Subject: Re: DLM Woes
Posted by Mort Canty on Thu, 27 Jan 2011 19:30:33 GMT
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Hi Ronn,

Here's the whole thing (not very long):

```
void IDL_CDECL cuda_svd(int argc, IDL_VPTR argv[])
 {
    // output array pointers
 float * w, * u, * vt;
    // get the input matrix
 float * a = (float *) argv[0]->value.arr->data;
    // get its dimensions
 int ndim_a = (int) argv[0]->value.arr->n_dim;
        IDL_LONG64 * dim_a =  argv[0]->value.arr->dim;
        int m = (int) dim_a[0];
 int n = (int) dim_a[1];

    // IDL output arrays
 IDL_VPTR ivWptr, ivUptr, ivVTptr;
 int ndim_w = 1;
 IDL_LONG64 dim_w[] = {min(m,n)};
 IDL_LONG64 dim_u[] = {m,min(m,n)};
 IDL_LONG64 dim_v[] = {min(m,n),n};
 w = (float *) IDL_MakeTempArray( (int) IDL_TYP_FLOAT, ndim_w, dim_w,
IDL_ARR_INI_ZERO, &ivWptr );
        u = (float *) IDL_MakeTempArray( (int) IDL_TYP_FLOAT, ndim_a,
dim_u, IDL_ARR_INI_ZERO, &ivUptr );
 vt= (float *) IDL_MakeTempArray( (int) IDL_TYP_FLOAT, ndim_a, dim_v,
IDL_ARR_INI_ZERO, &ivVTptr);

    // CULA general matrix single precision SVD with host pointers
        culaStatus s = culaInitialize();
 if(s == culaNoError)
 {
    s = culaSgesvd('S','S',m,n,a,m,w,u,m,vt,min(m,n));
           culaShutdown();
 }
   // return results to IDL (all zeroes if CULA failed to initialize)
        IDL_VarCopy(ivWptr,argv[1]);
        IDL_VarCopy(ivVTptr,argv[2]);
        IDL_VarCopy(ivUptr,argv[3]);
 }
```

Here is what the compiler puts out:

```
1>------ Build started: Project: cuda_svd, Configuration: Debug x64 ------
1>  cuda_svd.c
1>D:\Idl\projects\development\svd\cuda_svd.c(50): error C2275:
'culaStatus' : illegal use of this type as an expression
1>          c:\program files\cula\include\culastatus.h(63) : see
declaration of 'culaStatus'
1>D:\Idl\projects\development\svd\cuda_svd.c(50): error C2146: syntax
error : missing ';' before identifier 's'
1>D:\Idl\projects\development\svd\cuda_svd.c(50): error C2065: 's' :
undeclared identifier
1>D:\Idl\projects\development\svd\cuda_svd.c(51): error C2065: 's' :
undeclared identifier
1>D:\Idl\projects\development\svd\cuda_svd.c(53): error C2065: 's' :
undeclared identifier
========== Build: 0 succeeded, 1 failed, 0 up-to-date, 0 skipped ==========
```

I discovered if I move the statement

```
        culaStatus s = culaInitialize();
```

upwards, preceding the comment line

```
// IDL output arrays
```

the damn thing builds (and runs correctly under IDL)! Way over my head,
I'm afraid.

Thanks,

Mort

Am 27.01.2011 19:49, schrieb ronn kling:
> Hi Mort,
>
> Can you show me how you have declared the variables in the call?
>
> Ronn Kling
>
> "Mort Canty" <m.canty@fz-juelich.de> wrote in message
> news:ihrlro$5n8j$1@zam602.zam.kfa-juelich.de...
>> Apologies in advance: This is a C question, but I know a lot of you
>> write your own DLMs for IDL and I'm completely stumped. I have a DLM
>> with this statement, patterned after Ronn Kling's book, near the
>> middle of the code:
>>

>> w = (float *) IDL_MakeTempArray((int) IDL_TYP_FLOAT, ndim_w, dim_w,
>> IDL_ARR_INI_ZERO, &ivWptr);
>>
>> The DLM compiles and runs perfectly on the win32 platform. When I try
>> to compile the exact same code to the x64 platform, all of the
>> statements which follow the above one are riddled with crazy syntax
>> errors. All those preceding it are accepted. I'm using Visual C++ 2010
>> Express with the Windows SDK Version 7.1.
>>
>> Any help for a complete C novice?
>>
>> Thanks
>>
>> Mort
>>
>>
