



CFP2000 Result

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Hewlett-Packard Company
ProLiant BL20p G4 (1.60 GHz, Intel Xeon processor 5110)

SPECfp2000 = **1910**
SPECfp_base2000 = **1753**

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	56.1	2853	56.1	2853	
171.swim	3100	135	2292	130	2383	
172.mgrid	1800	156	1154	116	1549	
173.applu	2100	139	1507	112	1870	
177.mesa	1400	83.1	1685	76.2	1838	
178.galgel	2900	76.5	3793	76.5	3793	
179.art	2600	41.0	6342	41.0	6342	
183.quake	1300	74.1	1753	60.6	2146	
187.facerec	1900	103	1840	75.6	2513	
188.amp	2200	182	1208	182	1208	
189.lucas	2000	128	1560	127	1573	
191.fma3d	2100	152	1380	152	1380	
200.sixtrack	1100	180	611	180	611	
301.apsi	2600	238	1094	228	1141	

Hardware

CPU: Intel Xeon processor 5110 (1.60 GHz, 4 MB L2 shared, 1066 MHz bus)
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
CPU(s) orderable: 1,2 chips
Parallel: No
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 4 MB I+D on chip per chip
L3 Cache: N/A
Other Cache: N/A
Memory: 16 GB (8x2048 MB PC2-5300F)
Disk Subsystem: 1x36 GB 10 K SAS
Other Hardware:

Software

Operating System: RedHat Enterprise Linux 4.0 Advanced Server for AMD64/EM64T, Update 3 Kernel 2.6.9-34.ELsmp
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: Default

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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SPECfp2000 = 1910
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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