

Why Choose to Use the BSDs in 2025

**OS
DAY
25**

Introduction

"I'm Stefano Marinelli, [I solve problems.](#)"

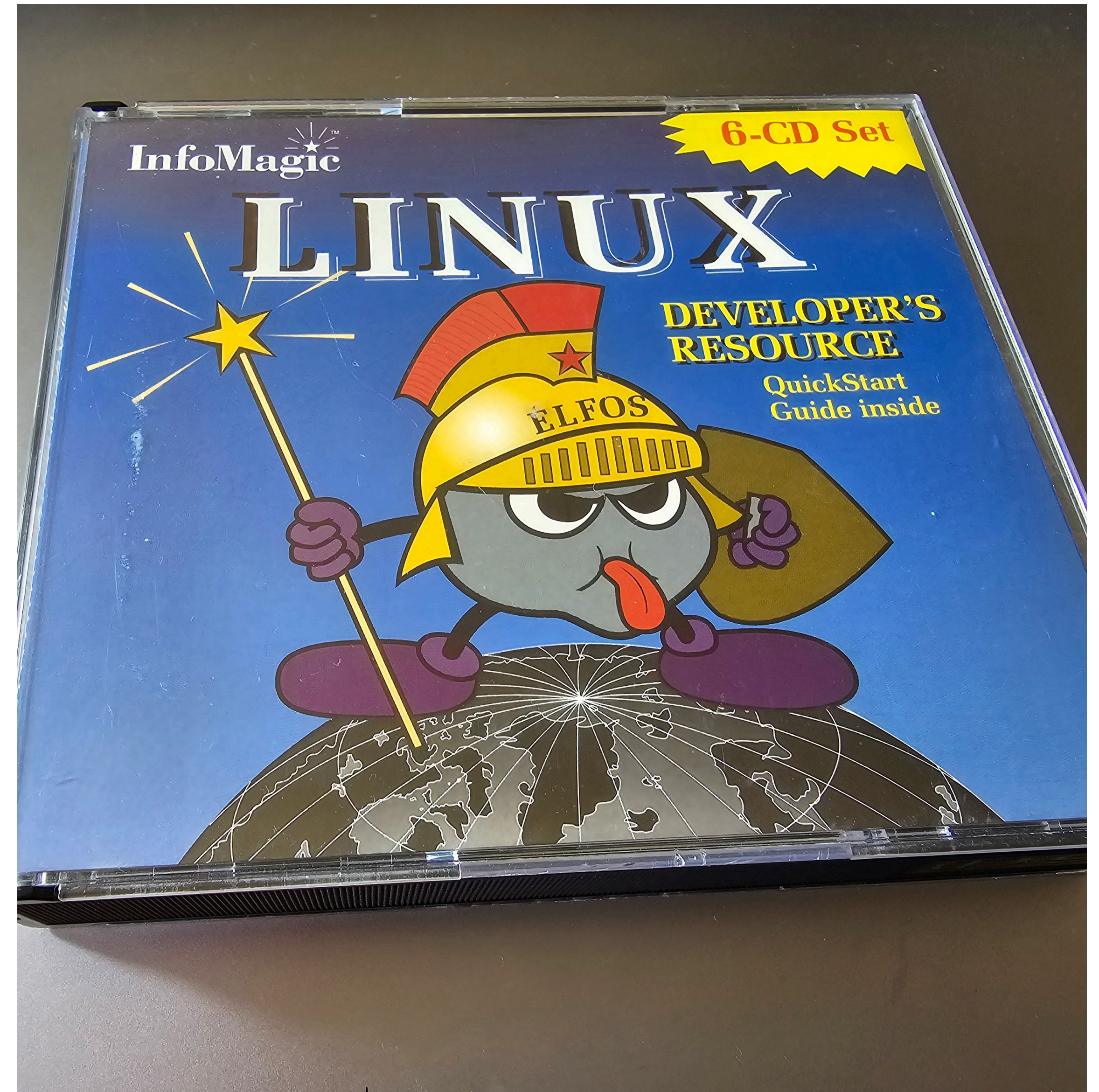
- Founder and Barista of the [BSD Cafe](#) - a virtual space where enthusiasts of BSD systems come together to share knowledge
- I work in my company, called [Prodottoinrete](#)—a container of ideas and solutions.
- Passionate about technology and computing
- Made my passion my profession



Stefano Marinelli - OSDay - Firenze, Italy - 21 March 2025

Early days

- Linux user since 1996, before turning 17
- Experimented with Linux distributions from CDs
- In 1997, Linux became my everyday system
- Started with the BSDs in 2002
- Open Source has opened up a universe (and a career!) to me, making me who I am today



The Evolution of Open Source

- 20-30 years ago: embracing Open Source meant thinking differently
- Open Source meant embracing freedom
- We won the war - Open Source is everywhere, but...
- Today: "Mainstream" Open Source creating monocultures
- Focus shifting from technologies to specific tools
- Innovation for novelty's sake, not problem-solving

Freedom in Open Source: Then & Now

- Open Source meant creating alternatives
- We chose Linux/BSDs when Windows and commercial Unix systems dominated
- Not because it was simple or free (as a free beer)
- But for freedom from impositions - technological and ideological

The Problem: Lost Value of Stability

- In a world dominated by cyber threats...
- Everything connected, complete technology dependence
- Yet stability is undervalued
- Continuity over time
- Upgradeability
- System visibility

The Hype Cycle Problem

- "New" prioritized over secure and stable
- "It will be fixed in the next version"
- "We need automatic restarts when it crashes"
- "Do we need software that crashes less? We have systemd and Kubernetes to restart crashed workloads!"
- "We need mooarr powaaaaaar!!!!"

Memory Safety Example

- A Rust program should be memory safe
- If it uses unsafe functions and segfaults...
- What advantage over mature C implementation?
- Stability matters more than the implementation language
- “Let’s add pieces to enhance security!”

Where Did That Freedom Go?

- Yes, Linux/Docker/Kubernetes are better than closed source solutions
- But when everyone uses the same tools...
- ...freedom dies
- We use them because "everyone does"
- The BSDs Alternative: "**Be free and evaluate alternatives. Always.**"

The Cost of Monoculture

- If we only used what everyone else used...
- No Linux or BSDs today - no LibreOffice, Nextcloud, etc.
- Just Windows variations and expensive Unix systems
- Bound by licenses and vendors
- Stuck with closed solutions

BSD History

- The original BSD started in 1970s (before Linux was conceived)
- Minix was created as an educational OS because it was believed that BSD, mature and professional, would be the Open Source OS that would dominate the market
- Legal case stalled development and scared adopters
- In 1993, NetBSD and FreeBSD emerged
- OpenBSD forked from NetBSD later - then DragonflyBSD from FreeBSD
- “If 386BSD had been available when I started on Linux, **Linux would probably never had happened.**” - **Linus Torvalds** in 1993

BSD Philosophy

- Kernel and userland developed by same teams
- Consistency in tools and updates
- Excellent documentation - especially OpenBSD: insufficient docs = bug
- Man pages contain virtually everything
- **Evolution, not Revolution**

FreeBSD

- Generalist system
- Stability and performance focused - **HardenedBSD** is a security-enhanced fork
- Native ZFS, Boot Environments, complete separation between OS and packages
- Container support via jails since 2000 - predates Linux cgroups by a decade!
- bhyve virtualization (more efficient than KVM)
- OPNsense and pfSense are based on FreeBSD - as pf is a powerful firewall
- Used by Netflix for streaming video delivery
- Foundation for PlayStation consoles
- MacOS, iOS, etc. contain some FreeBSD code

OpenBSD

- Focus: security and code correctness
- Code constantly audited and simplified - less is more
- "The more complex the code, the less maintainable"
- Security mechanisms like `pledge()` and `unveil()`
- OpenSSH (and many other nice things) originated and developed here
- Development driven by team priorities, not user requests
- Ideal for: routers, firewalls, security-critical systems

NetBSD

- **"Of course it runs NetBSD!"**
- Focus: correctness, portability, proper implementation
- Supports 50+ architectures
- Development centered on compatibility
- Code quality by necessity
- Must function on decades-old hardware
- Ideal for systems that require stability without the need for continuous updates like embedded devices, etc.

Real-World Benefits I've Experienced

- Better stability and security
- Simplifies administration - upgrades won't destroy your system
- [Less vulnerable to common attacks](#) - "We don't need this patch, you're running OpenBSD and it's been fixed 20 years ago"
- ix0 will remain ix0 - no renaming from **enx3e3300c9e14e** to **enp10s0f0np0**
- FreeBSD: Lower system load compared to Linux
- FreeBSD: [Better I/O handling under pressure - same hardware, 70% time reduction](#)
- FreeBSD: Improved end-user experience/responsiveness
- NetBSD: "Don't worry - your platform will be supported for the foreseeable future"

Why Choose BSD in 2025?

- Security in an increasingly hostile environment
- Stability in a world obsessed with novelty
- Performance without unnecessary complexity
- Freedom from the mainstream monoculture
- Systems designed with coherent philosophy
- Don't be afraid to try BSD systems - despite Beastie, they don't hurt and you'll appreciate them!

THANK YOU!

See you at [BSD Cafe!](#)

