



# CINT2000 Result

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## Advanced Micro Devices

Tyan Thunder K9HM (S3992), AMD Opteron (TM) 2218

SPECint\_rate2000 = 41.0

SPECint\_rate\_base2000 = 36.7

SPEC license #: 49 | Tested by: AMD Austin, TX | Test date: Jul-2006 | Hardware Avail: Sep-2006 | Software Avail: Jan-2006

| Benchmark   | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip    | 2           | 89.2         | 36.4       | 2      | 88.8    | 36.6  |
| 175.vpr     | 2           | 111          | 29.1       | 2      | 108     | 30.0  |
| 176.gcc     | 2           | 72.3         | 35.3       | 2      | 72.1    | 35.4  |
| 181.mcf     | 2           | 258          | 16.2       | 2      | 159     | 26.3  |
| 186.crafty  | 2           | 43.8         | 53.0       | 2      | 42.8    | 54.2  |
| 197.parser  | 2           | 149          | 28.0       | 2      | 119     | 35.0  |
| 252.eon     | 2           | 49.3         | 61.2       | 2      | 42.3    | 71.2  |
| 253.perlbnk | 2           | 104          | 40.1       | 2      | 92.8    | 45.0  |
| 254.gap     | 2           | 63.8         | 40.0       | 2      | 63.8    | 40.0  |
| 255.vortex  | 2           | 73.4         | 60.1       | 2      | 68.6    | 64.3  |
| 256.bzip2   | 2           | 102          | 34.1       | 2      | 102     | 34.1  |
| 300.twolf   | 2           | 210          | 33.1       | 2      | 166     | 42.0  |

### Hardware

CPU: AMD Opteron (TM) 2218  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2  
 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: 4x512MB, DDR2-667 CL4 ECC Reg  
 Disk Subsystem: IDE, 120 GB  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 9 SP3 (64-bit)  
 Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.3  
 File System: Linux/ext3  
 System State: Multi-user, run level 3

## Notes/Tuning Information

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

### Baseline optimization flags:

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

### Portability Flags:

186.crafty: -DLINUX\_i386  
 252.eon: -DHAS\_ERRLIST -DSPEC\_CPU2000\_LP64  
 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

### Peak Tuning:

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



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## Notes/Tuning Information (Continued)

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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.perlbmk:  -O2 -ipa -OPT:Ofast:transform_to_memlib=off
              -fno-math-errno -IPA:plimit=10000 +FDO
255.vortex:   -Ofast -OPT:goto=off -CG:p2align=on
              -GRA:optimize_boundary=on -IPA:min_hotness=120 +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

```

system can be built using a standard ATX case and a Zippy 700W PSL-6701P power supply  
Half memory slots populated on CPU in dual channel configuration  
taskset utility used to bind CPU(s) to processes.