Subject: IDL vs Yorick?

Posted by Ralf Flicker on Sat, 05 Oct 2002 13:42:01 GMT

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At the risk of reiterating an old debate (if there was one), I
would like to hear people's opinions about the open source
interpreted language called Yorick.

With RSI/Kodak's recent licensing policies and costs, Yorick's
attractive features are of course that it's open source and
available for all platforms. This provides in principle
unlimited portability. But if performance were found to be
similar or inferior to that of IDL I would of course stick to
IDL, so I recently started benchmarking Yorick versus IDL to see
if there was a reason for me personally to consider a switch to
Yorick. The preliminary results are thought provoking. The test
included:

1) defining 3 real and 1 complex double precision 512x512 arrays
   of uniformly distributed random numbers
2) matrix multiplication of two real arrays
3) 20 FFTs of a complex array (using the fft_setup only once
   in Yorick)
4) 20 "where" operations on complex array

The median time required for these computations on my computer
(600MHz, single cpu) after a handful of runs were (in seconds):

	IDL	Yorick
1	0.19	0.19
2	18.1	8.1
3	17.4	9.0
4	1.30	1.45
Total:	36.99	18.74

I had also intended to include a SVD in the test, but this
bugged out in Yorick for some reason (why? anyone?). In a second
test I also found the scaling law of the FFT (ideally ~ N^2log
N) to be slightly more benign in Yorick - I found an exponent of
2.5 in IDL and 2.35 in Yorick. I would appreciate thoughts and
comments on these numbers, and in particular I would be
interested to hear what other people have found in comparing IDL
and Yorick.

(googling on "Yorick+IDL" among the comp.* groups turned up a
few posts by Craig and Randall and other posters of this ng, and
Siegfried Gonzi posting in other groups - I hope you don't mind
rehashing the issue)

Input appreciated.

ralf

Subject: Re: IDL vs Yorick?
Posted by Craig Markwardt on Fri, 11 Oct 2002 14:52:55 GMT
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Ralf Flicker <ralf@astro.lu.se> writes:

> At the risk of reiterating an old debate (if there was one), I
> would like to hear people's opinions about the open source
> interpreted language called Yorick.

Greetings Ralf--

I meant to answer this a long time ago, but it just scrolled too far.

I am not surprised that Yorick can outperform IDL in some areas. The
author, David Munro, has put a lot of effort into scaleability.

Also, Yorick has some wonderful variations on the IDL syntax. While
for the most part Yorick is very close to IDL, there are some areas,
like array indexing, where Yorick is clearly superior. There are all
sorts of novel ways to index arrays. And things like my CMAPPLY or
JD's median or variance kludges come naturally because you can apply
functions directly to the dimensions of an array.

That being said, I think that Yorick is currently not a viable
candidate for me, and I'll say why:

1. Close-to-non-existent user community. There's no mailing list or
   newsgroup that I know of.

2. Close-to-non-existent development. I can see that Munro is slowly
   developing a new version, 2.0, but this has happened over 4 or 5
   years. This is not to mean any discredit to Munro! Quite the
   opposite. His is fantastic design, but unfortunately it's only
   him as far as I can see.

3. Poor debugging. I never figured out how to debug from the command
   line.

And the most important reasons:

4. Little or no third-party libraries. Of course this is
   self-defeating :-) There won't be third party libraries until
   people develop for it. On the other hand, the very basic things
   like curve fitting are missing, or are tack-ons.

5. My own huge sunk investment in IDL code. I have something like
   100k lines of code written in IDL in my personal library, plus lots
   of custom scripts etc. That would be 98% wasted if I switched to
   Yorick.

Reason number 5 is certainly the most frustrating, and yet like a
crack cocaine addict, I come back for more.

Reasons 4 and 5 have led me to conclude that the only viable
alternative to IDL must at the very least have some form of
"compatibility mode" which runs 99.5% to 99.9% of existing code with
no changes. And I'm serious about those percentages. With a 100k
line library, I don't want to be making more than a hundred or so
changes to be compatible with something else.

Craig

Subject: Re: IDL vs Yorick?
Posted by David Fanning on Fri, 11 Oct 2002 15:11:16 GMT
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Craig Markwardt (craigmnet@cow.physics.wisc.edu) writes:

> 2. Close-to-non-existent development. I can see that Munro is slowly
> developing a new version, 2.0, but this has happened over 4 or 5
> years. This is not to mean any discredit to Munro! Quite the
> opposite. His is fantastic design, but unfortunately it's only
> him as far as I can see.

Maybe he needs to license this to Visual Numerics. IDL
was pretty much in the same boat until Precision Visuals
(nee Visual Numerics) offered David Stern X millions of
dollars for the software rights. David had to spend the
money somehow, or pay enormous taxes, so he just went
ahead a built a competing company with it.

Dumb luck or a great business plan, I'll let you
decide. :-)

Cheers,

David

--
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155