



# CINT2000 Result

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## Advanced Micro Devices

TYAN Thunder K8QSD Pro (S4882-D), AMD Opteron (TM) 854

SPECint\_rate2000 = 84.6

SPECint\_rate\_base2000 = 75.5

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	82.8	78.5	4	82.8	78.5
175.vpr	4	111	58.5	4	108	60.0
176.gcc	4	61.4	83.2	4	60.5	84.3
181.mcf	4	282	29.7	4	162	51.5
186.crafty	4	41.7	111	4	42.0	110
197.parser	4	146	57.1	4	118	70.6
252.eon	4	48.1	125	4	44.2	136
253.perlbnk	4	97.1	86.0	4	86.6	96.4
254.gap	4	63.1	81.0	4	62.2	82.0
255.vortex	4	73.0	121	4	67.0	132
256.bzip2	4	101	68.8	4	101	68.8
300.twolf	4	210	66.3	4	161	86.6

### Hardware

CPU: AMD Opteron (TM) 854  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 1-4  
 Parallel: No  
 Primary Cache: 64KBI + 64KBD on chip  
 Secondary Cache: 1024KB (I+D) on chip  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 16x512 MB, DDR400 ECC Reg CL2.5  
 Disk Subsystem: SATA, Western Digital WD740GD, 74GB 10000 rpm  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 9 SP2 for AMD64  
 Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.1  
 File System: Linux/ext3  
 System State: Multi-user, run level 3

## Notes/Tuning Information

Tested by AMD

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

Baseline optimization flags:

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

Portability Flags:

176.gcc: srcalt 64bitgcc  
 186.crafty: -DLINUX\_i386  
 252.eon: -DHAS\_ERRLIST -DSPEC\_CPU2000\_LP64 srcalt fmax\_errno  
 253.perlbnk: -DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL  
 -DSPEC\_CPU2000\_GLIBC22 -DSPEC\_CPU2000\_LP64  
 254.gap: -DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO -DSYS\_HAS\_TIME\_PROTO  
 -DSYS\_HAS\_SIGNAL\_PROTO -DSYS\_HAS\_ANSI -DSYS\_HAS\_CALLOC\_PROTO  
 -DSPEC\_CPU2000\_LP64  
 255.vortex: -DSPEC\_CPU2000\_LP64 srcalt closed\_files

Peak Tuning:



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### Notes/Tuning Information (Continued)

```

164.gzip:      basepeak = true
175.vpr:      -O2 -ipa -OPT:alias=disjoint -CG:p2align_freq=500000
              -INLINE:aggressive=on -IPA:plimit=10000:callee_limit=5000
              +FDO
176.gcc:      -O3 -ipa -OPT:goto=off +FDO
181.mcf:      -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty:   -O3 -OPT:goto=off +FDO
197.parser:   -O3 -ipa -m32 -IPA:ctype=on +FDO
252.eon:      -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off -OPT:treeheight=on
              -TENV:X=4:frame_pointer=off -fno-exceptions
              -LNO:fu=10:full_unroll_outer=on -IPA:plimit=4000 +FDO
253.perlbnk:  -O2 -ipa -OPT:Ofast:transform_to_memlib=off
              -fno-math-errno -IPA:plimit=10000 +FDO
254.gap:      -Ofast -WOPT:aggstr=off +FDO
255.vortex:   -Ofast -OPT:goto=off -IPA:plimit=1800 -CG:p2align=on
              +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

```

The system under test can be built using a 13" x 16" SSI MEB case and an Enermax EPS 12 Volt ATX-6ES 660 Watt power supply.  
 All memory slots were populated with Kingston KRX3200AK2 on all CPU(s).  
 Taskset utility used to bind CPU(s) to processes.  
 Memory timings were manually set in BIOS: CL=2.5, TRCD=3, TRAS=6, TRP=3  
 BIOS Rev E.1.02