



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL585 (AMD Opteron (TM) 850)

SPECfp_rate2000 = 72.8
SPECfp_rate_base2000 = 65.4

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Sep-2004 Hardware Avail: Sep-2004 Software Avail: Sep-2004

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise | 4 | 105 | 70.4 | 4 | 89.4 | 83.0 |
| 171.swim | 4 | 146 | 98.3 | 4 | 146 | 98.2 |
| 172.mgrid | 4 | 128 | 65.4 | 4 | 117 | 71.1 |
| 173.applu | 4 | 149 | 65.2 | 4 | 124 | 78.4 |
| 177.mesa | 4 | 98.0 | 66.3 | 4 | 72.0 | 90.2 |
| 178.galgel | 4 | 117 | 115 | 4 | 109 | 123 |
| 179.art | 4 | 189 | 63.8 | 4 | 137 | 88.1 |
| 183.equake | 4 | 116 | 52.1 | 4 | 116 | 52.1 |
| 187.facerec | 4 | 120 | 73.8 | 4 | 112 | 78.6 |
| 188.amp | 4 | 170 | 60.0 | 4 | 162 | 62.8 |
| 189.lucas | 4 | 158 | 58.6 | 4 | 129 | 72.0 |
| 191.fma3d | 4 | 166 | 58.8 | 4 | 159 | 61.2 |
| 200.sixtrack | 4 | 153 | 33.4 | 4 | 152 | 33.5 |
| 301.apsi | 4 | 175 | 69.1 | 4 | 174 | 69.5 |

Hardware

CPU: AMD Opteron (TM) 850
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 4 cores, 4 chips, 1 core/chip
CPU(s) orderable: 2,4
Parallel: No
Primary Cache: 64KBI + 64KBD on chip
Secondary Cache: 1024KB(I+D) on chip
L3 Cache: N/A
Other Cache: N/A
Memory: 16x2048MB PC2700 CL2.5
Disk Subsystem: 1x36.4GB 15K Ultra320 SCSI
Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 8 for AMD64 (SP3)
SuSE kernel 2.4.21-143-numa
Compiler: PathScale EKO Compiler Suite, Release 1.3
AMD Core Math Library 2.0
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
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:prefetch=2
  172.mgrid:   -O3 -LNO:fusion=2:blocking=off:prefetch=2
               -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:load_exe=0:use_movlpd=on +ACML
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.equake: basepeak=yes
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0
-LNO:fusion=2:prefetch=0 +FDO -IPA:plimit=1800
188.ammmp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
-LNO:prefetch=0 -fno-math-errno -TENV:X=4 +FDO
189.lucas: -Ofast -CG:prefetch=off:load_exe=2:local_fwd_sched
-TENV:X=4 -WOPT:retype_expr=on +FDO
191.fma3d: -O2 -ipa -WOPT:mem_opnds=on:retype_expr=on
-OPT:Ofast:IEEE_arith=3:ro=3 +FDO -IPA:pu_reorder=1
200.sixtrack: -Ofast +FDO
301.apsi: -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0

```

BIOS Configuration Notes
Node Interleaving is Disabled

Other Configuration Notes
Taskset utility used to bind process to CPU(s)