
Subject: Re: IDL or PV-WAVE?

Posted by [gotwols](#) on Tue, 18 Jun 1991 00:31:13 GMT

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I just want to add my two cents to this running discussion. I use IDL for analyzing radar data of the ocean surface. The topic here is research radar, not the kind of radars that you are probably thinking of which are used at the airports to keep planes from hitting each other. We have obtained data at a rate of about 2 GBytes in 5 hours for as long as a month. In an upcoming experiment we will push our data rate up from this by a factor of five. That's about 0.5Mbytes/sec. That ought to qualify as a fast enough rate and quantity.

I too thought that only C could possibly be used to handle this magnitude of data. That was until last Thursday. I took one of the C routines I have been using written by a perfectly competent C programmer and timed it. I then challenged Ray Sterner who I work with to see how close he could come to processing five minutes of our 100 kBy/s data. My time was of processing was 175 seconds. I expected Sterner to trun in a time about twice this long at which time I expected he would throw in the towel and agree to program all of our upcoming experiment in C (at least the innermost loops). Well after a few hours Ray was ready and he ran his test. I didn't believe the results so I demanded he show me some details. (I was getting pretty agitated by now... this couldn't be happening.) Ray's program took only 85 seconds, and it was written in pure IDL. Now I know that this seems absurd since IDL is written in C so of course a well written C program just has to beat it, at least by a little bit. (Interpeted vs. compiled languages and all that...) But I guess the lesson is that if you learn to program efficiently in IDL, by processing in chunks that are lare enough to hide the overhead of the interpreter, yet small enough that vitual memory doesn't come into play, you will get an efficiency just about as good as the best C written code. The advantage to this is that the program can be written in a small fraction of the time a C programmer can write it in. I don't care what the died in the wool C programmers say....IDL programs can be written in a fraction of the time PERIOD.

I also agree whole heartedly with Wayne Landsman who states that as a scientist he prefers to concentrate on the problem at hand rather than worrying about all of the details of the C or Fortran language. It now seems in view of Ray Sterner's work that if the program is written in efficient IDL code even the professional programmers doing scientific code ought to switch to IDL.

Now as to the IDL vs. PV-WAVE question.... I can't comment on PV-WAVE since I don't own it. What I can say is that I am extremely satisfied with the support I have received over the years (since 1985) from the IDL folks. They have never left a question unanswered and have been a true pleasure to deal with. We are a big customer, probably because they let us test their latest things out before purchasing them. I have lost track of how many copies of IDL we have at JHU/APL. Probably around 30. It is a darn shame that IDL

and PV-WAVE are diverging. We probably ought to somehow take a poll as to customer satisfaction so people on the net can decide which way to go. It seems to me that one may die out now that they are independent. I guess you can see from my comments which one I hope wins.

Bruce

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IDL we have at JHU/APL. Probably close to 30.

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