
Subject: IDL crashes when calling DLL from FORTRAN
Posted by [TANG Jian](#) on Wed, 06 May 2015 17:35:57 GMT
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HI, everyone

IDL do loops quit slow so I try to use fortran to speed up.

here is my code in Fortran

```
SUBROUTINE NMC_ENS_BOX_AVERAGING_IDL(argc, argv) !Called by IDL
INTEGER*8 argc, argv(*)      !Argc and Argv are integers
```

```
j = LOC(argv)
```

```
!DEC$ ATTRIBUTES DLLEXPORT :: NMC_ENS_BOX_AVERAGING_IDL
```

```
CALL NMC_ENS_BOX_AVERAGING_F90(%VAL(argv(1)), %VAL(argv(2)), %VAL(argv(3)), &
                                %VAL(argv(4)), %VAL(argv(5)), %VAL(argv(6)), &
                                %VAL(argv(7)), %VAL(argv(8)), %VAL(argv(9)), &
                                %VAL(argv(10)), %VAL(argv(11)))
```

```
RETURN
END
```

```
Subroutine NMC_ENS_BOX_AVERAGING_F90(obs, nobs, obsX, obsY, &
                                     lons, lats, NX, NY, &
                                     maskGrid, firstGuess, &
                                     gValue)
implicit none
```

```
integer*8      :: nobs
integer*4      :: NX, NY
real*4, dimension(nobs)  :: obs, obsX, obsY
integer (kind=1)  :: maskGrid(NX,NY)
real*4          :: firstGuess(NX,NY)
real*4          :: lons(NX,NY), lats(NX,NY)
real*4          :: gValue(NX,NY)
```

```
integer        :: ix, iy, istn
real*4         :: sCount(NX,NY)
real*4         :: dist(NX,NY)
integer        :: mindex(2)
```

```
! define grid values
```

```
gValue = 0.0
Return
```

```
!!!!!! IF i return here , nothing happend
sCount = 0.0
Return
!!!!!! IF i return, IDL crash
```

What looked like in IDL is

```
FORTRAN_Status = CALL_EXTERNAL(FORTRAN_DLL,
'NMC_ENS_BOX_AVERAGING_IDL', $
    reform(data_out[t,*]), nObs, stationLon, stationLat, $
    maskLon, maskLat, FIX(NLON), FIX(NLAT), $
    mask_GRID, firstGuess, $
    data_output, /F_VALUE)
```

```
FORTRAN_DLL  STRING  = 'nmc_ens_box_averaging_f90.dll'
<Expression>  STRING  = 'NMC_ENS_BOX_AVERAGING_IDL'
<Expression>  FLOAT   = Array[40532]
NOBS          LONG    =    40532
STATIONLON    FLOAT   = Array[40532]
STATIONLAT    FLOAT   = Array[40532]
MASKLON       FLOAT   = Array[1261, 721]
MASKLAT       FLOAT   = Array[1261, 721]
<Expression>  INT     =    1261
<Expression>  INT     =     721
MASK_GRID     BYTE    = Array[1261, 721]
FIRSTGUESS    FLOAT   = Array[1261, 721]
DATA_OUTPUT   FLOAT   = Array[1261, 721]
```

I am aware that number of arguments and their types could cause crash.
If someone could help me on that...Thanks verymuch
I have been debugging all night.....

Best
Jian
