



CFP2000 Result

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Hewlett-Packard Company
ProLiant DL580 G4 (3.0GHz, Intel Xeon processor 7041)

SPECfp_rate2000 = 18.4
SPECfp_rate_base2000 = 17.7

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	61.3	30.3	1	61.3	30.3
171.swim	1	157	22.9	1	153	23.4
172.mgrid	1	136	15.4	1	140	14.9
173.applu	1	156	15.6	1	134	18.2
177.mesa	1	94.3	17.2	1	87.6	18.5
178.galgel	1	124	27.0	1	124	27.0
179.art	1	56.4	53.5	1	56.4	53.5
183.quake	1	86.2	17.5	1	68.3	22.1
187.facerec	1	150	14.7	1	129	17.1
188.amp	1	204	12.5	1	204	12.5
189.lucas	1	154	15.1	1	154	15.0
191.fma3d	1	153	15.9	1	153	15.9
200.sixtrack	1	188	6.79	1	188	6.79
301.apsi	1	226	13.4	1	232	13.0

Hardware

CPU: Intel Xeon processor 7041 (3.0GHz, 2x2MB L2, 800MHz bus)
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (Hyper-Threading Technology disabled)
CPU(s) orderable: 1,2,4
Parallel: No
Primary Cache: 12K micro-ops I + 16KBD (on chip) per core
Secondary Cache: 2048KB(I+D) (on chip) per core
L3 Cache: N/A
Other Cache: N/A
Memory: 16x2048MB PC2-3200 ECC Dual-rank
Disk Subsystem: 1x36GB 10K SAS
Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9 (x86_64) SP 3
SuSE 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: Multi-user run level 3

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)

```

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
188.ammp: 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 disabled
Adjacent Sector Prefetch disabled