



# CFP2000 Result

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**Hewlett-Packard Company**  
ProLiant DL360 G5 (3.0GHz, Intel Xeon processor 5160)

SPECfp\_rate2000 = 35.3  
SPECfp\_rate\_base2000 = 32.4

SPEC license #: 3 | Tested by: Hewlett-Packard Company | Test date: Jun-2006 | Hardware Avail: Jun-2006 | Software Avail: May-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	39.0	47.6	1	39.0	47.6
171.swim	1	107	33.6	1	103	34.8
172.mgrid	1	92.2	22.7	1	73.5	28.4
173.applu	1	96.3	25.3	1	70.4	34.6
177.mesa	1	45.2	35.9	1	41.6	39.0
178.galgel	1	41.4	81.3	1	41.4	81.3
179.art	1	21.7	139	1	21.7	139
183.quake	1	57.3	26.3	1	46.1	32.7
187.facerec	1	62.8	35.1	1	47.6	46.3
188.amp	1	101	25.2	1	101	25.2
189.lucas	1	94.4	24.6	1	93.9	24.7
191.fma3d	1	97.6	25.0	1	97.6	25.0
200.sixtrack	1	95.9	13.3	1	95.9	13.3
301.apsi	1	151	19.9	1	145	20.7

### Hardware

CPU: Intel Xeon processor 5160 (3.0GHz, 4MB L2 shared, 1333MHz bus)  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Parallel: No  
 Primary Cache: 32KB (I) + 32KB (D) (on chip) per core  
 Secondary Cache: 4096KB(I+D) (on chip) shared  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 8x1024MB PC2-5300F  
 Disk Subsystem: 1x36GB 10K SAS  
 Other Hardware:

### Software

Operating System: RedHat Enterprise Linux 4.0 Advanced Server for AMD/EM64T, Update 3 Kernel 2.6.9-34.EL  
 Compiler: Intel C++ Compiler for EM64T-based applications, (Version 9.1 Build 20060323)  
 Intel Fortran Compiler for EM64T-based applications, (Version 9.1 Build 20060323)  
 PathScale EKOPATH(TM) Compiler Suite, Release 2.4  
 File System: ext2  
 System State: Multi-user run level 3

## Notes/Tuning Information

```
+FDO: PASS1= -prof_gen PASS2=-prof_use (Intel Compiler)
+FDO: PASS1= -fb_create fbdata PASS2=-fb_opt fbdata (PathScale Compiler)
ifort is the Intel Fortran compiler, icc is the Intel C++ compiler; and
pathf95 is PathScale Fortran compiler, pathcc is the PathScale C compiler.
Base tuning for C programs: icc -fast -auto_ilp32 +FDO
Base tuning for FORTRAN programs: ifort -fast +FDO
Portability:
-DSPEC_CPU2000_LP64 applied to all benchmarks
178.galgel: -FI
Peak tuning:
168.wupwise: basepeak=1
171.swim: pathf95 -Ofast -LNO:fusion=2:simd=0 -WOPT:val=0 -march=em64t
172.mgrid: pathf95 -Ofast -CG:load_exe=0 -LNO:blocking=off:prefetch Ahead=5
-OPT:ro=3:unroll_size=256 -WOPT:mem_opnds=on -march=em64t
173.applu: pathf95 -O3 -ipa -CG:load_exe=0
-LNO:fission=1:fusion=2:blocking=off:full_unroll_size=9000
-OPT:IEEE_a=3:ro=3 -TENV:X=3 -march=em64t
```



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## Notes/Tuning Information (Continued)

```
177.mesa: pathcc -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
          -GRA:optimize_boundary=on -march=em64t +FDO
178.galgel: basepeak=1
179.art: basepeak=1
183.equake: icc -fast +FDO ONESTEP=yes -rcd -auto-ilp32
187.facerec: pathf95 -Ofast -IPA:plimit=1500 -LNO:fusion=2
          -OPT:IEEE_NaN_Inf=off:ro=3:unroll_size=0 -march=em64t +FDO
188.ammp: basepeak=1
189.lucas: ifort -fast ONESTEP=yes
191.fma3d: basepeak=1
200.sixtrack: basepeak=1
301.apsi: pathf95 -Ofast -CG:load_exe=0 -LNO:opt=0:prefetch=1 -march=em64t
```

### BIOS Configuration Notes

Power Regulator set to Static High Performance Mode

### Other Configuration Notes

Single processor kernel used