



CFP2000 Result

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Hewlett-Packard Company
ProLiant BL45p (AMD Opteron (TM) 880)

SPECfp_rate2000 = 37.6
SPECfp_rate_base2000 = 34.7

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Aug-2005 Hardware Avail: Sep-2005 Software Avail: Apr-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	70.5	52.6	2	62.1	59.8
171.swim	2	235	30.6	2	236	30.4
172.mgrid	2	154	27.1	2	152	27.5
173.applu	2	130	37.4	2	119	41.0
177.mesa	2	74.3	43.7	2	70.1	46.3
178.galgel	2	115	58.4	2	109	61.8
179.art	2	134	44.9	2	90.2	66.9
183.quake	2	115	26.1	2	104	28.9
187.facerec	2	93.1	47.4	2	90.2	48.9
188.amp	2	161	31.8	2	149	34.3
189.lucas	2	155	30.0	2	155	30.0
191.fma3d	2	162	30.0	2	161	30.2
200.sixtrack	2	157	16.2	2	133	19.2
301.apsi	2	178	33.8	2	177	34.1

Hardware

CPU: AMD Opteron (TM) 880
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1,2,4
 Parallel: No
 Primary Cache: 64KBI + 64KBD (on chip) per core
 Secondary Cache: 1024KB(I+D) (on chip) per core
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4x2048MB PC3200 CL3.0
 Disk Subsystem: 1x36.4GB 15K Ultra320 SCSI
 Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9 (x86_64) SP 1
 SuSE kernel 2.6.5-7.139-smp
 Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.1
 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=on
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
  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
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.quake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0 -LNO:fusion=2
            -IPA:plimit=1500 +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)