

PostgreSQL Adoption and Trends

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This explores the current state of PostgreSQL, open source adoption, and trends for the future.

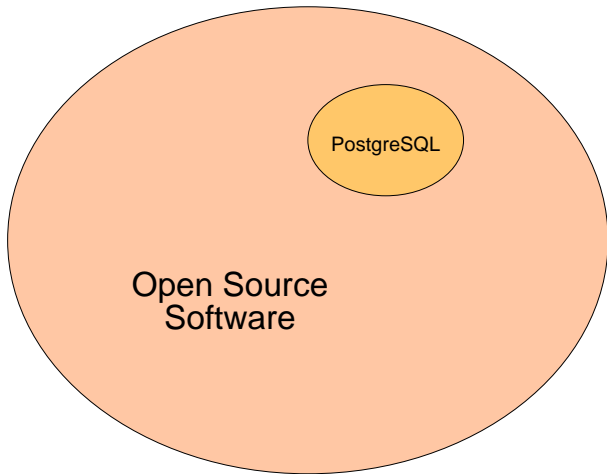
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Introduction

- ▶ 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

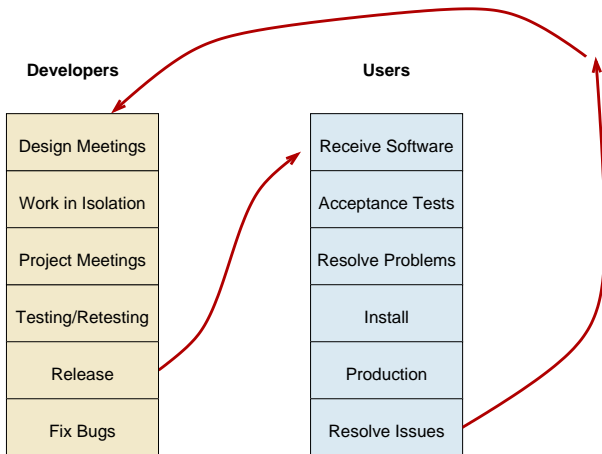
Proprietary Software Development

- ▶ 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

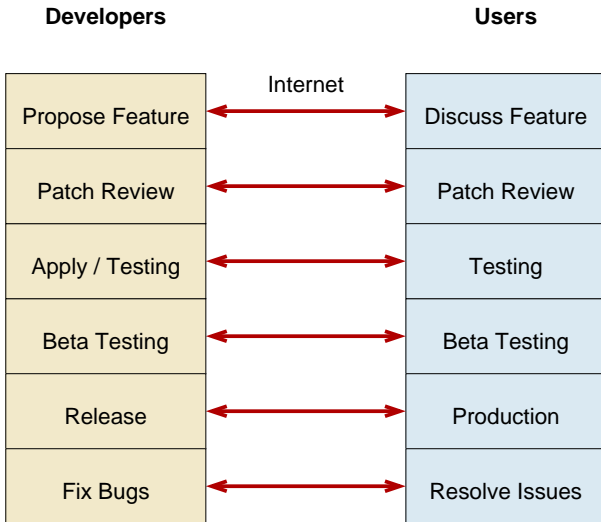
Open Source Development

- ▶ 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

Uniqueness of PostgreSQL as an Open Source Project

- ▶ Linux - no single gatekeeper, project is usable without enhancement
- ▶ Mozilla - no company history like AOL/Netscape
- ▶ Open Office - no controlling company like Sun
- ▶ Gnome - no controlling companies
- ▶ PHP - no Zend steering development
- ▶ Sendmail - no control by Sendmail, Inc.
- ▶ MySQL - no Sun Microsystems that does all server development

Similar Projects

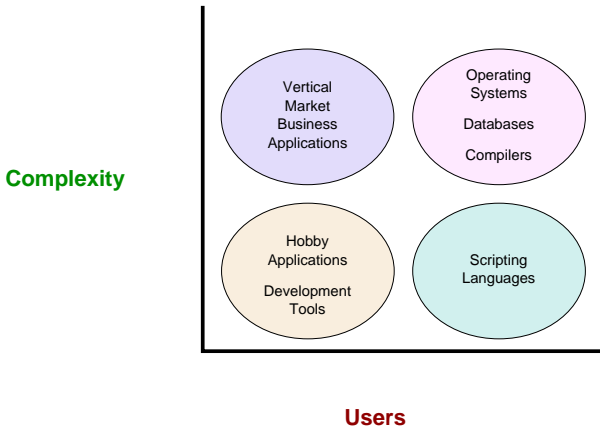
- ▶ FreeBSD - community project
- ▶ Samba - active developer community

Open Source Development Structures

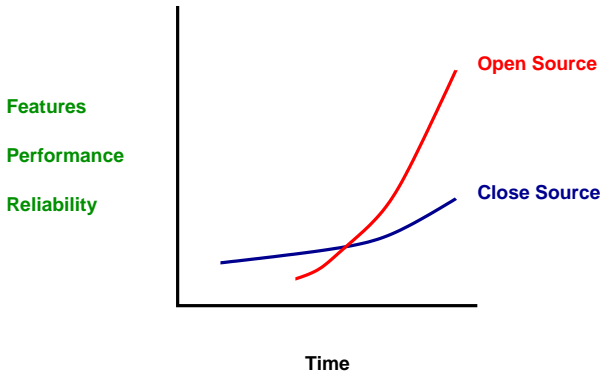
- ▶ Distributed Leadership: PostgreSQL, FreeBSD, NetBSD, Samba
- ▶ Central Leadership: Linux, Perl, Python, OpenBSD
- ▶ Corporate Council: Gnome, XFree86
- ▶ Corporate Sponsored: Apache, PHP
- ▶ Corporate Controlled: MySQL, OpenOffice, Sendmail
- ▶ Single Developer: Many projects

Concepts taken from Josh Berkus, PostgreSQL core member.

Open Source Software Availability



Is It As Good As Proprietary Software?



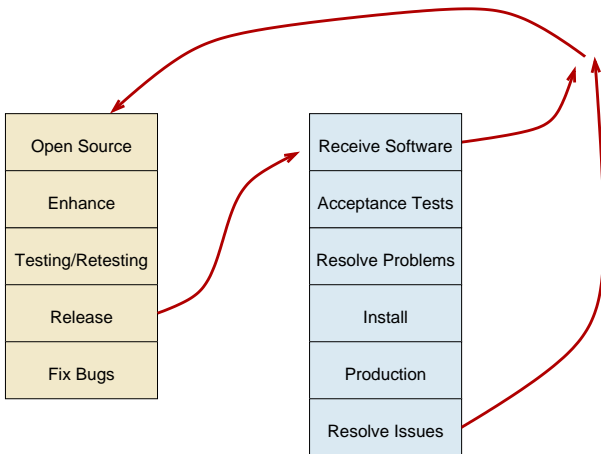
Problems With Open Source (and Democracy)

- ▶ Requires effort to stay informed
- ▶ Requires effort to receive assistance
- ▶ Documentation is not as thorough
- ▶ Database changes more rapidly
- ▶ More self-help

Businesses Supporting Open Source Users

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

Hybrid Development



Support Companies

- ▶ USA
- ▶ Canada
- ▶ Mexico
- ▶ Brazil
- ▶ France
- ▶ Spain
- ▶ Germany
- ▶ Austria
- ▶ Norway
- ▶ Israel
- ▶ Turkey
- ▶ Russia
- ▶ India
- ▶ Japan
- ▶ Australia

Value-Added Reseller (VAR) Advantages

- ▶ License
- ▶ No unsolvable problems
- ▶ Control database product life-cycle

End-user Advantages

- ▶ License costs
- ▶ Software control
- ▶ Customization

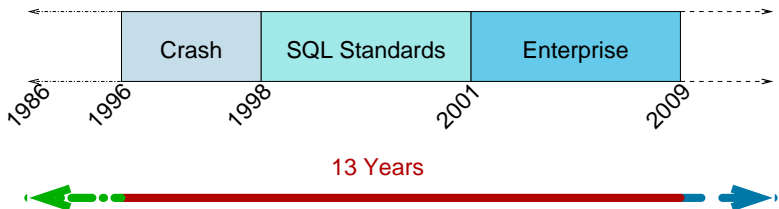
Adopters

- ▶ Financial
- ▶ Many servers
- ▶ Customization
- ▶ First adopters, future thinkers
- ▶ Company policy

Competition

- ▶ Oracle - huge code base, custom applications, \$\$\$
- ▶ DB2, MS SQL - like Oracle
- ▶ MySQL - GPL, closed development model, open source distribution
- ▶ Other database companies are declining because of open-source competition
- ▶ Other open-source database projects are having trouble attracting developers

PostgreSQL Evolution



Enterprise features include:

- ▶ Improved Performance
- ▶ Simplified Maintenance and Administration
- ▶ Efficient 24/7 Operation

Case Studies

- ▶ Retail
- ▶ Scientific
- ▶ Internet
- ▶ Product

Licensing

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

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>.

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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