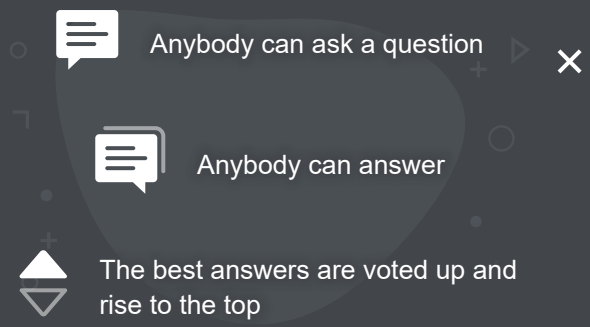Unix & Linux Stack Exchange is a question and answer site for users of Linux, FreeBSD and other Un*x-like operating systems. It only takes a minute to sign up.

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VNC-Server as a virtual X11 monitor to expand screen

Asked 6 years, 6 months ago   Active 3 years, 6 months ago   Viewed 17k times

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From a currently running X11 session, I would like to provide/run a VNC server such that it appears to my system as a second, "virtual" monitor – i.e. so that I can position it using `xrandr` and drag/position windows onto it.

How, if at all, could I achieve that?

Edit: More info from OP in comments: "Also asked here, without an answer. "

[x11] [vnc] [xrandr] [multi-monitor]

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edited Sep 9 '17 at 16:31
Jeff Schaller ♦
58.5k 🟡 30 ⚪ 91 🟠 203

asked Sep 19 '14 at 12:54
Joachim Breitner
1,238 🟡 2 ⚪ 15 🟠 25

2 Answers

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tl;dr: Force a "virtual" output of your gfx card to a display mode, and export that with `x11vnc` .

You can achieve this, but there are a few prerequisites:

- A graphics card with multi-head capabilities (= can render several "desktop" surfaces). Which is most cards these days.
- `x11vnc` , a mature software (`x11vnc`) to export X11 surfaces (among others) to VNC clients.

Most consumer cards these days can render several different outputs. Mine can do 3, out of the 5 that `xrandr` shows (eDP1,HDMI[12],DP[12]).

- Pick an unused output from `xrandr` , in my example `HDMI2` .
- Pick a resolution for the screen of the vnc client, and generate a mode:

  ```
  $ cvt 1920 1080
  # 1920x1080 59.96 Hz (CVT 2.07M9) hsync: 67.16 kHz; pclk: 173.00 MHz
  Modeline "1920x1080_60.00"  173.00  1920 2048 2248 2576  1080 1083 1088 1120
  -hsync +vsync
  ```

- Add that mode to `xrandr`

  ```
  xrandr --newmode "1920x1080_60"  173.00  1920 2048 2248 2576  1080 1083 1088
  1120 -hsync +vsync
  ```

- Put e.g. `HDMI2` in that mode, and attach to the right of `eDP1` (Main screen)

  ```
  xrandr --addmode HDMI2 1920x1080_60
  --output HDMI2 --mode 1920x1080_60 --right-of eDP1
  ```

- Now export that with `x11vnc` , choosing the appropriate offset:

  ```
  x11vnc -display :0 -clip 1920x1080+1600+0  <other options>
  ```

  Note: Add desired encryption/authentication/other options to that command.

- Now connect to with a VNC client to your "virtual monitor". (or modify above command to connect to a "listening" VNC-client.

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answered Dec 8 '16 at 23:00

Alex Stragies
4,828 ● 2 ● 25 ● 52

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1   With the notebook screen and a VGA monitor it fails saying `xrandr: Configure crtc 2 failed` . If I use only one screen (either VGA or embedded one) it works. How can I make it work with both screens? – Zhigalin - Reinstate CMs Oct 13 '17 at 18:50

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See this answer to be able to use VIRTUAL1 instead of a real output like HDMI2, and be able to manage it (select resolution, arrange desktop geometry, clone or extend) in the desktop environment screen settings like any other physical monitor.

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answered Sep 11 '17 at 10:11

Rafael Godínez Pérez
191 ● 2 ● 4