Subject: Re: IDL versus MATLAB : could you help me ?????
Posted by Roy E Hansen on Sun, 02 Dec 2001 11:48:19 GMT
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Christophe Dornier wrote:

> I work in a Digital Imaging Unit,
> and a future orientation of this group will be to developp algorithms of
> image processing.
>
> We have the choice between two softwares which are IDL (RSI) or MATLAB
> (MathWorks).
> What are the advantages or inconvenients of these softwares.
> What soft is the most cheaper ?
> Is it much easier to develop in Matlab or not ?
> On which soft is there available the most external libraries ?

Here are some of my personal opinion on Matlab/IDL strong/weak points
(note that I have only been using MatLab/IDL for Radar/sonar signal
processing
and numerical modelling, NOT image processing).

MatLab weak points / IDL strong points:

1) MatLab does not have data types: Everything is Double presision. This is
very
memory and computational intensive. Matlab can read different data types,
but as
soon as you add two variables, they are converted to double. IDL supports
all
data types. Especially DSP (ie FFT) routines in single precision do I
miss in matlab.

2) MatLab IO routines can only read data files up to 2GB, while IDL supports
data files
up to 64 bit address space.

3) IDL have very efficient IO routines and does understand arbitrary
file/data formats.
Matlab IO routines are OK for simple formats. However, for mixed data
types (i.e. a
typical radar data file could contain a start record with strings,
integers and floats
specifying the system parameters, then data records of arbitrary length,
which is specified
in the header) you'll soon find out that writing your own IO routine in
C/C++ reduces the
read time by orders of magnitude.

4) IDL have keyword parameters, MatLab have not. This is really a clean way of using variable
number of input parameters to functions, which maintain a high level of readability.

5) IDL have better/more object orientation than MatLab (I've never really used this for any
thing seriously, so I wouldnt know how much this means).

6) IDL 5.5 have multithreading. MatLab does not.

MatLab strong points / IDL weak points:

1) MatLab have toolboxes for everything (this may not be only positive, since these toolboxes
cost very much). For me, the built-in functionality for signal processing in MatLab, far
exceeds what IDL have (even with the free librarys around).

2) MatLab graphics is far more user friendly than IDL direct graphics. Up to IDL 5.4 that
also includes IDL object graphics.

3) MatLab has excellent C/C++ interfacing both ways.

4) MatLab have functionality for variable number of output parameters.

5) More people use MatLab.

I only have experiense with IDL up to 5.4 and Matlab 6
(I have changed from IDL to MatLab solely due to change of company).

-Roy
