Subject: Passing Structures with Pointers with Call_External
Posted by MajorSetback on Tue, 10 Aug 2004 20:06:42 GMT
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I am using IDL Version 6.0 (linux x86 m32) on Red Hat Linux release 9.

I declare an array of structures thus.

```
function MakeFloatPlane,numrows,numcolumns
    temp={Rows:long(numrows),Columns:long(numcolumns),Data:fltar r(numrows,numcolumns)}
   return,temp
end

Planes=replicate(MakeFloatPlane(nY1,nX1),sNumberOfPlanes)
```

I then pass the array to C code through Call_External thus.

```
 Result=Call_External('SharedLibrary.so','CFunction_cw',sNumb erOfPlanes,Planes,/unload)
```

The C code is as follows.

```
typedef struct FloatPlane_Struct
{
	long    Rows;
	long    Columns;
	float   **Data;
} FloatPlane;

extern "C" long CFunction_cw(int argc, void *argv[])
{
	long    lNumberOfPlanes;
	FloatPlane *fppPlanes;
	float   *fpData;

	lNumberOfPlanes=*((long *)(argv[0]));
	fppPlanes=((FloatPlane *)(argv[1]));
	fpData=((float *)(argv[3]));

	fprintf(stderr, "lNumberOfPlanes=%d\n", lNumberOfPlanes);
	fprintf(stderr, "fppPlanes->Rows=%d\n", fppPlanes->Rows);
	fprintf(stderr, "fppPlanes->Columns=%d\n",
fppPlanes->Columns);
	fprintf(stderr, "fppPlanes->Data=%d\n", fppPlanes->Data);
	fprintf(stderr, "fpData=%d\n", fpData);
	fprintf(stderr, "*fpData=%f\n", *fpData);

	return 1;
}
```

I get the expected values for lNumberOfPlanes, fppPlanes->Rows, fppPlanes->Columns, fpData and *fpData. However, I cannot interpret

the result I get for fppPlanes->Data.

If I add
fprintf(stderr, "fppPlanes->Data[0]=%d\n", fppPlanes->Data[0]);
idlde crashes, presumably due to a memory write error in the C code.
Is there any way to stop idlde crashing under such circumstances?

My main question is this. Is there a way to retrieve the IDL variable
Planes[i].Data within CFunction_cw?
