# CFP2000 Result

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## Hewlett-Packard Company

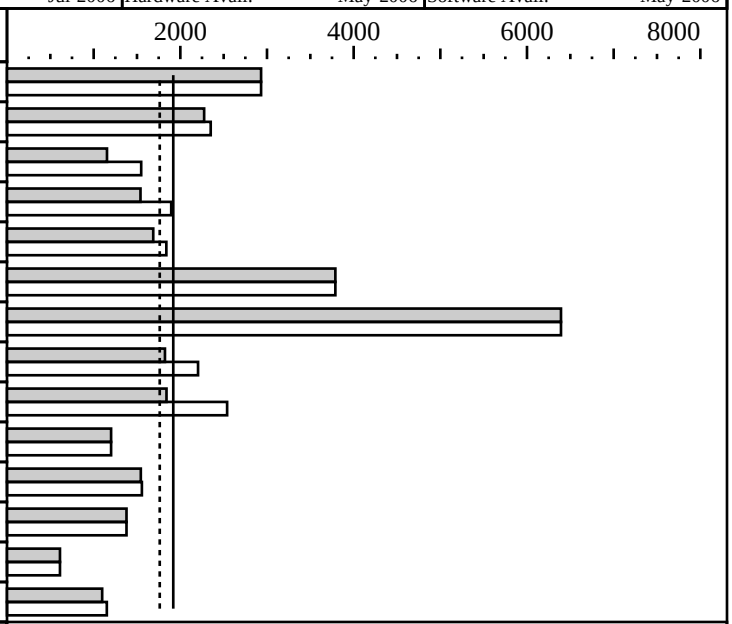
ProLiant ML350 G5 (1.6 GHz, Intel Xeon processor 5110)

SPECfp2000 = 1918

SPECfp_base2000 = 1762

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

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 168.wupwise | 1600 | 54.6 | 2932 | 54.6 | 2932 |
| 171.swim | 3100 | 136 | 2275 | 132 | 2350 |
| 172.mgrid | 1800 | 156 | 1154 | 116 | 1548 |
| 173.applu | 2100 | 136 | 1540 | 111 | 1895 |
| 177.mesa | 1400 | 83.0 | 1687 | 76.1 | 1839 |
| 178.galgel | 2900 | 76.5 | 3789 | 76.5 | 3789 |
| 179.art | 2600 | 40.7 | 6392 | 40.7 | 6392 |
| 183.equake | 1300 | 71.3 | 1823 | 59.0 | 2204 |
| 187.facerec | 1900 | 103 | 1840 | 74.8 | 2540 |
| 188.ammp | 2200 | 183 | 1201 | 183 | 1201 |
| 189.lucas | 2000 | 130 | 1544 | 129 | 1556 |
| 191.fma3d | 2100 | 152 | 1379 | 152 | 1379 |
| 200.sixtrack | 1100 | 180 | 611 | 180 | 611 |
| 301.apsi | 2600 | 237 | 1098 | 226 | 1152 |




### Hardware

| | |
|---|---|
| CPU: | Intel Xeon processor 5110 (1.6 GHz, 4 MB L2 shared, 1066 MHz bus) |
| CPU MHz: | 1600 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 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: | 8 GB (4x2048 MB PC2-5300F) |
| Disk Subsystem: | 1x36 GB 15 K SAS |
| Other Hardware: | |

### Software

| | |
|---|---|
| Operating System: | RedHat Enterprise Linux 4.0 Advanced Server for AMD64/EM64T, Update 3 Kernel 2.6.9-34.EL |
| Compiler: | Intel C++ Compiler for EM64T-based applications, (Version 9.1 Build 20060323)<br>Intel Fortran Compiler for EM64T-based applications, (Version 9.1 Build 20060323)<br>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
  Other Configuration Notes
   Single-processor kernel was used
```