Subject: EDG: Using IDL_MakeTempStruct() vs. IDL_ImportArray()
Posted by Peter Rodriguez on Tue, 10 Feb 2015 22:11:51 GMT
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Hi,

My objective is to create within C an IDL_TYP_STRUCT to be returned to IDL.

The EDG and Kling's book cover IDL_ImportArray(), but that costs me coding both for the C & IDL_STRUCT_TAG_DEF structures, so that data may be mapped.

I've been successful just using IDL_MakeTempStruct(strIDLdef, 1, &one, &vIDL, IDL_TRUE) having defined my strIDLdef and populating the structure manually via,
  char *pIDL=vIDL->value.s.arr->data +
IDL_StructTagInfoByName(strIDLdef,(char*)sTAG,IDL_MSG_LONGJM P,&vTAG);
Then employing CASE(vTAG->type) to stride and store within the data space appropriately.

However, upon return to IDL the structure fields are only accessible by index not tagname. Although the in-built tag_names() works!

```
IDL> o=my_make_struct("blablabla")
IDL> help,o
** Structure <743af8>, 7 tags, length=832, data length=830, refs=1:
   sSCAN           STRING    'PPI'
   iANT_HGT_m      INT           320
   nSWEEPs         LONG                3
   fRAYres_deg     FLOAT         0.500000
   fBINres_km      FLOAT         0.250000
   fSWEEP_angle_deg_arr
                   FLOAT     Array[40]
   sSWEEP_ISO8601_arr
                   STRING    Array[40]
IDL> help,o.sSCAN
% Tag name SSCAN is undefined for structure <Anonymous>.
% Execution halted at: $MAIN$
IDL> help,o.(0)
<Expression>    STRING    = 'PPI'
IDL> print,tag_names(o)
sSCAN iANT_HGT_m nSWEEPs fRAYres_deg fBINres_km fSWEEP_angle_deg_arr
sSWEEP_ISO8601_arr
```

So as a work-around, I've written am IDL wrapper to rebuild/copy the structure based on determining the SIZE(/TYPE) of each field.

Does anyone have insight, how in C may I manually set each structure tagname string? The magic that IDL_ImportArray() apparently does... Something along the lines of tweaking vIDL->value.s.sdef I surmise because from the EDG "the implementation of structure definitions is not public information".

Thanks, Peter Rodriguez