CINT2000 Result

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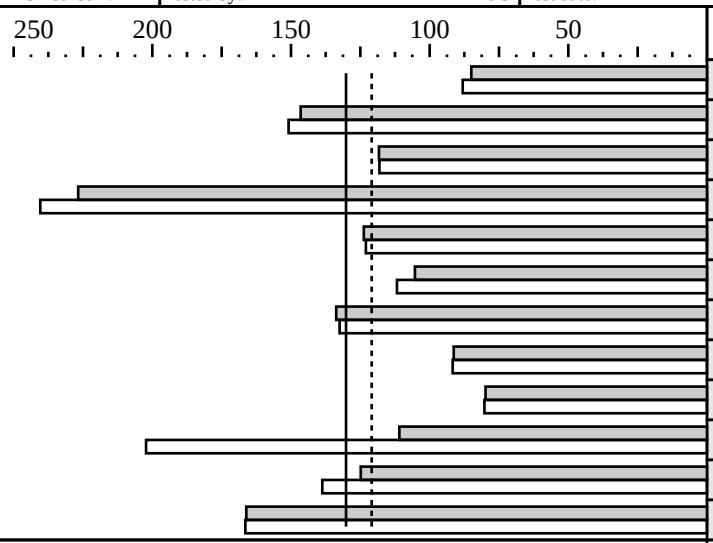
SGI
SGI Origin 3400 32X 400MHz R12k

SPECint_rate2000 = 130

SPECint_rate_base2000 = 121

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	32	611	85.0	32	590	88.1
175.vpr	32	355	147	32	344	151
176.gcc	32	345	118	32	346	118
181.mcf	32	295	227	32	278	240
186.crafty	32	300	124	32	302	123
197.parser	32	634	105	32	598	112
252.eon	32	361	134	32	364	132
253.perlbmk	32	732	91.3	32	729	91.7
254.gap	32	511	79.9	32	509	80.3
255.vortex	32	636	111	32	349	202
256.bzip2	32	446	125	32	401	139
300.twolf	32	670	166	32	669	166

Hardware

CPU:	R12000
CPU MHz:	400
FPU:	Integrated
CPU(s) enabled:	32 cores, 32 chips, 1 core/chip
CPU(s) orderable:	4-32
Parallel:	No
Primary Cache:	32KBI + 32KBD on chip
Secondary Cache:	8MB(I+D) off chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	32GB
Disk Subsystem:	1 x 18 GB FC, 12 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

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Baseline optimization flags (C and C++ use same flags):
   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)
Portability Flags:
   176.gcc: -DUSG  -Dalloca=__builtin_alloca -DMIPS -DHOST_WORDS_BIG_ENDIAN
   186.crafty: -DSGI
   253.perlbmk: -DSPEC_CPU2000_SGI -DI_FCNTL
   254.gap: -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_IOCTL_PROTO
   300.twolf: -DHAVE_SIGNED_CHAR
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)
 164.gzip: -Ofast=ip27 -IPA:space=500:plimit=500 -lmalloc (FEEDBACK)
 175.vpr: -Ofast=ip27 -IPA:space=300:plimit=10000:callee_limit=5000:linear=on -LNO:prefetch_ahead=2
 .        -INLINE:aggressive=on -OPT:Olimit=0:alias=disjoint:alias=restrict -lmalloc (FEEDBACK)
 181.mcf: -Ofast=ip27 -IPA:min_hot=14 -lmalloc (FEEDBACK)
 176.gcc: -Ofast=ip27 (FEEDBACK)
 186.crafty: -Ofast=ip27 -LNO:prefetch=0 -OPT:goto=off -lmalloc (FEEDBACK)
 197.parser: -Ofast=ip27 -IPA:min_hot=14 (FEEDBACK)
```

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Notes/Tuning Information (Continued)

252.eon: -Ofast=ip27 -LNO:prefetch=0 -LANG:exceptions=off -lmalloc (FEEDBACK)
253.perlbmk: -Ofast=ip27 -IPA:use_intrinsic -Wl,-x (FEEDBACK)
254.gap: -Ofast=ip27 -IPA:use_intrinsic -OPT:unroll_analysis=off:unroll_size=0:unroll_times_max=4
. -OPT:alias=restrict:alias=disjoint -IPA:min_hot=7 -lmalloc (FEEDBACK)
255.vortex: -Ofast=ip27 -IPA:use_intrinsic -OPT:unroll_analysis=off:unroll_size=0:unroll_times_max=4 -LNO:opt=0
. -CG:ld_latency=5 -IPA:min_hot=14 -TENV:X=4 -IPA:space=500:plimit=3600 -OPT:goto=off (FEEDBACK)
256.bzip2: -Ofast=ip27 -IPA:min_hot=5:space=500:plimit=2900 -INLINE:aggressive=on (FEEDBACK)
300.twolf: -Ofast=ip27 -IPA:use_intrinsic (FEEDBACK)

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
limit stacksize 500000

The following is done before building each benchmark that requires (FEEDBACK):
rm -rf /tmp/SPEC2000 ; mkdir /tmp/SPEC2000 ; cd /tmp/SPEC2000 ; mkdir FBDIR_base ; mkdir FBDIR_peak