



# CFP2000 Result

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**Advanced Micro Devices**  
TYAN S2895 Thunder K8WE, AMD Opteron (TM) 270

**SPECfp\_rate2000 = 28.3**  
**SPECfp\_rate\_base2000 = 27.1**

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Apr-2005 | Hardware Avail: May-2005 | Software Avail: Mar-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	77.5	47.9	2	77.5	47.9
171.swim	2	288	25.0	2	249	28.9
172.mgrid	2	177	23.6	2	177	23.6
173.applu	2	216	22.5	2	196	24.9
177.mesa	2	93.7	34.7	2	88.6	36.6
178.galgel	2	147	45.7	2	139	48.3
179.art	2	257	23.4	2	243	24.8
183.quake	2	120	25.2	2	120	25.2
187.facerec	2	135	32.7	2	133	33.2
188.amp	2	220	23.2	2	203	25.1
189.lucas	2	171	27.1	2	167	27.7
191.fma3d	2	203	24.0	2	187	26.0
200.sixtrack	2	179	14.3	2	179	14.3
301.apsi	2	225	26.8	2	225	26.8

**Hardware**

CPU: AMD Opteron (TM) 270  
CPU MHz: 2000  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
CPU(s) orderable: 1-2  
Parallel: No  
Primary Cache: 64KBI + 64KBD/core  
Secondary Cache: 1024KB(I+D)/core  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 4x512 MB PC3200 CL2.5 ECC Reg  
Disk Subsystem: SATA, Western Digital WD740GD, 10000 RPM  
Other Hardware: None

**Software**

Operating System: Microsoft Windows Server 2003 Enterprise Edition SP1  
Compiler: Intel C++ 8.0 build 20040714Z, Intel Fortran 8.1 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,inlined
```



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## Notes/Tuning Information (Continued)

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Peak tuning:
168.wupwise:      pgf90 basepeak=yes
171.swim:         ifort -Qipo -O3 -QaxN -QxW +FDO -Qunroll10 +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 -Qunroll11 -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 -Qunroll13 +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 -Qunroll11 +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

```

Bios Rev 1.00.2895

The start /b /wait /affinity command is used to bind CPU(s) to processes.  
The tested system can be assembled using the SSI EEB v3.5 footprint, an Antec True 550 EPS12V 550W power supply, and a PCI-e graphics card.