



Lessons from Two Decades of Hacking Proprietary Value into Open Source Databases

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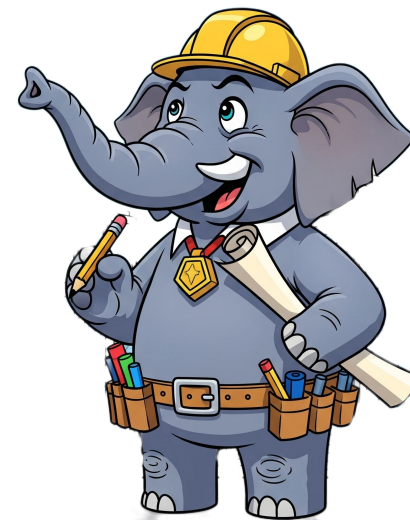
Who am I?



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2006



2015



2018



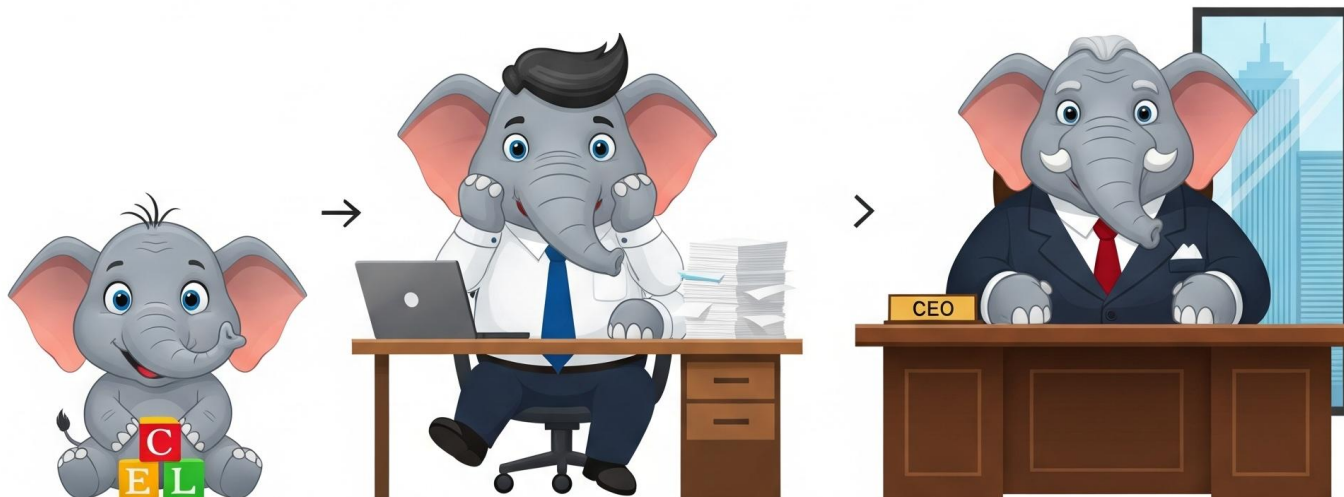
2024



Warning



Slonik has grown up



Proprietary Value

- High Availability
- Additional scalability
- External Authentication
- Advanced Backups
- Encryption
- FIPS compliance
- (...)

Hacking proprietary Value into Open Source



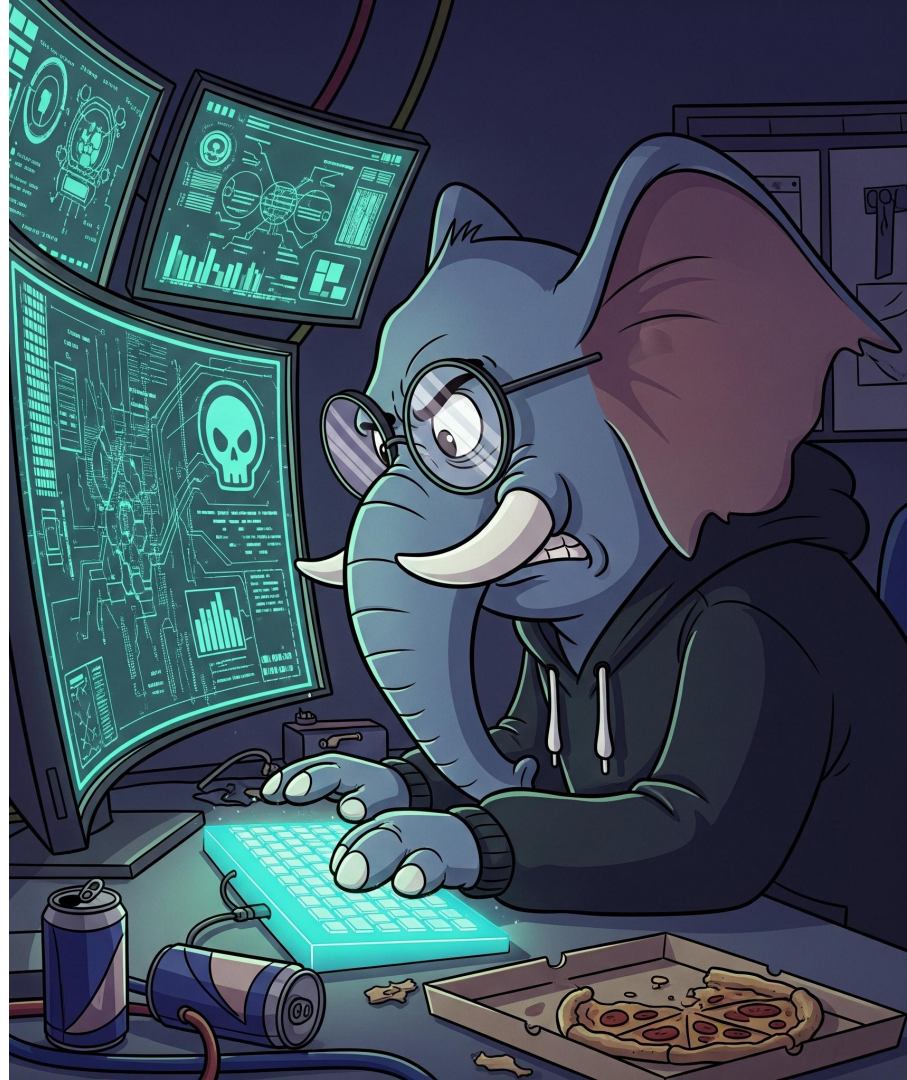
PERCONA
for MySQL



PERCONA
for PostgreSQL



PERCONA
for MongoDB

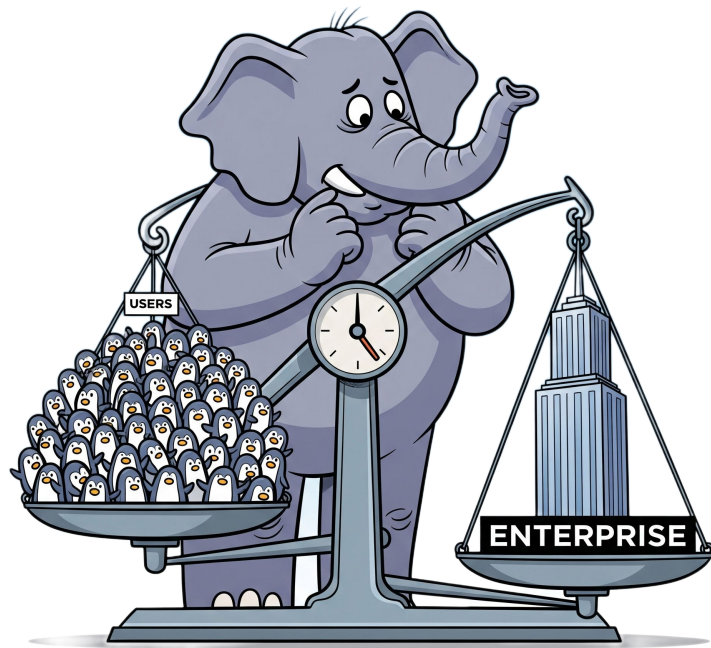


Lesson 1:

Look at the weight, not only quantity

How to measure importance?

- Measuring upvotes is not enough
- Different users carry different weight
- Complexity maybe high



Product Team to the rescue

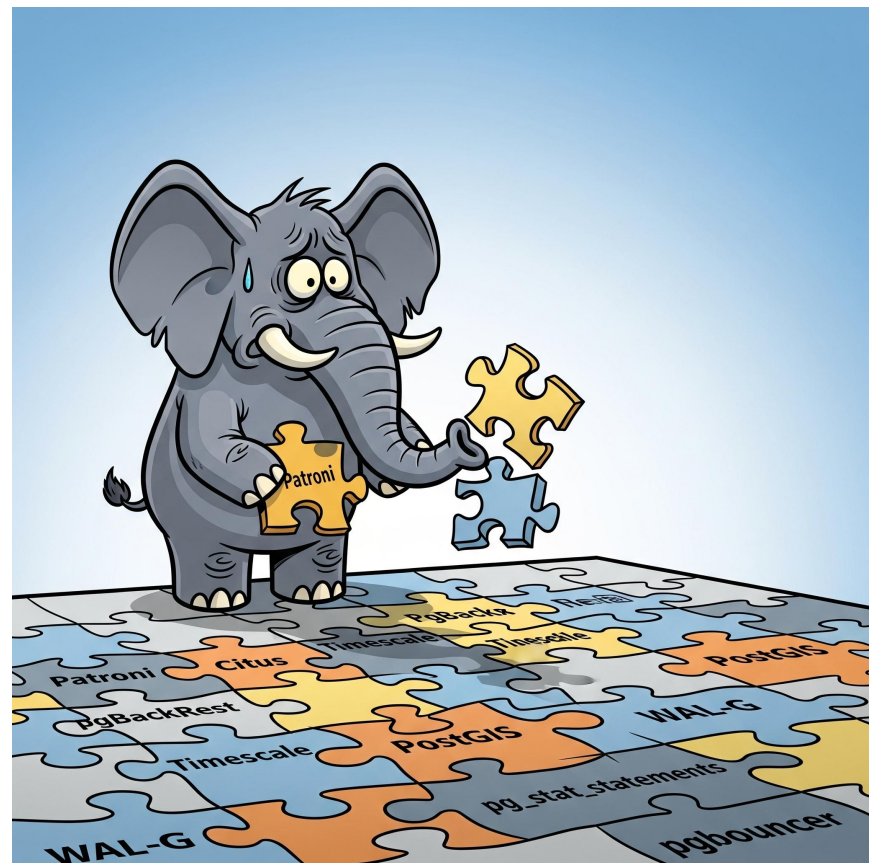
- Product Team is a missing puzzle between devs and end-users
- Cross-functional collaboration is essential
- Product Team advocates for certain changes in the broader community



2. The challenge of fragmentation

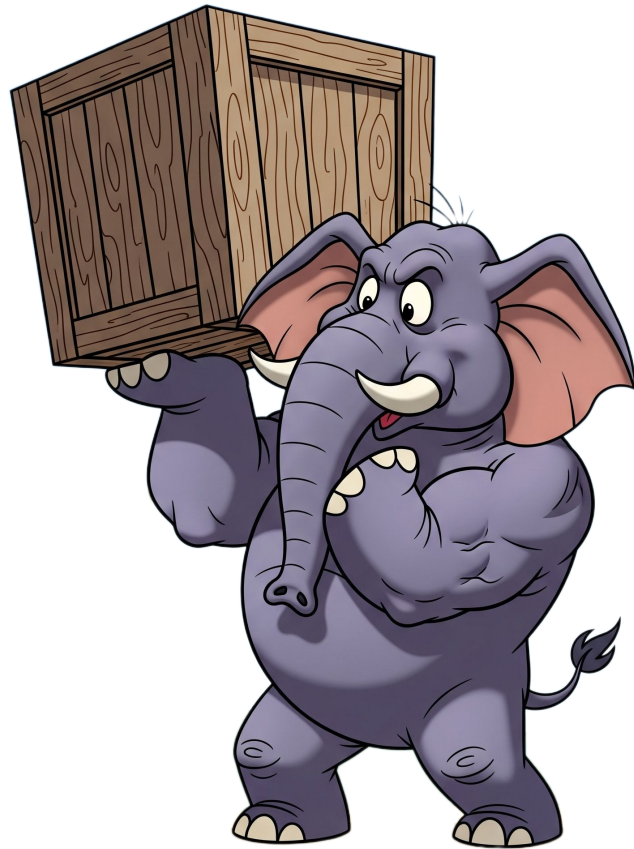
Good and bad at the same time

- Variety and rich ecosystems makes projects strong
- Many (cloud) vendors innovating separately provide extra options
- The number of options may get out of control
- Bottom up adoption creates challenges for growth



Distributions are the answer?

- Set of tools and extensions
- Distributed from a single source
- Tested and packaged together



3. (Many) enterprises don't contribute to OSS

Many enterprises don't contribute

- Reasons:
 - Lack of understanding and awareness
 - Legal concerns
- Ways to engage them more:
 - Contribution is not only code.
 - Dedicated organizations gathering enterprises from different verticals



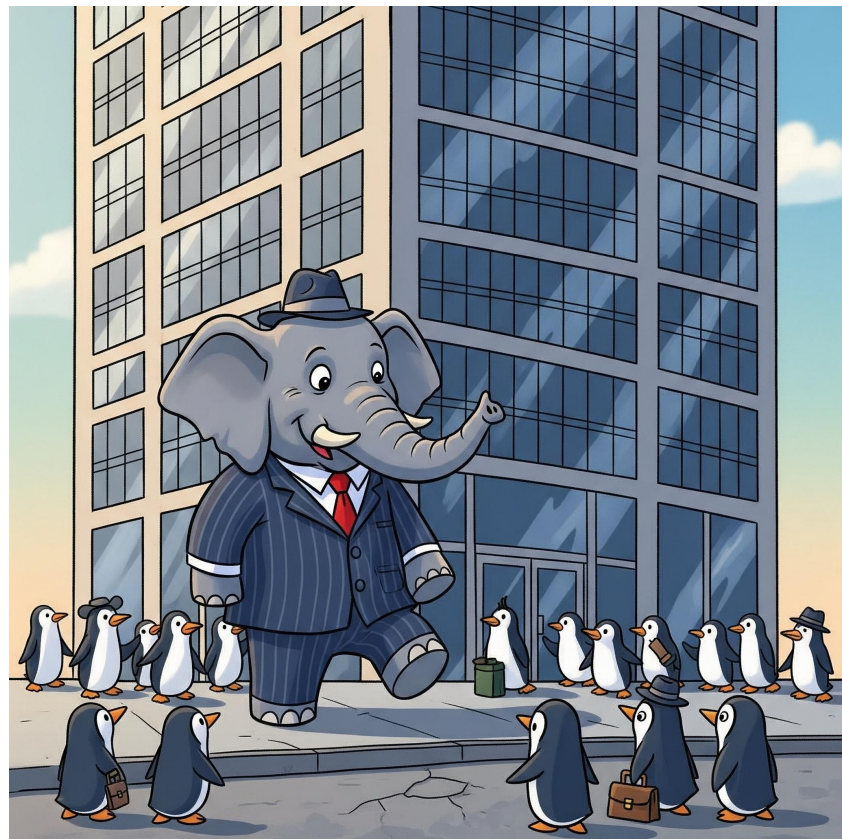


Fintech Open Source Foundation

<https://www.finos.org/>

Counter-examples

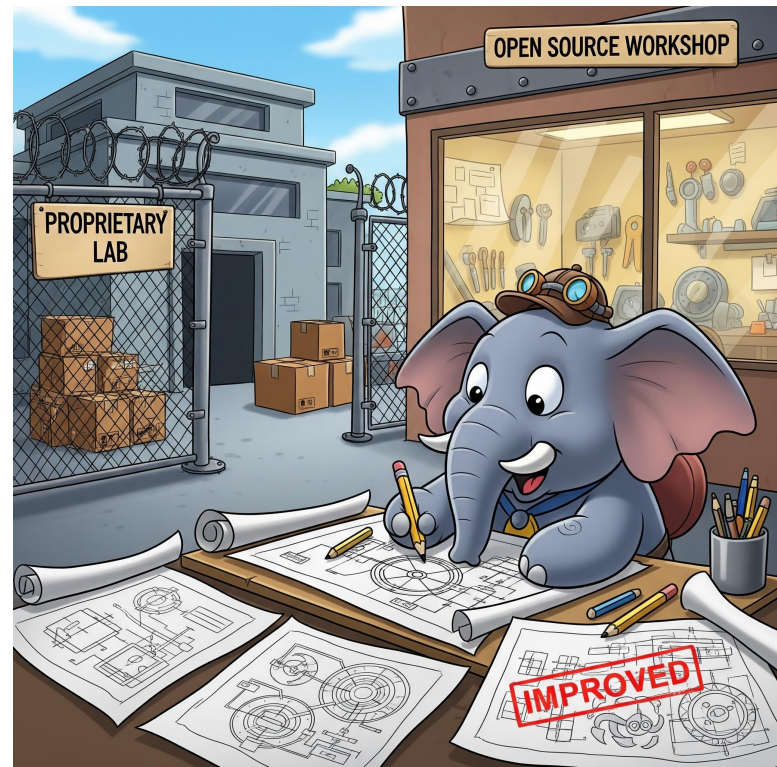
- Zalando
- NTT Group
- Booking.com
- Meta (Facebook)
- AWS
- Microsoft
- Many more!



4. Getting inspiration from proprietary solutions

What's in proprietary? Should it be in OSS?

- Things are behind the paywall for a reason
- There are also certain expectations when moving from such solutions
- Why not to implement it as open?



At Percona, we bring such functionalities to Open Source for years, through:

- Providing patches upstream
- Creating tools and extensions
- Bringing it to our own forks

Examples:

- MySQL Thread Pool
- MongoDB LDAP Authentication
- PostgreSQL Transparent Data Encryption

5. Pace of the adoption

Adoption (and upgrades) are slow

- Version = Latest Major - 1
- Beta testing is limited
- Feedback loops are long



6. Little gaps

Little gaps

- Little gaps may become blockers
- Hacking unsupported solutions is not an option
- Example: OIDC Connect



7. The non-negotiables

Enterprise features

Authentication

LDAP/OIDC/Kerberos/X509/IAM

Low RPO and RTO

Physical, Incremental,
Snapshots, PITR

High availability

Clustering, automated failover,
multi-master replication



Observability

Monitoring, alerting

Security

Encryption in-transit, at-rest,
Auditing, log redaction

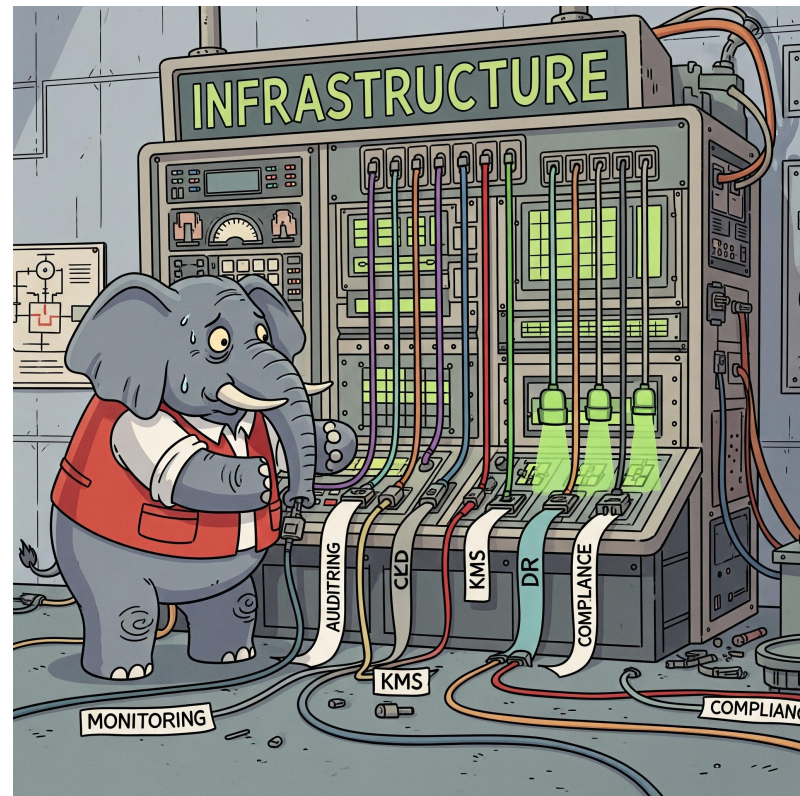
Scalability

Replication, sharding

8. Integrations

Inertia of enterprise infrastructure

- Authentication systems and methods
- Backup storage
- Operating system versions and types
- Observability stack
- Logging solutions
- Auditing tools
- Legacy application drivers
- Certifications!



9. How long can you support it?

Why to upgrade a stable solution?

- Incompatible, legacy dependencies
- “This project will be shut down in 5 years”
- We have other priorities at the moment



Kubernetes release cycle

- K8s: N-2 policy (3 versions)
- Total: 14 months
- Do you want to run databases that way?



Summary

Summary

1. Look at the weight, not only quantity
2. Fragmentation is a challenge
3. (Many) enterprises don't contribute to OSS
4. Proprietary solutions are viable inspiration
5. Pace of the adoption is a challenge
6. Little gaps matter
7. Some features are non-negotiable
8. Integrations and certification matter
9. The EOL date too!



The important role of a Sustainable Open Source Vendor



Thank you!

Any questions?

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