

Arch Linux

- [Home](#)
- [Packages](#)
- [Forums](#)
- [Wiki](#)
- [Bugs](#)
- [Security](#)
- [AUR](#)
- [Download](#)

[Index](#)[Rules](#)[Search](#)[Register](#)[Login](#)

You are not logged in.

Topics: [Active](#) | [Unanswered](#)

[Index](#) » [Community Contributions](#) » [Extending desktop over VNC, the easy way](#)

Pages: **1**

Topic closed

kjans

2014-12-27 22:29:10

#1

Member

From: Estonia
Registered: 2014-12-03
Posts: 8

Hi all,

There have been some discussion over the Internet on how it would be possible to extend the desktop of your Linux computer over the network to some remote device. It is useful for example for using some random desktop computer or a tablet as the secondary screen for your laptop. (The users of multihead systems understand what a pain it is to be stuck with only single a monitor 🙄) Unfortunately no good and simple ways have been found this far on how to do it.

For example Xdmx isn't really a plug and play solution, like connecting an external monitor, tools like Synergy do not provide real multihead support, but just enable you to control the remote computer using your mouse and keyboard and the `xrandr -fb +x11vnc -clip` method is ugly and does not appear to work correctly on recent systems.

Last night I was also thinking about the problem and came up with another solution:

Because of a bug/feature in X/RandR/Intel driver/whatever it is possible to use the `xrandr` tool to enable a disconnected interfaces by manually setting display mode and then enabling them. From there on the idea is actually quite simple - you just extend your desktop to some display interface that is not connected at the moment, like `VGA1` for example and then just use `x11vnc -clip` to send the picture of the non-connected display to some other computer using the VNC protocol.

Commands

I will list the steps on how to make the following configuration:

- * The laptop screen is `LVDS1`
- * We are using the `VGA1` output for the VNC server (no VGA monitor is connected)
- * The resolution of the VNC monitor will be `1280x1024`
- * We are extending the desktop to the left of the laptop's screen

Step 1: Generate modeline for the resolution of the vpn screen you are going to use with your VNC display.

If `xrandr` already show the desired mode for any of the displays, generating a new one is not needed, we can use the existing one. If this is the case, you can jump directly to step 3.

Any random number can be used for the frequency, as we are not using the mode with any real monitor.


```
gtf 1280 1024 60
```

This command generates the following modeline:

```
Modeline "1280x1024_60.00" 108.88 1280 1024 1
```

Step 2: Generate a new mode based on the modeline we got from step 1.

```
xrandr --newmode "1280x1024_60.00" 108.88
```

xpt	2015-01-23 15:09:17 #2
Member Registered: 2012-10-23 Posts: 54 Offline	Hi! thanks for the post 😊 I did using VIRTUAL1, not VGA1 and I connected with a tablet, works fine
kjans	2015-01-24 13:50:08 #3
Member From: Estonia Registered: 2014-12-03 Posts: 8 Offline	I am glad you found it useful 😊 And yes, any output should work, including the VIRTUAL outputs. Just out of curiosity, do you use an Android tablet, and if so, what VNC viewer app are you using? I haven't had much time to test this with a tablet and the couple of apps I tested all weren't too good (problems with correctly displaying the remote cursor etc.)
graysky	2015-01-24 14:33:13 #4
Wiki Maintainer  From: :wq Registered: 2008-12-01 Posts: 10,221 Website Offline	probably better for the wiki than in the bbs <hr/> CPU-optimized Linux-ck packages @ Repo-ck • AUR packages • Zsh and other configs
	computer. (Note that the numbpad Enter does not seem to work there for some reason) Performance The testing was done using a local area network (VNC server and client connected to the the same router, server connected using WiFi, client connected using an Ethernet cable), VNC screen at 1280x1024 resolution and full colors, using the tight encoding. To test it I tried showing a HD movie on the VNC screen. To my surprise, the movie was actually watchable, but not perfect as the framerate was still too low but it was enough to understand what's going on in the movie. Also, as of right now, the VNC client is configured to display the remote cursor, which makes the cursor a bit laggy at times, so maybe it would be possible to use Synergy or something similar to directly control the cursor on the VNC viewer computer instead go get better cursor performance.

<p>denilsonsa</p> <p>Member From: Brazil Registered: 2015-04-15 Posts: 1</p> <p>Website</p> <p>Offline</p>	<p>2015-04-15 19:41:55 #5</p> <p>Great idea, kjans! A few comments, though:</p> <p>I've added the extra screen to VIRTUAL1, and it had a different resolution than my main laptop display. Then, when I tried using "x11vnc", I had a weird black rectangle when I supplied the coordinates to "-clip". However, I could just use "-clip xinerama1" instead, which was easier and bug-free. See:</p> <pre># For some reason, this left me with a weird x11vnc -clip 1920x1080+1366+0 # However, this one worked fine: x11vnc -clip xinerama1</pre> <p>It is worth checking out the documentation of x11vnc options, the "-forever" option is quite useful. If using TightVNC on the client, "-tightfilexfer" can be useful too.</p> <p>I've encapsulated all the code to create and add a new modeline to VIRTUAL1 here:</p> <pre>#!/bin/sh add_modeline() { local modeline name modeline="\$(gtf "\$2" "\$3" "\$4" sed 's/ / /g' sed 's/\"/> </pre>
<p>predacon</p> <p>Member Registered: 2013-10-13 Posts: 27</p> <p>Offline</p>	<p>2015-11-08 22:34:59 #6</p> <p>Can you help me guys? I've search on google and cant find a easy solution. My problem is my graphics card who dont have analogic outputs, so i cannot set "step 3" on this guide. xrandr only show me from DFP1 to DFP7 and I dont have any "VGA or VIRTUAL1" Give me some ideas please.</p>
	<p>2015-11-08 22:37:45 #7</p>

Anarchist

From: .nz
Registered: 2009-05-09
Posts: 29,217

[Website](#)

Offline

Moving to Community Contributions if this is to become a support, rather than discussion, thread...

[Arch + dwm](#) • [Mercurial repos](#) • [Surfraw](#)

Registered Linux User #482438

jirkatvrdon3

2018-02-09 10:01:03

#8

Member

Registered: 2017-01-18

Posts: 5

kjans wrote:

Hi all,

There have been some discussion over the Internet on how it would be possible to extend the desktop of your Linux computer over the network to some remote device. It is useful for example for using some random desktop computer or a tablet as the secondary screen for your laptop. (The users of multihead systems understand what a pain it is to be stuck with only single a monitor 😞) Unfortunately no good and simple ways have been found this far on how to do it.

For example Xdmx isn't really a plug and play solution, like connecting an external monitor, tools like Synergy do not provide real multihead support, but just enable you to control the remote computer using your mouse and keyboard and the `xrandr -fb + x11vnc -clip` method is ugly and does not appear to work correctly on recent systems.

Last night I was also thinking about the problem and came up with another solution: Because of a bug/feature in X/RandR/Intel driver/whatever it is possible to use the `xrandr` tool to enable a disconnected interfaces by manually setting display mode and then enabling them. From there on the idea is actually quite simple - you just extend your desktop to some display interface that is not connected at the moment, like `VGA1` for example and then just use `x11vnc -clip` to send the picture of the non-connected display to some other computer using the VNC protocol.

Commands

I will list the steps on how to make the following configuration:

- * The laptop screen is `LVDS1`
- * We are using the `VGA1` output for the VNC server (no VGA monitor is connected)
- * The resolution of the VNC monitor will be `1280x1024`
- * We are extending the desktop to the left of the laptop's screen

Step 1: Generate modeline for the resolution of the vnc screen you are going to use with your VNC display.

If `xrandr` already show the desired mode for any of the displays, generating a new one is not needed, we can use the existing one. If this is the case, you can jump directly to step 3. Any random number can be used for the frequency, as we are not using the mode with any real monitor.

```
gtf 1280 1024 60
```

This command generates the following modeline:

```
Modeline "1280x1024_60.00" 108.88 1
```

jirkatvrdo3

2018-02-09 10:19:27

#9

MemberRegistered: 2017-01-18
Posts: 5

Offline

I solved it
just run after the client connects :

```
xset r
```

and it should work.

Slithery

2018-02-09 15:56:37

#10

Forum ModeratorFrom: Norfolk, UK
Registered: 2013-12-01
Posts: 4,230

Offline

Time for you to sleep now, old thread.

*No, it didn't "fix" anything. It just shifted the brokenness one space to the right. - jasonwryan
Closing -- for deletion; Banning -- for muppetry. - jasonwryan*

[aur - dotfiles](#)

Pages: 1

x11vnc -clip 1280x1024+0+0

Topic

closed

[Index](#) > [Community Contributions](#) > [Extending desktop over VNC, the easy way](#)
Step 6: VNC viewer

Some kind of VNC viewer that supports showing the remote cursor is needed. For Arch client I was unable get this functionality to work in TigerVNC that is provided in the official repos, but TightVNC from AUR seems to work fine. Also by doing some testing, I was able to find out that the tight encoding seems to be the best. Be sure to enable it.
To start the VNC viewer run this on the remote computer:

```
vncviewer -encodings "tight copyrect"
```

After that you are asked the ip address of the remote computer. (Note that the numbrpad Enter does not seem to work there for some reason)

Performance

The testing was done using a local area network (VNC server and client connected to the the same router, server connected using WiFi, client connected using an Ethernet cable), VNC screen at 1280x1024 resolution and full colors, using the tight encoding.

To test it I tried showing a HD movie on the VNC screen. To my surprise, the movie was actually watchable, but not perfect as the framerate was still too low but it was enough to understand what's going on in the movie. Also, as of right now, the VNC client is configured to display the remote cursor, which makes the cursor a bit laggy at times, so maybe it would be possible to use Synergy or something similar to directly control the cursor on the VNC viewer computer instead go get better cursor performance.

Also, as this solution uses a real video output for the VNC screen, the remote screen actually

acts as a real monitor and you can drag windows easily between the screens and all windows maximized on the VNC display maximize only over that display, not over the entire X screen. Also you get a full hardware graphics acceleration on your VNC screen. True, the lag that VNC introduces to the screen kinda makes the acceleration useless, but at least you can have your transparent terminal 😊

Drivers

This trick works on the more or less recent Intel drivers on an Optimus/Bumblebee system. It would be fun to know if this trick is also repeatable using other drivers.

That's all, sorry for the long post and I hope someone finds it useful 😊

Hi,
sorry for replying on old post.
I am having keyboard problem .
When i am writing or deleting i need to press for i.e. five characters to write five characters instead of just holding one for small period of time .

it is just after i connect to vnc server (problem is on server. i cant try it on a client)

Have you encountered with this issue ?

Offline