

The PostgreSQL Open Source Development Process

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This explores the Postgres open source development process and developer motivations.

<https://momjian.us/presentations>



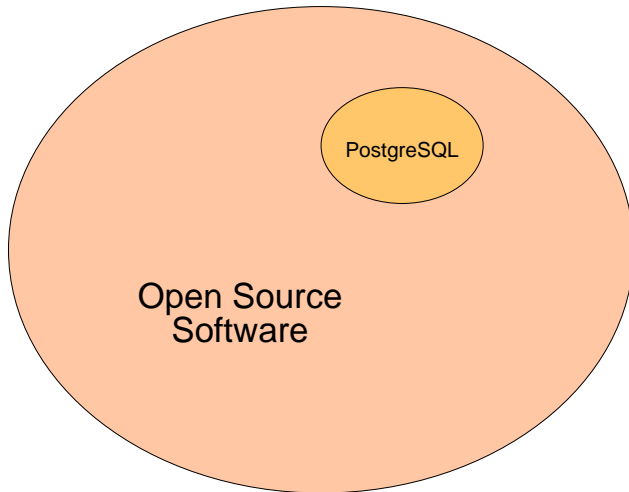
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Introduction

- How is open source development different from closed source?
- What is the pattern of PostgreSQL adoption?
- What does the future hold for PostgreSQL?

Open Source World



Revolutionary Change in Software Development: Challenging Totalitarianism

- Central control
- Few choices
- Limited feedback from population

Bringing Democracy to Software Development

- Distributed control
- Many choices
- Driven by feedback from population

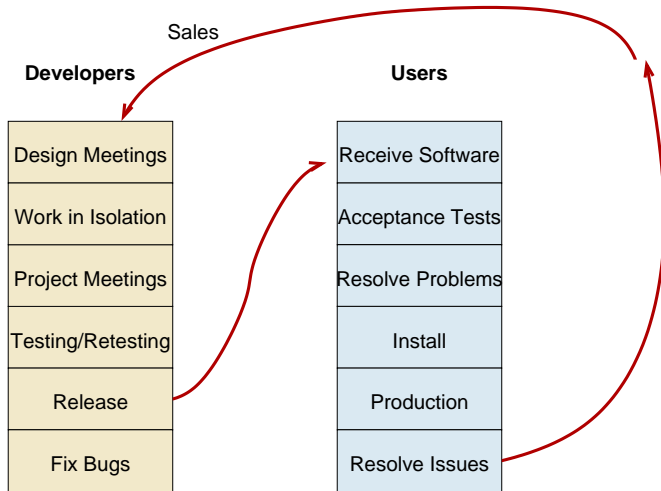
Proprietary Software Development

- Put everyone in a room
- Discuss new features and how to implement them
- Everyone goes back to their office
- More meetings
- Testing
- Release
- Gather user bug reports
- Repeat

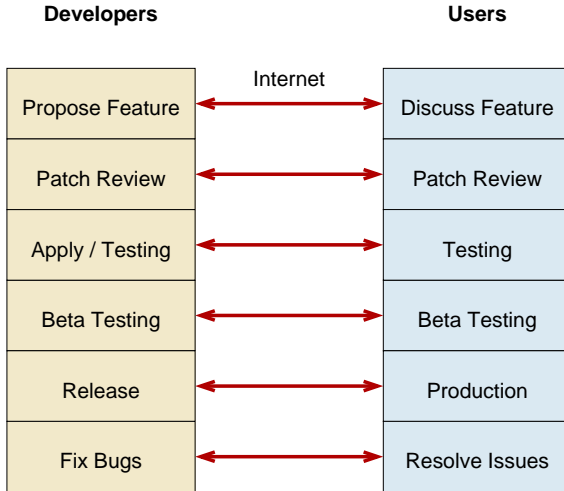
Open Source Development

- Discuss via email, with access to a world-wide pool of talent
- New features discussed over several days by developers and users
- Coding
- Patch review
- Patch application and testing
- User testing
- Release

Proprietary Software Development



Open Source Development



Typical Proprietary Database Product Life Cycle

- Create product
- Grow customer base
- Reduce development budget
- Decrease technical support costs
- Increase license fees
- Maximize revenue
- Customers leave
- End-of-life product

All possible because of high switching costs.

Typical Open Source Life Cycle

- Create project
- Developers create initial software
- Users and developers improve the software
- No development budget
- No technical support costs
- No license fees
- No maximizing of revenue
- No customers leaving!
- No end-of-life

PostgreSQL Is Completely Open Development

- No controlling company or individual
- Active multi-company and volunteer community
- Open development process
- Leadership encourages new members

Users

General Replication After manual Failover
Other Re: struggling with GRANT while upgrading from 13 to 16
Announce Postgres Ibiza 2024

Developers

Hackers Re: Patch bug: Fix jsonpath .* on Arrays
Commit Re: Skip some permissions checks on Cygwin
Versions Stable: 16.3+, 15.7+, 14.12+, 13.15+, 12.19+ | Development: 17 beta1+

External

Blogs Gabriele Bartolini: Kubernetes Just Turned Ten: Where Does PostgreSQL Stand?
News Postgres Ibiza 2024
Media Crunchy Data Postgres 16 Security Technical Implementation Guide Released by DISA - Yahoo Finance
Events Swiss PGDay 2024

IRC (also Slack)

Isotopp: (I have at a time looked a lot at disk activity of systems using mysql using blktrace and workload analytics – the tool does no longer exist, unfortunately, <https://blog.koehntopp.info/2021/02/25/mysql-from-below.html>)

Guest8689: loved this discussion guys although I read some of it yesterday but the insights here add a better perspective to my knowledge

Guest8689: so do you have any suggestionst/opinion before I start using the mailing list?

Isotopp: Guest8689: I moved the non-pg discussion to the other channel

Isotopp: that is, libera/#postgresql-lounge

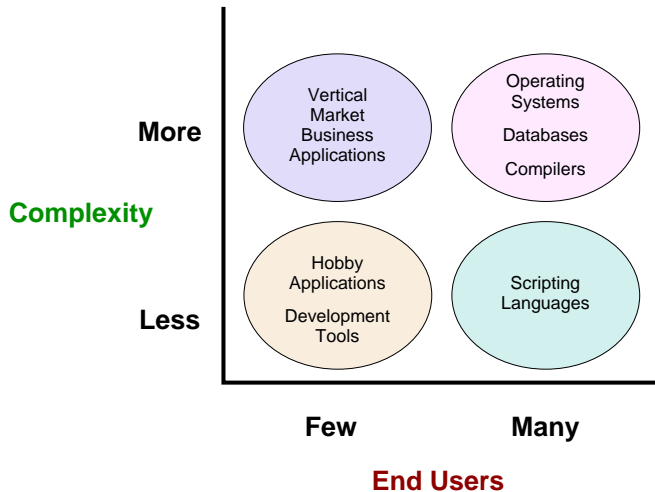
Isotopp: to keep the airwaves free for support here.

Guest8689: thanks a lot!

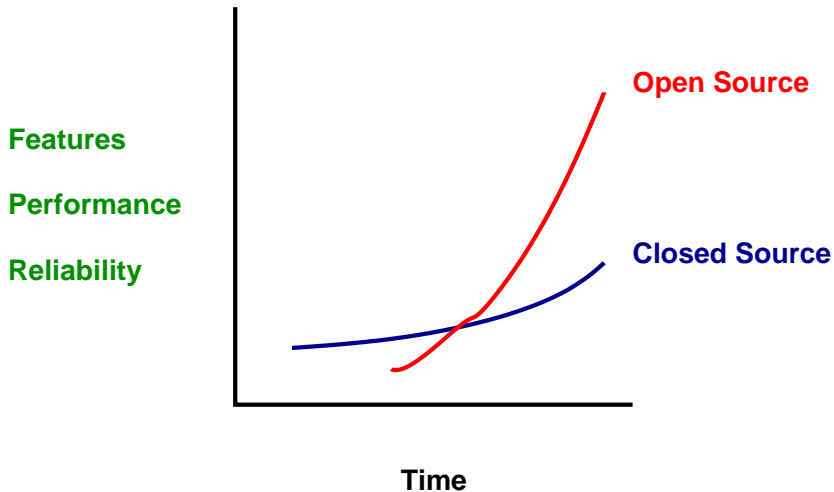
Guest8689: exit

London 18:53 Berlin 19:53 Moscow 20:53 Mumbai 23:23 Beijing 01:53 Tokyo 02:53 Los Angeles 10:53 New York 13:53 São Paulo 14:53
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Open Source Software Availability



Is It As Good As Proprietary Software?



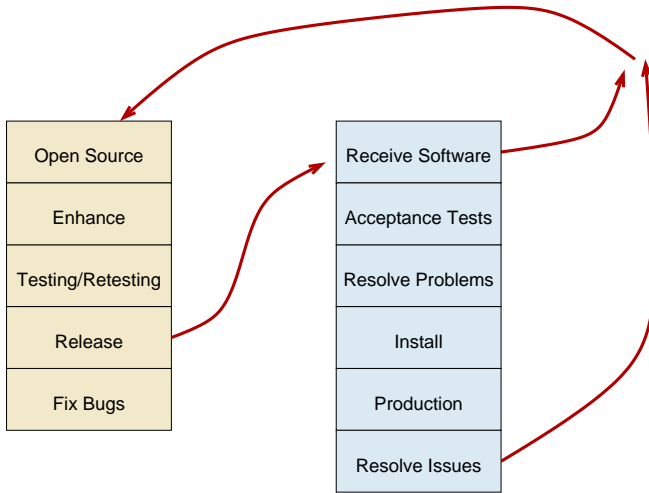
Problems With Open Source (and Democracy)

- Requires effort to stay informed
- Requires effort to receive assistance
- Database changes more rapidly
- More self-help

Businesses Supporting Open Source Users

- Customization
- Technical support
- Packaged releases
- Add-on software
- Training
- Localized

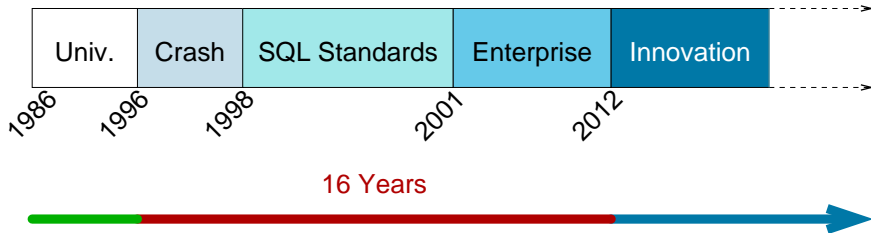
Hybrid Development



Licensing

- BSD license, limitation of liability
- Not GPL, which requires unrestricted source distribution

PostgreSQL Evolution



Innovation includes:

- Application-specific data types, e.g., JSON, PostGIS, range types
- Advanced index types, e.g., GIN, SP-GiST
- Single and multi-node scalability

Our Developers

Why is programming fun?

- Joy of making things
- Joy of making useful things
- Fun of a complex puzzle
- Joy of learning
- Tractable medium

Concepts derived from *The Mythical Man-Month* by Frederick P. Brooks, Jr.

Open Source Motivations

- Professional advancement, learn new skills
- Practical need for the software
- Mental stimulation
- Belief in open source

Concepts derived from a survey conducted by OSDN and reported in “Open source a needed outlet for programming pros”, *The Register*, May 2, 2002, <http://www.theregister.co.uk/content/4/23935.html>. For a developer survey, see <https://www.techrepublic.com/article/what-makes-developers-happy-contributing-to-open-source/> and <https://opensource.com/article/21/4/motivates-open-source-contributors>.

PostgreSQL Motivations

- Professional advancement, learn new skills
- Practical need for the software
 - *Business needs the enhancement*
 - *Business wants PostgreSQL to thrive*
- Mental Stimulation
- Belief in open source

Extreme Case

*It was cheaper
to pay to add missing features
to PostgreSQL
than to buy Oracle.*

Questions



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