



CINT2000 Result

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Advanced Micro Devices

Tyan Thunder K9QE (S4985) AMD Opteron (TM) 2220SE

SPECint2000 = 1960

SPECint_base2000 = 1749

SPEC license #: 49 Tested by: AMD Austin, TX Test date: Jul-2006 Hardware Avail: Sep-2006 Software Avail: Aug-2005

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio | |
|-------------|----------------|--------------|------------|---------|-------|--|
| 164.gzip | 1400 | 81.9 | 1710 | 81.5 | 1717 | |
| 175.vpr | 1400 | 103 | 1353 | 100 | 1398 | |
| 176.gcc | 1100 | 56.0 | 1966 | 55.9 | 1966 | |
| 181.mcf | 1800 | 227 | 795 | 137 | 1314 | |
| 186.crafty | 1000 | 40.2 | 2489 | 39.1 | 2560 | |
| 197.parser | 1800 | 137 | 1312 | 110 | 1635 | |
| 252.eon | 1300 | 44.9 | 2892 | 38.8 | 3349 | |
| 253.perlbmk | 1800 | 95.2 | 1890 | 85.7 | 2100 | |
| 254.gap | 1100 | 57.7 | 1908 | 57.7 | 1908 | |
| 255.vortex | 1900 | 68.2 | 2784 | 63.7 | 2985 | |
| 256.bzip2 | 1500 | 95.0 | 1580 | 95.0 | 1580 | |
| 300.twolf | 3000 | 198 | 1514 | 153 | 1959 | |

Hardware

CPU: AMD Opteron (TM) 2220SE
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1,2,4
 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: SATA, 74GB
 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

```

All memory slots populated on all CPU(s)

The system can be built using a Zippy 700W EPS12V power supply and any SSI-MEB case.

BIOS Changes: Enable Basic ECC