



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL385 (AMD Opteron (TM) 252)

SPECfp_rate2000 = 45.0
SPECfp_rate_base2000 = 41.6

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Jan-2005 Hardware Avail: Feb-2005 Software Avail: Jan-2005

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise | 2 | 86.5 | 42.9 | 2 | 72.7 | 51.1 |
| 171.swim | 2 | 125 | 57.6 | 2 | 125 | 57.6 |
| 172.mgrid | 2 | 106 | 39.5 | 2 | 96.9 | 43.1 |
| 173.applu | 2 | 122 | 40.0 | 2 | 107 | 45.7 |
| 177.mesa | 2 | 70.5 | 46.1 | 2 | 63.8 | 50.9 |
| 178.galgel | 2 | 97.3 | 69.2 | 2 | 88.6 | 75.9 |
| 179.art | 2 | 114 | 53.0 | 2 | 82.5 | 73.1 |
| 183.equake | 2 | 81.4 | 37.1 | 2 | 81.6 | 37.0 |
| 187.facerec | 2 | 91.6 | 48.1 | 2 | 87.2 | 50.6 |
| 188.amp | 2 | 146 | 34.9 | 2 | 141 | 36.2 |
| 189.lucas | 2 | 99.9 | 46.4 | 2 | 99.4 | 46.7 |
| 191.fma3d | 2 | 135 | 36.1 | 2 | 130 | 37.4 |
| 200.sixtrack | 2 | 148 | 17.2 | 2 | 139 | 18.3 |
| 301.apsi | 2 | 156 | 38.8 | 2 | 153 | 39.5 |

Hardware

CPU: AMD Opteron (TM) 252
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
CPU(s) orderable: 1,2
Parallel: No
Primary Cache: 64KBI + 64KBD on chip
Secondary Cache: 1024KB(I+D) on chip
L3 Cache: N/A
Other Cache: N/A
Memory: 8x2048MB PC3200 DDR 400
Disk Subsystem: 1x36.4GB Ultra320 SCSI
Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9 for AMD64
SuSE kernel 2.6.5-7.97-smp
Compiler: PathScale EKO Compiler Suite, Release 1.4
AMD Core Math Library 2.5.1
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
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 -TENV:X=4
              +FDO
              loader: -IPA:space=1000:linear=on:plimit=50000:callee_limit=5000
                    -INLINE:aggressive=on
 171.swim: -Ofast -LNO:fusion=2
 172.mgrid: -O3 -LNO:fusion=2:blocking=off
              -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3 -CG:gcm=off:cflow=off
 173.applu: -Ofast -CG:local_fwd_sched=on
              -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
```



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Notes/Tuning Information (Continued)

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-OPT:ro=3 -TENV:X=3 -WOPT:val=2
177.mesa: -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel: -Ofast -OPT:fast_complex -CG:use_movlpd=on +ACML
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.equake: -Ofast -WOPT:mem_opnds=on +FDO
Note: The configuration file contains peak optimization flags for 183.equake that are
not invoked due to a syntax error. The options invoked during compilation
are correctly described in the notes above.
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0
loader: -LNO:fusion=2 +FDO
188.ammp: -IPA:plimit=1800
-O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
-fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 +FDO
191.fma3d: -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
-WOPT:mem_opnds=on:retype_expr=on +FDO
loader: -IPA:pu_reorder=1
200.sixtrack: -Ofast -CG:load_exe=1 +FDO
301.apsi: -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0
BIOS Configuration Notes
Node Interleaving is Disabled

```