CFP2000 Result

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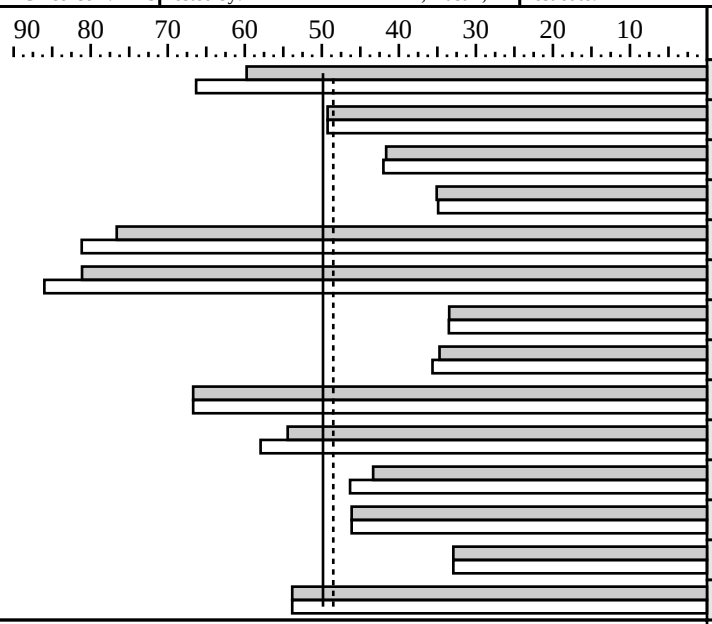
Verari Systems

QuatreX-64 (TM), AMD Opteron (TM) 850

SPECfp_rate2000 = 49.8

SPECfp_rate_base2000 = 48.5

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	124	59.8	4	112	66.3
171.swim	4	292	49.2	4	292	49.2
172.mgrid	4	201	41.6	4	199	42.0
173.applu	4	278	35.1	4	279	34.9
177.mesa	4	84.8	76.6	4	80.0	81.2
178.galgel	4	166	81.1	4	156	86.0
179.art	4	361	33.5	4	360	33.5
183.equake	4	174	34.7	4	169	35.6
187.facerec	4	132	66.7	4	132	66.7
188.ammp	4	188	54.4	4	176	57.9
189.lucas	4	214	43.3	4	200	46.3
191.fma3d	4	211	46.1	4	211	46.1
200.sixtrack	4	155	32.9	4	155	32.9
301.apsi	4	224	53.8	4	224	53.8

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:	8x512 MB PC3200 DDR SDRAM CL3.0
Disk Subsystem:	SCSI, Ultra-320, 10k rpm
Other Hardware:	None

Software

Operating System:	SuSE Linux 8.0 SLES 64 bit (SP3) SuSE NUMA kernel 2.4.21-143
Compiler:	PGI Fortran 5.1-3 SuSE gcc33 optional compiler (from SLES8 SP3) AMD Core Math Library (Version 1.5) for AMD64
File System:	Linux/ext3
System State:	Multi-user SuSE Run level 3

Notes/Tuning Information

```
+FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities
+ACML is linking with AMD Core Math Library
pgf90 is the PGI Fortran compiler
gcc is the SuSE optional gcc 3.3 compiler (from SLES8 SP3)
Portability:
                PORTABILITY=-DSPEC_CPU2000_LP64 is applied to all the C benchmarks.
  178.galgel:    -Mfixed
Baseline: C      gcc   -O3 -funroll-all-loops +FDO
Baseline: Fortran pgf90 -fastsse  -Mipa=fast
Peak tuning:
  168.wupwise:   pgf90 -fastsse -Mipa=fast -Minline=levels:2
  171.swim:      basepeak=true
  172.mgrid:     pgf90 -fast -Mipa=fast
  173.applu:     pgf90 -fast -Mipa=fast
  177.mesa:      gcc   -O3 -funroll-all-loops -finline-limit=2000 +FDO
  178.galgel:    pgf90 -fastsse -O3 -mp RM_SOURCES=lapak.f90 +ACML
  179.art:       gcc   -O3 -funroll-all-loops -ffast-math -finline-limit=1500 +FDO
```

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Notes/Tuning Information (Continued)

```
      183.equake:     gcc   -O3 -funroll-all-loops -ffast-math -finline-limit=2000
      187.facerec:    basepeak=true
      188.ammp:       gcc   -O3 -funroll-all-loops -ffast-math -finline-limit=2000 +FDO
      189.lucas:      pgf90 -fastsse -Mipa=fast -Mnosmart
      191.fma3d:      basepeak=true
      200.sixtrack:   basepeak=true
      301.apsi:       basepeak=true
    ONESTEP is used for all base and peak runs
  BIOS rev.:PQTDX0-C
   Taskset utility used to bind processes to CPU(s)
```