

# Linux Migration for Delphi Developers

**CODERAGE**  
2 0 2 5

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# About Jim McKeeth

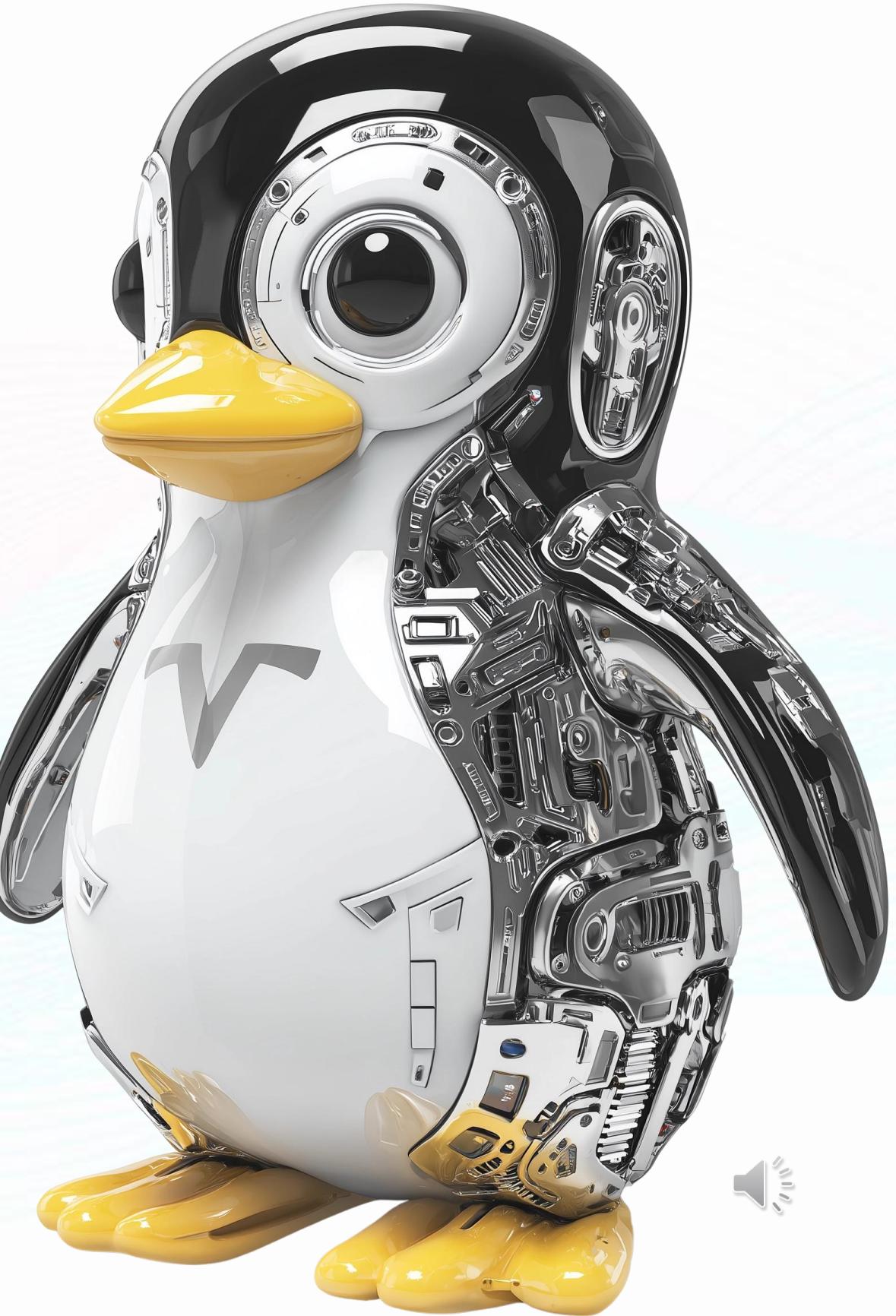
- ✿ Long time software developer
- ✿ Former Embarcadero Developer Advocate
- ✿ Invented and patented pattern and swipe to unlock
  - e.g., US Patents # 8,352,745, 6,766,456
- ✿ Built a thought-controlled drone
- ✿ Author, blogger, podcaster, and webinar host
- ✿ Online at [Delphi.org](http://Delphi.org)
- ✿ [patreon.com/c/JimMcKeeth](https://patreon.com/c/JimMcKeeth)



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# Agenda

- ⚙️ Why move to Linux
- ⚙️ Overview of Linux
- ⚙️ Selecting a Distro
- ⚙️ Migration Tips
- ⚙️ Options for Delphi under Linux
- ⚙️ Sailing on the Winboat



# Note About Generative AI

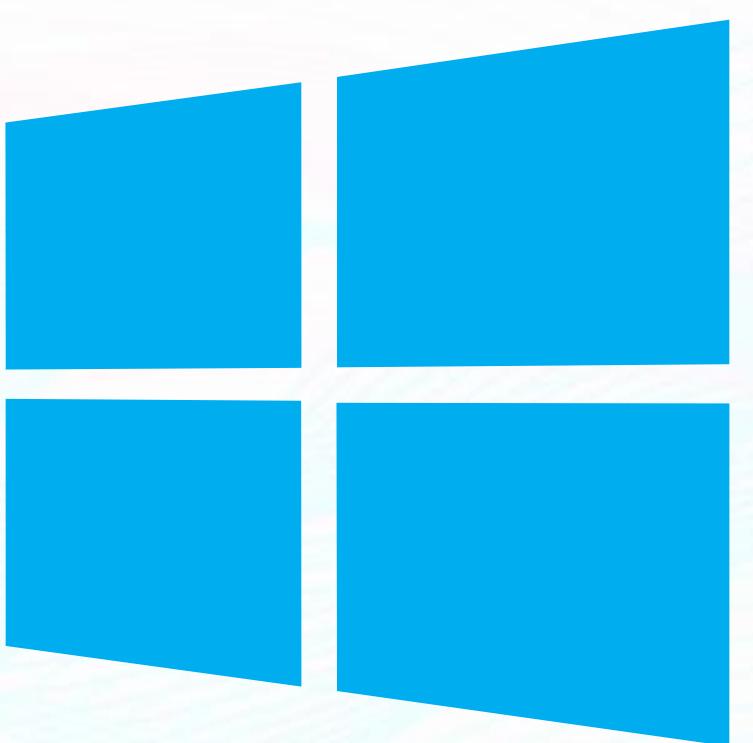
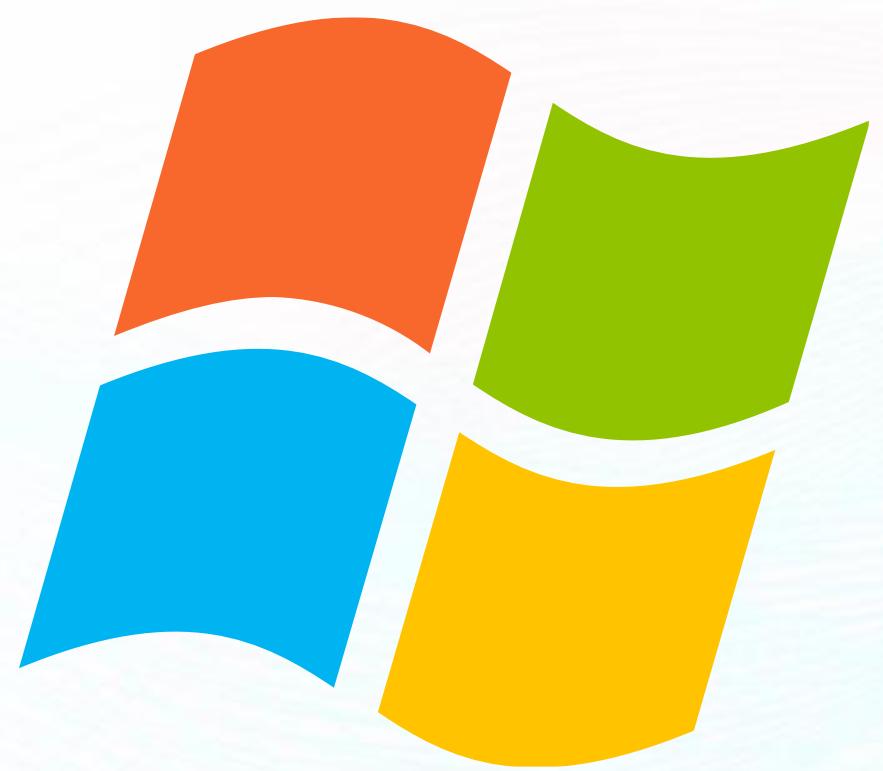
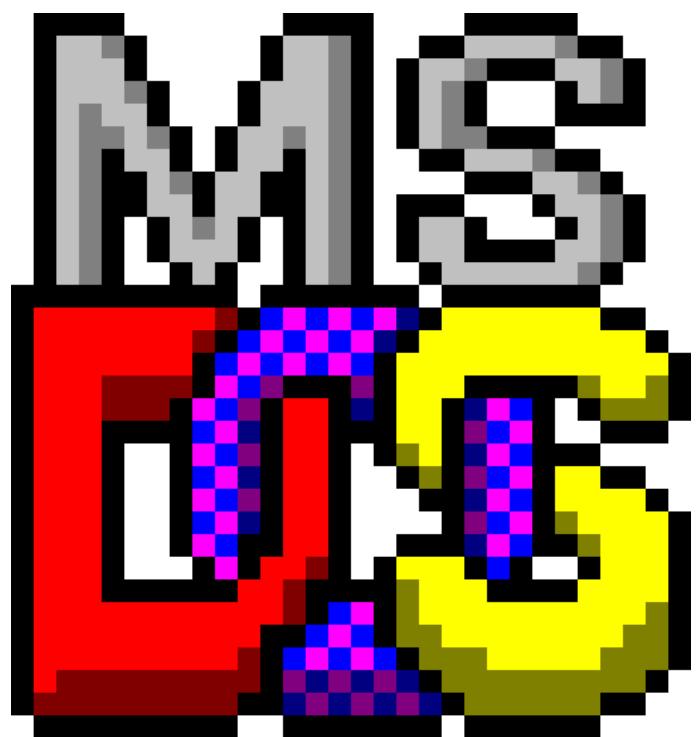
- ✿ In keeping with the CodeRage 2025 theme, I've made heavy use of gen AI.
- ✿ For a while now I've found it to be a useful part of my workflow.
- ✿ I always doublecheck the output, but I'm only human, so we both make mistakes.
- ✿ Primary tools: Gemini, Gemini CLI, NotebookLM, Nano Banana & Midjourney.



A vibrant illustration of a Linux-themed party featuring cartoon penguins. The scene is set in a cozy living room decorated for a party with colorful balloons, streamers, and a banner that reads "LINUX PARTY!". In the foreground, a DJ penguin wearing headphones and a black cape plays music on a turntable. Another penguin holds a glowing green stick. To the right, a group of penguins play Monopoly on a green board. A penguin in a pirate costume with a skull and crossbones hat is also present. The room has bookshelves, lamps, and framed pictures on the wall.

LINUX PARTY!

Why move to Linux? And why now?

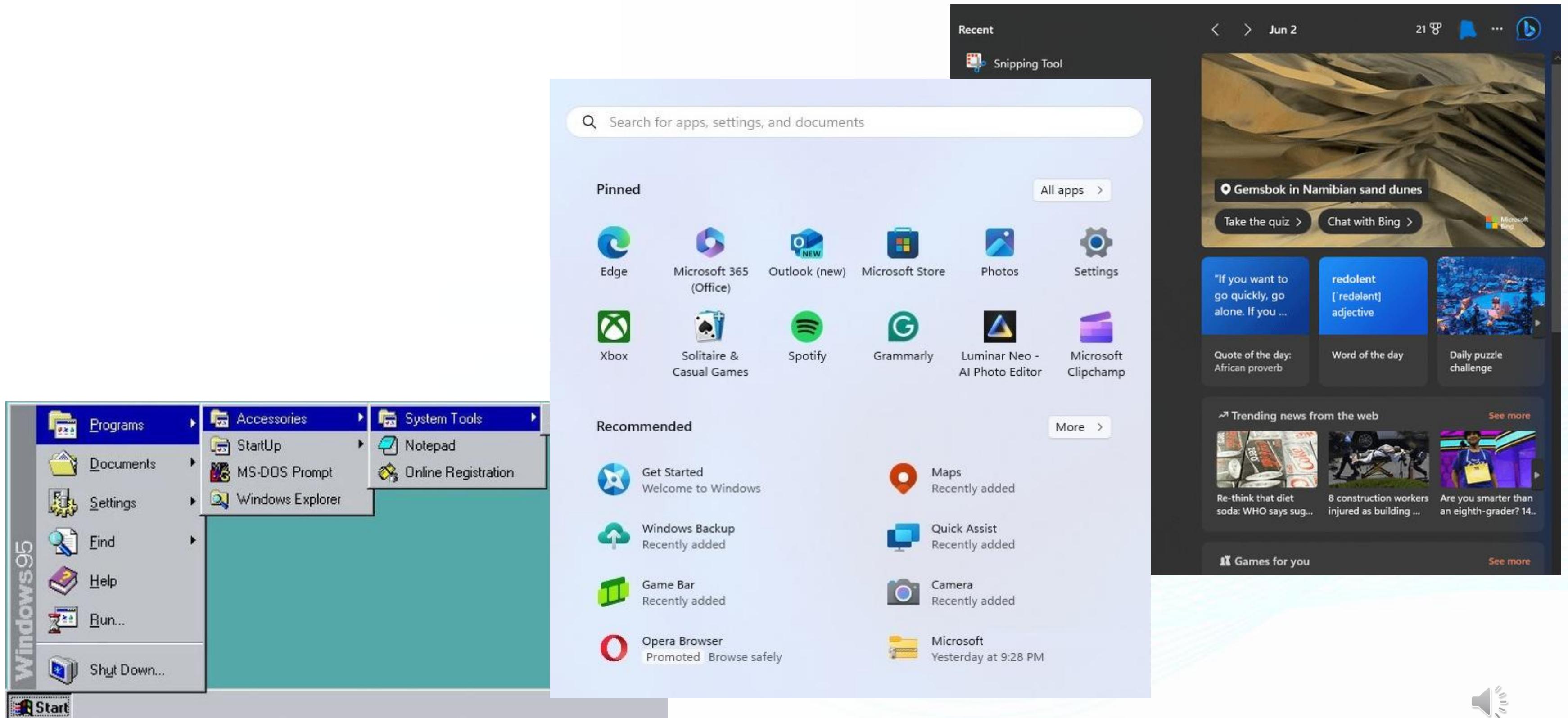


*It all started with MS-DOS...*



# PERFECT OS

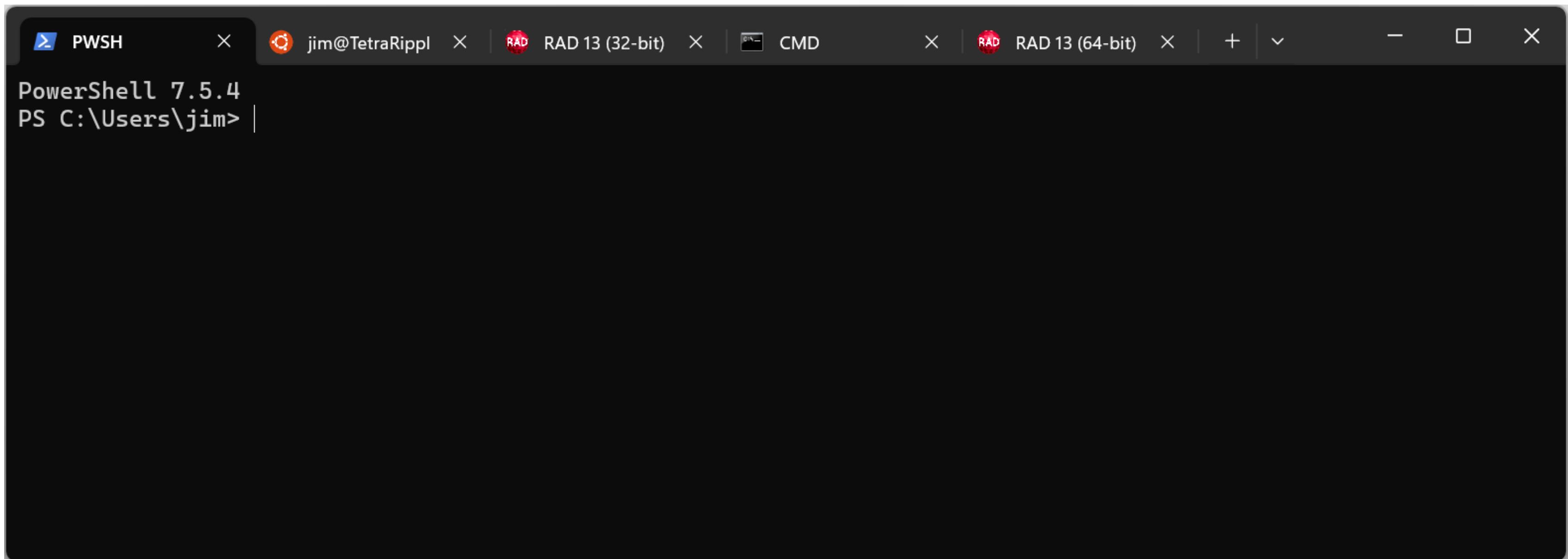




Start & Search went from *useful tools* to a banner advertisement...



Why are we living  
on the life raft? 



PWSH X jim@TetraRippl X RAD 13 (32-bit) X CMD X RAD 13 (64-bit) X + v - □ X

PowerShell 7.5.4  
PS C:\Users\jim> |

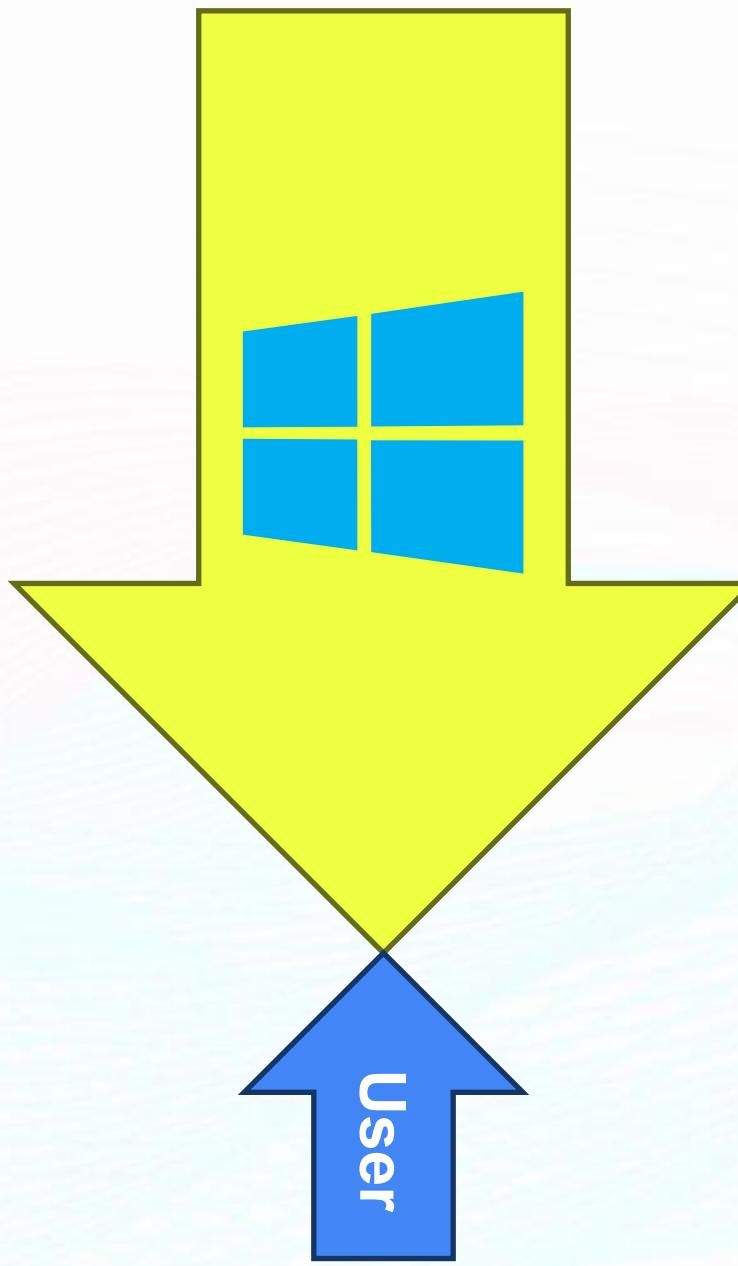




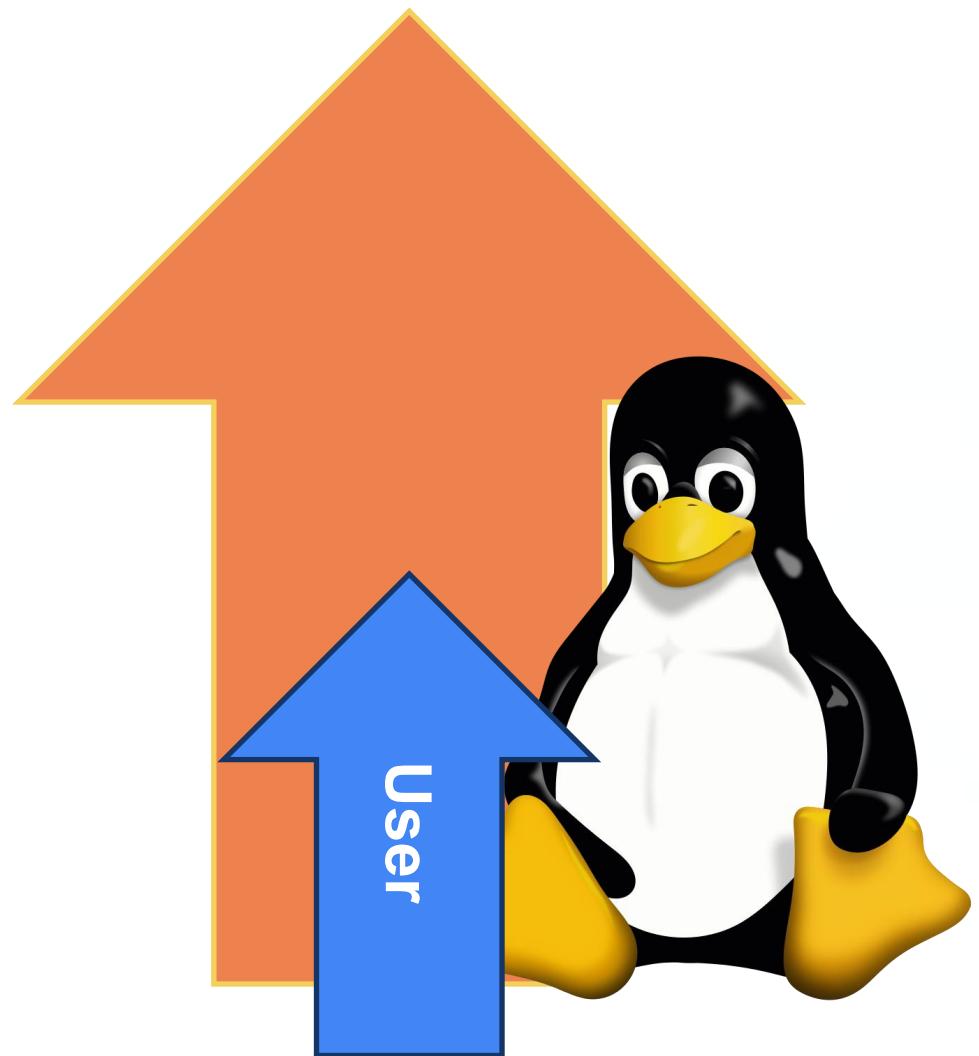
Windows is like having a landlord  
that keeps letting the cat out.



Linux is home ownership.  
If you break the plumbing, you fix it.



Using Windows is a fight against the OS.  
The result of the opposing forces is  
friction.



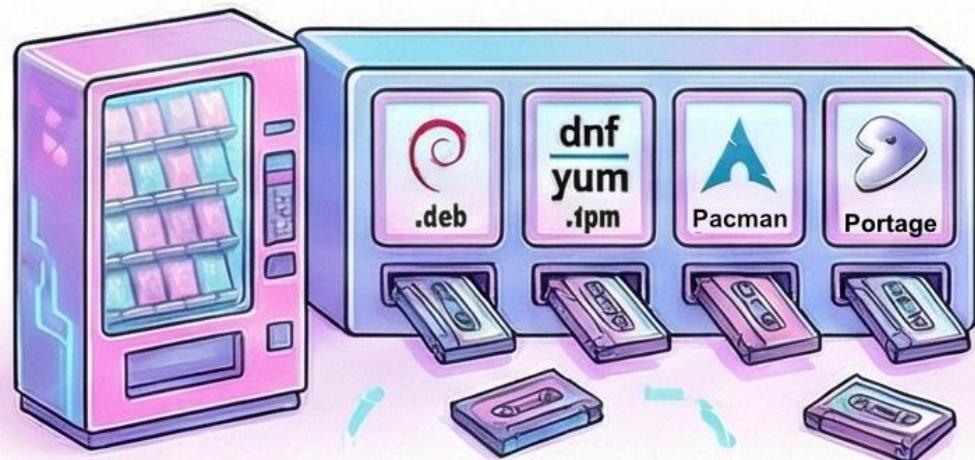
Linux may not have Microsoft's funding  
but using it is collaborative.



# ANATOMY OF A LINUX DISTRO

## WHAT MAKES A DISTRO UNIQUE?

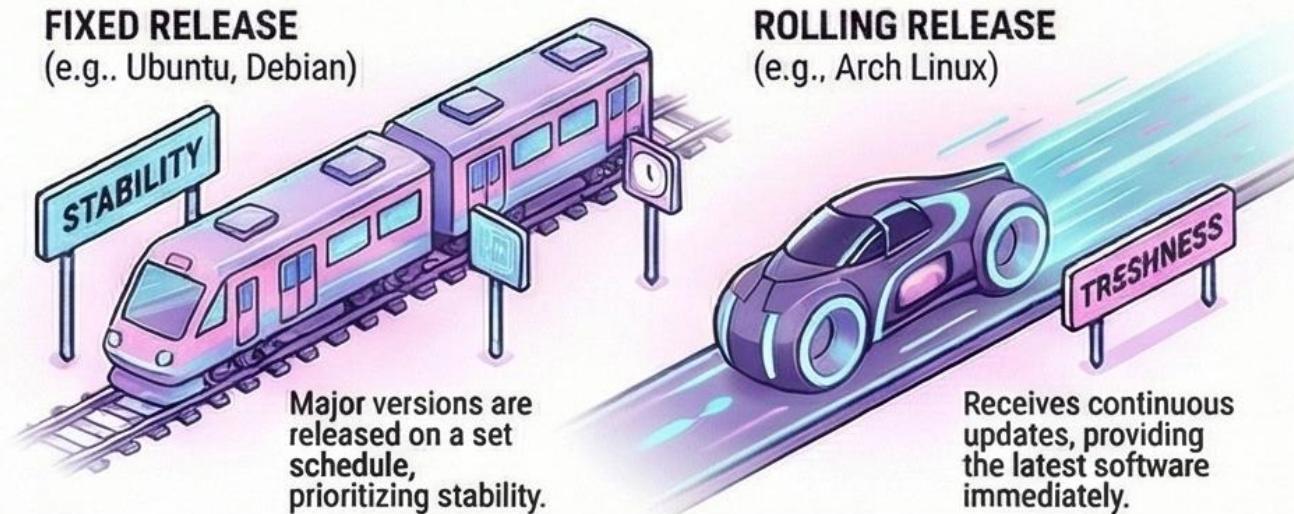
### PACKAGE MANAGEMENT



| Family           | Package Manager  | Example Distros                |
|------------------|------------------|--------------------------------|
| Dobian           | apt (.deb)       | Ubuntu, Linux Mint, Kali Linux |
| Red Hat / Fedora | dnf / yum (.rpm) | RHEL, CentOS, Rocky Linux      |
| Arch             | Pacman           | Manjaro, EndeavourOS           |
| Gentoo           | Portage          | Funtoo, Calculate              |

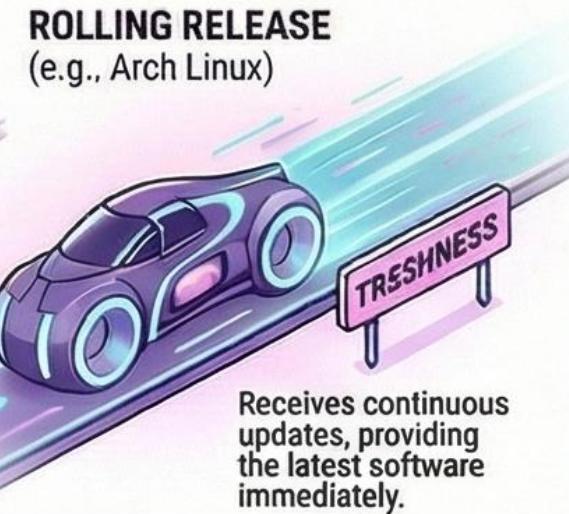
### RELEASE MODEL: STABILITY VS. FRESHNESS

**FIXED RELEASE**  
(e.g., Ubuntu, Debian)



Major versions are released on a set schedule, prioritizing stability.

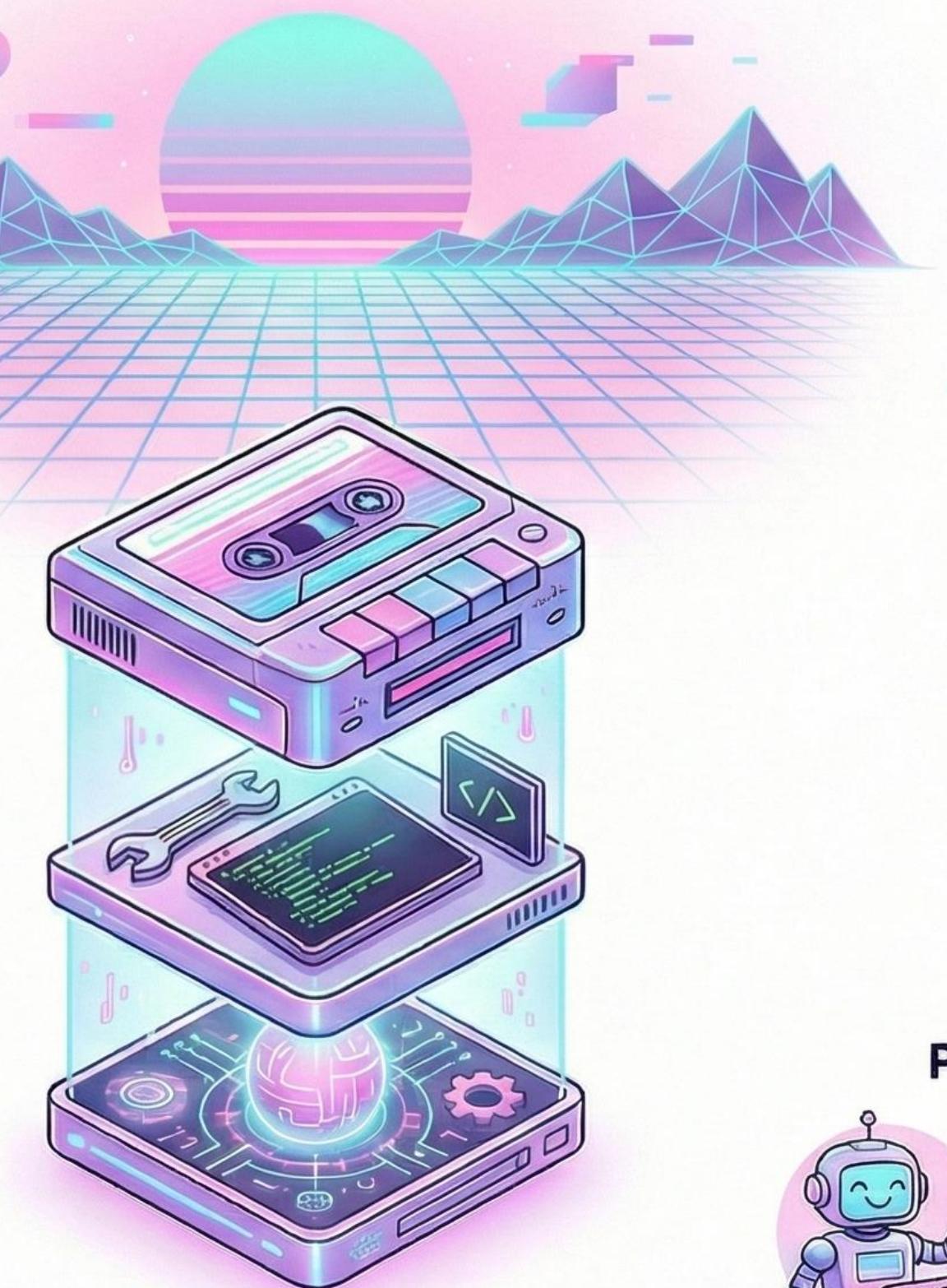
**ROLLING RELEASE**  
(e.g., Arch Linux)



Receives continuous updates, providing the latest software immediately.

### THE FOUNDATION: THE LINUX KERNEL

The core of the OS that manages hardware, memory, and processes.



### THE FINAL PRODUCT: A “DISTRIBUTION”

A curated collection of software, desktop environment, and configurations bundled together.

### THE TOOLBOX: GNU USERLAND & UTILITIES

Provides essential system libraries and command-line tools like the shell and compilers.

### PHILOSOPHY & TARGET AUDIENCE



**Ubuntu:**  
Aims to “just work” for general users, with commercial backing.



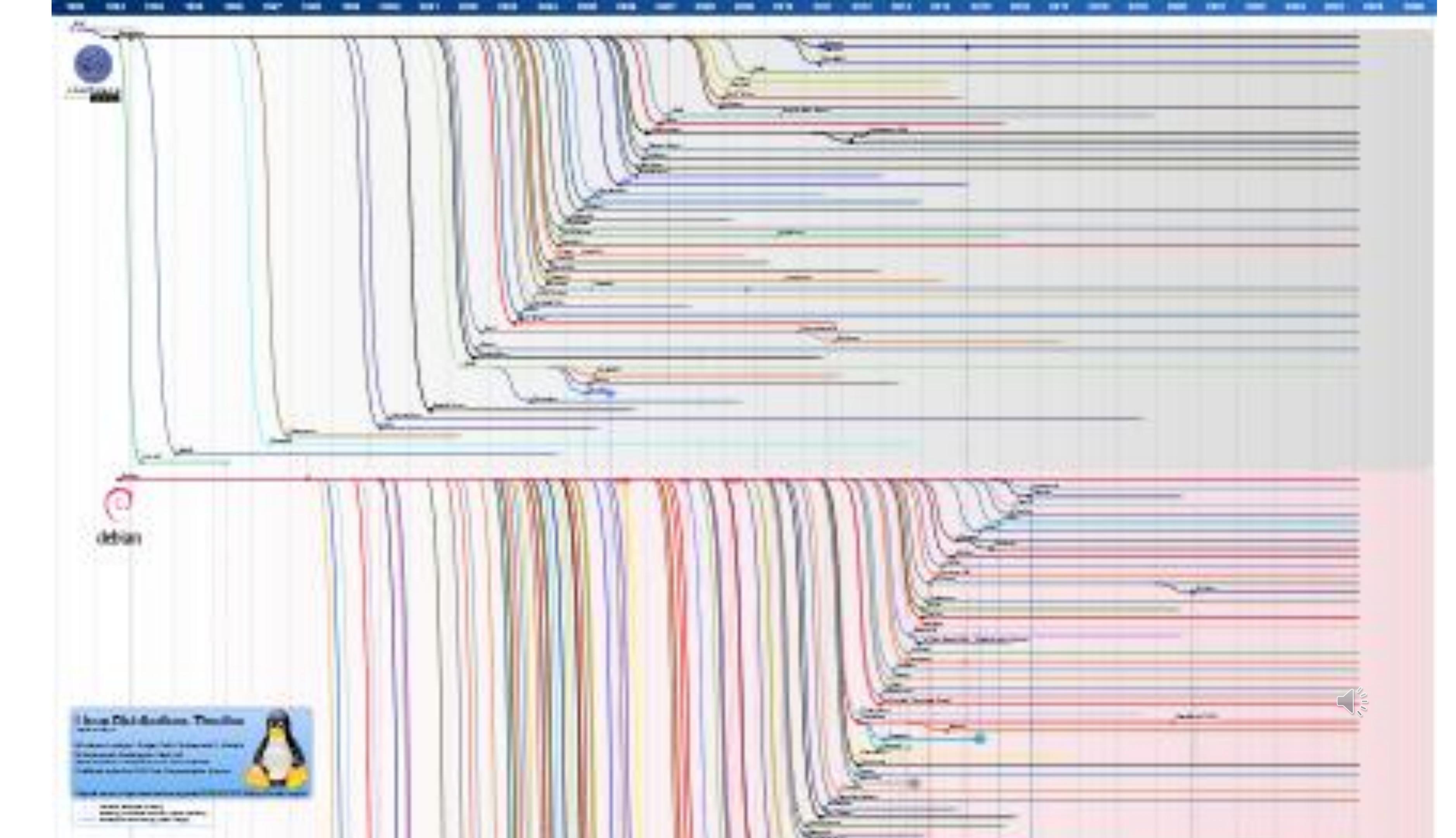
**Linux Mint:**  
Focuses on a familiar, Windows-like experience for newcomers.



**Debian:**  
Prioritizes stability and a strict commitment to 100% free software.



**Arch Linux:**  
Provides a minimal base for experts to build and customize their own system.



Ubuntu

Ubuntu is a free, open-source operating system based on the Linux kernel. It is designed to be user-friendly and accessible to people who are new to computing. Ubuntu is available for download from the official website and can be used on desktop computers, laptops, and servers. It is also available as a live CD or USB drive, allowing users to try it out without installing it on their hard drive.

Ubuntu 12.04 LTS



# The Linux Family Tree:

## Choosing Your Debian-Based Distro

### Debian: The Rock-Solid Foundation



#### A Community-Driven Project

One of the oldest distributions, developed by a worldwide community of volunteers.



#### Prioritizes Stability & Freedom

Releases happen "when they're ready," ensuring reliability ideal for servers.



#### Enormous Software Repository

Offers one of the largest amounts of software available through its official repositories.

### Ubuntu: The Polished Powerhouse



#### Built on Debian, Backed by Canonical

Aims to make Linux accessible to a wider audience with corporate support.



#### Predictable Release Cycle

New versions arrive every six months, with Long-Term Support (LTS) releases every two years.



#### "Just Works" Hardware Support

Includes proprietary drivers and codecs out of the box for better hardware compatibility.

### Linux Mint: The User-Friendly Alternative



#### An Even More Accessible Ubuntu

Takes Ubuntu's base and refines it for a simple, familiar desktop experience.



#### Familiar For Windows Users

Its Cinnamon desktop environment provides a traditional layout that is intuitive for new users.



#### Multimedia Ready by Default

Includes multimedia codecs pre installed, so videos and music work immediately.

### DISTRO COMPARISON SNAPSHOT

|                 | Debian                   | Ubuntu                     | Linux Mint               |
|-----------------|--------------------------|----------------------------|--------------------------|
| Target Audience | Technical users, servers | General users, enterprises | Desktop users, beginners |
| Core Philosophy | Free software, stability | Pragmatic, user-friendly   | User experience focus    |
| Learning Curve  | Steep                    | Moderate                   | Gentle                   |

# A Guide to the Ubuntu Linux Family

## THE UBUNTU FOUNDATION: COMMON CHARACTERISTICS



### Built on a Debian Base

Ubuntu is derived from Debian, inheriting its stability and powerful APT package management system.



### Predictable Release Cycle

New versions are released every six months, with Long-Term Support (LTS) versions every two years.



### A Shared Software Universe

All official flavors draw from the same software repositories, making the same applications available to everyone.



## MEET THE FLAVORS: UNIQUE SPECIALIZATIONS



### Ubuntu Desktop (The Standard)

The default experience, featuring the modern and streamlined GNOME desktop environment.



### Kubuntu

Features the highly customizable and powerful KDE Plasma desktop, appealing to power users.



### Xubuntu

A lightweight and elegant experience using the Xfce desktop, perfect for older hardware.



### Lubuntu

The most lightweight flavor, using the minimal LXQt desktop for maximum performance.



### Ubuntu MATE

Revives the classic GNOME 2 desktop, offering a traditional and intuitive interface.



### Ubuntu Budgie

Provides a modern, elegant, and user-friendly desktop experience with the Budgie environment.



### Ubuntu Cinnamon

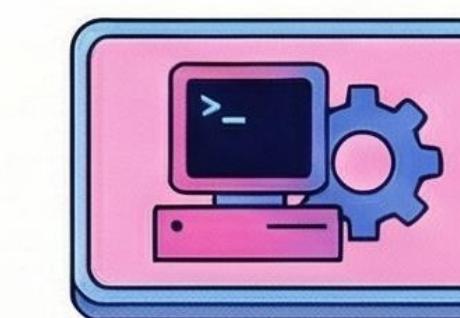
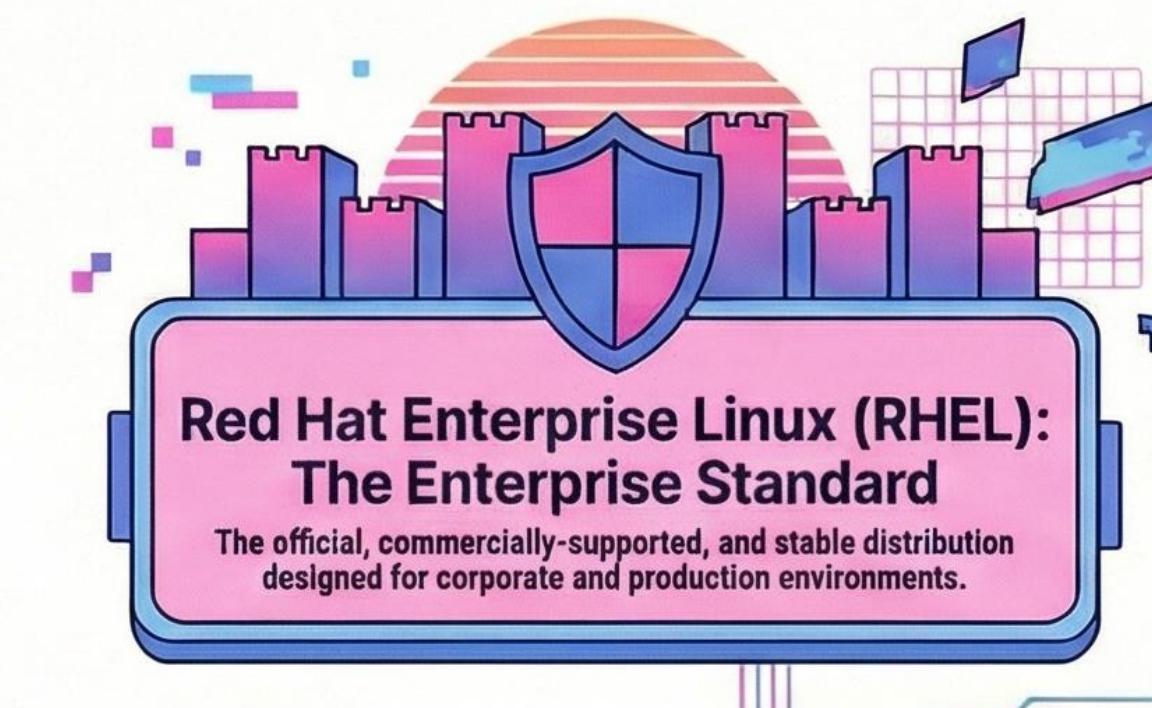
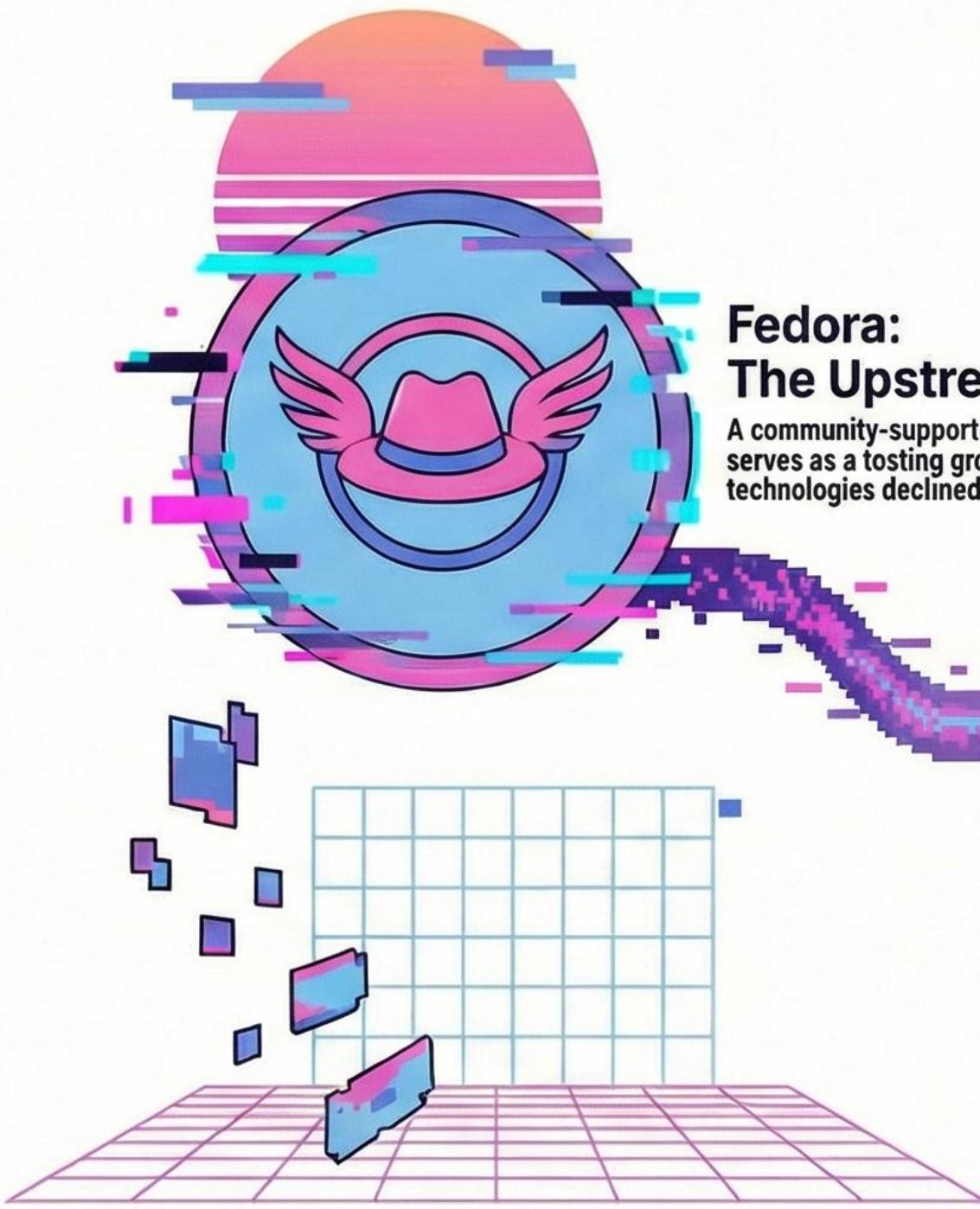
Uses the familiar Cinnamon desktop from Linux Mint, making it an easy switch for Windows users.



### Ubuntu Studio

Tailored for creative professionals with audio, video, and graphic design applications pre-installed.

# The Red Hat Linux Family Tree

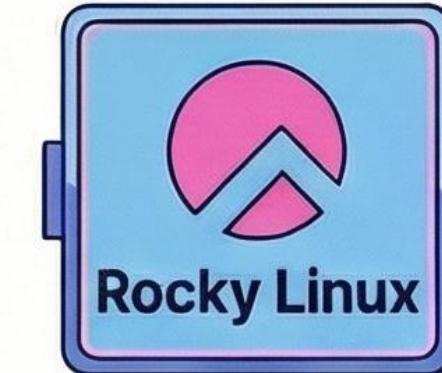
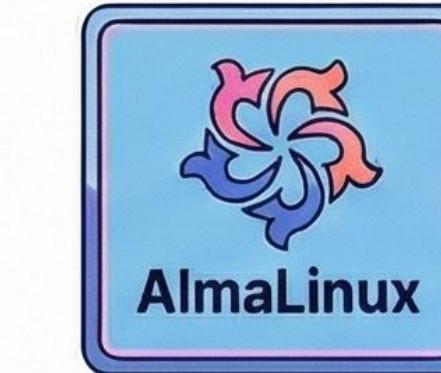


## Red Hat Linux: The Original

Created in 1994, it established a commercially-focused Linux distribution using the RPM package format.

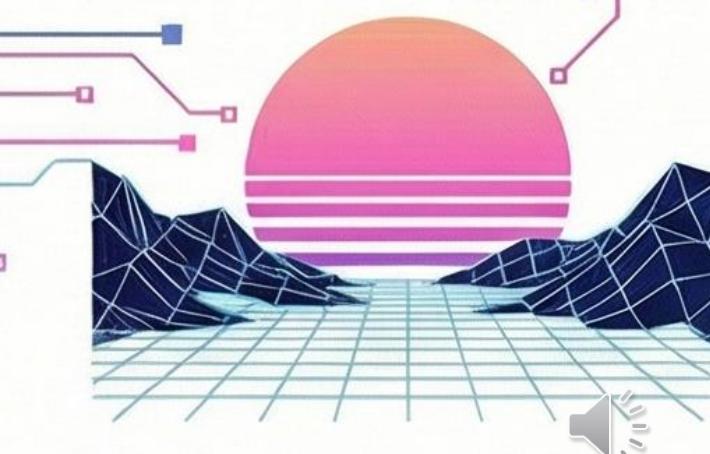
## AlmaLinux & Rocky Linux: The Community Rebuilds

Free, 100% compatible distributions built from RHEL's source code, continuing the legacy of CentOS.



## CentOS Stream: The RHEL Proving Ground

Positioned "midstream" between Fedora and RHEL, this is where RHEL's next version is developed.



# A Guide to Linux Package Managers

Linux offers diverse ways to install software, from stable, distribution-specific repositories to modern, universal application formats. Understanding the trade-offs between different package managers helps you choose the right tool for your needs, whether you prioritize stability, the latest features, or ultimate control.

## TRADITIONAL (Distro-Specific)

### APT (Debian/Ubuntu): Vast & Stable

Offers huge software repositories and excellent dependency management, prized for stability.

### APT (Debian/Ubuntu): Can Be Outdated

Stable versions often use older, web-tacted software packages to ensure reliability.

### Pacman (Arch Linux): Always Up-to-Date

Delivers the latest software versions through a "rolling release" model.



### Pacman (Arch Linux): Higher Maintenance

Frequent updates can be less stable and require more technical knowledge to manage.

## SUMMARY TABLE

| Type         | Example(s)       | Key Pro  | Key Con   |
|--------------|------------------|--|---|
| Traditional  | APT, DHC, Psoman | Deep integration with the host OS and stable dependencies. | Software versions are tied to the distribution's release cycle.   |
| Universal    | Snap, Flatpak    | Built on any Linux distro and has dependencies bundled.    | Can use more disk space and be slower to launch than native apps. |
| Source-Based | Portage (Gentoo) | Maintains control over binaries and optimizations.         | Requires high compilation and individual expertise.               |

## UNIVERSAL (Distro-Agnostic)

### Snap (Canonical): Self-Contained & Simple

Bundles all dependencies, simplifying the installation of complex applications.

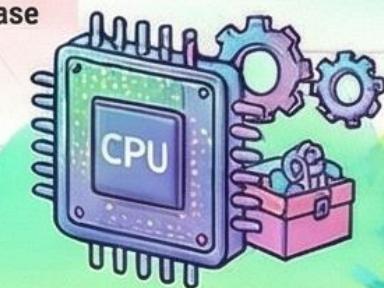
### Snap (Canonical): Performance & Control Issues

Apps can be slow to start and are managed through a centralized store controlled by Canonical.

### Flatpak: Modern & Flexible

Provides access to updated applications, even on stable, fixed-release distributions.

## SOURCE-BASED



### Portage (Gentoo): Ultimate Customization

Compiles from source, letting you enable/disable features and optimize for your CPU.



### Portage (Gentoo): High Complexity & Time

Compiling everything takes significant time and is not recommended for beginners.

# THE ROAD TO LINUX:

## A WINDOWS USER'S MIGRATION MAP



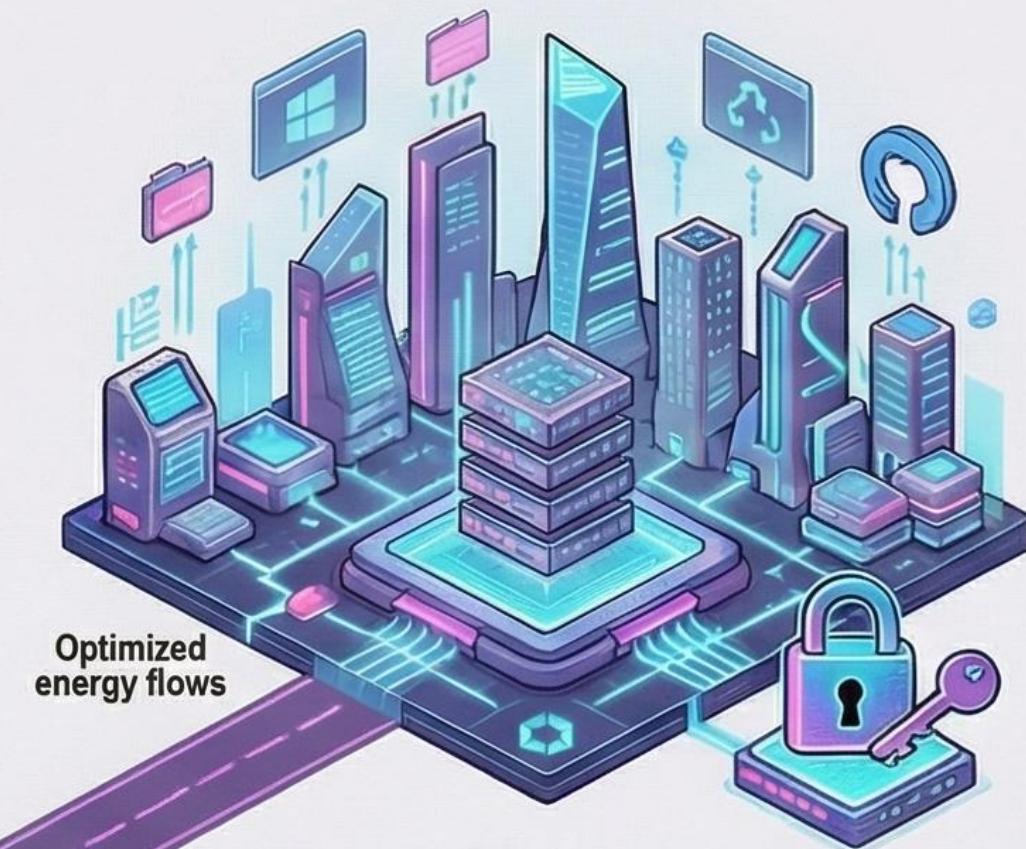
### 1. CHOOSE YOUR PATH (DISTRIBUTION)



### YOUR GAMING TOOLKIT: STEAM & PROTON



### ESSENTIAL RESOURCE: PROTONDB.COM



### 2. Test



### DETOUR: WINDOWS SUBSYSTEM FOR LINUX (WSL)

Almost Linux, but still on Windows



### 2. TAKE A TEST DRIVE

Try Linux on your PC without installing anything.



### WRONG TURN: INCOMPATIBLE PRO SOFTWARE

The Adobe Creative Suite and some specialized CAD software do not run on Linux.



### WRONG TURN: ANTI-CHEAT ROADBLOCK

Some competitive multiplayer games with kernel-level anti-cheat... are unplayable.

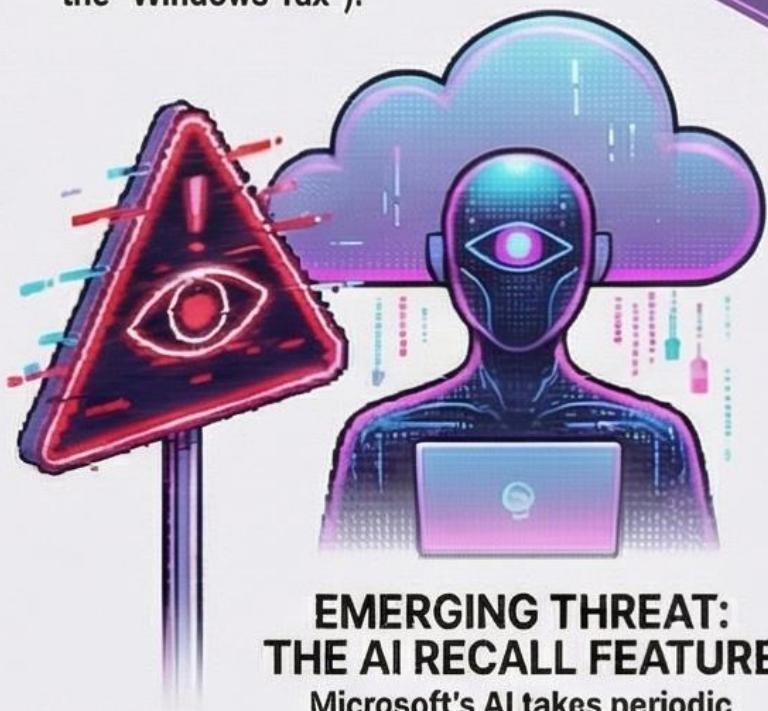


### WRONG TURN: NICHE HARDWARE & NVIDIA

Some specific hardware... or NVIDIA GPUs may require extra setup steps.

### EMERGING THREAT: THE AI RECALL FEATURE

Microsoft's AI takes periodic screenshots... a major privacy risk.



# More Information

## ✿ Slides and more

- [delphi.org](http://delphi.org)
- [patreon.com/c/JimMcKeeth](https://patreon.com/c/JimMcKeeth)
  - (CodeRage content is free, plus there is a one-week free trial)

## ✿ WinBoat

- [www.winboat.app](http://www.winboat.app)
- [github.com/TibixDev/winboat](https://github.com/TibixDev/winboat)

## ✿ Delphi4Docker

- Step-by-step guide to create your own Docker image to compile Delphi projects
- [github.com/jimmckeeth/delphi4docker](https://github.com/jimmckeeth/delphi4docker)

## ✿ Delphi on Linux Setup

- [github.com/jimmckeeth/Delphi-on-Linux-Setup](https://github.com/jimmckeeth/Delphi-on-Linux-Setup)