Subject: Slowdown when creating/destroying Object Graphics components
Posted by David Watson on Wed, 08 Feb 2006 20:14:12 GMT
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I'm working on a program that creates/destroys a large number of ROIs, and noticed a slowdown after it has been running for certain amount of time. I was able to boil it down to this simple test program, which illustrates the problem perfectly.

On my machine, under both linux and windows, IDL 6.1 and 6.2, this slowdown is clearly indicated - the first loop takes about 4 seconds, gradually increasing each time through. After about 10-20 iterations, it is taking upwards of 10 seconds per loop.

I made a few variations of this program, and was able to determine a few things:

* The slowdown appears to be in the IDLGrWindow object. If I destroy and recreate it, it returns to the original speed. Destroying and recreating a view and model has no impact.
* If I reuse, and do not destroy, the IDLGrRois, the slowdown does not occur. Removing the IDLGrRois from the IDLGRModel, and then re-adding them has no speed impact.

Here's the code for my test:

```
FUNCTION getRoi, oModel, aPos, oRoi, COLOR=aColor
  angles = FINDGEN(3600) / 10.0
  angles = angles * !PI / 180.0
  cosines = COS(angles) / 8.0 + aPos[0]
  sines = SIN(angles)/8.0 + aPos[1]

  aCircleData = TRANSPOSE([[sines],[cosines]])

  IF OBJ_VALID(oRoi) THEN BEGIN
    oModel->remove, oRoi
    OBJ_DESTROY, oRoi
  ENDIF
  oRoi = OBJ_NEW('IdlGrRoi', COLOR=aColor,aCircleData )
  oModel->add, oRoi

  return, oRoi
END

PRO testcontours
  oWindow = OBJ_NEW('IDLGRWindow', TITLE='Test Window', DIM=[400,400])
  oWindow->show, 1
```

```
  oView = OBJ_NEW('IDLGRView')

  oModel = OBJ_NEW('IDLGRModel')
  oModel->scale, 2, 2, 1

  oModel->translate, -1, -1, 0
  oView->add, oModel

  angles = FINDGEN(360)
  angles = angles * !PI / 180.0
  cosines = COS(angles) / 4.0 + 0.5
  sines = SIN(angles)/4.0 + 0.5

  aColors = [[255,0,0], [0,255,0], [0,0,255], [0,0,0]]

  aROIs = OBJARR(4)

  FOR i = 0, 40 DO BEGIN
    starttime = systime(/seconds)
    FOR j = 0, 359 DO BEGIN
      FOR k = 0, 3 DO BEGIN
        aOffset = [cosines[(j+90*k) MOD 360],sines[(j+90*k) MOD 360]]
        aRois[k] = getRoi(oModel, aOffset, COLOR=aColors[*,k],
aRois[k])
      ENDFOR
      oWindow->draw, oView
    ENDFOR
    print, systime(/seconds)-starttime
  ENDFOR

  oView->remove, oModel
  OBJ_DESTROY, oModel
  OBJ_DESTROY, oView
  OBJ_DESTROY, oWindow
END
```