



CFP2000 Result

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Hewlett-Packard Company
ProLiant BL465c (AMD Opteron (TM) 2220)

SPECfp_rate2000 = 90.8
SPECfp_rate_base2000 = 83.7

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	59.4	125	4	55.0	135
171.swim	4	182	79.0	4	179	80.5
172.mgrid	4	120	69.5	4	115	72.9
173.applu	4	108	89.9	4	98.7	98.8
177.mesa	4	69.0	94.1	4	60.1	108
178.galgel	4	99.9	135	4	92.3	146
179.art	4	112	108	4	76.7	157
183.quake	4	95.1	63.4	4	86.4	69.8
187.facerec	4	80.1	110	4	77.8	113
188.amp	4	139	73.2	4	130	78.8
189.lucas	4	123	75.2	4	118	78.5
191.fma3d	4	135	72.3	4	137	71.4
200.sixtrack	4	118	43.4	4	110	46.2
301.apsi	4	150	80.6	4	145	83.2

Hardware

CPU: AMD Opteron (TM) 2220
CPU MHz: 2800
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 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: 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
SuSE kernel 2.6.5-7.244-smp
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:
 172.mgrid: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
              -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.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)