# CFP2000 Result

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## Advanced Micro Devices

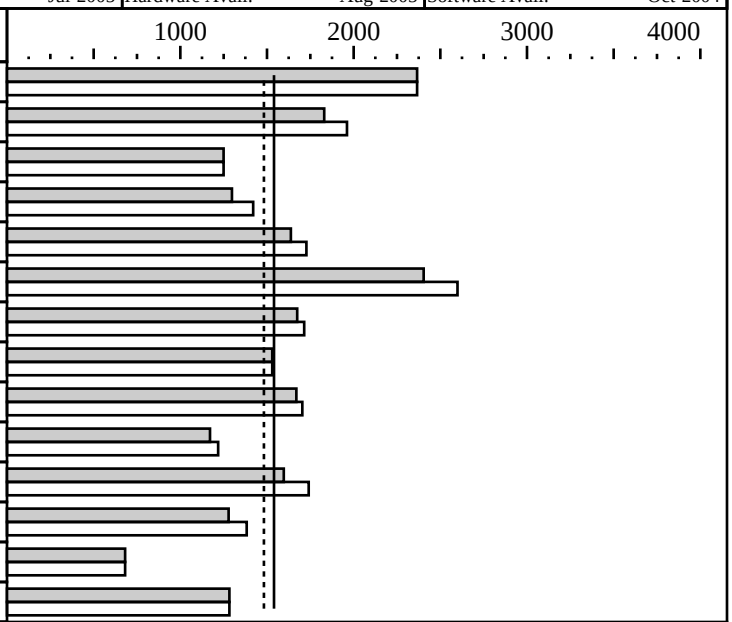
TYAN S2865 K8E Tomcat, AMD Opteron (TM) 148

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.equake | 1300 | 85.0 | 1530 | 85.0 | 1530 |
| 187.facerec | 1900 | 114 | 1669 | 112 | 1704 |
| 188.ammp | 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,<br>Intel Fortran 8.1 for IA32 build 20041019Z,<br>PGI Fortran compiler 5.2-4 for Windows XP,<br>AMD Core Math library Version 2.1 (ACML),<br>Microsoft Visual Studio .NET 7.0.9466 (libraries),<br>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 filesintel ortrancompiler80ia32 inifortvars.bat"
   "c:program filesintelcppcompiler80ia32 iniclvars.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 filesintel ortrancompiler80ia32lib"
 (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
```