Subject: Can't pass data with CALL_EXTERNAL to C function
Posted by Dan[1] on Thu, 19 Jun 2008 17:26:36 GMT
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Hi everyone,

I am having problems sending data to my C function through CALL_EXTERNAL. Specifically, I send the data, but it seems as if all the variables passed to the C function are suddenly 0 (maybe uninitialized). I have posted my test code below. Please take a look, any help would be greatly appreciated. It is also probably worth mentioning that when I return something from the function (like return 2;) or something like that, the IDL value will be 2 (i.e. values are returned correctly, so I know the function is at least running to completion).

----- CODE -----
***** C CODE *****

```
#include <stdio.h>
#include <stdlib.h>
#include <sys/types.h>

int process_image_natural(float *r_map, float *r_fov, float *weights,
    int16_t *p)
{
    int i, j, m, n, x = (int) *p;
    float wsum = 0, invw = 0, test = 0;

        for(i = 0; i < 5; ++i)
                for(j = 0; j < 5; ++j)
                        test = weights[i + x * j];

    for(i = 0; i < 2048; ++i)
        for(j = 0; j < 1024; ++j)
        {
            int n_idx = 0;
            float sum = 0;
            for(m = 0; m < x; ++m)
                for(n = 0; n < x; ++n)
                    if(weights[m + x * n] > 0 &&
                                    r_map[i + 2048 * j + 1024 * m
+ x * n] $
                    {
                        ++n_idx;
                        wsum += weights[m + x * n];
                    }
            if(n_idx > 0)
            {
```

```
            invw = 1./wsum;

            for(m = 0; m < x; ++m)
                for(n = 0; n < x; ++n)
                    r_fov[i + 2048 * j] +=
                                    r_map[i + 2048 * j +
1024 * m +$
                                    weights[m + x * n] *
invw;
            }
        }

        *p = 1;

    return x;
}

int process_image(int argc, void *argv[])
{
        if(argc != 4)
                return -1;

        return process_image_natural( (float *) argv[0], (float *)
argv[1], (fl$
}

***** IDL CODE *****

pro process_image

        r_map = fltarr(2048, 1024, 5, 5)
        r_fov = fltarr(2048, 1024)
        weights = fltarr(5, 5)

        r_map[*] = .5
        weights[*] = .5

        x = 5l

        r = CALL_EXTERNAL( '/home/adam001/ddexter/project/eve/surf/idl/
process_$

        print, r
        stop
end


***** MAKE COMMANDS*****
```

```
CC = gcc

# Compiler flags
CFLAGS32 = -c -O3 -funroll-loops -m32 -fPIC
CFLAGS64 = -c -O3 -funroll-loops -fPIC

# Linker flags
LFLAGS = -fPIE -shared

# Targets

all: process_image_lnx64.so process_image_lnx32.so

#64 Bit
64: process_image_lnx64.so

process_image_lnx64.so: process_image_lnx64.o64
	$(CC) $(LFLAGS) process_image_lnx64.o64 -o
process_image_lnx64.so

process_image_lnx64.o64: process_image_lnx64.c
	$(CC) $(CFLAGS64) process_image_lnx64.c -o
process_image_lnx64.o64
```