



# CFP2000 Result

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Hewlett-Packard Company  
ProLiant DL385 (AMD Opteron (TM) 280)

SPECfp\_rate2000 = 23.9  
SPECfp\_rate\_base2000 = 21.6

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	63.3	29.3	1	53.6	34.6
171.swim	1	121	29.6	1	117	30.6
172.mgrid	1	106	19.7	1	99.1	21.1
173.applu	1	106	23.0	1	91.3	26.7
177.mesa	1	74.3	21.8	1	69.4	23.4
178.galgel	1	94.1	35.8	1	83.8	40.2
179.art	1	103	29.3	1	73.4	41.1
183.quake	1	79.9	18.9	1	72.4	20.8
187.facerec	1	77.9	28.3	1	74.5	29.6
188.amp	1	157	16.3	1	145	17.7
189.lucas	1	96.2	24.1	1	96.7	24.0
191.fma3d	1	141	17.3	1	132	18.5
200.sixtrack	1	158	8.08	1	133	9.57
301.apsi	1	166	18.2	1	162	18.6

### 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 1  
SuSE kernel 2.6.5-7.139-default  
Compiler: PathScale EKOPath(TM) Compiler Suite, Release 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
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:
 172.mgrid: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
              -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
 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
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.quake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0 -LNO:fusion=2
            -IPA:plimit=1500 +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