# CFP2000 Result

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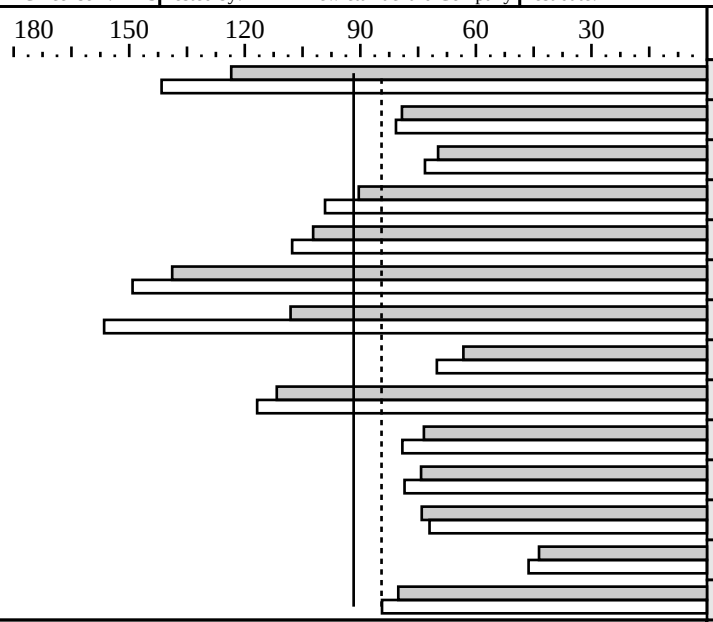
## Hewlett-Packard Company

ProLiant BL685c (AMD Opteron (TM) 8220)

SPECfp_rate2000 = 91.7

SPECfp_rate_base2000 = 84.5

SPEC license #: 3 | Tested by: Hewlett-Packard Company | Test date: Nov-2006 | Hardware Avail: Feb-2007 | Software Avail: Oct-2006




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 4 | 60.1 | 124 | 4 | 52.4 | 142 |
| 171.swim | 4 | 182 | 79.2 | 4 | 178 | 80.7 |
| 172.mgrid | 4 | 120 | 69.8 | 4 | 114 | 73.2 |
| 173.applu | 4 | 108 | 90.4 | 4 | 98.3 | 99.2 |
| 177.mesa | 4 | 63.5 | 102 | 4 | 60.3 | 108 |
| 178.galgel | 4 | 96.9 | 139 | 4 | 90.2 | 149 |
| 179.art | 4 | 112 | 108 | 4 | 77.1 | 157 |
| 183.equake | 4 | 95.4 | 63.2 | 4 | 86.0 | 70.1 |
| 187.facerec | 4 | 78.9 | 112 | 4 | 75.5 | 117 |
| 188.ammp | 4 | 139 | 73.5 | 4 | 129 | 79.1 |
| 189.lucas | 4 | 125 | 74.2 | 4 | 118 | 78.5 |
| 191.fma3d | 4 | 132 | 74.1 | 4 | 135 | 72.0 |
| 200.sixtrack | 4 | 117 | 43.6 | 4 | 110 | 46.3 |
| 301.apsi | 4 | 151 | 80.1 | 4 | 143 | 84.4 |

### Hardware

| | |
|---|---|
| CPU: | AMD Opteron (TM) 8220 |
| CPU MHz: | 2800 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 2,4 chips |
| Parallel: | No |
| Primary Cache: | 64 KB I + 64 KB D on chip per core |
| Secondary Cache: | 1 MB I+D on chip per core |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 16 GB (8x2 GB PC2-5300P CL5.0) |
| Disk Subsystem: | 1x36 GB 10K SAS |
| Other Hardware: | |

### Software

| | |
|---|---|
| Operating System: | SuSE Linux Enterprise Server 9 (x86_64) SP 3<br>SuSE kernel 2.6.5-7.244-smp |
| Compiler: | PathScale EKOPath(TM) Compiler Suite, Release 2.5<br>AMD Core Math Library 3.5.0 |
| File System: | Linux/ext2 |
| System State: | Multi-user run level 3 |

## Notes/Tuning Information

```
+FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata
+ACML: Linked with AMD Core Math Library
Base tuning for C programs: -Ofast -WOPT:mem_opnds=on +FDO
Base tuning for FORTRAN programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
Portability flags:
  178.galgel:    -fixedform
Peak tuning:
  168.wupwise:   -Ofast -LNO:prefetch_ahead=5:prefetch=3
                 -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
                -IPA:linear=on:plimit=50000:callee_limit=5000 -INLINE:aggressive=on
  171.swim:      -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
  172.mgrid:     -Ofast -CG:gcm=off -OPT:IEEE_a=3:unroll_size=200
               -LNO:fusion=2:fission=1:blocking=off:prefetch_ahead=2 -WOPT:mem_opnds=on:aggstr=0
  173.applu:     -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
                 -LNO:fusion=2:fission=2:full_unroll_size=10000 +FDO
  177.mesa:      -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
                  -WOPT:mem_opnds=on +FDO
```

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## Notes/Tuning Information (Continued)

```
    178.galgel:    -Ofast -OPT:fast_complex-on RM_SOURCES=lapak.f90 +ACML +FDO
    179.art:       -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
    183.equake:    -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
    187.facerec:   -Ofast -LNO:fusion=2 -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
    188.ammp:      -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
                   -fno-math-errno -TENV:X=4 +FDO
    189.lucas:     -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:mem_opnds=on +FDO
    191.fma3d:     -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
                   -WOPT:mem_opnds=on:retype_expr=on -IPA:pu_reorder=1 +FDO
    200.sixtrack:  -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on -fno-math-errno
                   -CG:load_exe=1 +FDO
    301.apsi:      -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2
  BIOS Configuration Notes
    Node Interleaving is Disabled
  Other Configuration Notes
     Taskset utility used to bind process to CPU(s)
```