



CFP2000 Result

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Hewlett-Packard Company
ProLiant BL20p G4 (3.0GHz, Intel Xeon processor 5160)

SPECfp_rate2000 = **84.1**
SPECfp_rate_base2000 = **79.6**

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	4	67.2	111	4	67.2	111
171.swim	4	283	50.8	4	274	52.5
172.mgrid	4	213	39.3	4	216	38.6
173.applu	4	181	53.9	4	134	72.6
177.mesa	4	47.9	136	4	43.2	151
178.galgel	4	57.9	233	4	57.9	233
179.art	4	52.4	230	4	52.4	230
183.quake	4	126	47.9	4	100.0	60.3
187.facerec	4	85.7	103	4	78.3	113
188.amp	4	118	86.4	4	118	86.4
189.lucas	4	171	54.2	4	170	54.5
191.fma3d	4	162	60.1	4	162	60.1
200.sixtrack	4	97.9	52.2	4	97.9	52.2
301.apsi	4	184	65.6	4	179	67.3

Hardware

CPU: Intel Xeon processor 5160 (3.0GHz, 4MB L2 shared, 1333MHz bus)
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 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.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: 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