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Show Name: CompTIA Linux+ (XK0-004)

Topic: Managing System Components

Episode Name: Graphical User Interfaces

Description: In this episode, Zach and Don introduce the viewers to some of the graphical user interfaces found in Linux. They explain how the X Windows subsystem powers most GUIs and then tour the GNOME and KDE desktop environments.

Graphical User Interfaces

[?] What are some of the things a GUI can help us with?

- Benefits
 - Provides easy access
 - Complex concepts represented as images
- Not always needed
 - Consumes resources
 - Not usually present on a server

[?] What powers the GUI behind the scenes?

- Components
 - X Client
 - AKA Desktop Environment
 - AKA Window Manager
 - X Server
 - Compositor
 - I/O Hardware
- Can deliver graphics remote
 - Xrdp
 - VNC
 - SSH Tunneling

[?] So X is pretty important. Did Linus Torvalds create it as well?

- Developed at MIT in 1984
 - X11
 - [XFree86 Website \(https://www.xfree86.org/\)](https://www.xfree86.org/)
- Forked to X.org in 2004 due to licensing
 - [X.Org Website \(https://www.x.org/\)](https://www.x.org/)

[?] Does every distribution use the X.Org Server?

- Wayland
 - [Wayland Website \(https://wayland.freedesktop.org/\)](https://wayland.freedesktop.org/)
 - Released in 2008
 - Combines X Server and Compositor
 - Default in Fedora
 - Not perfect yet

[?] Let's switch to the client side. What are the predominant X Clients out there?

- [GNOME \(https://www.gnome.org/\)](https://www.gnome.org/)

- Simple design
- Excellent accessibility
 - Settings -> Universal Access

- [MATE Desktop \(https://mate-desktop.org/\)](https://mate-desktop.org/)

- Forked from GNOME v2

[?] Who comes in second place for GUIs?

- [KDE Plasma \(https://kde.org/plasma-desktop/\)](https://kde.org/plasma-desktop/)

- Modular widgets
- Vast customization
- Large suite of native apps

[?] Can we run KDE and GNOME on the same system?

- `yum groupinstall "KDE Plasma Workspaces"`