

Remote access

PV208 Advanced topics of Linux administration

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Remote access - overview

- textual and graphical interface
 - terminal services
 - file system or particular files access
 - messaging and other protocols for web, time synchronization, audio transmission
 - database access and manipulation
 - mobile systems - wireless internet, bluetooth, infraport
- graphical interface
 - window manager of multi-user systems
 - desktop sharing - real-time collaboration

Terminal Services on Thin Client and Protocols

- non-secure connection (no encryption)
 - telnet, rlogin - rhosts authorization mechanism, rsh - rlogin with a command, http, nntp (news), pop3, irc, ntp, rtp etc.
 - file transfer or file system connection - rcp, ftp, nfs, svn (replacement of cvs), LDAP
- secure connection (with encryption)
 - ssh, enabling VPN, https, nntps, pop3s etc.
 - file transfer or file system connection - scp, sftp, sfs

Remote usage of the X Window System

- X forwarding
 - transmits remotely started applications to the local X server
 - usage: `ssh -X` (manually via `DISPLAY` environment variable), putty on Windows system
 - `xhost` - allows hosts to connect to the X server
 - `xauth` - allows users who know a secret (`~/.Xauthority`)
- XDMCP (over trusted networks - e.g. VPN in public)
 - display manager running on a remote system connects to the local X server
Windows: Xming acts as the X server
 - starts remote window manager after login
 - usage: `X [local display] -query [host]`
 - starting X applications (e.g. window manager):
`[app] -display [specified display]`
 - windowed mode - Xnest

Remote Frame Buffer protocol (RFB)

- relatively simple protocol applicable to X Window System, Windows and Mac OS X
- Virtual Network Computing (VNC)
 - VNC viewers connect to a created VNC server (Xvnc - based on the X server)
 - high level usage: vncserver, vncviewer
 - `~/.vnc/xstartup` - startup script (e.g. changing window manager)
- KDE: krfb - desktop sharing on a remote system, krdc - client
- Apple Remote Desktop in Mac OS X

Remote Desktop Protocol (RDP)

- uses 128-bit encryption with RC4, redirection of audio, local file systems, local printers, local ports and others
- Windows: Terminal Services
 - Terminal Server, Remote Desktop Connection or Terminal Services Client - client (one session per PC is allowed)
 - Windows Desktop Sharing - shares entire desktop, a specific region or a particular application to multiple clients
- rdesktop - Unix based client utility (tsclient for GUI frontend, xrdp - based on rdesktop)

References

- <http://tldp.org/HOWTO/Remote-X-Apps.html>
- http://en.wikipedia.org/wiki/Desktop_sharing
- <http://en.wikipedia.org/wiki/XDMCP>
- http://en.wikipedia.org/wiki/RFB_protocol
- http://en.wikipedia.org/wiki/Remote_Desktop_Protocol
- http://en.wikipedia.org/wiki/Comparison_of_remote_desktop_software