



# CFP2000 Result

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Advanced Micro Devices  
TYAN S2865 K8E Tomcat, AMD Opteron (TM) 146

SPECfp2000 = 1442  
SPECfp\_base2000 = 1389

SPEC license #: 49 Tested by: AMD, Austin, TX Test date: Jul-2005 Hardware Avail: Aug-2005 Software Avail: Oct-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	72.7	2201	72.7	2201	
171.swim	3100	173	1796	163	1902	
172.mgrid	1800	156	1152	156	1152	
173.aplu	2100	169	1242	155	1351	
177.mesa	1400	94.8	1476	89.2	1570	
178.galgel	2900	129	2249	119	2441	
179.art	2600	161	1619	157	1657	
183.quake	1300	89.4	1454	89.4	1454	
187.facerec	1900	123	1551	120	1578	
188.amp	2200	203	1082	198	1113	
189.lucas	2000	130	1543	119	1683	
191.fma3d	2100	176	1191	162	1293	
200.sixtrack	1100	178	618	178	618	
301.apsi	2600	220	1182	220	1182	

### Hardware

CPU: AMD Opteron (TM) 146 (939-pin)  
CPU MHz: 2000  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1  
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 DDR400 CL2.0  
Disk Subsystem: SATA, Western Digital WD740GD, 10000 rpm  
Other Hardware: None

### Software

Operating System: Microsoft Windows XP Pro SP2  
Compiler: Intel C++ 8.0 build 20040714Z,  
Intel Fortran 8.1 for IA32 build 20041019Z,  
PGI Fortran compiler 5.2-4 for Windows XP,  
AMD Core Math library Version 2.1 (ACML),  
Microsoft Visual Studio .NET 7.0.9466 (libraries),  
MicroQuill Smartheap Library 7.0  
File System: NTFS  
System State: Default

## Notes/Tuning Information

```
+FDO: PASS1=-Qprof_gen PASS2=-Qprof_use
+ACML is linking with AMD Core Math Library V2.1
ONESTEP is set for all peak runs.
ifort is the Intel Fortran compiler, icl is the Intel C++ compiler and
pgf90 is the PGI Fortran compiler.
The Intel C++ 8.0 and the Intel Fortran 8.1 compilers are setup in the following order:
"c:\program files\intel\fortran\compiler80\ia32\bin\ifortvars.bat"
"c:\program files\intel\cpp\compiler80\ia32\bin\iclvars.bat"
To make sure that the correct libraries are selected, the following link option is
added for the peak runs where Intel Fortran 8.1 compiler is used:
LDOPT = -Fe$@ -link -LIBPATH:"c:\program files\intel\fortran\compiler80\ia32\lib"
(denoted by +LIBPATH:INTEL8.1 in the optimization flags listed below)
Portability:
178.galgel: -Mfixed
Baseline: C : icl -fast -arch:SSE2 -QaxW +FDO
Baseline: Fortran: pgf90 -fastsse -Mipa=fast,inline
Peak tuning:
```



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## Notes/Tuning Information (Continued)

```

168.wupwise:   pgf90 basepeak=yes
171.swim:     ifort -Qipo -O3 -QaxN -QxW +FDO -Qunroll0 +LIBPATH:INTEL8.1
172.mgrid:   pgf90 basepeak=yes
173.applu:   ifort -Qipo -O3 -QaxN -QxW +FDO -auto +LIBPATH:INTEL8.1
177.mesa:    icl -Qipo -arch:SSE2 +FDO -Qunroll1 -Qansi_alias
              -Qoption,f,-ip_ninl_max_stats=1500,-ip_ninl_max_total_stats=4500
179.art:     icl -Qipo -Zp4 +FDO
183.equake:  icl basepeak=yes
178.galgel:  pgf90 -fastsse -Mipa=fast,safe RM_SOURCES=lapak.f90 -Munix +ACML
187.facerec: ifort -Qipo -QxW +FDO -Qunroll3 +LIBPATH:INTEL8.1
              -Qoption,f,-ip_ninl_max_stats=2500,-ip_ninl_max_total_stats=7000
188.ammp:    icl -Oa -arch:SSE2 -Zp4 -Qansi_alias
189.lucas:   ifort -Qipo -QxW -Qunroll1 +LIBPATH:INTEL8.1
191.fma3d:   ifort -Qipo -QaxN -QxW +FDO -Qansi_alias- +LIBPATH:INTEL8.1
200.sixtrack: pgf90 basepeak=yes
301.apsi:    pgf90 basepeak=yes

```

The tested system can be assembled using a standard ATX footprint, an Antec True 550 Watt EPS12V power supply, and a PCI or PCIe graphics card.  
 All memory slots were populated with Corsair CMX512-3200XL.  
 Memory timings manually set in BIOS: CAS=2, TRCD=2, TRAS=5, TRP=2  
 BIOS version 1.01