



# CFP2000 Result

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## Advanced Micro Devices

Tyan Thunder K9QE (S4985) AMD Opteron (TM) 2220SE

SPECfp2000 = 2064

SPECfp\_base2000 = 1893

SPEC license #: 49 Tested by: AMD Austin, TX Test date: Jul-2006 Hardware Avail: Sep-2006 Software Avail: Oct-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	54.6	2932	54.7	2924	
171.swim	3100	113	2747	114	2722	
172.mgrid	1800	102	1758	102	1757	
173.applu	2100	132	1593	125	1686	
177.mesa	1400	127	1101	63.0	2224	
178.galgel	2900	92.5	3136	85.7	3386	
179.art	2600	54.9	4733	54.9	4733	
183.quake	1300	71.8	1811	70.3	1850	
187.facerec	1900	88.7	2142	88.7	2142	
188.amp	2200	179	1229	147	1501	
189.lucas	2000	102	1963	87.5	2287	
191.fma3d	2100	124	1691	123	1710	
200.sixtrack	1100	129	854	129	855	
301.apsi	2600	170	1526	171	1522	

### Hardware

CPU: AMD Opteron (TM) 2220SE  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2,4  
 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: 4x512MB, DDR2-667 CL4 ECC Reg  
 Disk Subsystem: SATA, 74Gb  
 Other Hardware: None

### Software

Operating System: Windows Server 2003 SP1 (32-bit)  
 Compiler: Intel C++ 9.0 build 20050912Z for IA32, Intel Fortran 9.0 build 20050912Z for IA32, Microsoft Visual Studio .NET 7.0.9466 (libraries) PGI Fortran compiler 6.0-5 for Windows XP, PGI C compiler 6.0-5 for Windows XP, ACML Version 2.5.3 (bundled with PGI 6.0-5)  
 File System: NTFS  
 System State: default

## Notes/Tuning Information

```
+FDO:
  icl, ifort : PASS1=-Qprof_gen PASS2=-Qprof_use
  pgf90      : PASS1=-Mpfi      PASS2=-Mpfo
ifort is the Intel Fortran compiler, icl is the Intel C++ compiler and
pgf90 is the PGI Fortran 90 compiler.
pgcc is the PGI C compiler.
ONESTEP is set to 1 for every compile with the PGI compilers.
Portability:
178.galgel: -Mfixed
Baseline: C : pgcc -fastsse -Mipa=fast,inline
Baseline: Fortran: pgf90 -fastsse -Mipa=fast,inline +FDO
Peak tuning:
168.wupwise: pgf90 -fastsse -Mipa=fast,inline -Mvect
171.swim: ifort -Qipo -O3 -QaxN -QxW -Qunroll0 +FDO
172.mgrid: pgf90 -fastsse -Mipa=fast,inline
173.applu: ifort -Qipo -O3 -QaxN -QxW -auto +FDO
177.mesa: icl -Qipo -QxW -Qunroll1 -Qansi_alias +FDO
```



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## Notes/Tuning Information (Continued)

-Qoption,c,-ip\_ninl\_max\_stats=1500,-ip\_ninl\_max\_total\_stats=4500

```

178.galgel:      pgf90  -fastsse -Mipa=fast,safe -Munix -lacml
                  RM_SOURCES=lapak.f90
179.art:         pgcc   basepeak=yes
183.quake:      icl    -O3 -Qipo -QxW +FDO
187.facerec:    pgf90  basepeak=1
188.amp:        icl    -Oa  -QxW  -Zp4 -Qansi_alias
189.lucas:      ifort  -Qipo -QxW -Qunroll1
191.fma3d:      pgf90  -Mipa=fast,inline -fastsse -Mnovect +FDO
200.sixtrack:   pgf90  -fastsse -Mipa=fast,inline
301.apsi:       pgf90  -fastsse -Mipa=fast,inline

```

All memory slots populated on all CPU(s)

The system can be built using a Zippy 700W EPS12V power supply and any SSI-MEB case.

BIOS Changes: Enable Basic ECC