Subject: Re: Huge Maps & a device for faking a large window
Posted by JD Smith on Wed, 31 Mar 2004 23:38:02 GMT
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On Wed, 31 Mar 2004 15:59:26 -0600, Liam Gumley wrote:

> The Z-buffer offers a convenient way to define map projections without
> needing a X display, e.g.
>
> xsize = 43200 ; width of window
> ysize = 21600 ; height of window
> res = 1.0 ; Map resolution in kilometers
> set_plot, 'Z'
> device, set_resolution=[xsize, ysize], set_colors=256, z_buffering=0, $
> set_character_size=[10, 12]
> scale = res * 4.0e6
> map_set, latcen, loncen, scale=(scale * (!d.x_px_cm / 40.0)), /lambert, $
> position=[0, 0, 1, 1], /noerase
>
> The scale transformation is to account for direct graphics devices which
> don't have the same number of pixels per centimeter as the default X device.
>
> That said, I've also had good luck with Xvfb.

Thanks Liam. I had already ruled out the Z-buffer, since it allocates
lots of memory for the display device, e.g.:

```
IDL> help,/memory
heap memory used:     960599, max:    1014946, gets:     7261, frees:     6933
IDL> set_plot,'Z'
IDL> help,/memory
heap memory used:     960633, max:     960652, gets:     7264, frees:     6934
IDL> device,SET_RESOLUTION=[43200,21600],Z_BUFFERING=0
IDL> help,/memory
heap memory used:  934080780, max:  934080810, gets:     7271, frees:     6938
```

I fear Xvfb will just shift the memory usage outside of IDL to another
process. Unfortunately, I don't have the memory to spare, since I
need it to manipulate multiple ~1/4 GB tiled images. I had not heard
of the MAP_PROJ_* functions that Ben mentioned: I'll give those a look
(though it appears I'll essentially have to redo what MAP_IMAGE does
using MAP_PROJ_FORWARD instead of CONVERT_COORD).

JD