



# CFP2000 Result

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Hewlett-Packard Company  
ProLiant DL145 G2 (AMD Opteron (TM) 280)

SPECfp\_rate2000 = 22.2  
SPECfp\_rate\_base2000 = 20.3

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Nov-2005 Hardware Avail: Oct-2005 Software Avail: Sep-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	62.6	29.6	1	59.5	31.2
171.swim	1	151	23.7	1	142	25.3
172.mgrid	1	117	17.8	1	108	19.4
173.applu	1	116	20.9	1	101	24.1
177.mesa	1	72.5	22.4	1	67.9	23.9
178.galgel	1	103	32.8	1	93.4	36.0
179.art	1	112	26.8	1	80.9	37.3
183.quake	1	91.2	16.5	1	82.6	18.3
187.facerec	1	81.9	26.9	1	78.8	28.0
188.amp	1	155	16.4	1	146	17.4
189.lucas	1	118	19.7	1	108	21.4
191.fma3d	1	143	17.1	1	142	17.1
200.sixtrack	1	137	9.29	1	130	9.78
301.apsi	1	172	17.5	1	160	18.8

### Hardware

CPU: AMD Opteron (TM) 280  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2  
 Parallel: No  
 Primary Cache: 64KBI + 64KBD (on chip) per core  
 Secondary Cache: 1024KB(I+D) (on chip) per core  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 4x2048MB PC3200 CL3.0  
 Disk Subsystem: 1x36.4GB 15K Ultra320 SCSI  
 Other Hardware:

### Software

Operating System: SuSE Linux Enterprise Server 9 (x86\_64) SP 2  
 SuSE kernel 2.6.5-7.191-default  
 Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.2.1  
 AMD Core Math Library 2.5.1  
 File System: Linux/ext2  
 System State: Multi-user run level 3

## Notes/Tuning Information

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
+ACML: Linked with AMD Core Math Library
Base tuning for C programs: -Ofast -WOPT:mem_opnds=on +FDO
Base tuning for FORTRAN programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
Portability flags:
  178.galgel: -fixedform
Peak tuning:
  168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3
              -OPT:unroll_times_max=8:unroll_size=128:IEEE NaN_Inf=off:ro=3
              -IPA:linear=on:plimit=50000:callee_limit=5000 -INLINE:aggressive=on
  171.swim: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
  172.mgrid: -Ofast -CG:gcm=off -OPT:IEEE_a=3:unroll_size=200
              -LNO:fusion=2:fission=1:blocking=off:prefetch Ahead=2 -WOPT:mem_opnds=on:aggstr=0
  173.applu: -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
              -LNO:fusion=2:fission=2:full_unroll_size=10000 +FDO
  177.mesa: -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
              -WOPT:mem_opnds=on +FDO
```



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## Notes/Tuning Information (Continued)

```

178.galgel: -Ofast -OPT:fast_complex-on RM_SOURCES=lapak.f90 +ACML +FDO
179.art: -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.equake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec: -Ofast -LNO:fusion=2 -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.ammp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
          -fno-math-errno -TENV:X=4 +FDO
189.lucas: -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:mem_opnds=on +FDO
191.fma3d: -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
          -WOPT:mem_opnds=on:retype_expr=on -IPA:pu_reorder=1 +FDO
200.sixtrack: -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on -fno-math-errno
          -CG:load_exe=1 +FDO
301.apsi: -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```

### BIOS Configuration Notes

Node Interleaving is Disabled

### Other Configuration Notes

Single-processor kernel was used

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