CFP2000 Result

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Hewlett-Packard Company

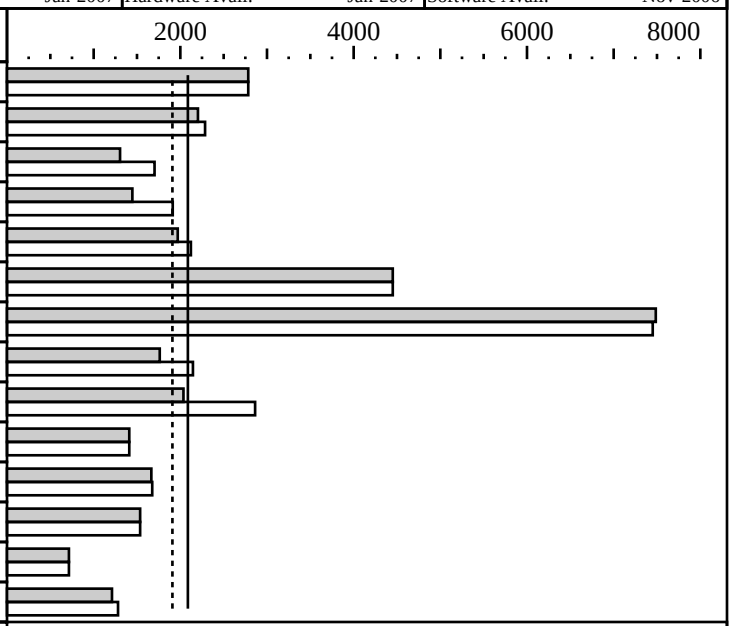
ProLiant BL20p G4 (1.86 GHz, Intel Xeon processor E5320)

SPECfp2000 = 2087

SPECfp_base2000 = 1909

SPEC license #: 3 | Tested by: Hewlett-Packard Company | Test date: Jan-2007 | Hardware Avail: Jan-2007 | Software Avail: Nov-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	57.5	2784	57.5	2784
171.swim	3100	141	2203	136	2285
172.mgrid	1800	138	1304	106	1702
173.applu	2100	145	1447	110	1912
177.mesa	1400	71.1	1970	66.0	2122
178.galgel	2900	65.2	4451	65.2	4451
179.art	2600	34.7	7486	34.9	7451
183.equake	1300	73.8	1762	60.6	2145
187.facerec	1900	93.3	2036	66.4	2863
188.ammp	2200	156	1411	156	1411
189.lucas	2000	120	1666	119	1676
191.fma3d	2100	137	1536	137	1536
200.sixtrack	1100	154	715	154	715
301.apsi	2600	215	1211	203	1281



Hardware

CPU:	Intel Xeon processor E5320 (1.86 GHz, 2x4 MB L2 shared, 1066 MHz bus)
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 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-default
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
  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:      icc -fast -auto_ilp32 +FDO
    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 Performance Mode
  Adjacent Sector Prefetch disabled
Other Configuration Notes
  Taskset utility used to bind process to CPU(s)
  "ulimit -s unlimited" set
  Single processor kernel used
```