CINT2000 Result

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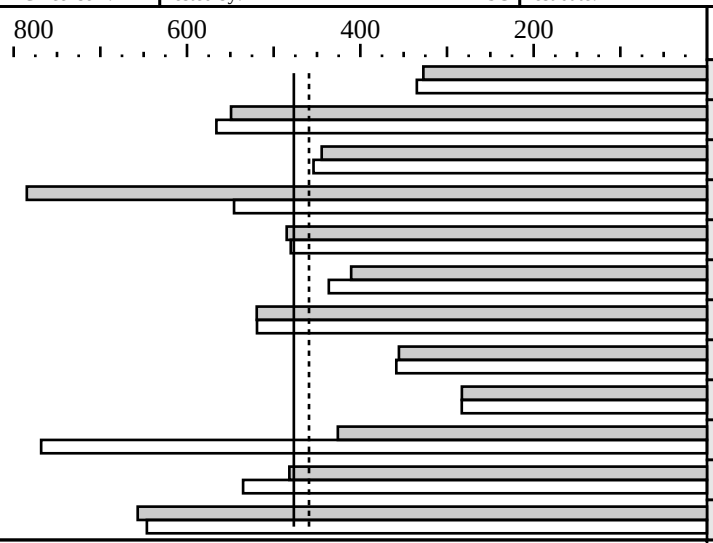
SGI
SGI 2800 128X 400MHz R12k

SPECint_rate2000 = 477

SPECint_rate_base2000 = 459

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	128	635	327	128	621	335
175.vpr	128	379	549	128	367	566
176.gcc	128	367	445	128	360	454
181.mcf	128	341	785	128	490	546
186.crafty	128	306	485	128	309	480
197.parser	128	651	411	128	612	436
252.eon	128	372	520	128	372	519
253.perlbmk	128	752	355	128	746	358
254.gap	128	577	283	128	577	283
255.vortex	128	662	426	128	367	768
256.bzip2	128	462	482	128	416	535
300.twolf	128	678	657	128	689	646

Hardware

CPU:	R12000
CPU MHz:	400
FPU:	Integrated
CPU(s) enabled:	128 cores, 128 chips, 1 core/chip
CPU(s) orderable:	64-512
Parallel:	No
Primary Cache:	32KBI + 32KBD on chip
Secondary Cache:	8MB(I+D) off chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	128GB
Disk Subsystem:	1 x 9 GB SCSI, 16 x 18 GB FC (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
```