When you cannot be there

Remote access and collaboration

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Introduction

- Every now and then we have the need to access a computer without being in front of it, be it to administer it, to help someone else remotely or to work collaboratively with people at different locations.
- Under Linux you can do this in many different ways depending on the task at hand
- I've been using these tools for a long time both in my personal life as well as daily at work.
- In this presentation I'll give you an overview of some of these tools from a hands on perspective. I hope that by the end you'll recognize the use cases and explore those tools even further.

Agenda

- Remote Access
  - Telnet
  - SSH : Port forwarding/X over SSH
  - Putty
  - XDMCP (Remote X login)
- Collaboration
  - VNC: /Vino/Vinagre/KRFB/krdc/x11vnc
  - Nomachine NX/FreeNX
  - VPN (Cisco)
  - Remote Desktop (Terminal services)
  - Web conferencing.

Telnet

- First application protocol on ARPAnet 1969
- Meant to let one device access another device
- Base protocol for many others:
  FTP, SMTP, NNTP and HTTP
- Most common use is direct log in
- **Insecure** as it transmits clear text
- Many different implementations
  - Under Debian/Ubuntu managed by inetd
  - Under RedHat/Fedora managed by chkconfig
- Alternatives rlogin, rsh... others?
- By default opens port 23

Telnet hands-on

- Installation
- Starting and stopping
- Connecting to another device

SSH (Secure Shell)

- Born 1995 a proposed standard since 2006
- Provides secure encrypted communications between two untrusted hosts over an insecure network
- Most used implementation is OpenSSH
- Used for:
  - Secure command-shell, both opening a console and executing single command
  - Port forwarding
  - Secure file transfer
- By default opens port 22. When exposed to the Internet it is advisable to use a different port.

SSH hands on

- Install
- Start/Stop
- Check the ports
- Configuration file
- Connecting from the client
- Client configuration file
- Tunneling ports
- X over SSH
- Transferring files
- Nice examples
  `http://souptonuts.sourceforge.net/sshtips.htm`

Putty

- GUI tool to do remote connections without using the console.
- Supports Telnet, SSH, rlogin, serial console and Raw
- You can save the parameters to reuse later

XDMCP (X display manager control protocol)

- Remote X login
- Older
- Slow even on a local network

VNC: Virtual network computing

- Transmit keyboard and mouse to remote computer
- Receives back the graphical screen
- OS independent
- TightVNC, UltraVNC, X11VNC, RealVNC
- Some clients allow sharing main display. Multiple clients can look at the same display simultaneously
- Graphical clients under Gnome:
  - Server: Vino (Preferences | Remote desktop)
  - Client: Vinagre (Internet | Remote desktop viewer)
- Graphical clients under KDE
  - Server: kfrb (Internet | Desktop Sharing)
  - Client: krdc (Internet | Remote Desktop Client)

VNC hands-on

- Use x11vnc / vncviewer
- Reverse VNC using X11vnc
- VNC over SSH
- Krdc/krfb
- Vino/Vinagre

NX

- Highly efficient X compression protocol
- More like X forwarding or XDMCP than VNC
- Very fast, almost as if you were there
- Open source protocol
- Proprietary and Open source implementations
- Works over SSH
- Can tunnel VNC and RDP
- Not in official repositories
- `http://freenx.verios.de`
- `http://www.nomachine.com`

NX hands-on

- Setting up a session
- Connecting
- High level differences between qtnx and the Nomachine NX client

VPN (Virtual Private Network)

- VPND supports Cisco IP SEC
- Easy to configure
- Supports encryption used by corporate VPNs

Remote Desktop

- RPD is a protocol used by Windows (Only available on higher versions)
- From a Linux computer you can access a Windows desktop
- Only the Windows server versions support multiple users sharing a session.

Web Conferencing

- Remote collaboration between untrusted parties
- Supports large number of parties, scheduling and recording
- Usually consist of Document sharing, White board, Desktop sharing, voice, video
- The client is the browser
- Usually require plugins (Java, Flash, ActiveX)
- Many commercial providers
- A few FLOSS projects
  - OpenMeetings
  - WebHuddle
  - DimDim (cannot share Linux desktop)

Web Conferencing hands-on

- Show the OpenMeetings interface/Features
- Show the WebHuddle interface
- Show the DimDim interface

Where to go from here

- There is a lot of information for the commands and applications presented
- Create a demo account in one of the servers
- I will upload the presentation and tutorials to my KWLUG blog
  http://www.kwlug.org/blog/48
- Install your own web conferencing server. I will post the instructions to my KWLUG blog
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- For direct questions email me to rarsa@yahoo.com

Questions?

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