



CFP2000 Result

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Hewlett-Packard Company

ProLiant BL20p G4 (2.66 GHz, Intel Xeon processor X5355)

SPECfp_rate2000 = 65.6

SPECfp_rate_base2000 = 60.4

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	34.2
172.mgrid	4	271	30.9	2	128	32.7
173.applu	4	290	33.6	4	207	47.1
177.mesa	4	53.8	121	4	48.9	133
178.galgel	4	76.5	176	4	76.5	176
179.art	4	68.6	176	2	24.6	245
183.quake	4	184	32.8	4	142	42.5
187.facerec	4	110	79.9	2	53.9	81.7
188.amp	4	128	79.9	4	128	79.9
189.lucas	4	251	37.0	4	251	37.0
191.fma3d	4	230	42.4	4	230	42.4
200.sixtrack	4	109	46.7	4	109	46.7
301.apsi	4	207	58.4	4	199	60.7

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)

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-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.quake: 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

```