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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_callext_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_callext_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_callext_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)
    Id -G -o ftn_only.so ftn_only_sun.o $(OPT_FTN_LIBS)
    Id -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)