



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL385 G2 (AMD Opteron (TM) 2220SE)

SPECfp2000 = 2370
SPECfp_base2000 = 2152

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Oct-2006 Hardware Avail: Jan-2007 Software Avail: Sep-2006

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio | 1000 2000 3000 4000 | | | |
|--------------|----------------|--------------|------------|---------|-------|--------------------------------|--|--|--|
| 168.wupwise | 1600 | 55.3 | 2892 | 47.5 | 3366 | [Bar chart showing ratio 3366] | | | |
| 171.swim | 3100 | 105 | 2958 | 97.0 | 3197 | [Bar chart showing ratio 3197] | | | |
| 172.mgrid | 1800 | 93.2 | 1931 | 84.6 | 2129 | [Bar chart showing ratio 2129] | | | |
| 173.applu | 2100 | 91.5 | 2296 | 83.6 | 2512 | [Bar chart showing ratio 2512] | | | |
| 177.mesa | 1400 | 64.3 | 2177 | 60.5 | 2314 | [Bar chart showing ratio 2314] | | | |
| 178.galgel | 2900 | 82.7 | 3508 | 73.5 | 3943 | [Bar chart showing ratio 3943] | | | |
| 179.art | 2600 | 91.4 | 2845 | 65.0 | 3999 | [Bar chart showing ratio 3999] | | | |
| 183.quake | 1300 | 72.2 | 1799 | 67.3 | 1932 | [Bar chart showing ratio 1932] | | | |
| 187.facerec | 1900 | 68.4 | 2779 | 66.2 | 2870 | [Bar chart showing ratio 2870] | | | |
| 188.amp | 2200 | 136 | 1612 | 126 | 1745 | [Bar chart showing ratio 1745] | | | |
| 189.lucas | 2000 | 90.1 | 2220 | 78.7 | 2540 | [Bar chart showing ratio 2540] | | | |
| 191.fma3d | 2100 | 113 | 1851 | 115 | 1821 | [Bar chart showing ratio 1821] | | | |
| 200.sixtrack | 1100 | 118 | 930 | 111 | 989 | [Bar chart showing ratio 989] | | | |
| 301.apsi | 2600 | 145 | 1798 | 137 | 1903 | [Bar chart showing ratio 1903] | | | |

Hardware

CPU: AMD Opteron (TM) 2220SE
CPU MHz: 2800
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 2 cores/chip
CPU(s) orderable: 1,2 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: 8 GB (4x2 GB PC2-5300P CL5.0)
Disk Subsystem: 1x36 GB 10 K SAS
Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9 (x86_64) SP 3
SuSE kernel 2.6.5-7.244-default
Compiler: PathScale EKOPATH(TM) Compiler Suite, Release 2.5
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)

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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.ammmp: -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
Single processor kernel used