



# CFP2000 Result

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## Hewlett-Packard Company

ProLiant DL360 G5 (2.66 GHz, Intel Xeon processor X5355)

SPECfp\_rate2000 = 65.6

SPECfp\_rate\_base2000 = 60.5

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	101	73.6	4	101	73.6
171.swim	4	425	33.8	4	421	34.1
172.mgrid	4	266	31.3	2	128	32.6
173.applu	4	291	33.5	4	208	46.9
177.mesa	4	53.8	121	4	48.6	134
178.galgel	4	75.8	178	4	75.8	178
179.art	4	68.7	176	2	24.9	242
183.quake	4	185	32.7	4	142	42.5
187.facerec	4	111	79.3	2	54.1	81.5
188.amp	4	127	80.2	4	127	80.2
189.lucas	4	252	36.9	4	251	36.9
191.fma3d	4	232	42.0	4	232	42.0
200.sixtrack	4	109	46.7	4	109	46.7
301.apsi	4	205	58.9	4	197	61.2

### Hardware

CPU: Intel Xeon processor X5355 (2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus)  
CPU MHz: 2666  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
CPU(s) orderable: 1,2 chips  
Parallel: No  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 8 MB I+D on chip per chip (4 MB shared per 2 cores)  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 16 GB (8x2 GB PC2-5300F CL5)  
Disk Subsystem: 2x72 GB 10K SAS  
Other Hardware:

### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64)  
Kernel 2.6.16.21-0.8-smp  
Compiler: Intel C++ Compiler for EM64T-based applications, (Version 9.1 Build 20061101)  
Intel Fortran Compiler for EM64T-based applications, (Version 9.1 Build 20061101)  
PathScale EKOPath(TM) Compiler Suite, Release 2.5  
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
             users=2
  173.applu: pathf95 -O3 -ipa -CG:load_exe=0
             -LNO:fission=1:fusion=2:blocking=off:full_unroll_size=9000
```



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## Notes/Tuning Information (Continued)

```

- OPT:IEEE_a=3:ro=3 -TENV:X=3 -march=em64t
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:    icc -fast -auto_ilp32 +FDO users=2
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
             users=2
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

Power Regulator set to Static High Performance Mode  
Adjacent Sector Prefetch disabled

### Other Configuration Notes

Taskset utility used to bind process to CPU(s)  
"ulimit -s unlimited" set