Subject: Re: Q: Who knows IDL?
Posted by grunes on Tue, 16 May 1995 07:00:00 GMT
View Forum Message <> Reply to Message

In article <3p9p58$q2l@fu-berlin.de> rotti@zedat.fu-berlin.de (Frank Rottinger) writes:
> as a UNIX newcomer I am working on a HP715.
> For the purpose of processing Radar-Images I need to install some programs
> who need themselves a package called IDL (Interactive Data Language).
> Does anybody have some experience with IDL and can answer me the following
> questions:
> 1. What's the 'normal' purpose of IDL?
> 2. What about the price and vendors?
> 3. Are HP-binaries existent or must it be ported to HP-UX?

IDL and its very similar sister PV-WAVE are discussed in
newsgroup comp.lang.idl-pvwave. You might look at the FAQ:
ftp://rtfm.mit.edu/pub/usenet/comp.lang.idl-pvwave

IDL and PV-WAVE are fairly easy to use to manipulate arrays
and images. They use a somewhat clumsy BASIC-like notation
(not as elegant as APL), but have lots and lots of array,
scientific and image and signal processing routines.

The free-trial versions can do just about everything that
the licensed versions can do except:
(1) Write files (they CAN write postscript output).
(2) Spawn operating system commands.
(3) Call external subroutines (written in Fortran or C).
(4) Run for more than about 7 minutes.

There are at least six minor deficiencies of IDL and PV-WAVE:
(1) If you can't recast a problem into array notation, loops are quite
slow. These are interpreters. They will never replace Fortran
or C.
(2) They are not free. I think $1500 and up on a Unix box.
PV-WAVE is $850 (I think) on PCs.
(3) Portability is a problem. In particular, there are lots of little
differences in the way you display things from one output device
to another, and in the way you read cursor buttons and positions.
As an example, I went crazy trying to write my junky oversized image
display program:
ftp://imsy1.nrl.navy.mil/home/util/showim.pro
and it probably only works on those displays and printers on which
I tested it. On the other hand, I personally do use them as a
semi-portable graphics interface between various platforms and
displays. You just have to work a bit, and test. (That display
program includes instructions on downloading IDL. There is also a

free trial version of PV-WAVE, but it only lasts 30 days.)
Call External is also platform dependent.

(4) The licensed versions use a software license manager that will drive you (or your systems administrator) nuts. If you are a Unix newcomer, you will definitely need help to install the licensed version. It's even harder if you want to install both IDL and PV-WAVE.

(5) On SGI machines, with both packages, image display is handled VERY slowly, and tends to produce transient video artifacts.

(6) IDL and PV-WAVE started out the same, but have diverged. Some functions are in one, but not the other; some functions have different names and/or arguements. If you want portability between the two, you probably have to get both, and test.

In spite of the above, I find them very nice languages to work in.
It is possible to write short programs to manipulate arrays and images;
they took the kitchen sink approach and included almost everything
(including extensive "user libraries"); they both have technical support
and share an active newsgroup. And they have grown a significant
following in the image processing and remote sensing communities (but so
have MATLAB, Khorus, and AVS).

If you want a flame war, post yet-another-query asking which is better.
(The real answer to all such questions: it all depends.)

(Opinions are mine alone.)
Mitchell R Grunes (grunes@nrlvax.nrl.navy.mil)
Allied-Signal Technical Services
