CINT2000 Result

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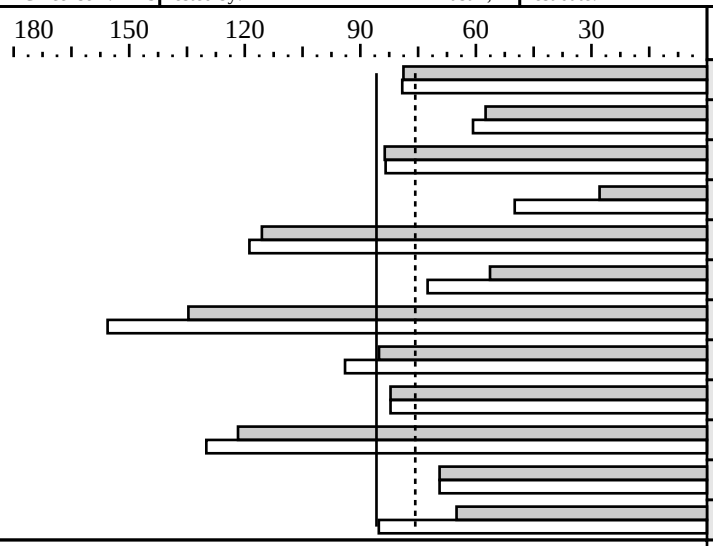
Advanced Micro Devices

Tyan Thunder K9QE (S4985) AMD Opteron (TM) 8220SE

SPECint_rate2000 = 85.8

SPECint_rate_base2000 = 75.7

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	82.4	78.8	4	82.1	79.1
175.vpr	4	113	57.5	4	107	60.7
176.gcc	4	61.0	83.7	4	61.2	83.4
181.mcf	4	299	27.9	4	167	49.9
186.crafty	4	40.2	116	4	39.1	119
197.parser	4	148	56.3	4	115	72.5
252.eon	4	44.8	135	4	38.8	156
253.perlbmk	4	98.1	85.2	4	88.9	94.0
254.gap	4	62.1	82.2	4	62.1	82.2
255.vortex	4	72.4	122	4	67.8	130
256.bzip2	4	100	69.4	4	100	69.4
300.twolf	4	214	65.0	4	163	85.2

Hardware

CPU:	AMD Opteron (TM) 8220SE
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 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:	16x512MB, 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)

```
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)
taskset utility used to bind processes to 1 core/chip.
The system can be built using a Zippy 700W EPS12V power supply and any SSI-MEB case.
BIOS Changes: Enable Basic ECC
```