PakTech Today | Pakistan's Premier Technology Magazine
Vol. 01, Issue 13 • ISSN: 3136-2729

TECHNOLOGY FEATURE Industrial News / Technology Report / Research Communication

Why Linux Powers the Modern World Technology in 2026?

Linux has become the backbone of modern technology — from AI supercomputers and cloud platforms to IoT devices and cybersecurity tools — and its dominance in 2026 makes it impossible to ignore.

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Introduction

As we know that Linux is a widely used operating system in tech industry. In the modern age, the importance of operating system has increased considerably in cloud computing, web development, app development and large-scaled data systems. Linux has become the most powerful and widely used operating system. The Linux is playing a major role in revolutionizing the modern digital world in various technologies like servers to smartphones etc.

The main reason of popularity of Linux operating system is it's open-source nature. As opposed to paid operating systems, Linux allows developers to access, modify, cooperate and distribute its source code easily. This adaptability has encouraged advancement and cooperation among developers throughout the world. Today, almost every company prefer Linux so that it can modify it to suit their needs without paying any fees for licenses.

These are some important modern uses of Linux that power our world today.

> ***"Linux is not just an operating system but the foundation of modern technology."***

The "AI Infrastructure"

The Linux has maintained a complete popularity in artificial intelligence infrastructure, establishing 100% market share on world's most powerful supercomputers. The Linux runs 49.2% of world's cloud workloads and 96.4% of Rubbernecks production clusters that assist machine learning workflow. Enterprise deployments show that 80% of big enterprise companies or organization depends on Linux distributions for AI development platforms, while the Linux OS market is expected to grow from $21.97 billion in 2024 to $99.69 billion by 2032. It's adaptability, stability and open-source nature make it standard for managing GPUs, containerized applications, Kubernetes and high-performance data centers, making it one of the world's leading operating systems.

High performance GPUs and AI framework technologies like PyTorch, TensorFlow, Hugging Face, Docker etc. are Linux-based, allowing for better integration and faster performance. Even when developers use Windows, they have to use WSL2 because the AI engine needs Linux to run effortlessly. Popular Linux versions for AI and ML such as REL AI, Ubuntu, Fedora AI and Rocky Linux, which offer optimized kernels, pre-installed GPU drivers (CUDA/ROCm) and long-term support (LTS).

Enterprise level acceptance of Linux for AI infrastructure shows clear distribution choices. Red Hat Enterprise Linux leads the way in enterprise AI servers with 43.1% market share, followed by 33.9% for general ML deployments.

Distribution	Market Share	Primary Use Case
Red Hat Enterprise Linux	43.1%	Enterprise AI servers
Ubuntu	33.9%	General ML Deployments
Debian	16.0%	Stability-focused environments
SUSE	11.2%	Manufacturing and retail

Table 1: Linux Distribution Market Share for AI Infrastructure. Credit: Author

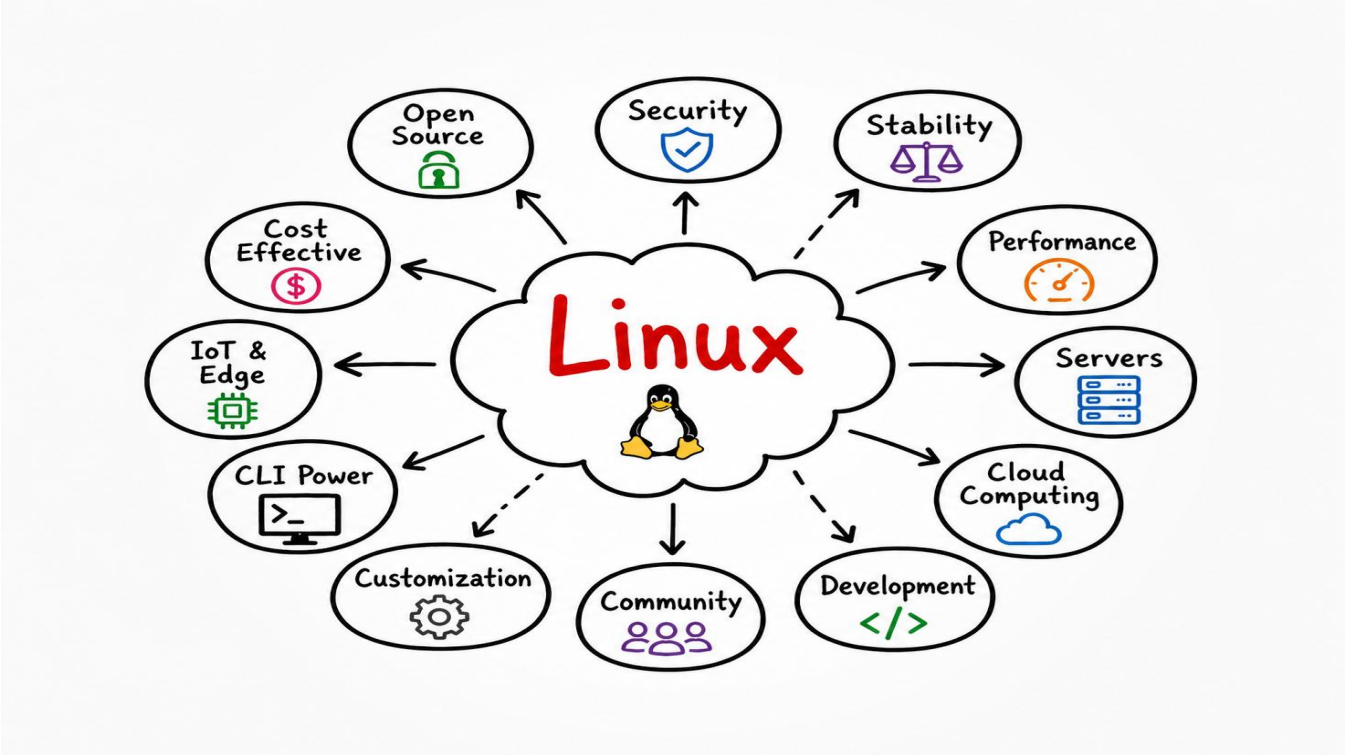

Figure 1: Linux Distribution Applications. Credit: Author

The "Edge Computing & IoT" Industrial Trend

The development of IoT and edge computing has made Linux the industry standard. While its adaptability and open-source nature make it ideal for developers, the universal adoption of Linux in smart cameras and medical devices has considerably increased the level of security attack.

Linux provides resources almost 70% of the world's IoT devices. Linux operating system provides consistent performance even in the most low-spec environments from industrial sensors to medical wearable.

In short, Linux is the backbone of Edge Computing and IoT devices making it versatile in daily routine life and make us managing devices easily. Linux is best choice for Edge Computing and IoT due to Its open-source nature, reliability and customization make it perfect for connected devices. Its reliable, efficient and innovative in IoT systems.

The "Cybersecurity & Sovereign Tech" Factor

As I mentioned earlier that Linux is an open-source operating system, customizable, adoptable and reliable operating system. Thus, this make it best choice for Cybersecurity professional so that they may change its source code according to their needs. So in short, the Linux is the foundational technology for both modern cybersecurity and the evolving digital sovereignty.

Linus security model provides a higher degree of isolation than many proprietary systems because it is built on a powerful authentication-based architecture. By applying the principle of restricted access, Linux reduces the prospects for system-wide, vulnerabilities making it a reliable choice for processing sensitive data. Modern distributions provide more features to protect these defenses with integrated security frameworks like SE-Linux, AppArmor and the iptables firewall.

One of the best thing about Linux is that you can script and automate almost anything with the help of command line interface (CLI). For security professionals, the CLI is not just a tool. It's an essential skill. It allows pen-testers and analysts to quickly use resources like grep, awk and sed to analyze logs, track system performance and find anything that looks different or doubtful.

For those who want to learn or make career in ethical hacking, penetration testing or digital forensics, learning Linux is essential. Its open-source nature and strong security functionalities make it the primary operating system for the field like these.

Fedora Linux Experience

It was time when I wanted to learn Ethical Hacking. Initially, I installed Kali Linux to learn basics things of Ethical Hacking but as a Software Engineering student, it became very difficult for me to focus on both paths at the same time, so I had to stop using Kali Linux. With the passage of time, I realized that Linux skill is essential for any developer, so I installed Fedora. It was a great experience learning about its open-source nature, cutting-edge technology, the GNOME desktop and most importantly command line interface (CLI).

I developed most of my software projects on Fedora but after a few months, I realized that I needed Windows for my university studies. So, I had to shift from Fedora to Windows. However, that didn't stop my journey to Linux. As Linux integration has improved, I installed WSL2 on my Windows machine to make Fedora like experience such as CLI and Linux like environment. In short, Linux is the best operating system for every modern technologies and developers unless you specifically need Windows services like Visual Studio 2026. Nowadays, the Linux operating system powers nearly all servers, website and cloud computing platforms.

Summary

In short, the Linux is not just an operating system but the foundation of modern technology. Its responsibility in various servers, cloud computing & IoT, mobile devices like Linux Kernel, AI infrastructure, cybersecurity and software development makes it essential in 2026. As technology advances, Linux will continue to be a foundation behind revolution and digital advancement.

About the Author

The author is a Software Engineering student with a passion for Linux, open-source technologies, ethical hacking, Generative AI and modern software development.

Keywords: Linux; Open Source; AI Infrastructure; Cybersecurity; IoT; Edge Computing; Pakistan Tech

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