



CFP2000 Result

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Advanced Micro Devices
TYAN S2865 K8E Tomcat, AMD Opteron (TM) 150

SPECfp2000 = 1619
SPECfp_base2000 = 1555

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 | 63.9 | 2505 | 63.9 | 2505 | |
| 171.swim | 3100 | 168 | 1842 | 155 | 1994 | |
| 172.mgrid | 1800 | 135 | 1330 | 135 | 1330 | |
| 173.applu | 2100 | 158 | 1333 | 143 | 1468 | |
| 177.mesa | 1400 | 78.9 | 1774 | 74.9 | 1870 | |
| 178.galgel | 2900 | 115 | 2519 | 107 | 2715 | |
| 179.art | 2600 | 152 | 1713 | 148 | 1758 | |
| 183.quake | 1300 | 82.3 | 1579 | 82.3 | 1579 | |
| 187.facerec | 1900 | 107 | 1770 | 105 | 1811 | |
| 188.amp | 2200 | 177 | 1241 | 168 | 1307 | |
| 189.lucas | 2000 | 123 | 1629 | 113 | 1774 | |
| 191.fma3d | 2100 | 155 | 1354 | 144 | 1456 | |
| 200.sixtrack | 1100 | 149 | 740 | 149 | 740 | |
| 301.apsi | 2600 | 190 | 1368 | 190 | 1368 | |

Hardware

CPU: AMD Opteron (TM) 150 (939-pin)
CPU MHz: 2400
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)

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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