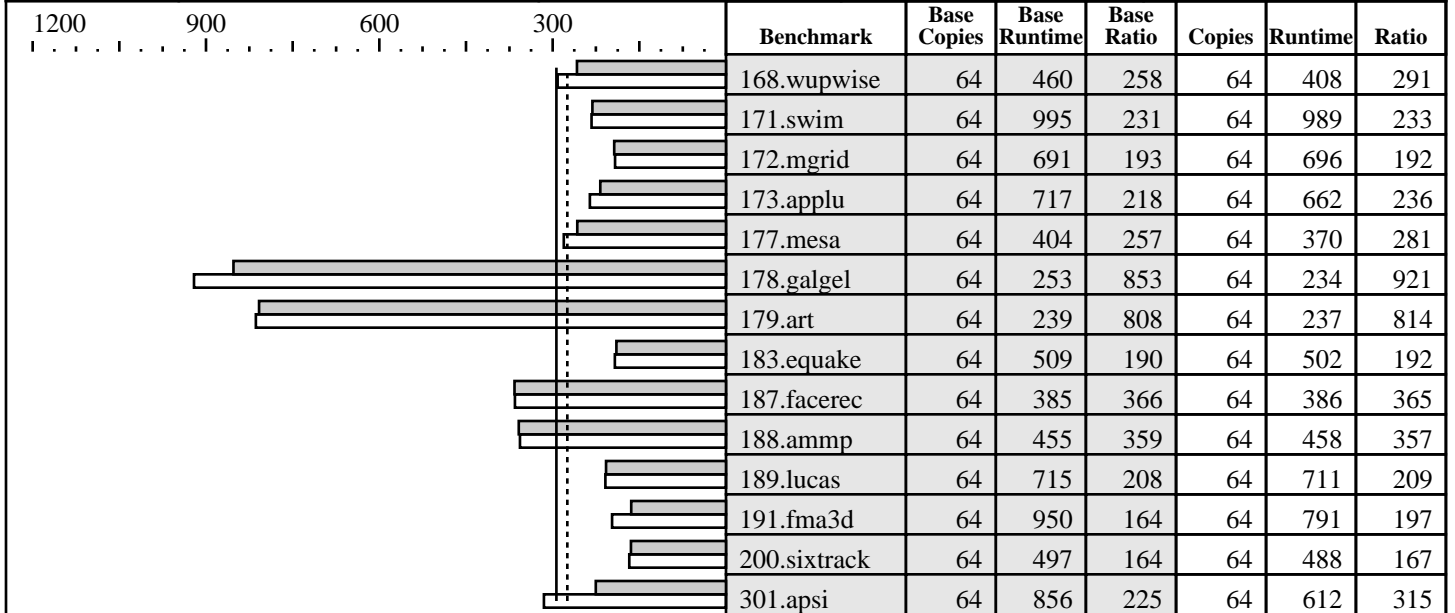
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SGI
SGI Origin 3800 64X 500MHz R14k

SPECfp_rate2000 = 293

SPECfp_rate_base2000 = 275

SPEC license #: 4 Tested by: SGI Test date: May-2001 Hardware Avail: Jul-2001 Software Avail: Mar-2001



Hardware

CPU: R14000
 CPU MHz: 500
 FPU: Integrated
 CPU(s) enabled: 64 cores, 64 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: 48 GB
 Disk Subsystem: 1 x 18 GB FC, 20 x 18 GB FC (striped)
 Other Hardware: None

Software

Operating System: IRIX 6.5.11f
 Compiler: MIPSpro 7.3.1.2m C, C++, Fortran90
 SCSL 1.3 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 -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:cs2=8m -CG:ld_latency=6 (FEEDBACK)

178.galgel: -Ofast=ip27 -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=ip27 -LNO:prefetch=0 -IPA:min_hot=15 -CG:ld_latency=3 (FEEDBACK)
183.quake: -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.