# CINT2000 Result

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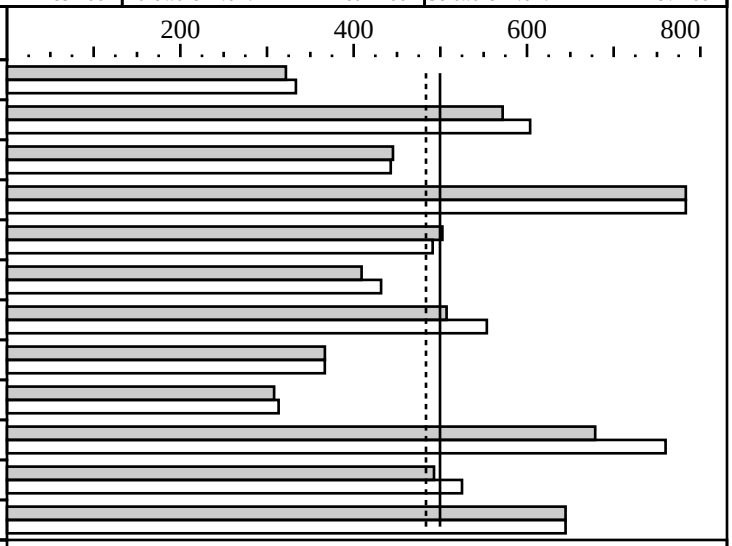
## SGI
## SGI Origin 3200 1X 600MHz R14k

SPECint2000 = 500

SPECint_base2000 = 483

SPEC license #: 4 | Tested by: SGI | Test date: Feb-2002 | Hardware Avail: Jan-2002 | Software Avail: Nov-2001

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 164.gzip | 1400 | 435 | 322 | 420 | 333 |
| 175.vpr | 1400 | 245 | 572 | 232 | 604 |
| 176.gcc | 1100 | 247 | 445 | 248 | 443 |
| 181.mcf | 1800 | 230 | 783 | 230 | 783 |
| 186.crafty | 1000 | 199 | 502 | 204 | 491 |
| 197.parser | 1800 | 440 | 409 | 417 | 432 |
| 252.eon | 1300 | 256 | 507 | 235 | 554 |
| 253.perlbmk | 1800 | 491 | 367 | 491 | 367 |
| 254.gap | 1100 | 357 | 308 | 351 | 313 |
| 255.vortex | 1900 | 280 | 679 | 250 | 760 |
| 256.bzip2 | 1500 | 304 | 493 | 286 | 525 |
| 300.twolf | 3000 | 465 | 645 | 465 | 645 |




### Hardware

| | |
|---|---|
| CPU: | R14000 |
| CPU MHz: | 600 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 1 core/chip |
| CPU(s) orderable: | 2-8 |
| Parallel: | No |
| Primary Cache: | 32KBI + 32KBD on chip |
| Secondary Cache: | 8MB(I+D) off chip |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 1 GB |
| Disk Subsystem: | 1 x 18 GB FC, 4 x 18 GB FC (striped) |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | IRIX 6.5.14m |
| Compiler: | MIPSpro 7.3.1.3m C, C++<br>SCSL 1.4 Math Library |
| File System: | xfs |
| System State: | Single-user |

## Notes/Tuning Information

```
Baseline optimization flags (C and C++ use same flags):
   PASS1 : -Ofast=ip35 -IPA:use_intrinsic -fb_create /tmp/SPEC2000/FBDIR/base/$(EXEBASE)
   PASS2 : -Ofast=ip35 -IPA:use_intrinsic -fb_opt /tmp/SPEC2000/FBDIR/base/$(EXEBASE)
 Portability Flags:
   176.gcc: -Dalloca=__builtin_alloca -DMIPS -DHOST_WORDS_BIG_ENDIAN
   186.crafty: -DSGI
   253.perlbmk: -DSPEC_CPU2000_SGI -DI_FCNTL
   252.eon: -lm
   254.gap: -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_IOCTL_PROTO
            -DSYS_HAS_ANSI -DSYS_HAS_CALLOC_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=ip35 -IPA:space=500:plimit=500 -lmalloc (FEEDBACK)
 175.vpr: -Ofast=ip35 -IPA:space=300:plimit=10000:callee_limit=5000:linear=on
 .        -LNO:prefetch_ahead=2 -INLINE:aggressive=on
 .       -OPT:Olimit=0:alias=disjoint:alias=restrict -CG:ld_latency=10 -lmalloc (FEEDBACK)
 181.mcf: basepeak=yes
```

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## Notes/Tuning Information (Continued)

```
176.gcc: -Ofast=ip35 -CG:ld_latency=4 (FEEDBACK)
186.crafty: -Ofast=ip35 -LNO:prefetch=0 -OPT:goto=off -CG:ld_latency=4 -lmalloc (FEEDBACK)
197.parser: -Ofast=ip35 -IPA:min_hot=14 (FEEDBACK)
252.eon: -Ofast=ip35 -LNO:prefetch=0 -LANG:exceptions=off -CG:ld_latency=4 -lmalloc -lm
.        (FEEDBACK)
253.perlbmk: -Ofast=ip35 -IPA:use_intrinsic -Wl,-x (FEEDBACK)
254.gap: -Ofast=ip35 -IPA:use_intrinsic -OPT:unroll_analysis=off:unroll_size=0:unroll_times_max=4
. -OPT:alias=restrict:alias=disjoint -IPA:min_hot=7 -CG:ld_latency=8 -lmalloc (FEEDBACK)
255.vortex: -Ofast=ip35 -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=ip35 -IPA:min_hot=5:space=500:plimit=2900 -INLINE:aggressive=on (FEEDBACK)
300.twolf: basepeak=yes
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
  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.
```