



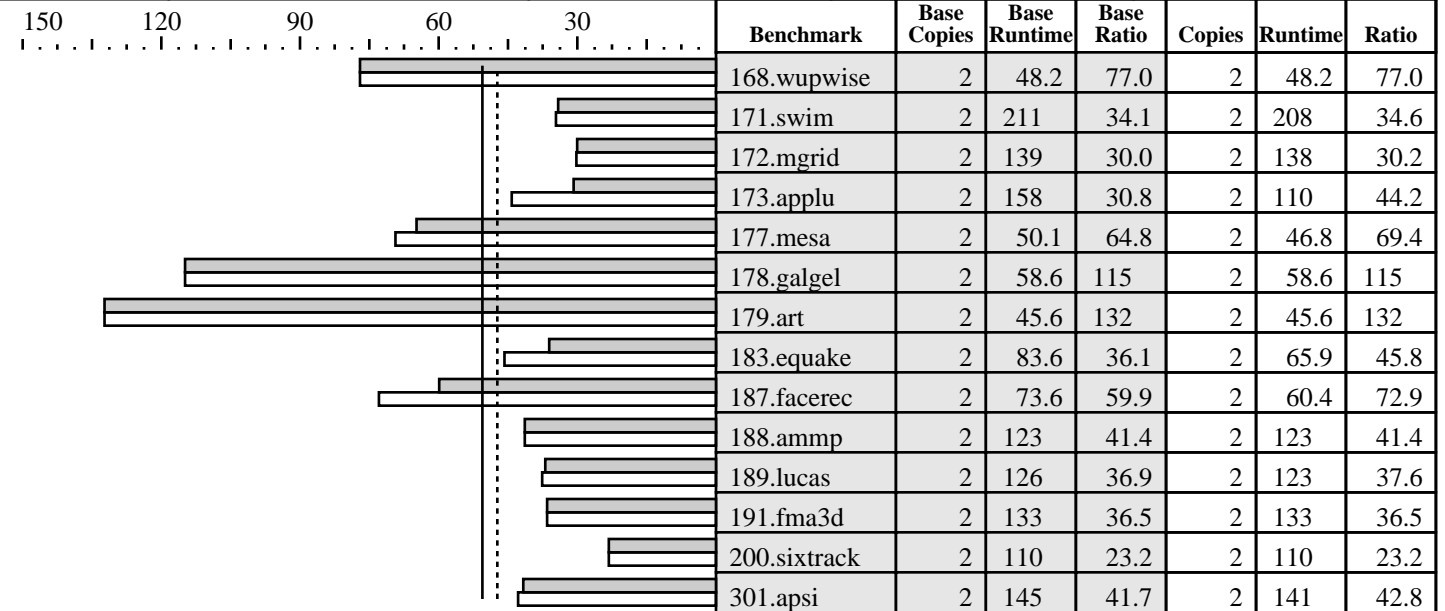
CFP2000 Result

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Hewlett-Packard Company
ProLiant ML310 G4 (2.66 GHz, Intel Xeon processor 3070)

SPECfp_rate2000 = **50.5**
SPECfp_rate_base2000 = **47.3**

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



Hardware

CPU: Intel Xeon processor 3070 (2.66GHz, 4MB L2 shared, 1066 MHz bus)
 CPU MHz: 2660
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Parallel: No
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4 GB (2x2 GB PC2-5300E)
 Disk Subsystem: 1x160 GB SATA150
 Other Hardware:

Software

Operating System: RedHat Enterprise Linux 4.0 Advanced Server Update 3
 Kernel 2.6.9-34.ELsmp
 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 +FDO
          -OPT:IEEE_NaN_Inf=off:ro=3:unroll_size=0 -march=em64t +FDO
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