



# CFP2000 Result

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Hewlett-Packard Company  
ProLiant DL145 G2 (AMD Opteron (TM) 252)

SPECfp\_rate2000 = 24.2  
SPECfp\_rate\_base2000 = 22.1

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

					Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio				
45	40	35	30	25	20	15	10	5	168.wupwise	1	60.8	30.5	1	51.3	36.2
									171.swim	1	121	29.8	1	121	29.7
									172.mgrid	1	102	20.5	1	94.4	22.1
									173.applu	1	100	24.3	1	92.4	26.4
									177.mesa	1	69.9	23.2	1	65.4	24.8
									178.galgel	1	92.6	36.3	1	83.7	40.2
									179.art	1	98.5	30.6	1	69.6	43.3
									183.quake	1	77.9	19.3	1	72.8	20.7
									187.facerec	1	74.9	29.4	1	71.7	30.7
									188.amp	1	170	15.0	1	159	16.0
									189.lucas	1	101	23.0	1	101	22.9
									191.fma3d	1	134	18.2	1	125	19.5
									200.sixtrack	1	145	8.78	1	126	10.1
									301.apsi	1	164	18.3	1	161	18.7

### Hardware

CPU: AMD Opteron (TM) 252  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1,2  
 Parallel: No  
 Primary Cache: 64KBI + 64KBD on chip  
 Secondary Cache: 1024KB(I+D) on chip  
 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-smp  
 Compiler: PathScale EKO 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
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 -TENV:X=4
               -IPA:space=1000:linear=on:plimit=50000:callee_limit=5000
               -INLINE:aggressive=on +FDO
  171.swim: -Ofast -LNO:fusion=2
  172.mgrid: -O3 -LNO:fusion=2:blocking=off
               -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3 -CG:gcm=off:cflow=off
  173.applu: -Ofast -CG:local_fwd_sched=on
               -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
               -OPT:ro=3 -TENV:X=3 -WOPT:val=2
```



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## Notes/Tuning Information (Continued)

```

177.mesa:      -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel:    -Ofast -OPT:fast_complex -CG:use_movlpd=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 -WOPT:mem_opnds=on -CG:local_fwd_sched=on -m32
187.facerec:   -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0
               -LNO:fusion=2 -IPA:plimit=1500 +FDO
188.amp:       -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
               -fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas:     -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 +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: -Ofast -CG:load_exe=1 +FDO
301.apsi:      -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0

```

BIOS Configuration Notes  
Node Interleaving is Disabled

Other Configuration Notes  
Taskset utility used to bind process to CPU(s)