Subject: CALL EXTERNAL puzzle? Posted by rmlongfield on Thu, 03 Sep 1998 07:00:00 GMT View Forum Message <> Reply to Message

Hi All, I've been working with CALL_EXTERNAL and C programs for the past week or so. I've copied the code concerning my question below this letter. The problem first appeared when I tried calling CALL EXTERNAL a second time (to call another C program). The variable I wanted to pass, filename, was no longer being passed correctly. After several hours of searching, I think I have found the problem, although I still do not understand it. I had an informational PRINT statement on the line just before the call to the second CALL EXTERNAL (seemed a harmless thing to do). But... the variable that I printed (the long integer returned from the first CALL EXTERNAL) became the argv[0] value for the call to the C program in the second CALL_EXTERNAL (Is anyone still following me here?)!

Now, I thought that I didn't tell CALL EXTERNAL to do this, but when I deleted the informational PRINT just before the FIRST CALL EXTERNAL, it didn't work properly. THAT informational statement printed the name of the file, which conveniently ended up in my C program where I actually wanted it. :)

So, is this a bug or a feature of CALL EXTERNAL which I didn't guite grasp from the excellent documentation;) I hate to think that my success with CALL EXTERNAL was merely accidental.

Rose DIIIIIIIsky

p.s. Concerning the speed of CALL_EXTERNAL, I've never made a comparison. I just have a lot of C code that I do not want to convert to IDL.

"It's easy, once you know how" --Miss Hubbard (Postman Pat)

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IDL Code
;A CALL_EXTERNAL puzzle:
;IDL Version 5.0 (IRIX mipseb)
PRO example
ddyyyhhmm = '961081302'
filename=(PTR_NEW(STRTRIM(STRING(ddyyyhhmm),2)))
print, 'de-referenced pointer: ',*filename
result = CALL_EXTERNAL(VALUE=[1B], 'example_c.so', 'example_c', filename)
print, 'Result after first call: ', result
result = CALL_EXTERNAL(VALUE=[1B], 'example_c.so', 'example_c', filename)
print, 'Result after second call: ', result
print, 'Has filename changed?', *filename
end
```

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C_ program (commented out for IDL)
; #include <stdio.h>
: #include <stdlib.h>
; long example_c(int argc,void *argv[])
; {
; static char *filename;
; static long return_number;
; filename = (char *)argv[0];
; /* Read number of parameters passed from CALL_EXTERNAL */
; fprintf(stderr,"*IDL____Value of argc: %d \n",argc);
: /* Check values of parameters */
   fprintf(stderr,"*IDL_____Value of argv: %s \n",(char *)argv[0]);
   fprintf(stderr,"*IDL Value of filename: %s \n", filename);
; return number = 88;
; return(return number);
; }
----= Posted via Deja News, The Leader in Internet Discussion ==----
Subject: Re: CALL EXTERNAL puzzle?
Posted by steinhh on Thu, 03 Sep 1998 07:00:00 GMT
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rmlongfield@my-dejanews.com wrote:
> print,'de-referenced pointer: ',*filename
> result = CALL EXTERNAL(VALUE=[1B], example c.so', example c', filename)
Whooa - here you're sending a *pointer* to a *string* variable
into the call_external routine - and it's definitely *not* set
up to receive it! In fact, your routine would *only* work if
you sent it a scalar string that is passed by *value* only.
(E.g. a string literal)
> So, is this a bug or a feature of CALL_EXTERNAL which I didn't quite grasp
> from the excellent documentation;) I hate to think that my success with
> CALL EXTERNAL was merely accidental.
Sorry to say it's a feature :-)
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Regards,

Stein Vidar