CFP2000 Result

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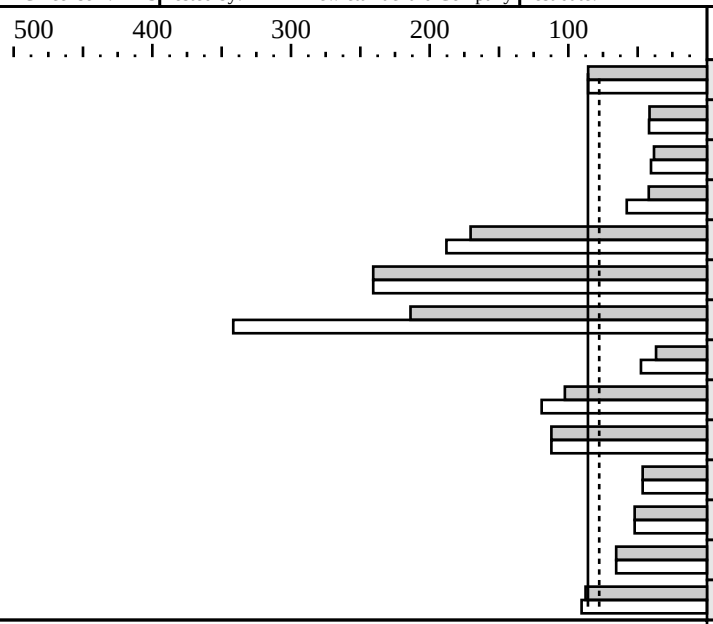
Hewlett-Packard Company

ProLiant BL20p G4 (1.86 GHz, Intel Xeon processor E5320)

SPECfp_rate2000 = 85.9

SPECfp_rate_base2000 = 77.7

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	8	173	85.7	8	173	85.7
171.swim	8	694	41.4	8	688	41.8
172.mgrid	8	437	38.2	4	207	40.4
173.applu	8	464	42.0	8	337	57.9
177.mesa	8	76.2	170	8	69.1	188
178.galgel	8	112	241	8	112	241
179.art	8	113	214	4	35.3	342
183.equake	8	328	36.7	8	253	47.6
187.facerec	8	172	103	4	73.9	119
188.ammp	8	182	112	8	182	112
189.lucas	8	400	46.4	8	400	46.4
191.fma3d	8	374	52.2	8	374	52.2
200.sixtrack	8	156	65.5	8	156	65.5
301.apsi	8	276	87.6	8	267	90.4

Hardware

CPU:	Intel Xeon processor E5320 (1.86 GHz, 2x4 MB L2 shared, 1066 MHz bus)
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 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=4
  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)

```
                  -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=4
     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
                  users=4
     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
```