



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**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.perlbnk	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.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)



# CINT2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

**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

## Notes/Tuning Information (Continued)

```

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
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

```