

The History of PostgreSQL Open Source Development

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POSTGRESQL is successful only because of its vibrant open source development community. This presentation chronicles the building of that community.

<https://momjian.us/presentations>



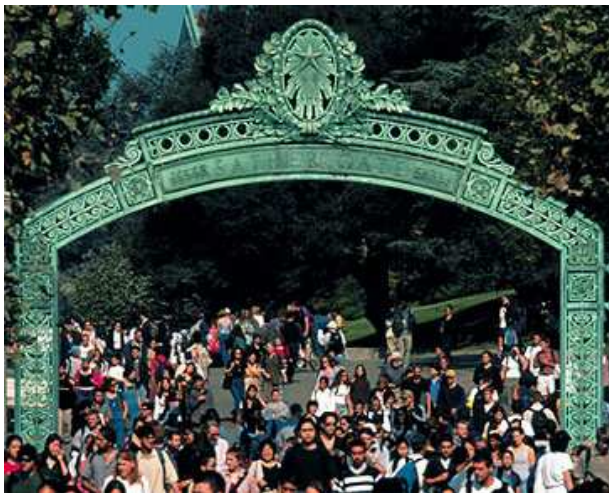
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Programming Before Relational Databases

- OS Files
- ISAM, indexed on a key
- No joins, WHERE clauses, or complex sorts

The University of California at Berkeley





Michael Stonebraker



Jolly Chen and Andrew Yu

PostgreSQL Code Base History

- Ingres — research prototype, spawned Relational Technologies, purchased by Computer Associates
- Postgres — research prototype, spawned Illustra, purchased by Informix
- Postgres95 — added SQL, spawned PostgreSQL

PostgreSQL Through the Years

1977–1985 Ingres

1986–1994 Postgres

1994–1995 Postgres95

1996– PostgreSQL

Transition from Single Maintainer To Internet Development

- Getting approval
- Scouring the mailing list
- Todo list
- Faq
- How does this thing work?

PostgreSQL Core Team

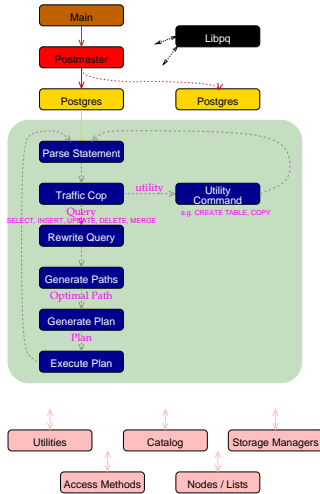


Top row: Thomas Lockhart, Jan Wieck, Tom Lane, Marc Fournier
Bottom row: Vadim Mikheev, Bruce Momjian

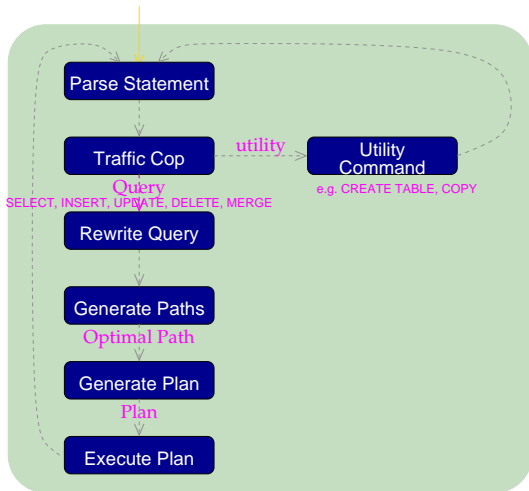
Assisting Our Developers

- Developer Education
 - Developer's Faq
 - Source code flowchart
 - Emphasize code clarity and people will respond
- Developer Recruitment
- Cvsup, remote Cvs
- Managing an increasing installed base

Internals Flowchart



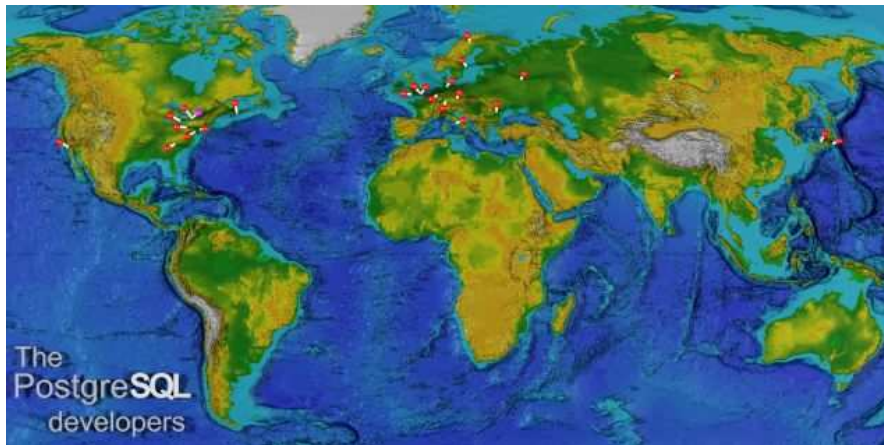
Internals Flowchart (magnified)



Keeping the Code Clean

- automatic formatting
- remove unused functions
- mark single-file functions as static
- rename variables and functions
- require patches to be of acceptable quality

Developer's Globe



Daily Chores

- Mailing list
 - Answer simple questions
 - Identify valid bug reports
 - Work with users to test bug fixes
 - Collect feature requests
 - Encourage technical discussions
- Patch application
- Encourage
- Marketing

Packaging a Release

- Collect unapplied patches
- Resolve outstanding issues
- Regression testing
- Enter beta
- Resolve all bug reports
- Final release
- Collect and apply safe patches
- Issue subreleases

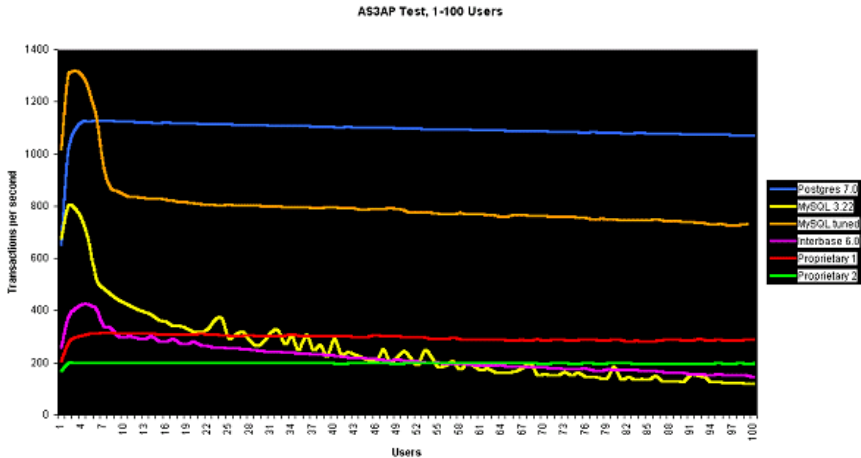
Release Dates and Sizes

Date	Release	Lines of code
1994		244,581
1996-08-01	1.02.1	
1996-10-27	1.09	178,976
1997-01-29	6.0	
1997-06-08	6.1	200,709
1997-10-02	6.2	225,848
1998-03-01	6.3	260,809
1998-10-30	6.4	297,918
1999-06-09	6.5	331,278
2000-05-08	7.0	383,270
2001-04-13	7.1	410,500
2002-02-04	7.2	394,274
2002-11-27	7.3	453,282
2003-11-17	7.4	508,523
2005-01-19	8.0	654,437
2005-11-08	8.1	630,422
2006-12-05	8.2	672,570

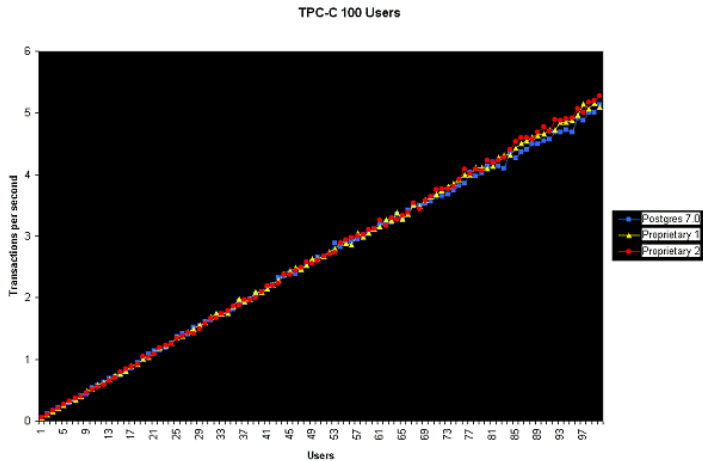
Development Directions

- Features
- Performance
- Reliability
- Code simplicity
- Standards conformance
- Documentation
- Pace of releases

Performance - AS3AP



Performance - TPC-C



Conclusion



Top row: Thomas Lockhart, Jolly Chen, Vadim Mikheev
Jan Wieck, Andrew Yu, Tom Lane
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