CFP2000 Result

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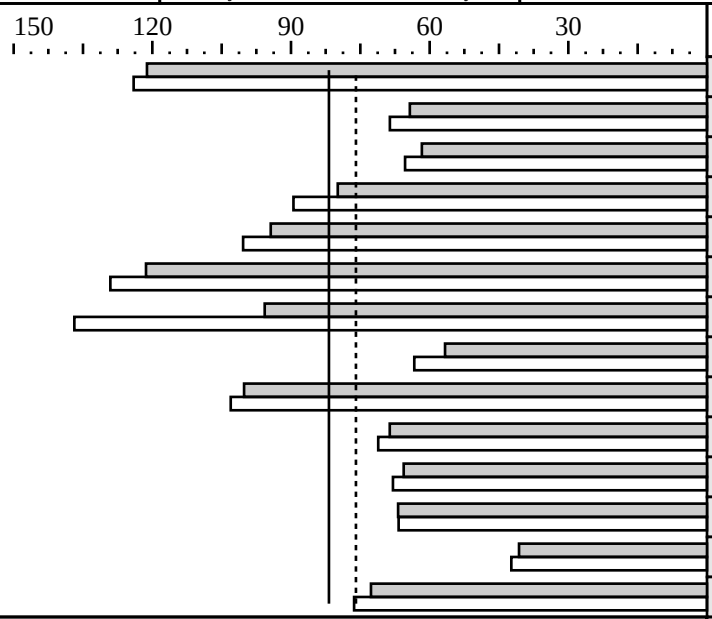
Rackable Systems
C1000-A03-25F26 (AMD Opteron 2218)

SPECfp_rate2000 = 81.8

SPECfp_rate_base2000 = 75.9

SPEC license #: 64 | Tested by: Rackable Systems | Test date: Jul-2006 | Hardware Avail: Aug-2006 | Software Avail: Mar-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	61.3	121	4	59.8	124
171.swim	4	224	64.3	4	210	68.6
172.mgrid	4	135	61.7	4	128	65.3
173.applu	4	122	79.9	4	109	89.5
177.mesa	4	68.8	94.4	4	64.7	100
178.galgel	4	111	121	4	104	129
179.art	4	126	95.7	4	88.1	137
183.equake	4	106	56.7	4	95.3	63.3
187.facerec	4	88.0	100	4	85.6	103
188.ammp	4	149	68.6	4	144	71.1
189.lucas	4	141	65.6	4	137	67.9
191.fma3d	4	146	66.8	4	146	66.7
200.sixtrack	4	126	40.7	4	121	42.3
301.apsi	4	166	72.7	4	158	76.3

Hardware

CPU:	AMD Opteron 2218
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chip(s)
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:	4x1024MB, DDR2 5300
Disk Subsystem:	1 x 250GB SATA
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux 4 ES Update 2 x86_64
Compiler:	PathScale EKOPath(TM) Compiler Suite, Release 2.4 (for C and Fortran) AMD Core Mathematical Library (ACML), Version 3.1.0
File System:	Linux/ext3
System State:	Multi-user, run level 3

Notes/Tuning Information

```
Portability flags:
   178.galgel: -fixedform

Feedback Optimization:
 +FDO: PASS1=-fb_create fbdata   PASS2=-fb_opt fbdata

AMD Core Math Library
+ACML  means -L<acml-install-dir>/pathscale64/lib -lacml,
        which causes linking with AMD Core Math Library

Baseline Optimization Flags:
   C programs:       -Ofast -WOPT:mem_opnds=on +FDO
   Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO

Peak Tuning Flags:
 168.wupwise:  -Ofast -LNO:prefetch_ahead=5:prefetch=3
               -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
```

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Notes/Tuning Information (Continued)

```
                -IPA:linear=on:plimit=50000:callee_limit=5000
                -INLINE:aggressive=on
 171.swim:      -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
 172.mgrid:     -Ofast -CG:gcm=off -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
 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
Taskset utility used to bind process to CPU(s)
```