



# CINT2000 Result

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## Advanced Micro Devices

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

SPECint2000 = 1827

SPECint\_base2000 = 1647

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	89.0	1574	88.5	1582	
175.vpr	1400	109	1290	106	1324	
176.gcc	1100	61.6	1787	62.2	1769	
181.mcf	1800	222	811	139	1293	
186.crafty	1000	43.6	2291	42.5	2354	
197.parser	1800	146	1237	118	1526	
252.eon	1300	48.7	2668	42.1	3085	
253.perlbmk	1800	103	1744	93.5	1925	
254.gap	1100	61.8	1781	61.8	1781	
255.vortex	1900	72.8	2610	67.3	2821	
256.bzip2	1500	100	1498	100	1498	
300.twolf	3000	203	1477	166	1802	

### 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.perlbmk: -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