
Subject: IDL: Call_external demo for Fortran for Solaris

Posted by [gallery](#) on Thu, 16 Feb 1995 18:40:46 GMT

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Although I have been able to get the demo "test_ftn_only" to run under Solaris, it gives the wrong answer for the sum of the array (Fortran gives 3.65, IDL TOTAL function gives 207.35.) RSI suggested using the fortran compiler flag -fsingle, but this flag is not an option on my version of f77.

Has anyone been able to run it successfully?

Setup:

IDL. Version 3.6 (sunos sparc).

Workstation type: sparc (sun4m)

Operating System: SunOS Release 5.4 Generic Patch (Solaris 2.4)

Window System: OpenWindows Version 3.3

f77 version 3.0.1

Note: in ftn_only.pro, call_external needed to call "ftn_only_", not "_ftn_only_".

The contents of my version of SOLARIS.Makefile follows:

```
-----  
# $Id: SOLARIS.Makefile,v 1.1 1993/11/16 23:36:16 idl Exp $  
#  
# NAME:  
#   SOLARIS.Makefile  
#  
# PURPOSE:  
#   This makefile is used to compile and run the call_external example  
#   routines on a Solaris system. This makefile has several entry  
#   points which are:  
#  
#       test_c_only    - Uses C functions only  
#  
#       clean          - Deletes shareable libraries and object files  
#  
#       tidy           - Deletes only the object files  
#  
#   If no target is specified, the test_c_only example will be built  
#   if needed and run.  
#  
# CATEGORY:  
#   Dynamic Link  
#  
# CALLING SEQUENCE:  
#   This makefile should not be run directly, but through the use
```

```

# of the shell script make_callexth_demo. This script determines
# what system the user is on and calls the correct makefile for
# that system.
#
# EXAMPLE:
# To run the C only examples, the following command would be issued
# while in the dynamic_link directory:
#
# % make_callexth_demo
#
# SIDE EFFECTS:
# This file will take actions to build the sharable image library
# files that are dynamically loaded by IDL and then run a
# demo IDL procedure to show the operations used to link to and
# call an external routine.
#
# RESTRICTIONS:
# Unless the operator is sure of the type of system they are on
# they should not call this makefile directly. They should use
# the supplied shell script make_callexth_demo.
#
# This makefile only provides examples calling C routines via
# the IDL call_external routine. A Fortran compiler was unavailable
# for testing so the Fortran examples are not implemented for
# this operating system.
#
# This makefile is written for a Sun Solaris operating system.
#
# MODIFICATION HISTORY:
# Written October, 1993      KDB
#
# Declare a macro for the location of IDL. The user might have to EDIT this

IDL = /optidl/idl

# Declare the c_only required files

C_ONLY_OBJS = simple.o \
double_array.o \
string_array.o

C_ONLY_SRCS = simple.c \
double_array.c \
string_array.c

C_ONLY_LIBS = simple.so \
double_array.so \
string_array.so

```

```

# Declare the C to Fortran and Fortran files

C2F_OBJS = simple_c2f.o simple_c2f1.o

C2F_SRCS = simple_c2f.c simple_c2f1.f

F_OBJS = ftn_only_sun.o ftn_strarr_sun.o

F_SRCS = ftn_only_sun.f ftn_strarr_sun.f

IDL_SRCS = c_only.pro simple_c2f.pro ftn_only.pro

# The sun loader needs the fortran libraries. You might have to EDIT these
# locations for your system.

OPT_FTN_LIBS = /opt/SUNWspro/SC3.0.1/lib/libF77.a \
               /opt/SUNWspro/SC3.0.1/lib/libmopt.a \
               /opt/SUNWspro/SC3.0.1/lib/libsunmath.a

# Declare compiler flags

C_FLAGS = -c -Kpic -G

F_FLAGS = -c -pic -f

# Declare the makefile main target, used to test C only routines

test_c_only: $(C_ONLY_LIBS)
echo c_only | $(IDL) | more

test_c2fort: simple_c2f.so
echo simple_c2f | $(IDL) | more

test_ftn_only: ftn_only.so
echo ftn_only | $(IDL) | more

# Build the C only libraries

$(C_ONLY_LIBS): $(C_ONLY_SRCS)
cc $(C_FLAGS) $(C_ONLY_SRCS)
cc -G -o simple.so simple.o
cc -G -o double_array.so double_array.o
cc -G -o string_array.so string_array.o

# Declare a target for the routines that require a fortran compiler

```

```
simple_c2f.so: $(C2F_SRCS)
cc $(C_FLAGS) simple_c2f.c
f77 $(F_FLAGS) simple_c2f1.f
ld -G -o simple_c2f.so $(C2F_OBJS) $(OPT_FTN_LIBS)
```

```
ftn_only.so: $(F_SRCS)
f77 $(F_FLAGS) $(F_SRCS)
ld -G -o ftn_only.so ftn_only_sun.o $(OPT_FTN_LIBS)
ld -G -o ftn_strarr.so ftn_strarr_sun.o $(OPT_FTN_LIBS)
```

Declare a target to delete all libraries and object files created.

```
clean: tidy
rm -f simple.so double_array.so string_array.so
```

Declare a target to delete all the object files created.

```
tidy:
rm -f $(C_ONLY_OBJS)
```

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