



CFP2000 Result

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

SPECfp_rate2000 = **67.9**
SPECfp_rate_base2000 = **64.3**

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	166	89.4	8	166	89.4
171.swim	8	786	36.6	8	781	36.8
172.mgrid	8	464	36.0	8	467	35.8
173.applu	8	544	35.8	8	375	52.0
177.mesa	8	163	79.6	8	149	87.1
178.galgel	8	147	183	8	147	183
179.art	8	87.3	276	8	87.3	276
183.quake	8	277	43.5	8	207	58.3
187.facerec	8	210	83.9	8	200	88.2
188.amp	8	291	70.1	8	291	70.1
189.lucas	8	509	36.5	8	508	36.5
191.fma3d	8	423	46.1	8	423	46.1
200.sixtrack	8	249	41.0	8	249	41.0
301.apsi	8	350	68.9	8	369	65.5

Hardware

CPU: Intel Xeon processor 7140M (800MHz system bus)
 CPU MHz: 3400
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 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-smp
 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