CFP2000 Result

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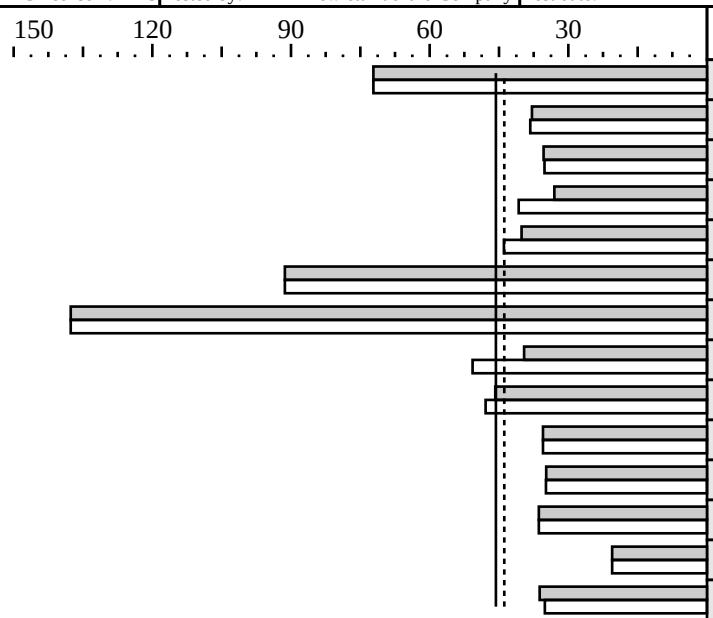
Hewlett-Packard Company

ProLiant DL580 G4 (3.4GHz, Intel Xeon processor 7140M)

SPECfp_rate2000 = 45.7

SPECfp_rate_base2000 = 43.9

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	103	72.2	4	103	72.2
171.swim	4	380	37.9	4	376	38.2
172.mgrid	4	236	35.4	4	238	35.2
173.applu	4	295	33.0	4	239	40.7
177.mesa	4	162	40.1	4	148	43.9
178.galgel	4	147	91.3	4	147	91.3
179.art	4	87.6	138	4	87.6	138
183.equake	4	152	39.6	4	119	50.7
187.facerec	4	192	45.8	4	184	47.9
188.ammp	4	288	35.5	4	288	35.5
189.lucas	4	267	34.8	4	266	34.8
191.fma3d	4	268	36.4	4	268	36.4
200.sixtrack	4	249	20.5	4	249	20.5
301.apsi	4	333	36.2	4	344	35.1

Hardware

CPU:	Intel Xeon processor 7140M (800MHz system bus)
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip (Hyper-Threading Technology enabled)
CPU(s) orderable:	1,2,4 chips
Parallel:	No
Primary Cache:	12 K I micro-ops + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB on chip per chip
Other Cache:	N/A
Memory:	32 GB (16x2048MB PC2-3200 dual-rank)
Disk Subsystem:	1x36 GB 10 K SAS
Other Hardware:	

Software

Operating System:	SuSE Linux Enterprise Server 9.0 for AMD64/EM64T, SP 3 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:	Default

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
    Hyper-Threading Technology enabled
```