



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL380 G5 (1.86 GHz, Intel Xeon processor 5120)

SPECfp_rate2000 = **62.7**
SPECfp_rate_base2000 = **58.7**

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 | 87.2 | 85.1 | 4 | 87.2 | 85.1 |
| 171.swim | 4 | 342 | 42.1 | 4 | 339 | 42.5 |
| 172.mgrid | 4 | 232 | 35.9 | 4 | 222 | 37.6 |
| 173.applu | 4 | 232 | 42.0 | 4 | 172 | 56.6 |
| 177.mesa | 4 | 75.4 | 86.1 | 4 | 67.4 | 96.4 |
| 178.galgel | 4 | 88.9 | 151 | 4 | 88.9 | 151 |
| 179.art | 4 | 72.6 | 166 | 4 | 72.6 | 166 |
| 183.quake | 4 | 167 | 36.1 | 4 | 129 | 46.6 |
| 187.facerec | 4 | 118 | 75.0 | 4 | 102 | 86.2 |
| 188.amp | 4 | 176 | 57.8 | 4 | 176 | 57.8 |
| 189.lucas | 4 | 215 | 43.2 | 4 | 213 | 43.5 |
| 191.fma3d | 4 | 219 | 44.5 | 4 | 219 | 44.5 |
| 200.sixtrack | 4 | 158 | 32.3 | 4 | 158 | 32.3 |
| 301.apsi | 4 | 236 | 51.0 | 4 | 228 | 52.9 |

Hardware

CPU: Intel Xeon processor 5120 (1.86 GHz, 4 MB L2 shared, 1066 MHz bus)
CPU MHz: 1860
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 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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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.amm: 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