



# CINT2000 Result

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Sun Microsystems  
Sun Ultra 40

SPECint\_rate2000 = 81.3  
SPECint\_rate\_base2000 = 72.5

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2006 Hardware Avail: Mar-2006 Software Avail: Dec-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.zip	4	88.5	73.4	4	88.4	73.5
175.vpr	4	115	56.7	4	110	59.1
176.gcc	4	62.1	82.2	4	62.7	81.4
181.mcf	4	313	26.7	4	194	42.9
186.crafty	4	43.1	108	4	41.9	111
197.parser	4	152	54.9	4	119	70.1
252.eon	4	48.0	126	4	41.5	145
253.perlbnk	4	102	82.0	4	90.8	92.0
254.gap	4	68.8	74.2	4	68.1	75.0
255.vortex	4	73.0	121	4	67.9	130
256.bzip2	4	105	66.3	4	105	66.3
300.twolf	4	218	64.0	4	169	82.3

### Hardware

CPU: AMD Opteron (TM) 285  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 (order by # of chips)  
 Parallel: No  
 Primary Cache: 64KBI + 64KBD (on chip) per core  
 Secondary Cache: 1024KB (I+D) (on chip) per core  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)  
 Disk Subsystem: SATA,250GB,7200 RPM  
 Other Hardware: None

### Software

Operating System: SuSE Linux 9.0 SLES 64 bit (SP3)  
 Compiler: PathScale EKOPath(TM) Compiler Suite, Version 2.3  
 AMD Core Mathematical Library (ACML), Version 3.0.0  
 File System: ufs  
 System State: Multi-user, Run level 3

## Notes/Tuning Information

### Compiler invocation:

C : pathcc  
 CXX: pathCC

### Portability flags:

186.crafty: -DLINUX\_i386  
 252.eon: -DHAS\_ERRLIST  
 253.perlbnk: -DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL -DSPEC\_CPU2000\_LP64  
 254.gap: -DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO -DSYS\_HAS\_TIME\_PROTO  
 -DSYS\_HAS\_CALLOC\_PROTO -DSPEC\_CPU2000\_LP64  
 255.vortex: -DSPEC\_CPU2000\_LP64

### Feedback Optimization:

+FDO: PASS1=-fb\_create fbdata PASS2=-fb\_opt fbdata

### Baseline Optimization Flags:

C programs: -Ofast +FDO  
 C++ programs: -Ofast +FDO

### Peak Tuning Flags:



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## Notes/Tuning Information (Continued)

```
164.gzip: -O3 -ipa -WOPT:val=0 -OPT:unroll_size=0 +FDO
175.vpr: -O3 -ipa -m32 +FDO
176.gcc: -O3 -IPA:plimit=10000 -LNO:opt=0 -OPT:goto=off +FDO
181.mcf: -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty: -Ofast -CG:local_fwd_sched=on -LNO:opt=0 -WOPT:val=0 +FDO
197.parser: -O3 -ipa -m32 -IPA:ctype=on +FDO
252.eon: -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off -IPA:plimit=4000
-OPT:treeheight=on -TENV:X=4:frame_pointer=off -fno-exceptions
-LNO:fu=10:full_unroll_outer=on -GRA:optimize_boundary=on +FDO
253.perlbnk: -O2 -ipa -OPT:Ofast:transform_to_memlib=off
-fno-math-errno -IPA:plimit=10000 +FDO
254.gap: -Ofast -IPA:min_hotness=5 -OPT:alias=disjoint -CG:movnti=1 +FDO
255.vortex: -Ofast -OPT:goto=off +FDO
256.bzip2: basepeak = true
300.twolf: -O2 -CG:gcm=off:p2align_freq=100000
-OPT:Ofast:unroll_times_max=8:unroll_size=256:alias=disjoint
-WOPT:mem_opnds=on -m32 +FDO
```

Default BIOS settings was used.

taskset has been used to bind processes to CPUs