



# CFP2000 Result

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

SPECfp\_rate2000 = 47.9  
SPECfp\_rate\_base2000 = 43.9

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
168.wupwise	2	61.1	60.8	2	52.3	70.9
171.swim	2	121	59.4	2	121	59.4
172.mgrid	2	102	40.9	2	95.2	43.9
173.applu	2	101	48.0	2	92.9	52.4
177.mesa	2	69.6	46.6	2	65.5	49.6
178.galgel	2	93.5	72.0	2	84.2	79.9
179.art	2	102	59.3	2	71.6	84.2
183.quake	2	79.8	37.8	2	74.6	40.5
187.facerec	2	75.8	58.2	2	72.8	60.6
188.amp	2	170	30.0	2	160	32.0
189.lucas	2	101	45.9	2	102	45.5
191.fma3d	2	134	36.2	2	126	38.6
200.sixtrack	2	145	17.6	2	126	20.3
301.apsi	2	164	36.8	2	161	37.4

### Hardware

CPU: AMD Opteron (TM) 252  
CPU MHz: 2600  
FPU: Integrated  
CPU(s) enabled: 2 cores, 2 chips, 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: 8x2048MB 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)