CFP2000 Result

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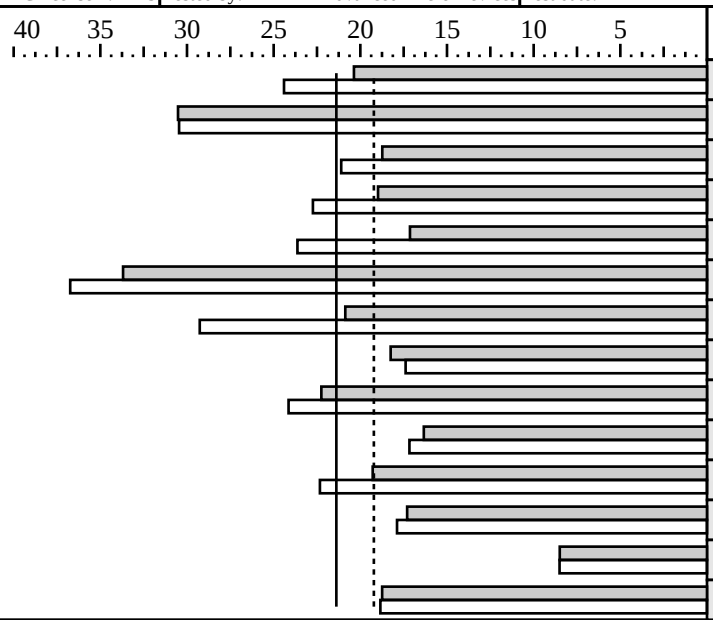
Advanced Micro Devices

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

SPECfp_rate2000 = 21.4

SPECfp_rate_base2000 = 19.2

SPEC license #: 49 | Tested by: Advanced Micro Devices | Test date: Aug-2004 | Hardware Avail: Jul-2004 | Software Avail: Aug-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	91.1	20.4	1	76.1	24.4
171.swim	1	118	30.5	1	118	30.5
172.mgrid	1	111	18.7	1	98.9	21.1
173.applu	1	128	19.0	1	107	22.7
177.mesa	1	94.8	17.1	1	68.7	23.6
178.galgel	1	99.9	33.7	1	91.6	36.7
179.art	1	145	20.9	1	103	29.3
183.equake	1	82.6	18.3	1	86.7	17.4
187.facerec	1	99.1	22.2	1	91.3	24.1
188.ammp	1	156	16.3	1	149	17.2
189.lucas	1	120	19.3	1	104	22.3
191.fma3d	1	141	17.3	1	136	17.9
200.sixtrack	1	150	8.49	1	150	8.51
301.apsi	1	161	18.7	1	160	18.8

Hardware

CPU:	AMD Opteron (TM) 850
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 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:	4x512 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

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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
All memory slots populated on CPU0
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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