



CINT2000 Result

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SGI
SGI 2100 8X 350MHz R12k

SPECint_rate2000 = 25.1
SPECint_rate_base2000 = 23.1

SPEC license #: 4 Tested by: SGI Test date: Apr-2000 Hardware Avail: Jun-2000 Software Avail: Apr-2000

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	719	18.1	8	699	18.6
175.vpr	8	467	27.8	8	459	28.3
176.gcc	8	416	24.6	8	414	24.7
181.mcf	8	837	20.0	8	735	22.7
186.crafty	8	349	26.6	8	354	26.2
197.parser	8	760	22.0	8	729	22.9
252.eon	8	420	28.7	8	423	28.5
253.perlbnk	8	862	19.4	8	860	19.4
254.gap	8	646	15.8	8	639	16.0
255.vortex	8	755	23.3	8	432	40.9
256.bzip2	8	562	24.8	8	501	27.8
300.twolf	8	866	32.1	8	780	35.7

Hardware

CPU: R12000
 CPU MHz: 350
 FPU: Integrated
 CPU(s) enabled: 8 cores, 8 chips, 1 core/chip
 CPU(s) orderable: 2, 4, 6, 8
 Parallel: No
 Primary Cache: 32KBI + 32KBD on chip
 Secondary Cache: 4MB(I+D) off chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 2048MB
 Disk Subsystem: 1 x 18 GB SCSI, 2 x 18 GB (striped)
 Other Hardware: None

Software

Operating System: IRIX 6.5.8f
 Compiler: MIPSpro 7.3.1.1m C, C++, Fortran90
 SCSSL 1.2 Math Library
 File System: xfs
 System State: Single-user

Notes/Tuning Information

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.perlbnk: -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)

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252.eon: -Ofast=ip27 -LNO:prefetch=0 -LANG:exceptions=off -lmalloc (FEEDBACK)
253.perlbnk: -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
system -i ; percent_totalmem_4m_pages = 50 ; nlpages_4m = 128
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

```