CFP2000 Result

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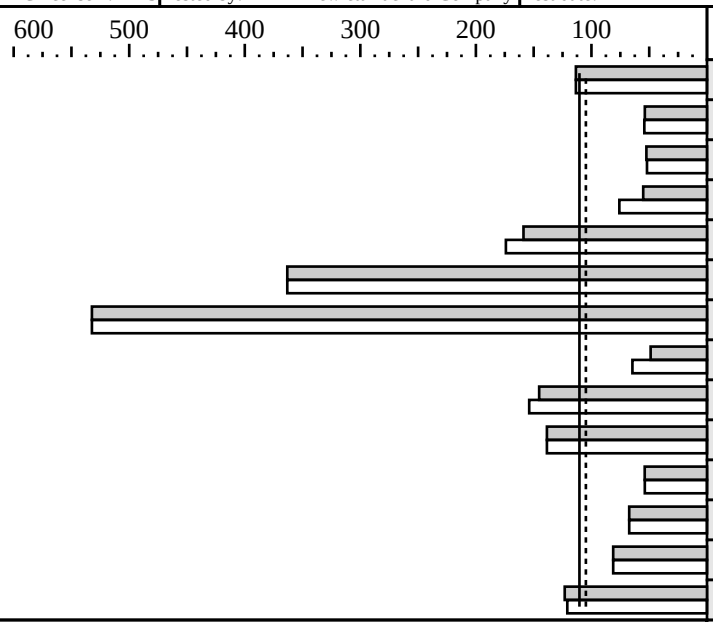
Hewlett-Packard Company

ProLiant ML570 G4 (3.4GHz, Intel Xeon processor 7140M)

SPECfp_rate2000 = 110

SPECfp_rate_base2000 = 105

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	16	262	113	16	262	113
171.swim	16	1069	53.8	16	1061	54.2
172.mgrid	16	637	52.4	16	643	51.9
173.applu	16	706	55.2	16	514	75.8
177.mesa	16	164	159	16	149	174
178.galgel	16	148	363	16	148	363
179.art	16	90.7	532	16	90.7	532
183.equake	16	495	48.8	16	374	64.5
187.facerec	16	243	145	16	229	154
188.ammp	16	295	139	16	295	139
189.lucas	16	689	53.9	16	690	53.8
191.fma3d	16	579	67.3	16	579	67.3
200.sixtrack	16	251	81.2	16	251	81.2
301.apsi	16	392	123	16	399	121

Hardware

CPU:	Intel Xeon processor 7140M (800MHz system bus)
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip (HyperThreading 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
    HyperThreading Technology enabled
```