CINT2000 Result

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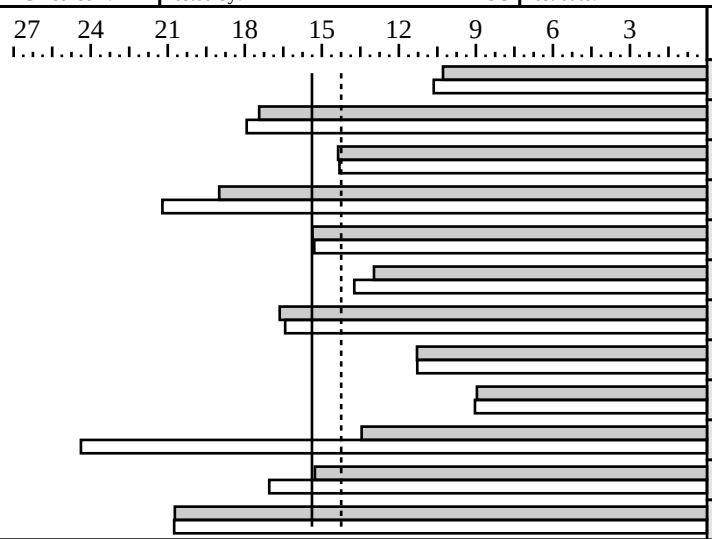
SGI
SGI 2200 4X 400MHz R12k

SPECint_rate2000 = 15.4

SPECint_rate_base2000 = 14.2

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	4	632	10.3	4	610	10.6
175.vpr	4	372	17.4	4	362	17.9
176.gcc	4	355	14.4	4	357	14.3
181.mcf	4	440	19.0	4	394	21.2
186.crafty	4	302	15.4	4	303	15.3
197.parser	4	644	13.0	4	608	13.7
252.eon	4	363	16.6	4	367	16.4
253.perlbmk	4	740	11.3	4	740	11.3
254.gap	4	570	8.96	4	565	9.04
255.vortex	4	656	13.4	4	362	24.4
256.bzip2	4	456	15.3	4	408	17.0
300.twolf	4	672	20.7	4	671	20.7

Hardware

CPU:	R12000
CPU MHz:	400
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	2, 4, 6, 8
Parallel:	No
Primary Cache:	32KBI + 32KBD on chip
Secondary Cache:	8MB(I+D) off chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	2048MB
Disk Subsystem:	2 x 18 GB SCSI (striped)
Other Hardware:	None

Software

Operating System:	IRIX 6.5.8f
Compiler:	MIPSpro 7.3.1.1m C, C++, Fortran90
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.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 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)
 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 = 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
```