# CFP2000 Result

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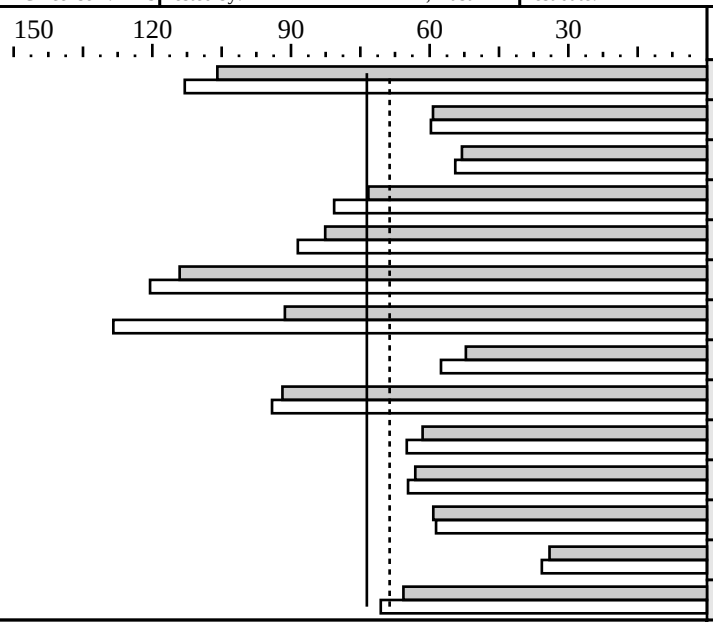
## Advanced Micro Devices

TYAN Thunder K8QSD Pro (S4882-D), AMD Opteron (TM) 280

SPECfp_rate2000 = 73.6

SPECfp_rate_base2000 = 68.7

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




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 4 | 70.1 | 106 | 4 | 65.7 | 113 |
| 171.swim | 4 | 243 | 59.3 | 4 | 241 | 59.7 |
| 172.mgrid | 4 | 158 | 53.0 | 4 | 153 | 54.5 |
| 173.applu | 4 | 133 | 73.3 | 4 | 121 | 80.7 |
| 177.mesa | 4 | 78.6 | 82.6 | 4 | 73.4 | 88.5 |
| 178.galgel | 4 | 118 | 114 | 4 | 112 | 120 |
| 179.art | 4 | 132 | 91.3 | 4 | 93.9 | 128 |
| 183.equake | 4 | 116 | 52.2 | 4 | 105 | 57.6 |
| 187.facerec | 4 | 96.0 | 91.9 | 4 | 93.7 | 94.1 |
| 188.ammp | 4 | 166 | 61.5 | 4 | 157 | 65.0 |
| 189.lucas | 4 | 147 | 63.1 | 4 | 143 | 64.7 |
| 191.fma3d | 4 | 165 | 59.2 | 4 | 166 | 58.6 |
| 200.sixtrack | 4 | 150 | 34.1 | 4 | 143 | 35.7 |
| 301.apsi | 4 | 184 | 65.7 | 4 | 171 | 70.6 |

### Hardware

| | |
|---|---|
| CPU: | AMD Opteron (TM) 280 |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1-2 |
| Parallel: | No |
| Primary Cache: | 64KBI + 64KBD/core |
| Secondary Cache: | 1024KB (I+D)/core |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 8x512 MB, DDR400 ECC Reg CL2 |
| Disk Subsystem: | SATA, Western Digital WD740GD, 74 GB 10000 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SuSE Linux Enterprise Server 9 (SP2) for AMD64 |
| Compiler: | PathScale EKOPath(TM) Compiler Suite, Release 2.2.1 |
| File System: | Linux/ext3 |
| System State: | Multi-user, run level 3 |

## Notes/Tuning Information

```
  +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata
  +ACML  means -L<acml2.5.1-install-dir>/pathscale64/lib -lacml,
         which causes linking with AMD Core Math Library V2.5.1

  Baseline optimization
    C programs:       -Ofast -WOPT:mem_opnds=on +FDO
    Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
  Portability Flags:
    178.galgel: -fixedform

 Peak Tuning:
  168.wupwise:  -Ofast -LNO:prefetch_ahead=5:prefetch=3
                -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
                -IPA:linear=on:plimit=50000:callee_limit=5000
                -INLINE:aggressive=on
```

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## Notes/Tuning Information (Continued)

```
171.swim:     -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
172.mgrid:    -Ofast -CG:gcm=off:cflow=on -OPT:IEEE_a=3:unroll_size=200
              -LNO:fusion=2:fission=1:blocking=off:prefetch_ahead=2
              -WOPT:mem_opnds=on:aggstr=0
173.applu:    -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
              -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3 +FDO
177.mesa:    -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on -WOPT:mem_opnds=on +FDO
178.galgel:   -Ofast -OPT:fast_complex=on +ACML +FDO
              RM_SOURCES=lapak.f90
179.art:      -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.equake:   -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec:  -Ofast -LNO:fusion=2
              -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.ammp:     -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
              -fno-math-errno -TENV:X=4 +FDO
189.lucas:    -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:mem_opnds=on +FDO
191.fma3d:    -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
              -WOPT:mem_opnds=on:retype_expr=on -IPA:pu_reorder=1 +FDO
200.sixtrack: -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on
              -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:     -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

The system under test can be built using a SSI MEB case and
a Zippy Technology Corp. PSL-6701P 12V 700W power supply.
Taskset utility used to bind CPU(s) to processes.
All memory slots populated on all CPU(s).
BIOS Rev E 1.03
```