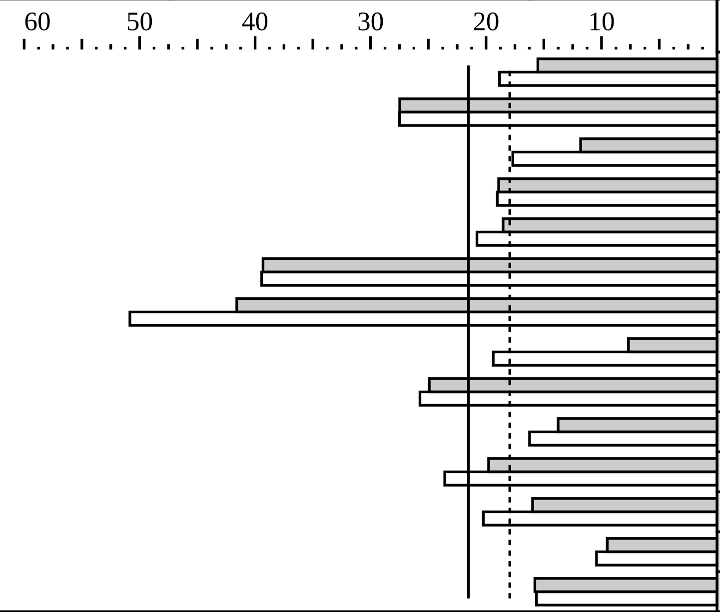
CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Hewlett-Packard Company
hp AlphaServer DS25 68/1000

SPECfp_rate2000 = 21.5
SPECfp_rate_base2000 = 17.9

SPEC license #: 2	Tested by: HP	Test date: Jun-2002	Hardware Avail: Aug-2002	Software Avail: Oct-2001



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	239	15.5	2	197	18.8
171.swim	2	262	27.5	2	262	27.5
172.mgrid	2	354	11.8	2	236	17.7
173.applu	2	258	18.9	2	256	19.0
177.mesa	2	175	18.5	2	156	20.8
178.galgel	2	171	39.3	2	171	39.4
179.art	2	145	41.6	2	119	50.8
183.equake	2	393	7.67	2	156	19.4
187.facerec	2	177	24.9	2	171	25.7
188.ammp	2	371	13.8	2	314	16.2
189.lucas	2	235	19.8	2	197	23.6
191.fma3d	2	305	16.0	2	241	20.2
200.sixtrack	2	268	9.51	2	245	10.4
301.apsi	2	382	15.8	2	386	15.6

Hardware

CPU:	Alpha 21264C
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1 to 2
Parallel:	No
Primary Cache:	64KB(I)+64KB(D) on chip
Secondary Cache:	8MB off chip per CPU
L3 Cache:	None
Other Cache:	None
Memory:	8GB
Disk Subsystem:	18.2GB SCSI
Other Hardware:	None

Software

Operating System:	Tru64 UNIX V5.1A
Compiler:	Compaq C V6.4-215-46B7O Program Analysis Tools V2.0 Spike V5.2 DTK (1.471.2.2 46B5P) Compaq Fortran V5.4A-1472-46B2F Compaq Fortran 77 V5.4A-196-46B2F KAP Fortran V4.3 000607 KAP Fortran 77 V4.1 980926 KAP C V4.1 000607
File System:	AdvFS
System State:	Multi-user

Notes/Tuning Information

```
Baseline   C: cc  -arch ev6 -fast -O4 ONESTEP
     Fortran: f90 -arch ev6 -fast -O5 ONESTEP


Peak:
  All use -g3 -arch ev6 -non_shared ONESTEP
  Individual benchmark tuning:
   168.wupwise: kf77 -fast -O4 -pipeline -unroll 2 +PFB
      171.swim: f90 -fast -O5
     172.mgrid: kf77 -O5 -transform_loops -tune ev6 -unroll 8
     173.applu: f90 -fast -O5 +PFB
      177.mesa: cc -fast -O4 +CFB +IFB
    178.galgel: f90 -fast -O5
       179.art: kcc -fast -O4 -unroll 10 -ckapargs='-arl=4
                -ur=4' +PFB
    183.equake: cc -fast -xtaso_short -assume
                restricted_pointers -all -ldensemalloc -none +PFB
```

Hewlett-Packard Company
hp AlphaServer DS25 68/1000

SPECfp_rate2000 =	21.5
SPECfp_rate_base2000 =	17.9

SPEC license #:	2	Tested by:	HP	Test date:	Jun-2002	Hardware Avail:	Aug-2002	Software Avail:	Oct-2001

Notes/Tuning Information (Continued)

```
     187.facerec: f90 -fast -O4 +PFB
        188.ammp: cc -fast -O4 -xtaso_short -assume
                  restricted_pointers
       189.lucas: kf90 -O5 -fkapargs='-ur=1' +PFB
      191.fma3d: kf90 -O4 -transform_loops +PFB
    200.sixtrack: f90 -fast -O5 -assume accuracy_sensitive
                  -notransform_loops +PFB
        301.apsi: kf90 -O5 -transform_loops -unroll 8
                  -fkapargs='-ur=1' +PFB

Most benchmarks are built using one or more types of
profile-driven feedback.  The types used are designated
by abbreviations in the notes:

+CFB: Code generation is optimized by the compiler, using
      feedback from a training run.  These commands are
      done before the first compile (in phase "fdo_pre0"):

           mkdir /tmp/pp
           rm -f /tmp/pp/${baseexe}*

      and these flags are added to the first and second compiles:

           PASS1_CFLAGS = -prof_gen_noopt -prof_dir /tmp/pp
           PASS2_CFLAGS = -prof_use       -prof_dir /tmp/pp

     (Peak builds use /tmp/pp above; base builds use /tmp/pb.)

+IFB: Icache usage is improved by the post-link-time optimizer
      Spike, using feedback from a training run.  These commands
      are used (in phase "fdo_postN"):

           mv ${baseexe} oldexe
           spike oldexe -feedback oldexe -o ${baseexe}

+PFB: Prefetches are improved by the post-link-time optimizer
      Spike, using feedback from a training run.  These
      commands are used (in phase "fdo_post_makeN"):

           rm -f *Counts*
           mv ${baseexe} oldexe
           pixie -stats dstride oldexe 1>pixie.out 2>pixie.err
           mv oldexe.pixie ${baseexe}

      A training run is carried out (in phase "fdo_runN"), and
      then this command (in phase "fdo_postN"):

           spike oldexe -fb oldexe -stride_prefetch -o ${baseexe}

When Spike is used for both Icache and Prefetch improvements,
only one spike command is actually issued, with the Icache
options followed by the Prefetch options.

Portability: galgel: -fixed
```

CFP2000 Result

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Hewlett-Packard Company
hp AlphaServer DS25 68/1000

SPECfp_rate2000 = 21.5
SPECfp_rate_base2000 = 17.9

SPEC license #: 2	Tested by: HP	Test date: Jun-2002	Hardware Avail: Aug-2002	Software Avail: Oct-2001

Notes/Tuning Information (Continued)

```
Spike, and the Program Analysis Tools, are part of the Developers'
Tool Kit Supplement, http://www.tru64unix.compaq.com/dtk/ .  The
features used in this SPEC submission will be available at the web
site as a production release in October, 2001.  The C compiler for
this SPEC submission has been available at the same location, as a
production release, since August, 2001.
```