CFP2000 Result

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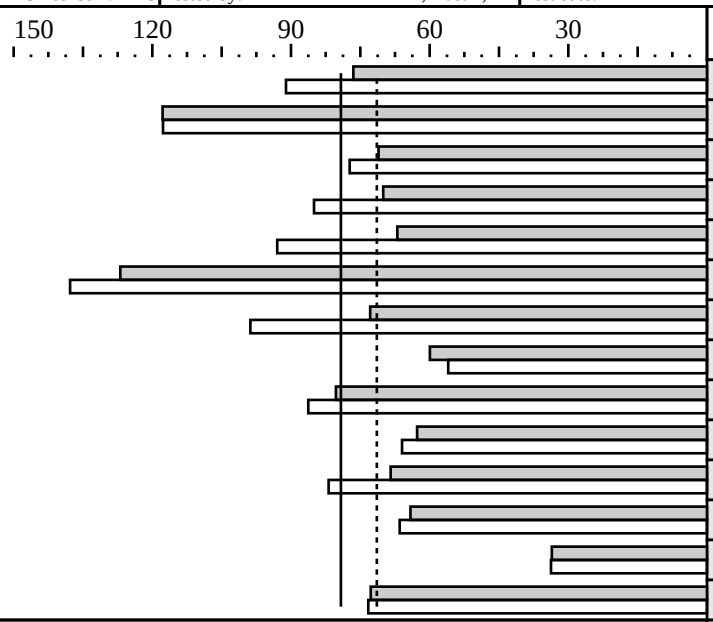
Advanced Micro Devices

Tyan Thunder K8QS Pro (S4882), AMD Opteron (TM) 850

SPECfp_rate2000 = 79.2

SPECfp_rate_base2000 = 71.4

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Aug-2004 | Hardware Avail: Jul-2004 | Software Avail: Aug-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	97.0	76.5	4	81.5	91.1
171.swim	4	122	118	4	122	118
172.mgrid	4	118	71.1	4	108	77.3
173.applu	4	139	70.1	4	115	85.0
177.mesa	4	97.0	67.0	4	69.9	93.0
178.galgel	4	106	127	4	97.7	138
179.art	4	166	72.9	4	122	98.8
183.equake	4	101	60.0	4	108	56.0
187.facerec	4	110	80.3	4	102	86.3
188.ammp	4	163	62.7	4	155	66.0
189.lucas	4	136	68.4	4	113	81.9
191.fma3d	4	152	64.2	4	147	66.5
200.sixtrack	4	152	33.6	4	151	33.7
301.apsi	4	166	72.7	4	165	73.3

Hardware

CPU:	AMD Opteron (TM) 850
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	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 PC3200 CL3.0 ECC Registered
Disk Subsystem:	SCSI, Seagate Cheetah ST336753LW Ultra 320, 15K rpm
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Sever 8 for AMD64 (SP3) SuSE kernel 2.4.21-143-numa
Compiler:	PathScale EKO Compiler Suite, Release 1.3
File System:	Linux/ext3
System State:	Multi-user SuSE Run level 3

Notes/Tuning Information

```
Tested by Advanced Micro Devices

 +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata
 +ACML is linking with AMD Core Math Library

 Baseline optimization
   C programs:       -Ofast -WOPT:mem_opnds=on +FDO
   Fortran programs: -Ofast -LNO:fusion=2
 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 -TENV:X=4
   loader:    -IPA:space=1000:linear=on:plimit=50000:callee_limit=5000
              -INLINE:aggressive=on
```

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Notes/Tuning Information (Continued)

```
171.swim:    -Ofast -LNO:fusion=2:prefetch=2
172.mgrid:   -O3 -LNO:fusion=2:blocking=off:prefetch=2
             -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3
             -CG:gcm=off:cflow=off
173.applu:   -Ofast -CG:local_fwd_sched=on
             -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
             -OPT:ro=3 -TENV:X=3 -WOPT:val=2
177.mesa:    -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel:  -Ofast -OPT:fast_complex -CG:load_exe=0:use_movlpd=on +ACML
179.art:     -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.equake:  -Ofast -WOPT:mem_opnds=on -CG:local_fwd_sched=on
187.facerec:  -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0
              -LNO:fusion=2:prefetch=0 +FDO -IPA:plimit=1800
188.ammp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3 -LNO:prefetch=0 -fno-math-errno -TENV:X=4 +FDO
189.lucas: -Ofast -CG:prefetch=off:load_exe=2:local_fwd_sched
           -TENV:X=4 -WOPT:retype_expr=on +FDO
191.fma3d: -O2 -ipa -WOPT:mem_opnds=on:retype_expr=on -OPT:Ofast:IEEE_arith=3:ro=3
           +FDO -IPA:pu_reorder=1
200.sixtrack:= -Ofast +FDO
301.apsi: -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0
BIOS rev. 1.00
Taskset utility used to bind process to cpu(s)
All memory slots populated
The tested system can be assembled using an SSI MEB footprint case, such as the CCSI RC0352 3U rackmount case,
and a Tyan recommended 650W EPS-12V power supply, such as the Enermax 660W power supply (PEG851AX-VH)
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