CFP2000 Result

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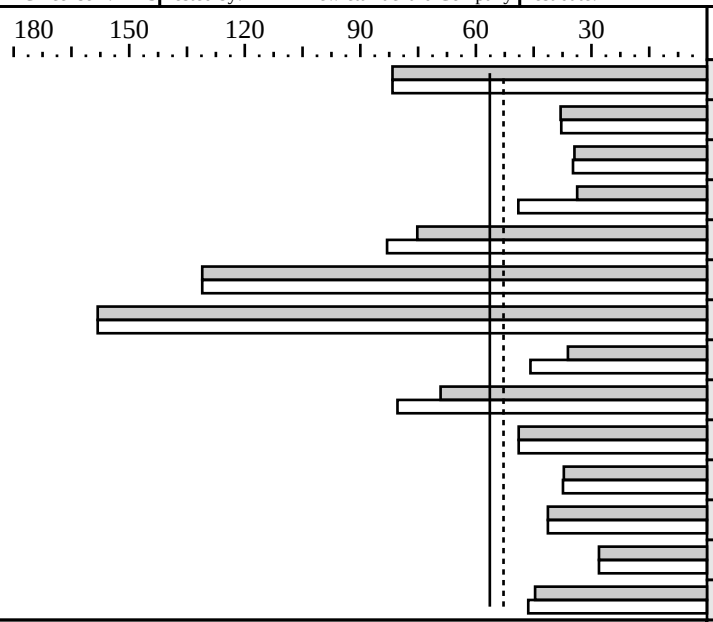
Hewlett-Packard Company

ProLiant ML350 G5 (1.6 GHz, Intel Xeon processor 5110)

SPECfp_rate2000 = 56.4

SPECfp_rate_base2000 = 52.8

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	90.9	81.7	4	90.9	81.7
171.swim	4	378	38.0	4	380	37.8
172.mgrid	4	243	34.4	4	240	34.8
173.applu	4	289	33.7	4	199	49.0
177.mesa	4	86.4	75.2	4	78.2	83.1
178.galgel	4	103	131	4	103	131
179.art	4	76.3	158	4	76.3	158
183.equake	4	167	36.1	4	132	45.8
187.facerec	4	127	69.2	4	110	80.4
188.ammp	4	209	48.9	4	209	48.9
189.lucas	4	250	37.2	4	248	37.4
191.fma3d	4	236	41.3	4	236	41.3
200.sixtrack	4	182	28.0	4	182	28.0
301.apsi	4	270	44.6	4	260	46.4

Hardware

CPU:	Intel Xeon processor 5110 (1.6 GHz, 4 MB L2 shared, 1066 MHz bus)
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
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:	8 GB (4x2048 MB PC2-5300F)
Disk Subsystem:	1x36 GB 15 K SAS
Other Hardware:	

Software

Operating System:	RedHat Enterprise Linux 4.0 Advanced Server for AMD64/EM64T, 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
                  -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
```