



CFP2000 Result

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Hewlett-Packard Company

ProLiant BL20p G4 (3.73GHz, Intel Xeon processor 5080)

SPECfp_rate2000 = 39.3

SPECfp_rate_base2000 = 37.3

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	2	57.8	64.2	2	57.8	64.2
171.swim	2	214	33.6	2	212	33.9
172.mgrid	2	136	30.6	2	137	30.4
173.applu	2	163	29.8	2	121	40.3
177.mesa	2	73.9	43.9	2	68.6	47.3
178.galgel	2	90.1	74.6	2	90.1	74.6
179.art	2	55.8	108	2	55.8	108
183.quake	2	102	29.7	2	79.0	38.2
187.facerec	2	121	36.3	2	109	40.3
188.amp	2	169	30.2	2	169	30.2
189.lucas	2	157	29.5	2	160	29.0
191.fma3d	2	161	30.3	2	161	30.3
200.sixtrack	2	151	16.9	2	151	16.9
301.apsi	2	206	29.2	2	205	29.4

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.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
Hyper-Threading Technology disabled