



# CFP2000 Result

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Advanced Micro Devices  
TYAN S2865 K8E Tomcat, AMD Opteron (TM) 148

SPECfp2000 = 1540  
SPECfp\_base2000 = 1482

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	67.6	2366	67.6	2366	
171.swim	3100	169	1830	158	1961	
172.mgrid	1800	144	1250	144	1250	
173.applu	2100	162	1298	148	1420	
177.mesa	1400	85.5	1638	81.0	1727	
178.galgel	2900	121	2404	112	2599	
179.art	2600	155	1674	152	1715	
183.quake	1300	85.0	1530	85.0	1530	
187.facerec	1900	114	1669	112	1704	
188.amp	2200	188	1171	181	1218	
189.lucas	2000	125	1597	115	1741	
191.fma3d	2100	164	1279	152	1383	
200.sixtrack	1100	161	681	161	681	
301.apsi	2600	203	1283	203	1283	

### Hardware

CPU: AMD Opteron (TM) 148 (939-pin)  
 CPU MHz: 2200  
 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