



The State of Enterprise Linux

2024

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What we'll discuss today

- ▶ Why Would You Care?
- ▶ Quick Background
- ▶ State of Enterprise Linux 2023
- ▶ Conclusions

Why Would You Care?

Why Would You Care About The State of Enterprise Linux?

This talk might appeal to you if...

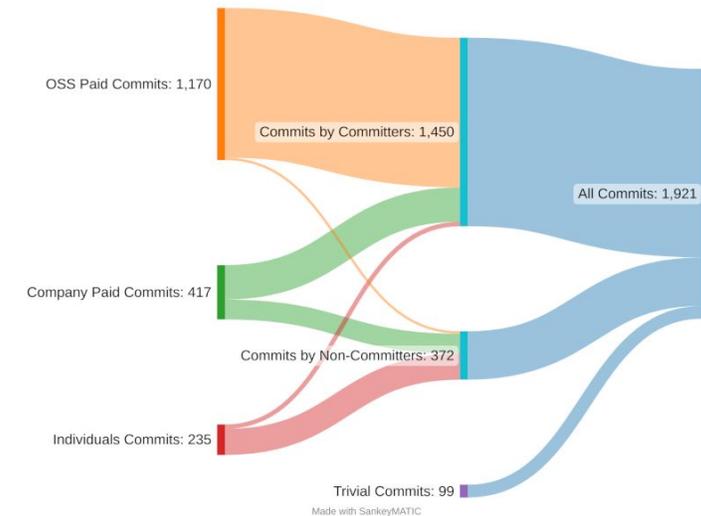
- ▶ You deeply care about **open source** like I have for the last 25 years
- ▶ Given all of the recent changes with CentOS, you believe that there is some sort of **conspiracy!** (I assure you there is not)
- ▶ You have strong opinions about how **commercial interests** play out with open source
- ▶ You are curious about what **customers say** to the people driving the roadmap for Red Hat Enterprise Linux
- ▶ You believe there are **headwinds for open** source, especially when it comes to AI/ML models, weights, and APIs
- ▶ You have a tiny **bit of optimism** in you and believe in positivity



Hi! It's me Scott!
I believe in the power of
community-driven
open source!

An Example of Why You Should Care!

"87% of the non-trivial commits to OpenSSL in the last 12 months were from 56 people paid by their employer to work on OpenSSL."



Quick Background

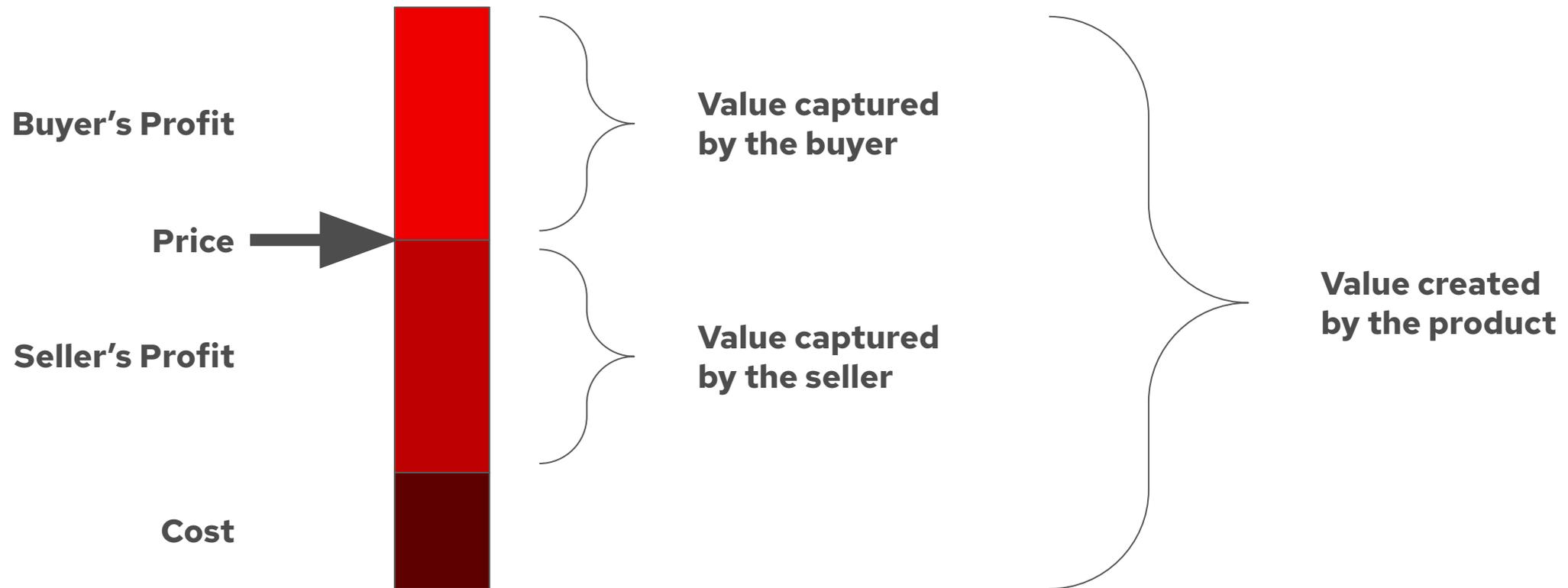
Some Quick Definitions

Agreeing on nomenclature is key to a productive discussion

- ▶ **Enterprise Software** is designed to meet the needs of large organizations or enterprises such as businesses, and governments rather than individuals. People don't use things like SAP for fun at their house
- ▶ **Ecosystem** has a specific meaning to Red Hat and refers to partners who build software *on* RHEL or hardware vendors that work *with* RHEL
- ▶ **Landscape** is the word I will use refer collectively to projects like Red Hat Enterprise Linux, CentOS Stream, Fedora, and rebuilds
- ▶ **Enterprise Linux** is a category of Linux operating systems that are specifically designed and optimized to meet the requirements of large-scale organizations and businesses.
 - Colloquially refers to Red Hat Enterprise Linux, rebuilds, and sometimes even the upstreams like CentOS Stream and Fedora
 - will not cover Suse *Linux Enterprise*
 - Example: RHEL Workstation attempts to solve problems for organizations, not individuals per se

The Fundamentals of Value Creation

This is how product managers think about products and services



Value Creation with Open Source

This is how product managers *ought to* think about products and services

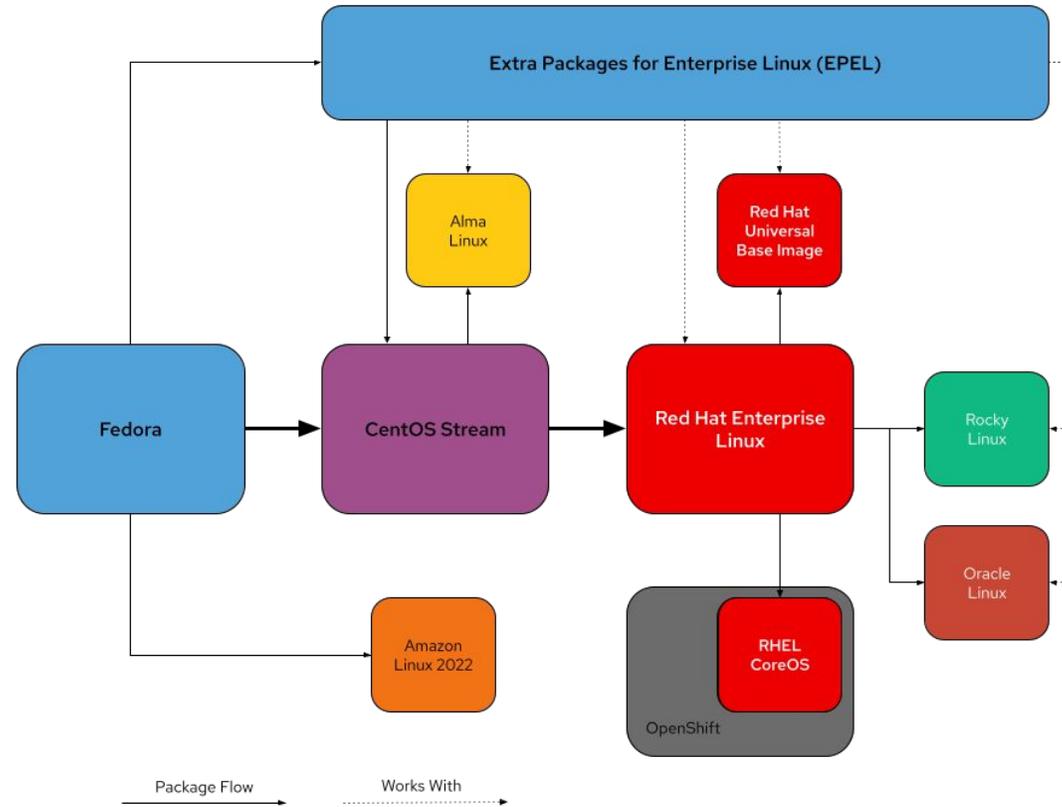


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State of Enterprise Linux 2023

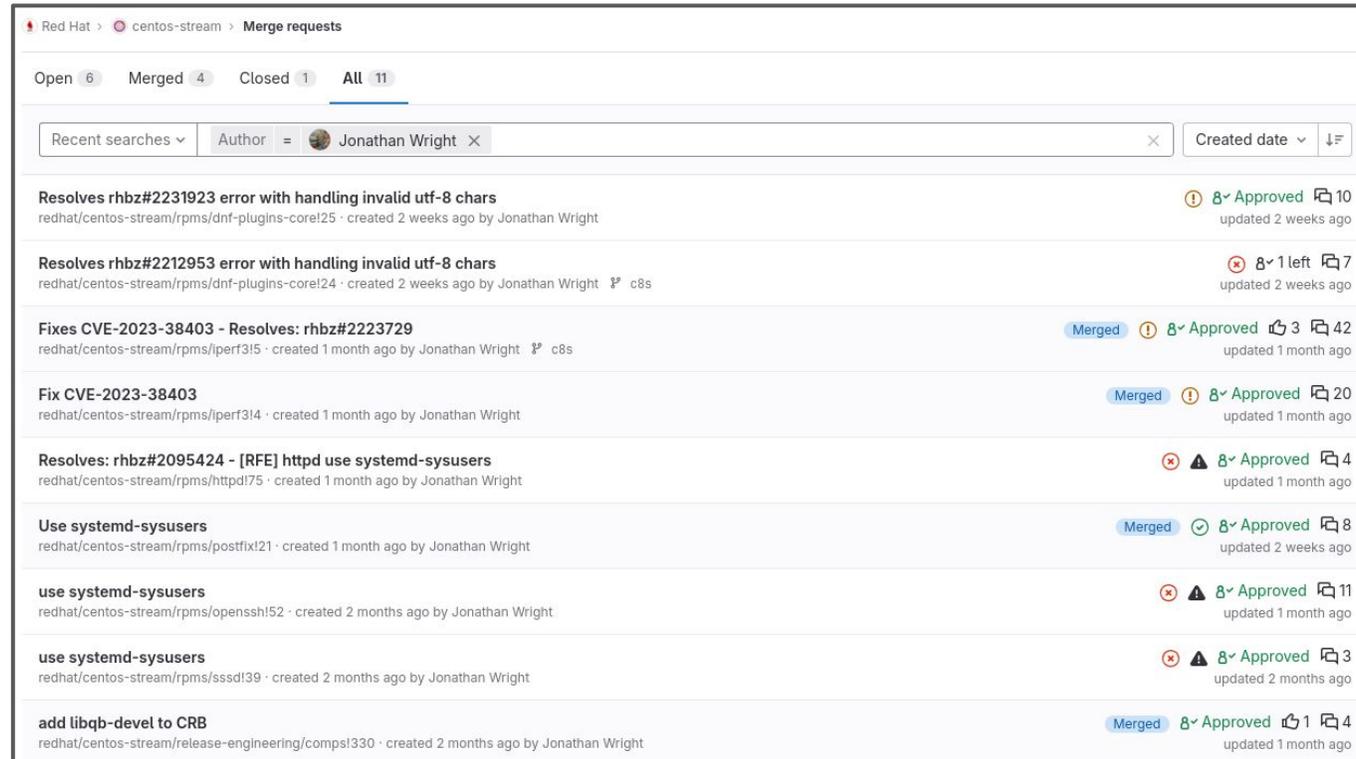
Overview of the Enterprise Linux Landscape (Late 2023)

This includes the consumers



Let's Celebrate a Little

Focus on the positive



The screenshot shows a Red Hat Merge requests page for the user Jonathan Wright. The page is titled "Merge requests" and shows a list of 11 requests, with 6 open, 4 merged, and 1 closed. The requests are filtered by author "Jonathan Wright". The list includes:

- Resolves rhbz#2231923 error with handling invalid utf-8 chars** (redhat/centos-stream/rpms/dnf-plugins-core!25) - 8 Approved, 10 updated 2 weeks ago
- Resolves rhbz#2212953 error with handling invalid utf-8 chars** (redhat/centos-stream/rpms/dnf-plugins-core!24) - 8 1 left, 7 updated 2 weeks ago
- Fixes CVE-2023-38403 - Resolves: rhbz#2223729** (redhat/centos-stream/rpms/iperf3!5) - Merged, 8 Approved, 3 42 updated 1 month ago
- Fix CVE-2023-38403** (redhat/centos-stream/rpms/iperf3!4) - Merged, 8 Approved, 20 updated 1 month ago
- Resolves: rhbz#2095424 - [RFE] httpd use systemd-sysusers** (redhat/centos-stream/rpms/httpd!75) - 8 Approved, 4 updated 1 month ago
- Use systemd-sysusers** (redhat/centos-stream/rpms/postfix!21) - Merged, 8 Approved, 8 updated 2 weeks ago
- use systemd-sysusers** (redhat/centos-stream/rpms/openssh!52) - 8 Approved, 11 updated 1 month ago
- use systemd-sysusers** (redhat/centos-stream/rpms/sss!39) - 8 Approved, 3 updated 2 months ago
- add libqb-devel to CRB** (redhat/centos-stream/release-engineering/comps!330) - Merged, 8 Approved, 1 4 updated 1 month ago

Critical Needs in The Enterprise Landscape

These are the new things

1. The **too fast or too slow** problem
2. The **how do I know?** problem
3. The **I need more** problem
4. The **AI as a mission critical workload** problem



The too fast or too slow **problem**



The Too Fast or Too Slow Problem

It's similar to Solzhenitsyn...

“If only there were evil people somewhere insidiously committing evil deeds, and it were necessary only to separate them from the rest of us and destroy them. But the line dividing good and evil cuts through the heart of every human being. And who is willing to destroy a piece of his own heart?”

- Aleksandr Solzhenitsyn



The Too Fast or Too Slow Problem

Let's take a stab at changing it...

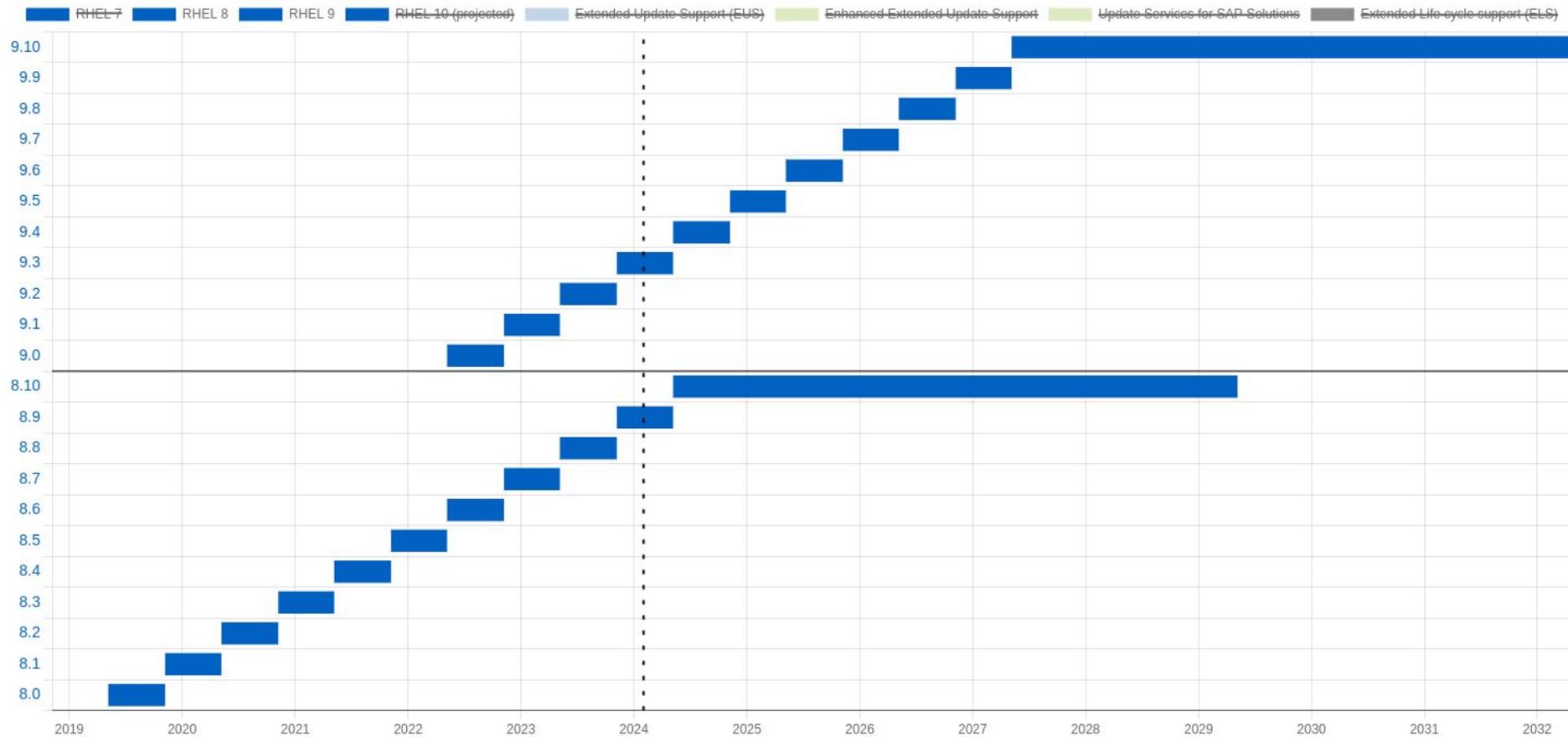
“If only there were slow moving organizations somewhere insidiously committing slow deeds, and it were necessary only to separate them from the rest of us and destroy them. But the line dividing fast and slow cuts through the heart of every programmer, sysadmin and architect. And who is willing to destroy a piece of his own heart?”

- Scott McCarty at FOSDEM :-)



Demo: The Too Fast or Too Slow Problem

TTFOTSP



The how do I know? problem

The **how do I know?** problem

Not at all like Solzhenitsyn... :-)

“We have a very mature system for rolling out production updates. We can even roll back, by wiping a server and provisioning a server from scratch. Our automation is very mature. The problem is planning... we use the brain cycles of a lot of very smart people to do planning”

- Synthesized Red Hat Customer



The how do I know? problem

The screenshot shows the Red Hat Hybrid Cloud Console interface. The top navigation bar includes the Red Hat logo, 'Red Hat Hybrid Cloud Console', a search bar, and user information for Scott McCarty. The left sidebar shows the navigation menu with 'Images' selected. The main content area is titled 'Image output' and contains a step-by-step process: 1. Image output, 2. Register, 3. File system configuration, 4. Content, 5. Details, and 6. Review. The 'Image output' step is expanded, showing options for 'Release' (Red Hat Enterprise Linux (RHEL) 8) and 'Architecture' (x86_64). A 'Release lifecycle' chart displays support periods for RHEL 8 and RHEL 9 from 2019 to 2033. The chart shows 'Full support' (dark blue) and 'Maintenance support' (light blue) for each release. A vertical dashed line indicates the current date is around 2024. Below the chart is a link to 'View Red Hat Enterprise Linux Life Cycle dates'. At the bottom of the page, there are 'Next', 'Back', and 'Cancel' buttons, and a 'Feedback' button.

The I need more problem

The **I need more** problem

It's all about the workload

“Since the time of Sun Tzu, long before Open Source, I have been waiting for Red Hat to bless Extra Packages for Enterprise Linux (EPEL) and make it easier for me to deploy new workloads, or upgrade existing workloads to new, unknown versions.”

- Synthesized Red Hat Customer



The AI as a mission critical workload **problem**

Really, this is the “how do I
prepare my development
paradigm for a
hybrid-cloud environment”
problem.



The AI as a mission critical workload problem

It's really a hybrid-cloud problem

“I have an inner-loop of development where I need an OS and hardware acceleration, a training cluster, and a production environment. I need them all to be similar or the same to be secure, function the same for efficiency, and reduce risks”

- Synthesized Red Hat Customer



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Conclusions

Pulling it all together

Technology and politics are changing quickly



We're all still learning

For a long time, we kinda thought open source was "done" but it's not.



Try to Be Kind & Humble

It's easy to armchair quarterback, to tiptoe into conspiracy theories. If you feel angry and confident, that's a warning sign.



Open Source is Under Threat

Large swaths of the world are reevaluating if open source still works. Commercial interests pay for a significant portion of the development, so this is a threat.

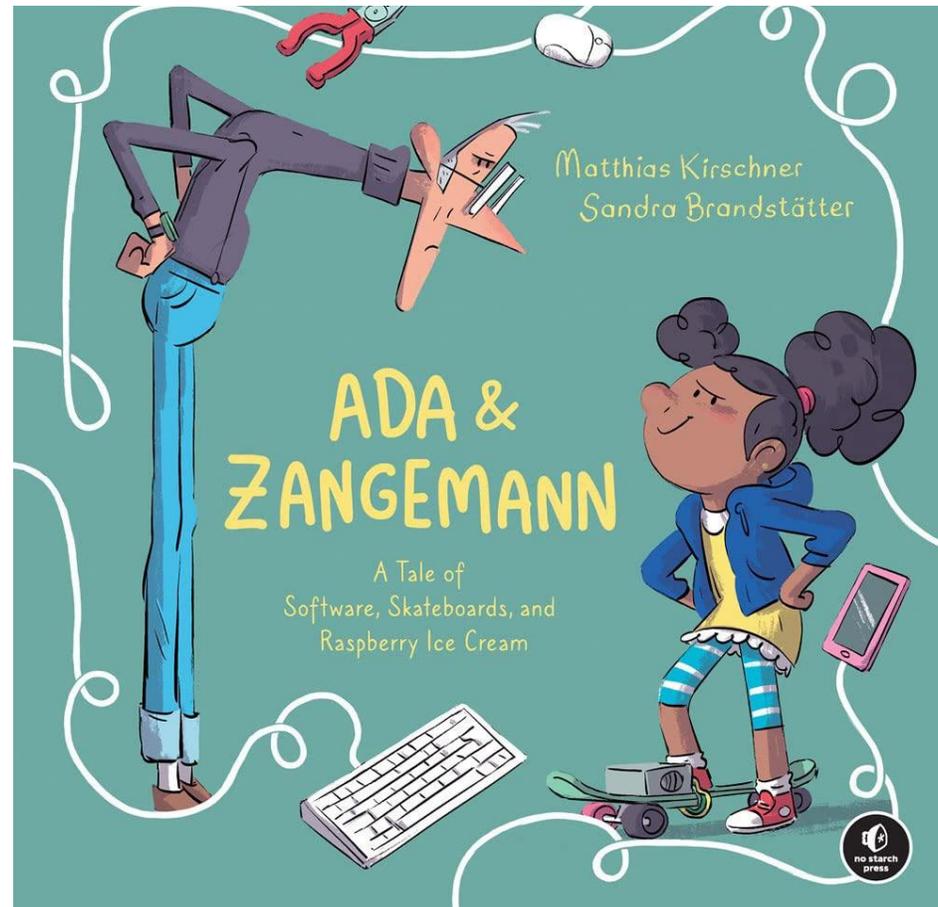


It's Exciting Again

There are periods where things seem to become boring, and other times when they're quite interesting again. We're in a phase where things are interesting again.

Software Freedom is Important

Check out Ada & Zangemann



Thank you

Red Hat is the world's leading provider of enterprise open source software solutions. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500.

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More Information

Citations

- [The State of Enterprise Linux 2023](#) - Ohio Linux Fest
- [What is \[Red Hat\] Image Builder](#) - redhat.com