



CFP2000 Result

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Hewlett-Packard Company

ProLiant DL580 G4 (3.0GHz, Intel Xeon processor 7041)

SPECfp_rate2000 = 67.0

SPECfp_rate_base2000 = 63.8

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	8	194	76.6	8	194	76.6
171.swim	8	805	35.7	8	785	36.7
172.mgrid	8	490	34.1	8	496	33.7
173.applu	8	546	35.7	8	396	49.2
177.mesa	8	97.0	134	8	90.8	143
178.galgel	8	163	165	8	163	165
179.art	8	171	141	8	171	141
183.quake	8	390	30.9	8	303	39.8
187.facerec	8	225	78.4	8	213	82.9
188.amp	8	234	87.1	8	234	87.1
189.lucas	8	449	41.3	8	449	41.3
191.fma3d	8	438	44.5	8	438	44.5
200.sixtrack	8	190	53.6	8	190	53.6
301.apsi	8	284	85.1	8	285	84.7

Hardware

CPU: Intel Xeon processor 7041 (3.0GHz, 2x2MB L2, 800MHz bus)
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 8 cores, 4 chips, 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-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: 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)

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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
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