A/UX 1.0 and 1.1: f77 Compiler Problem (8/94)

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TOPIC ---

This article describes a major problem in the A/UX f77 compiler as it exists in A/UX 1.0 through A/UX 1.1 (including A/UX1.1Beta1). NOTE: This problem is fixed in A/UX 2.0 and 3.0.

DISCUSSION ---

The compiler incorrectly allocates common on the stack when it should allocate it in the data segment. You can force it to allocate the common block in the data segment by using a data statement, but this also causes problems.

As an example, try this program, first as a single file and then split into two files.

```
   program test1
   common /fred/ array
   integer array(2)
   save
   array(1)=55
   array(2)=66
   print *,'Array in main is ',array
   call sub1
   print *,'Array after call to sub1 is ',array
   stop
   end
*
   subroutine sub1
   common /fred/ array
   integer array(2)
   save
   print *,'Array in sub1 is ',array
   return
   end
```

The problem keeps S from running under A/UX. Here are tests with A/UX 1.0.1 and A/UX 1.1Beta1:

A/UX 1.0.1

```
----------
a) Source in same file (f77 foo.f):

   Array in main is  55 66
   Array in sub1 is  55 66
   Array after call to sub1 is  55 66

b) Source in two files (f77 foo.f bar.f):

   Array in main is  55 66
   Array in sub1 is  55 66
   Array after call to sub1 is  55 66

A/UX1.1Beta1
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a) Source in same file (f77 foo.f):

   Array in main is  55 66
   Array in sub1 is  55 66
   Array after call to sub1 is  55 66

b) Source in two files (f77 foo.f bar.f):
   Array in main is  55 66
   Array in sub1 is  0 0
   ~~~~~~~~~~~~~~~~~~~~~
   Array after call to sub1 is  55 66


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