



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**SGI**  
**SGI Origin 300 1X 500MHz R14k**

**SPECint2000 = 379**  
**SPECint\_base2000 = 365**

SPEC license #: 4 Tested by: SGI Test date: Oct-2001 Hardware Avail: Oct-2001 Software Avail: Aug-2001

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	518	270	500	280	
175.vpr	1400	345	406	333	421	
176.gcc	1100	311	353	309	356	
181.mcf	1800	498	361	498	361	
186.crafty	1000	251	398	247	406	
197.parser	1800	569	316	544	331	
252.eon	1300	300	433	281	462	
253.perlbnk	1800	603	298	602	299	
254.gap	1100	420	262	414	265	
255.vortex	1900	355	535	309	616	
256.bzip2	1500	433	347	396	379	
300.twolf	3000	599	501	599	501	

### Hardware

CPU: R14000  
 CPU MHz: 500  
 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: 2MB(I+D) off chip  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 1 GB  
 Disk Subsystem: 1 x 18 GB FC, 2 x 18 GB FC (striped)  
 Other Hardware: None

### Software

Operating System: IRIX 6.5.13m  
 Compiler: MIPSpro 7.3.1.2m C, C++  
 SCSSL 1.3 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: -Dalloca=\_\_builtin\_alloca -DMIPS -DHOST\_WORDS\_BIG\_ENDIAN  
 186.crafty: -DSGI  
 252.eon: -lm  
 253.perlbnk: -DSPEC\_CPU2000\_SGI -DI\_FCNTL  
 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 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 -CG:ld\_latency=10 -lmalloc (FEEDBACK)  
 181.mcf: basepeak=yes



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**SGI**  
**SGI Origin 300 1X 500MHz R14k**

**SPECint2000 = 379**  
**SPECint\_base2000 = 365**

SPEC license #: 4 | Tested by: SGI | Test date: Oct-2001 | Hardware Avail: Oct-2001 | Software Avail: Aug-2001

## Notes/Tuning Information (Continued)

```

176.gcc: -Ofast=ip27 -CG:ld_latency=4 (FEEDBACK)
186.crafty: -Ofast=ip27 -LNO:prefetch=0 -OPT:goto=off -CG:ld_latency=4 -lmalloc (FEEDBACK)
197.parser: -Ofast=ip27 -IPA:min_hot=14 (FEEDBACK)
252.eon: -Ofast=ip27 -LNO:prefetch=0 -LANG:exceptions=off -CG:ld_latency=4 -lmalloc -lm
      (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 -CG:ld_latency=8 -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: basepeak=yes

```

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 = 40 ; percent_totalmem_1m_pages = 7
system -i ; percent_totalmem_256k_pages = 7 ; percent_totalmem_64k_pages = 7
system -i ; r12k_bdiag = 0x4000000 ;
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
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.

```