# CFP2000 Result

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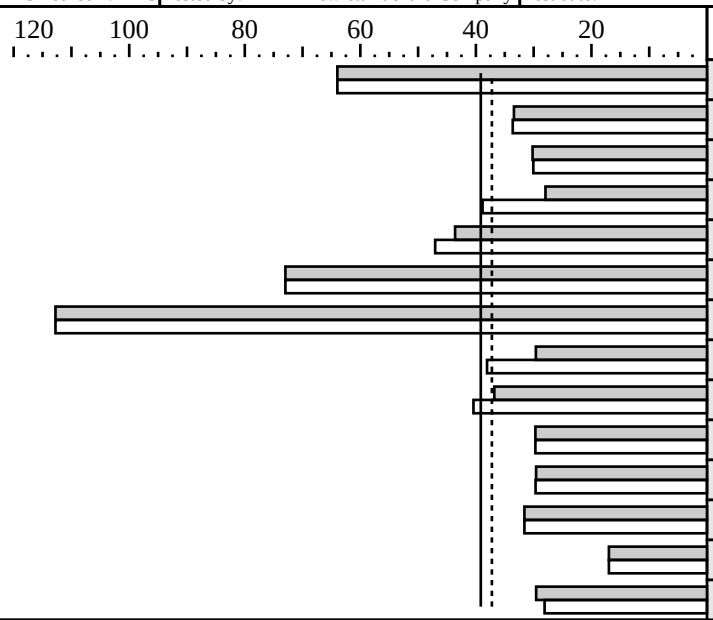
## Hewlett-Packard Company

ProLiant ML350 G5 (3.73GHz, Intel Xeon processor 5080)

SPECfp_rate2000 = 39.2

SPECfp_rate_base2000 = 37.2

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 | 58.0 | 64.0 | 2 | 58.0 | 64.0 |
| 171.swim | 2 | 215 | 33.4 | 2 | 214 | 33.6 |
| 172.mgrid | 2 | 138 | 30.2 | 2 | 139 | 30.1 |
| 173.applu | 2 | 174 | 28.0 | 2 | 125 | 38.8 |
| 177.mesa | 2 | 74.5 | 43.6 | 2 | 69.0 | 47.0 |
| 178.galgel | 2 | 92.2 | 73.0 | 2 | 92.2 | 73.0 |
| 179.art | 2 | 53.5 | 113 | 2 | 53.5 | 113 |
| 183.equake | 2 | 102 | 29.6 | 2 | 79.2 | 38.1 |
| 187.facerec | 2 | 120 | 36.8 | 2 | 109 | 40.4 |
| 188.ammp | 2 | 172 | 29.7 | 2 | 172 | 29.7 |
| 189.lucas | 2 | 157 | 29.6 | 2 | 156 | 29.7 |
| 191.fma3d | 2 | 154 | 31.6 | 2 | 154 | 31.6 |
| 200.sixtrack | 2 | 150 | 17.0 | 2 | 150 | 17.0 |
| 301.apsi | 2 | 204 | 29.6 | 2 | 215 | 28.1 |

### 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: | 4x2048MB 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)<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
      Power Regulator set to Static High Performance Mode
      Hyper-Threading Technology disabled
BIOS Configuration Notes
```