Subject: Background job on remote machine: problems with IDL_IDLBridge
Posted by mg.elianto on Wed, 21 Aug 2013 16:23:55 GMT

Hi all,

 this is Mario Gennaro writing (Space Telescope Science Institute), I am new to the group, I hope I'll find some help for my problem.

I am used to run background IDL jobs on remote machines; this usually works:

ssh -Y2 me@remotemachine

nohup $IDL_DIR/bin/idl < input-commands-list >& output-log-file

then I can ctrl-d and let the process run on the remote machine. eventually I can log back in and see the progress by:

tail -f output-log-file

Fine; however I have problems when the IDL code running requires X windows.
I solve this by writing codes that don't plot anything.
Again, this works BUT here is the big trouble:

one of my codes uses the IDL_IDLBridge, which seems to require a valid X windows to exist, even if the child process doesn't plot anything.

I thought I could solve this by using screen instead of nohup, but it doesn't seem to work.

I tried to ssh into the remote machine, create a screen session, the launch my program within the screen session:

ssh -Y2 me@remotemachine
screen -R "Foo"
screen-Foo-prompt $: $IDL_DIR/bin/idl < input-commands >& output-file

ctrl-a d

I can detach from the screen session, and the code keeps running, but if I disconnect from the remote machine (ctrl-d), I obtain this error (when I look back into the output log file):

X connection to localhost:10.0 broken (explicit kill or server shutdown)

Any clues?

Cheers,
Mario

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by Lajos Foldy on Thu, 22 Aug 2013 09:56:24 GMT

On Wednesday, August 21, 2013 6:23:55 PM UTC+2, mg.el...@googlemail.com wrote:

> I tried to ssh into the remote machine, create a screen session, the launch my program within the screen session:

VNC is the graphical counterpart of screen, see
https://groups.google.com/forum/#!topic/comp.lang.idl-pvwave /4fpThx02PyM

regards,
Lajos

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by mg.elianto on Thu, 22 Aug 2013 14:22:58 GMT

On Thursday, August 22, 2013 5:56:24 AM UTC-4, fawltyl...@gmail.com wrote:
> On Wednesday, August 21, 2013 6:23:55 PM UTC+2, mg.el...@googlemail.com wrote:
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>> I tried to ssh into the remote machine, create a screen session, the launch my program within the screen session:
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>
> VNC is the graphical counterpart of screen, see
https://groups.google.com/forum/#!topic/comp.lang.idl-pvwave /4fpThx02PyM
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>
> regards,
>
> Lajos

Thank you Lajos,

I am going to give it a try. However this might require me asking the system administrators to install a VNC server on the remote machine (which is a big computing work horse that we have at my institute). I think that for some reasons they don't allow for remote desktop on such machines. While I will try and see, let me ask you if you think that this might be the only option. It seems so, when I read your older conversations.
Cheers,
Mario

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by mg.elianto on Thu, 22 Aug 2013 15:25:32 GMT

On Wednesday, August 21, 2013 12:23:55 PM UTC-4, mg.el...@googlemail.com wrote:
> Hi all,
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> this is Mario Gennaro writing (Space Telescope Science Institute), I am new to the group, I hope I'll find some help for my problem.
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> tail -f output-log-file
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> X connection to localhost:10.0 broken (explicit kill or server shutdown)
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> Any clues?
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> Cheers,
>
> Mario

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by Lajos Foldy on Thu, 22 Aug 2013 15:40:04 GMT
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On Thursday, August 22, 2013 4:22:58 PM UTC+2, Mario Gennaro wrote:
>
> I am going to give it a try. However this might require me asking the system administrators to install a VNC server on the remote machine (which is a big computing work horse that we have at my institute). I think that for some reasons they don't allow for remote desktop on such machines. While I will try and see, let me ask you if you think that this might be the only option. It seems so,

when I read your older conversations.

The VNC server does not require a full-fledged desktop, like Gnome or KDE, it usually works with a minimalistic window manager by default (TWM on my OpenSuSE). Probably you can convince your sysadm :-)

Also, the VNC server does not need to run on your server, it can be used on any machine which can access the server. The only requirement is that you can not shut down the VNC server until your IDL program ends.

I don't see any other possibility. IDL_IDLbridge calls XOpenDisplay unconditionally, something must answer this call.

regards,
Lajos

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by mg.elianto on Fri, 23 Aug 2013 13:49:26 GMT
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Hi Lajos and others.
One of the software support guys here, Joseph H., has found a solution which doesn't require VNC. I am posting his email below. It works for me, I hope it will help others:

****

If IDL_IDLBridge requires a X session but does *not* require human
interaction (i.e. clicking buttons in a GUI or monitoring graphical
output) you can do something like this:

1. Create a X frame buffer in a screen session
screen -dmS FRAMEBUFFER Xvfb -pixdepths 8 16 24 :100

2. Start your IDL process in different screen session
screen -mS IDL_JOB tcsh -l
[Inside screen session]
setenv DISPLAY :100
idl
... do stuff
[Detach screen session]

The IDL bridge should survive because its "X session" is now using Xvfb
instead of your local X11 forwarding via SSH.

****

The only difference for me is that I use bash, so I issued

```
# screen -mS IDL_JOB bash -l
# export DISPLAY=:100
```

The important thing is that the IDL Bridge has been fooled.

Cheers,
Mario

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by Lajos Foldy on Fri, 23 Aug 2013 14:30:40 GMT
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On Friday, August 23, 2013 3:49:26 PM UTC+2, Mario Gennaro wrote:

> # screen -dmS FRAMEBUFFER Xvfb -pixdepths 8 16 24 :100

Hi Mario,

nice trick! I have never heard about Xvfb before. The man page suggests that you can even look at the output, too.

Lajos

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by chris_torrence@NOSPAM on Fri, 23 Aug 2013 19:51:32 GMT
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Hi all,

Just FYI, for IDL 8.3 (due out in the late fall), the IDL_IDLBridge will no longer require an X server.

Cheers,
Chris
ExelisVIS

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by Boris on Wed, 18 Dec 2013 07:38:18 GMT
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> Hi all,
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>
> Just FYI, for IDL 8.3 (due out in the late fall), the IDL_IDLBridge will no longer require an X server.
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>
> Cheers,
>
> Chris
>
> ExelisVIS

Hi Chris,

IDL Version 8.3 (linux x86_64 m64). (c) 2013, Exelis Visual Information Solutions, Inc.

% Compiled module: BUILD_BRIDGES.
% Loaded DLM: IDL_IDLBRIDGE.
% IDL_IDLBRIDGE Error: WINDOW: Unable to open X Windows display.
         Is your DISPLAY environment variable set correctly?

It does require X-Window.
any comments?

by the way, I used the trick from Mario - it is appeared that I really started the background calculations, BUT all bridges used the same CPU.
it was about 9% load for each of 10 jobs.
The same task uses 10x100% when X-Window is there.

Thanks,
Boris.

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by Jim Pendleton on Wed, 18 Dec 2013 14:30:46 GMT
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On Wednesday, December 18, 2013 12:38:18 AM UTC-7, Boris wrote:

>
>> Hi all,
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>> Just FYI, for IDL 8.3 (due out in the late fall), the IDL_IDLBridge will no longer require an X server.
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>> Cheers,
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> Hi Chris,
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> IDL Version 8.3 (linux x86_64 m64). (c) 2013, Exelis Visual Information Solutions, Inc.
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> % Loaded DLM: IDL_IDLBRIDGE.
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> It does require X-Window.
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> any comments?
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>
> it was about 9% load for each of 10 jobs.
>
> The same task uses 10x100% when X-Window is there.
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> Thanks,
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> Boris.

Boris,
Are you sure that the routine you're executing from the IDL_IDLBridge object doesn't explicitly
create a WINDOW? To simplify debugging, what do you get for output if you call this?

IDL> b = idl_idlbridge()

Jim P.

> On Wednesday, December 18, 2013 12:38:18 AM UTC-7, Boris wrote:
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> IDL> b = idl_idlbridge()
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>
> Jim P.

Hi Jim,
you are right.
sorry for confusion.

the Bridge object was created. but sitting up the environment needed X Window for some reason (actually what for?)

IDL> a=obj_new('IDL_IDLBridge')
% Loaded DLM: IDL_IDLBRIDGE.
IDL> a->execute, '@' + pref_get('IDL_STARTUP')
% IDL_IDLBRIDGE Error: WINDOW: Unable to open X Windows display.
        Is your DISPLAY environment variable set correctly?
% Execution halted at: $MAIN$
IDL>

this works if DISPLAY is ok.
Boris.

Subject: Re: Background job on remote machine: problems with IDL_IDLBridge
Posted by borisstrel on Thu, 09 Jan 2014 07:35:59 GMT

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> % Execution halted at: $MAIN$
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> IDL>
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> this works if DISPLAY is ok.
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> Boris.

ok, in the startup there was something calling X-Window