



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL580 G4 (3.4GHz, Intel Xeon processor 7140M)

SPECfp2000 = **2109**
SPECfp_base2000 = **2002**

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Aug-2006 Hardware Avail: Aug-2006 Software Avail: May-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	51.4	3111	51.4	3111	
171.swim	3100	132	2348	118	2637	
172.mgrid	1800	107	1681	106	1693	
173.applu	2100	120	1746	111	1891	
177.mesa	1400	80.8	1732	73.7	1899	
178.galgel	2900	80.4	3605	80.4	3605	
179.art	2600	38.9	6676	38.9	6676	
183.earth	1300	64.9	2002	50.4	2579	
187.facerec	1900	73.9	2570	59.9	3175	
188.amp	2200	154	1430	154	1430	
189.lucas	2000	120	1672	119	1682	
191.fma3d	2100	133	1579	133	1579	
200.sixtrack	1100	164	671	164	671	
301.apsi	2600	182	1427	189	1378	

Hardware

CPU: Intel Xeon processor 7140M (800MHz system bus)
CPU MHz: 3400
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (Hyper-Threading Technology enabled)
CPU(s) orderable: 1,2,4 chips
Parallel: No
Primary Cache: 12 K I micro-ops + 16 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 16 MB on chip per chip
Other Cache: N/A
Memory: 32 GB (16x2048MB PC2-3200 dual-rank)
Disk Subsystem: 1x36 GB 10 K SAS
Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9.0 for AMD64/EM64T, SP 3 Kernel 2.6.5-7.244-default
Compiler: Intel C++ Compiler for EM64T-based applications, (Version 9.1 Build 20060323)
Intel Fortran Compiler for EM64T-based applications, (Version 9.1 Build 20060323)
PathScale EKOPath(TM) Compiler Suite, Release 2.4
File System: ext2
System State: Default

Notes/Tuning Information

```
+FDO: PASS1= -prof_gen PASS2=-prof_use (Intel Compiler)
+FDO: PASS1= -fb_create fbdata PASS2=-fb_opt fbdata (PathScale Compiler)
ifort is the Intel Fortran compiler, icc is the Intel C++ compiler; and
pathf95 is PathScale Fortran compiler, pathcc is the PathScale C compiler.
Base tuning for C programs: icc -fast -auto_ilp32 +FDO
Base tuning for FORTRAN programs: ifort -fast +FDO
Portability:
  -DSPEC_CPU2000_LP64 applied to all benchmarks
  178.galgel: -FI
Peak tuning:
  168.wupwise: basepeak=1
  171.swim: pathf95 -Ofast -LNO:fusion=2:simd=0 -WOPT:val=0 -march=em64t
  172.mgrid: pathf95 -Ofast -CG:load_exe=0 -LNO:blocking=off:prefetch_ahead=5
             -OPT:ro=3:unroll_size=256 -WOPT:mem_opnds=on -march=em64t
  173.applu: pathf95 -O3 -ipa -CG:load_exe=0
             -LNO:fission=1:fusion=2:blocking=off:full_unroll_size=9000
             -OPT:IEEE_a=3:ro=3 -TENV:X=3 -march=em64t
```



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Notes/Tuning Information (Continued)

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177.mesa:      pathcc -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
               -GRA:optimize_boundary=on -march=em64t +FDO
178.galgel:    basepeak=1
179.art:       basepeak=1
183.equake:    icc -fast +FDO ONESTEP=yes -rcd -auto-ilp32
187.facerec:   pathf95 -Ofast -IPA:plimit=1500 -LNO:fusion=2
               -OPT:IEEE_NaN_Inf=off:ro=3:unroll_size=0 -march=em64t +FDO
188.ammpp:    basepeak=1
189.lucas:    ifort -fast ONESTEP=yes
191.fma3d:    basepeak=1
200.sixtrack: basepeak=1
301.apsi:     pathf95 -Ofast -CG:load_exe=0 -LNO:opt=0:prefetch=1 -march=em64t

```

BIOS Configuration Notes
Hyper-Threading Technology enabled