Subject: Any cross-platform IDL alternatives?
Posted by Eric Williams on Wed, 10 Oct 2001 20:19:49 GMT

View Forum Message <> Reply to Message

Since RSI/Kodak is killing IDL for the Mac (and others) I am wondering if anyone has suggestions for trying out some other cross-platform software. I am not really worried too much about Windows but the Mac/*nix world is where I work. We use IDL mostly for processing astronomical data and writing procedures to play with the data visually. So a tool with a simple language and good graphing capabilities is what we really need.

BTW, if anyone from RSI cares, I only have two Mac licenses but I have brought 31 Solaris licenses to my campus since coming here, with plenty more potential on the horizon. Once I have an alternative tool I will be recommending against purchasing anymore licenses and dropping maintenance. Too bad because I have been a huge evangelist for IDL over the years. I have turned more than 50 students and scientists onto IDL in the last few years which has resulted in most likely hundreds of licenses if not many more as they have moved onto other sites. That will all stop now and I will try to do the opposite, and probably save some money too.

Bye bye IDL, it WAS great...

--
Eric
wilersh@snet.net

Subject: Re: Any cross-platform IDL alternatives?
Posted by web on Fri, 12 Oct 2001 02:17:28 GMT

View Forum Message <> Reply to Message

Does that mean IDL will be given up soon?
Maybe there are more people use MATLAB.
Who could compare the two famous software?

"Eric Williams" <wilersh@mac.com> wrote in message
news:B7EA25A6.AD69%wilersh@mac.com...
> Since RSI/Kodak is killing IDL for the Mac (and others) I am wondering if
> anyone has suggestions for trying out some other cross-platform software.
I
> am not really worried too much about Windows but the Mac/*nix world is
where
> I work. We use IDL mostly for processing astronomical data and writing
> procedures to play with the data visually. So a tool with a simple
language
> and good graphing capabilities is what we really need.
>

> BTW, if anyone from RSI cares, I only have two Mac licenses but I have
> brought 31 Solaris licenses to my campus since coming here, with plenty
more
> potential on the horizon. Once I have an alternative tool I will be
> recommending against purchasing anymore licenses and dropping maintenance.
> Too bad because I have been a huge evangelist for IDL over the years. I
have
> turned more than 50 students and scientists onto IDL in the last few years
> which has resulted in most likely hundreds of licenses if not many more as
> they have moved onto other sites. That will all stop now and I will try to
> do the opposite, and probably save some money too.
>
> Bye bye IDL, it WAS great...
>
> --
> Eric
> wilersh@snet.net
>

Subject: Re: Any cross-platform IDL alternatives?
Posted by Mark Hadfield on Fri, 12 Oct 2001 03:00:42 GMT
View Forum Message <> Reply to Message

> Does that mean IDL will be given up soon?

Well there's not much point in giving up IDL for Matlab if you want Mac
support, because that was dropped from Matlab some time ago (to the
considerable disgust of Mac users).

> Maybe there are more people use MATLAB.
> Who could compare the two famous software?

http://groups.google.com/groups?as_q=IDL%20Matlab

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: Any cross-platform IDL alternatives?

Posted by web on Fri, 12 Oct 2001 10:33:22 GMT

View Forum Message <> Reply to Message

So many guys prefer matlab to IDL.
There are so many .m files for download but few .pro.

"Mark Hadfield" <m.hadfield@niwa.cri.nz> wrote in message
news:002e01c152ca$1046a060$d938a8c0@Hadfield...
>> Does that mean IDL will be given up soon?
>
> Well there's not much point in giving up IDL for Matlab if you want Mac
> support, because that was dropped from Matlab some time ago (to the
> considerable disgust of Mac users).
>
>> Maybe there are more people use MATLAB.
>> Who could compare the two famous software?
>
> http://groups.google.com/groups?as_q=IDL%20Matlab
> ---
> Mark Hadfield
> m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
> National Institute for Water and Atmospheric Research
>
>
>
> --
> Posted from clam.niwa.cri.nz [202.36.29.1]
> via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: Any cross-platform IDL alternatives?
Posted by Randall Skelton on Fri, 12 Oct 2001 14:04:09 GMT

View Forum Message <> Reply to Message

FYI: I just recieved word from the PV-Wave (VNI) group and they have no
plans to support Macintosh 9.x or OS X.

Randall

On Fri, 12 Oct 2001, jiali wrote:

> So many guys prefer matlab to IDL.
> There are so many .m files for download but few .pro.
>
> "Mark Hadfield" <m.hadfield@niwa.cri.nz> wrote in message
>>> Does that mean IDL will be given up soon?
>>
>> Well there's not much point in giving up IDL for Matlab if you want Mac

>> support, because that was dropped from Matlab some time ago (to the
>> considerable disgust of Mac users).
>>
>>> Maybe there are more people use MATLAB.
>>> Who could compare the two famous software?
>>
>> http://groups.google.com/groups?as_q=IDL%20Matlab
>> ---

Subject: Re: Any cross-platform IDL alternatives?
Posted by Liam E. Gumley on Fri, 12 Oct 2001 14:24:31 GMT
View Forum Message <> Reply to Message

jiali wrote:
> So many guys prefer matlab to IDL.
> There are so many .m files for download but few .pro.

I beg to differ. When I search for a routine at

http://www.astro.washington.edu/deutsch/idl/htmlhelp/

it tells me it searched 8573 procedures and functions.

Cheers,
Liam.
Practical IDL Programming
http://www.gumley.com/

Subject: Re: Any cross-platform IDL alternatives?
Posted by David Fanning on Fri, 12 Oct 2001 14:40:33 GMT
View Forum Message <> Reply to Message

Liam E. Gumley (Liam.Gumley@ssec.wisc.edu) writes:

> I beg to differ. When I search for a routine at
>
> http://www.astro.washington.edu/deutsch/idl/htmlhelp/
>
> it tells me it searched 8573 procedures and functions.

Yeah, but half of those are written just to
get PostScript output correct. :-)

Cheers,

David

--
David W. Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Any cross-platform IDL alternatives?
Posted by Stein Vidar Hagfors H[1] on Fri, 12 Oct 2001 15:35:10 GMT
View Forum Message <> Reply to Message

"jiali" <jiali3@21cn.com> writes:

> So many guys prefer matlab to IDL.
> There are so many .m files for download but few .pro.
[..]

I'm a bit uncertain on what exactly you base this on... E.g. searching for
"IDL library" on Google (http://www.google.com/search?hl=en&q=IDL+library)
gives about 61000 hits, while "matlab library" gives "about 59700"
(http://www.google.com/search?q=matlab+library). Of course, I'm not pretending
that this is reflecting the number of library files, but your claim should be
backed up by some means.. And of course even the number of available distinct
.m versus .pro files won't tell you anything about the generality or
usefulness of those files.

--
 --- --------------
Stein Vidar Hagfors Haugan
ESA SOHO SOC/European Space Agency Science Operations Coordinator for SOHO

NASA Goddard Space Flight Center,   Email: shaugan@esa.nascom.nasa.gov
Mail Code 682.3, Bld. 26, Room G-1,   Tel.: 1-301-286-9028/240-354-6066
Greenbelt, Maryland 20771, USA.   Fax: 1-301-286-0264
 --- --------------

Subject: Re: Any cross-platform IDL alternatives?
Posted by Aaron Birenboim on Fri, 12 Oct 2001 17:12:44 GMT
View Forum Message <> Reply to Message

"Liam E. Gumley" wrote:
>
> jiali wrote:

>> So many guys prefer matlab to IDL.
>> There are so many .m files for download but few .pro.
>
> I beg to differ. When I search for a routine at

In my experience, IDL pretty much owns physics,
and part of the image processing community.

MatLab is more popular with EE's (controls),
and probobally math.

I too, and looking to start using the free
alternatives.
--
Aaron Birenboim | Black holes are where G-d divided
Albuquerque, NM | by zero.
aaron@boim.com |
boim.com/~aaron | -Steven Wright

Subject: Re: Any cross-platform IDL alternatives?
Posted by Jean Koclas on Fri, 12 Oct 2001 18:14:39 GMT
View Forum Message <> Reply to Message

There is Mathematica by Wolfram. Granted, it is not inexpensive, but is
multi platform, and is much more useful IMHO than matlab, etc.

It has a powerful language, and has many facilities for data visualization.
And it has supported MacOS since it started up...

--
Jean Koclas
jkoclas.@alum.mit.edu

> Deï¿½: Aaron Birenboim <aaron@boim.com>
> Sociï¿½tï¿½: Southwest Cyberport
> Groupesï¿½: comp.lang.idl-pvwave
> Dateï¿½: Fri, 12 Oct 2001 11:12:44 -0600
> Objetï¿½: Re: Any cross-platform IDL alternatives?
>
> "Liam E. Gumley" wrote:
>>
>> jiali wrote:
>>> So many guys prefer matlab to IDL.
>>> There are so many .m files for download but few .pro.
>>
>> I beg to differ. When I search for a routine at

>
> In my experience, IDL pretty much owns physics,
> and part of the image processing community.
>
> MatLab is more popular with EE's (controls),
> and probobally math.
>
> I too, and looking to start using the free
> alternatives.
> --
> Aaron Birenboim | Black holes are where G-d divided
> Albuquerque, NM | by zero.
> aaron@boim.com |
> boim.com/~aaron | -Steven Wright

Subject: Re: Any cross-platform IDL alternatives?
Posted by web on Sat, 13 Oct 2001 11:13:55 GMT
View Forum Message <> Reply to Message

From the posts before: http://groups.google.com/groups?as_q=IDL%20Matlab
I find many guys moved from idl to matlab.

In addition, I failed to find a IDL butterworth filter, but there are for
matlab.
My program is written in IDL, I feel so pity.

>
> I'm a bit uncertain on what exactly you base this on... E.g. searching for
> "IDL library" on Google (http://www.google.com/search?hl=en&q=IDL+library)
> gives about 61000 hits, while "matlab library" gives "about 59700"
> (http://www.google.com/search?q=matlab+library). Of course, I'm not
pretending
> that this is reflecting the number of library files, but your claim should
be
> backed up by some means.. And of course even the number of available
distinct
> .m versus .pro files won't tell you anything about the generality or
> usefulness of those files.
>
> --
> --- --------------
> Stein Vidar Hagfors Haugan
> ESA SOHO SOC/European Space Agency Science Operations Coordinator for SOHO
>
> NASA Goddard Space Flight Center,   Email: shaugan@esa.nascom.nasa.gov
> Mail Code 682.3, Bld. 26, Room G-1,   Tel.: 1-301-286-9028/240-354-6066
> Greenbelt, Maryland 20771, USA.   Fax: 1-301-286-0264

> -- -------------

Subject: Re: Any cross-platform IDL alternatives?
Posted by George N. White III on Sat, 13 Oct 2001 13:08:49 GMT
View Forum Message <> Reply to Message

On Wed, 10 Oct 2001, Eric Williams wrote:

> Since RSI/Kodak is killing IDL for the Mac (and others) I am wondering
> if anyone has suggestions for trying out some other cross-platform
> software. I am not really worried too much about Windows but the
> Mac/*nix world is where I work. We use IDL mostly for processing
> astronomical data and writing procedures to play with the data
> visually. So a tool with a simple language and good graphing
> capabilities is what we really need.

There are open source tools whose capabilities substantially overlap those
of IDL. Many of these tools can easily be ported to MacOS-X. Even if
MacOS-X is heavily adopted in the technical community there will, for many
people/tasks, be viable alternatives to IDL. Thus it is far from certain
that sales of IDL for OSX would generate the required return on
investment.

It is also worth noting that the cost of supporting multiple platforms
involves more than just the cost of porting code. A big part of IDL's
advantage over open source tools is performance, and that often means
tuning algorithms to suit the hardware. If you want to support a wide
range of hardware you end up either using more generic approaches that
affect performance on all platforms or developing platform-specific
implementations of the core algorithms. In the long run, IDL may need the
sort of major transformation to core algorithms that was done by Mathworks
when they moved from LINPACK to LAPACK for the linear algebra core.

I don't think any open source package compares with IDL in all aspects,
but there are certainly packages with comparable capabilities for many
specific tasks. With open source, however, there is no advertising
budget, so you may have to invest considerable effort to track down an
open source package that meets a particular set of requirements.

For "a simple language and good graphing capabilities" candidates include
the R language: http://www.ci.tuwien.ac.at/~hornik/R/R-FAQ.html, Python:
http://www.python.org/topics/scicomp/plotting.html, and the various Matlab
clones.

> BTW, if anyone from RSI cares, I only have two Mac licenses but I have
> brought 31 Solaris licenses to my campus since coming here, with
> plenty more potential on the horizon. Once I have an alternative tool

> I will be recommending against purchasing anymore licenses and
> dropping maintenance. Too bad because I have been a huge evangelist
> for IDL over the years. I have turned more than 50 students and
> scientists onto IDL in the last few years which has resulted in most
> likely hundreds of licenses if not many more as they have moved onto
> other sites. That will all stop now and I will try to do the opposite,
> and probably save some money too.

Would Kodak/RSI and the current IDL user base be better off if the IDL
command line interpreter was converted to open source? Kodak/RSI could
sell systems like ENVI written in IDL, while the user community would port
IDL (at least the command-line portions) to new platforms.

Organizations selecting tools for a large group of users were likely
to favor allocating more resources to software (e.g., by purchasing big
commercial packages like Matlab and IDL) in order to use less expensive
hardware.

In general, people who use open source tools tend to buy hardware that
provides the required performance using tools chosen for portability,
while users of commercial tools are more likely to look for the tool that
provides the required performance using more generic hardware (i.e.,
because a commercial vendor has invested considerable effort into
optimizing algorithms for the target hardware).

Matlab and IDL are suffering from similar limitations in the range of
platforms supported (e.g., Intel uniprocessors and a few unix platforms).
This means the technical computing community is becoming fragmented
between groups with problems that require high performance hardware and
parallel processing, and groups that can use hardware that runs commercial
tools. As a result, there are fewer opportunities to share code and
algorithms between the communities.

Companies who understand open source can use it to their advantage by
actively promoting third party ports of kernels to the full range of
platforms, and can use these kernels to support high level commercial
products that will be available to both communities.

--
George N. White III <gnw3@acm.org> Bedford Institute of Oceanography

---

Subject: Re: Any cross-platform IDL alternatives?
Posted by Amanda Kepley on Mon, 15 Oct 2001 16:49:22 GMT
View Forum Message <> Reply to Message

On Fri, 12 Oct 2001, Jean Koclas wrote:

> There is Mathematica by Wolfram. Granted, it is not inexpensive, but is
> multi platform, and is much more useful IMHO than matlab, etc.
>
> It has a powerful language, and has many facilities for data visualization.
> And it has supported MacOS since it started up...

Mathematica is a very poor choice for data analysis. It is difficult to
get data in and out of as well as a total memory hog. I ended up giving
Mathematica 50 Megs of memory and still having the kernel crash because
there wasn't enough memory, and that was just a project with a small data
set in an undergraduate statistics class. I don't even want to think about
trying to do any real work in it.

I've been playing with Splus (a relative of R) recently and it seems
pretty sane in the way it's constructed the language (it's all
objects). Splus has no support for Macintosh, but if R is at all similar,
it looks very promising.

Amanda Kepley

Subject: Re: Any cross-platform IDL alternatives?
Posted by Stein Vidar Hagfors H[1] on Mon, 15 Oct 2001 20:43:15 GMT
View Forum Message <> Reply to Message

"jiali" <jiali3@21cn.com> writes:

> From the posts before: http://groups.google.com/groups?as_q=IDL%20Matlab
> I find many guys moved from idl to matlab.

And I suspect, some people who moved the other way. But we're not really
talking about the number of users, but the number of libraries.

> In addition, I failed to find a IDL butterworth filter, but there are for
> matlab.

Maybe because a butterworth filter is so close to a one-liner in IDL,
that writing it *and* documenting it, then letting each user find it,
read the documentation & use it means more work than each user writing
his own???

> My program is written in IDL, I feel so pity.

Don't bother.

--
 --- --------------
Stein Vidar Hagfors Haugan

ESA SOHO SOC/European Space Agency Science Operations Coordinator for SOHO

NASA Goddard Space Flight Center,   Email: shaugan@esa.nascom.nasa.gov
Mail Code 682.3, Bld. 26, Room G-1, Tel.: 1-301-286-9028/240-354-6066
Greenbelt, Maryland 20771, USA.   Fax: 1-301-286-0264
 --- --------------

Subject: Re: Any cross-platform IDL alternatives?
Posted by Karsten Rodenacker on Wed, 17 Oct 2001 07:30:16 GMT
View Forum Message <> Reply to Message

Eric Williams schrieb:

> Since RSI/Kodak is killing IDL for the Mac (and others) I am wondering if
> anyone has suggestions for trying out some other cross-platform software. I
> am not really worried too much about Windows but the Mac/*nix world is where
> I work. We use IDL mostly for processing astronomical data and writing
> procedures to play with the data visually. So a tool with a simple language
> and good graphing capabilities is what we really need.
>
> BTW, if anyone from RSI cares, I only have two Mac licenses but I have
> brought 31 Solaris licenses to my campus since coming here, with plenty more
> potential on the horizon. Once I have an alternative tool I will be
> recommending against purchasing anymore licenses and dropping maintenance.
> Too bad because I have been a huge evangelist for IDL over the years. I have
> turned more than 50 students and scientists onto IDL in the last few years
> which has resulted in most likely hundreds of licenses if not many more as
> they have moved onto other sites. That will all stop now and I will try to
> do the opposite, and probably save some money too.
>
> Bye bye IDL, it WAS great...
>
> --
> Eric
> wilersh@snet.net

Are there any experiences with Python by idl users on the net? Is that maybe an
Alternative?

--
 Karsten Rodenacker ()
 --- -------------:-)
 GSF - Forschungszentrum   Institute of Biomathematics and Biometry
 D-85758 Oberschleissheim   Postfach 11 29
 Tel: +49 89 31873401 | FAX: ...3369 | rodena@gsf.de | Karsten@Rodenacker.de
 http://www.gsf.de/ibb/homepages/rodenacker

Subject: Re: Any cross-platform IDL alternatives?
Posted by Nigel Wade on Wed, 17 Oct 2001 08:54:42 GMT

Karsten Rodenacker wrote:

> Are there any experiences with Python by idl users on the net? Is that
> maybe an Alternative?
>
>

I use Python and I really like it for what it's good at.

Here's the main part of a post I sent to comp.soft-sys.matlab when a thread
was running asking about MATLAB and Python.

Pro's
-----
   free
   embeddable and extensible (which is the main reason I chose it)
   object oriented
   many add-on modules (also free)
   support for lists, dictionaries (associative arrays)
   Numerical Python (NumPy) provides arrays of all data types (signed
      and unsigned integer, float, double and complex float/double).
   direct access to OS system services
   fully object oriented

Con's
-----
   block-structure is controlled by indentation
   no structure data type
   documentation quality far inferior to MATLAB's (and IDL's)
   no direct support for array index operations execept a single range
      (NumPy functions take() and put() do exist to do this but it's
       much messier)

Specific to IDL;

extending Python can only be done by writing extensions, similar to
creating a DLM in IDL. It is, however, more difficult than writing a DLM
particularly in respect of reference counts (Python does garbage collection
on variables when the reference count is zero - decrement the ref.count
when you shouldn't and the variable can disappear on you, don't decrement
it when you should and the variable becomes a core leak).

Embedding and object orientation are it's main advantages over IDL.
If this is what you want to do Python is really good.

Not sure on the speed side but I'd guess it's quite a bit slower.

What doesn't Python have? Graphics. None at all. There are some graphics
packages available but none that I've found were much use. Certainly
nowhere near the standard of IDL direct graphics. Not a hope of object
graphics. If you need quality graphics Python is a blind alley.

--

Nigel Wade, System Administrator, Space Plasma Physics Group,
        University of Leicester, Leicester, LE1 7RH, UK
E-mail :   nmw@ion.le.ac.uk
Phone :   +44 (0)116 2523568, Fax : +44 (0)116 2523555

Subject: Re: Any cross-platform IDL alternatives?
Posted by Mark Hadfield on Wed, 17 Oct 2001 20:58:14 GMT
View Forum Message <> Reply to Message

From: "Karsten Rodenacker" <rodena@gsf.de>
> Are there any experiences with Python by idl users on the net? Is that
> maybe an alternative?

Maybe. I use Python for minor stuff: system maintenance utilities and the
like. From time to time I look at Numeric Python and the various scientific
add-ons.

Here are some pluses:

* The base language is very nice, much nicer than IDL or Matlab. It's much
more coherent (eg. no local variables vs heap variables distinction) and its
facilities for code organisation (modules) are much better.
* In Numeric Python, as in IDL or Matlab, array routines are written in C so
they run reasonably fast.
* Numeric Python has some nice facilities for array, slicing and dicing,
better than IDL.
* Python is Open Source with very liberal licensing.

Minuses:

* As far as I can tell, the Python base language is much slower than IDL. So
if you thought avoiding for loops in IDL was important, wait till you try
Numeric Python.
* 2D plotting is a mess. There are several alternative packages, none of
them seem very well integrated into Python. Their future is murky so it may

not be wise to put too much effort into learning them. There was a SIG (special interest group) devoted to improving this area but it died without achieving anything significant.

* For 3D plotting there is an impressive package called VTK. It looks nice. (So far this is a plus.) However I think it's intended more for gaming & CAD than for scientific graphics. One thing it lacks in comparison with IDL Object graphics is coordinate conversion, i.e. the ability to interact with your graphical objects in data coordinates.

*It's Open Source, so if the language needs beefing up in areas where you find it lacking, you're relying on volunteers or yourself.

So I haven't switched!

BTW if you want to see the cool things that can be done with Python and VTK, check out the MayaVi Data Visualizer:

http://mayavi.sourceforge.net/

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: Any cross-platform IDL alternatives?
Posted by Charles Allen on Thu, 18 Oct 2001 02:53:10 GMT
View Forum Message <> Reply to Message

> * For 3D plotting there is an impressive package called VTK. It looks nice.
> (So far this is a plus.) However I think it's intended more for gaming & CAD
> than for scientific graphics. One thing it lacks in comparison with IDL

VTK was developed by folks at GE concerned with, among other things, 3-D medical data sets. Get ahold of the book.

--
Charles Allen <charles.allen@ieee.org>

Subject: Re: Any cross-platform IDL alternatives?
Posted by Mark Hadfield on Thu, 18 Oct 2001 05:06:21 GMT

From: "Charles Allen" <charles@aspen.sweetshade.local>
>> * For 3D plotting there is an impressive package called VTK. It looks
nice.
>> (So far this is a plus.) However I think it's intended more for gaming &
CAD
>> than for scientific graphics. One thing it lacks in comparison with IDL
>
> VTK was developed by folks at GE concerned with, among other things,
> 3-D medical data sets. Get ahold of the book.

Well, I would do so if I intended to make heavy use of VTK, but so far I
have only made a quick assessment (over a few days) of VTK as an alternative
to IDL's object graphics and my conclusion was that it looks good but it
seems to lack the concept of data coordinates, which I use a great deal for
geophysical applications in IDL. If you wish to offer a different opinion
I'd love to hear it.

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: Any cross-platform IDL alternatives?
Posted by Charles Allen on Thu, 18 Oct 2001 17:05:43 GMT

>> VTK was developed by folks at GE concerned with, among other things,
>> 3-D medical data sets. Get ahold of the book.

> to IDL's object graphics and my conclusion was that it looks good but it
> seems to lack the concept of data coordinates, which I use a great deal for
> geophysical applications in IDL. If you wish to offer a different opinion

I'm not trying to be snide. I was just pointing out that this topic
is, in fact, covered in the VTK book:

8.3 Coordinate Transformation
  Dataset to Global Coordinates
  Global to Dataset Coordinates

The geophysical folks certainly have more coordinate transformation
issues than many other groups. I don't know if the VTK coordinate
transformation classes are good enough for what you need to do.

--
Charles Allen <charles.allen@ieee.org>