



# CFP2000 Result

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**Hewlett-Packard Company**  
ProLiant BL20p G4 (3.73GHz, Intel Xeon processor 5080)

SPECfp2000 = **2101**  
SPECfp\_base2000 = **2016**

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	45.3	3535	45.3	3535	
171.swim	3100	117	2641	111	2800	
172.mgrid	1800	100.0	1801	99.3	1814	
173.applu	2100	116	1809	97.7	2148	
177.mesa	1400	73.4	1908	69.1	2025	
178.galgel	2900	79.2	3662	79.2	3662	
179.art	2600	42.8	6078	42.8	6078	
183.earthquake	1300	62.6	2078	50.4	2578	
187.facerec	1900	111	1707	101	1889	
188.amp	2200	161	1363	161	1363	
189.lucas	2000	115	1735	118	1696	
191.fma3d	2100	122	1724	122	1724	
200.sixtrack	1100	151	728	151	728	
301.apsi	2600	193	1346	196	1327	

### Hardware

CPU: Intel Xeon processor 5080 (3.73GHz, 2x2MB L2, 1066MHz bus)  
CPU MHz: 3730  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (Hyper-Threading Technology disabled)  
CPU(s) orderable: 1,2 chips  
Parallel: No  
Primary Cache: 12K micro-ops I + 16KBD (on chip) per core  
Secondary Cache: 2048KB(I+D) (on chip) per core  
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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SPECfp\_base2000 = 2016

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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.quake: 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  
Hyper-Threading Technology disabled

### Other Configuration Notes

Single processor kernel used