

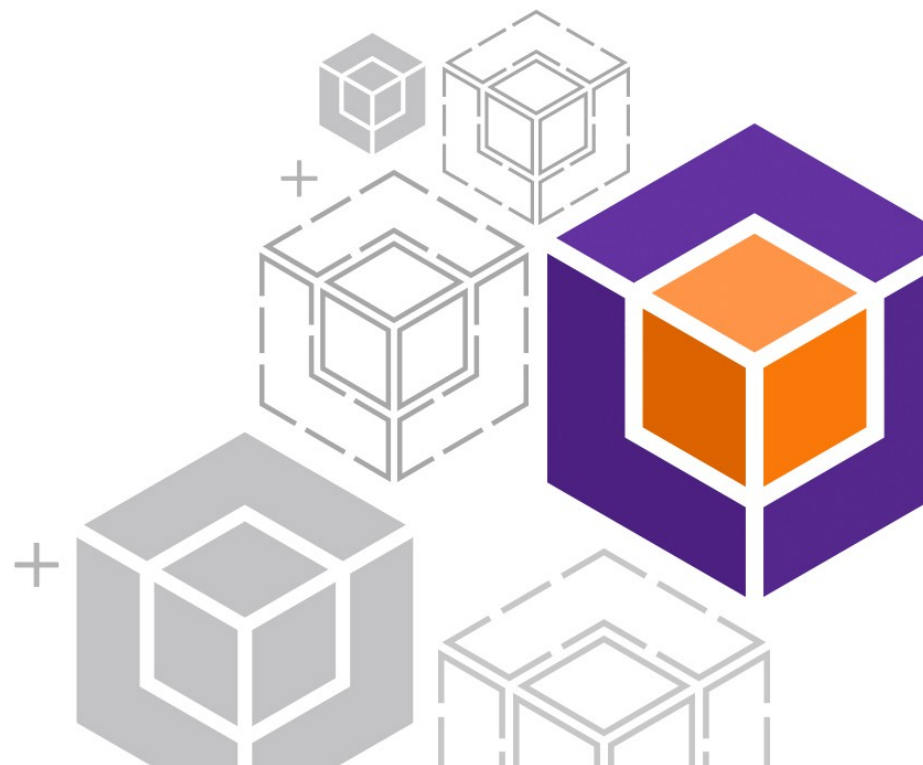
YottaDB Update

Steady Progress

Outline

- Business
- YottaDB
- Octo
- DevOps, CI/CD
- Ecosystem
- Roadmap

Business



Model

- The software is free
 - 100% Free / Open Source Software (FOSS)
- The people are not
 - Support services with SLAs on commercial terms
 - Support options and tiers
- Support contracts fund software development

Status

- Revenue from three continents
- Not just M – customers using non-M languages and Octo
- Profitable operation
 - Plowing revenue back into software development

YottaDB

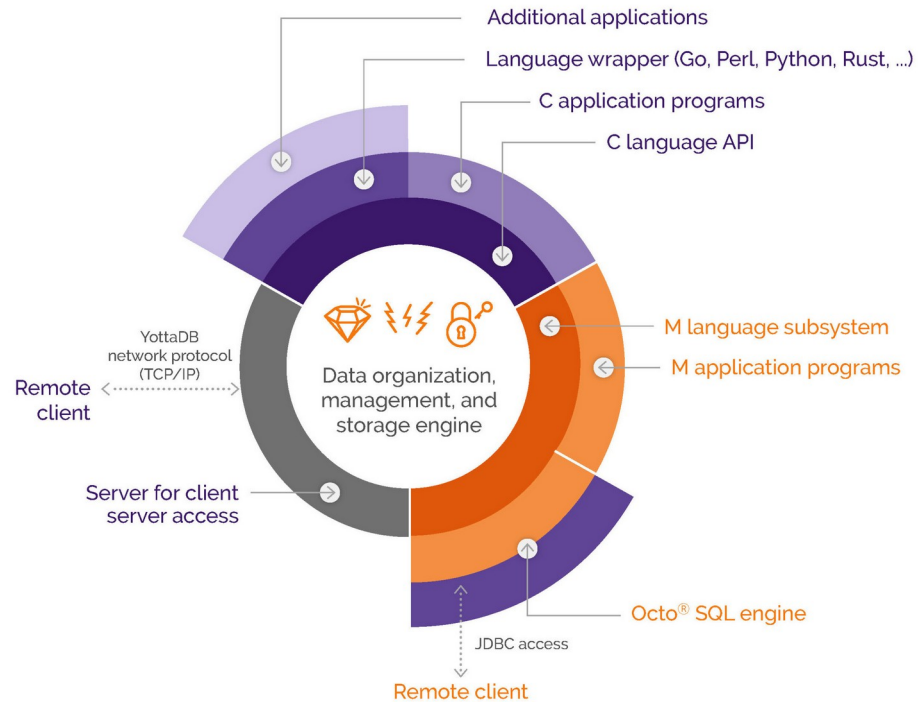


- A mature, high performance, hierarchical key-value, language-agnostic, NoSQL database whose code base scales up to mission-critical applications like large real-time core-banking and electronic health records, and also scales down to run on platforms like the Raspberry Pi Zero, as well as everything in-between.
- *Rock Solid. Lightning Fast. Secure. Pick any three.*

YottaDB is a registered trademark of YottaDB LLC

Architecture

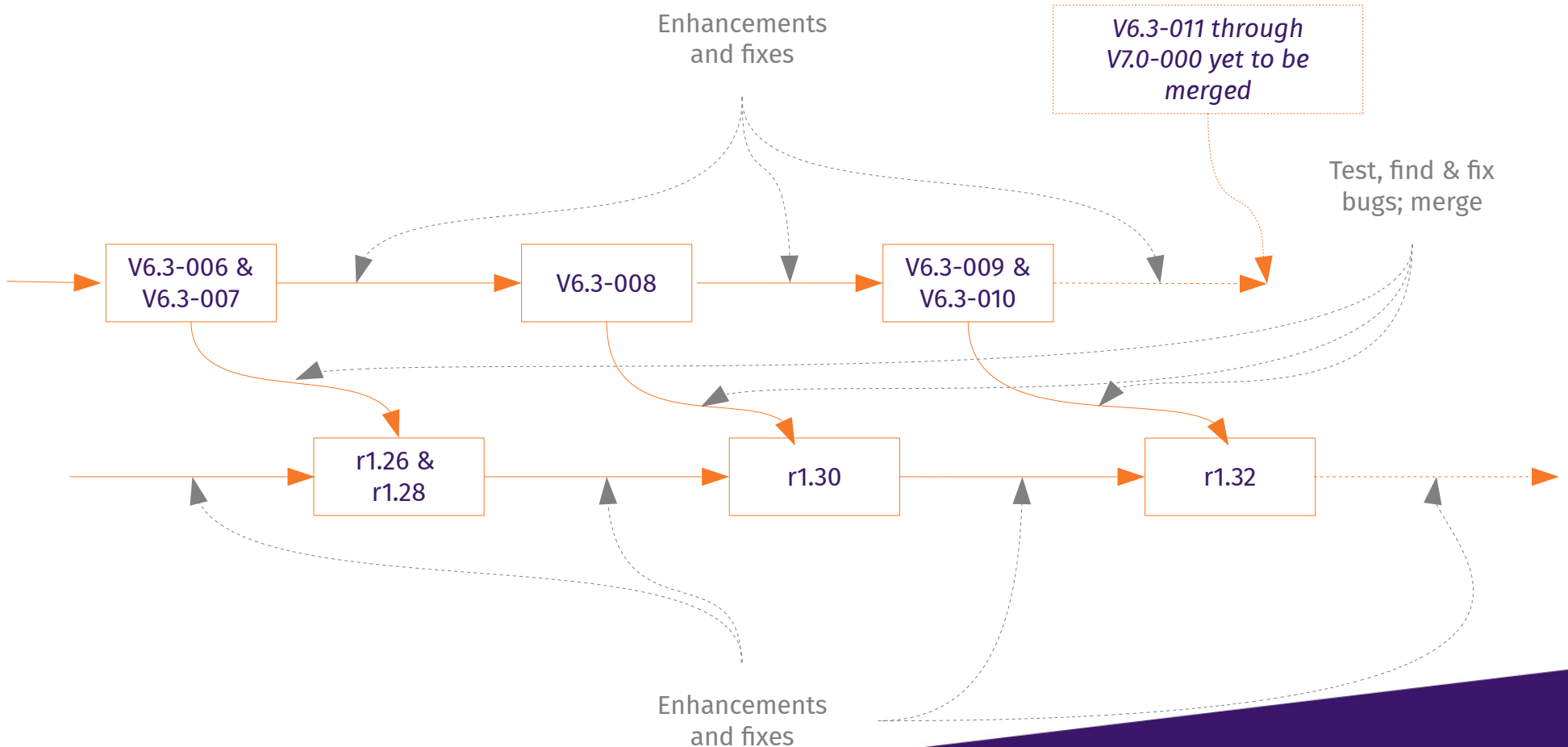
YOTTADB DATA-CENTRIC ARCHITECTURE



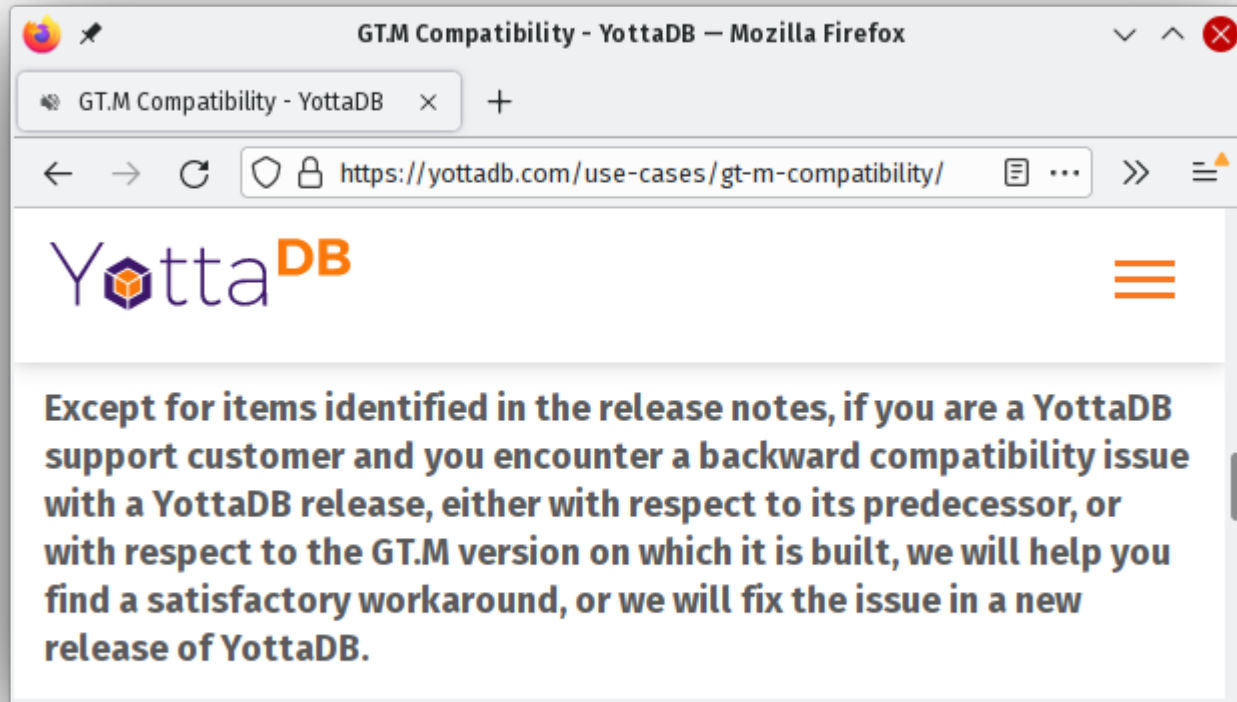
Wrappers & Plugins

- Wrappers provide language APIs
 - “Native” to each language: Go, node.js, Perl, Rust today; Python in field test
 - Installed where expected by each implementation
- Plugins provide additional core functionality (e.g., Octo, POSIX, encryption)
 - Installed under YottaDB in plugin subdirectory

Compatibility with Upstream



Upward Compatibility Guarantee



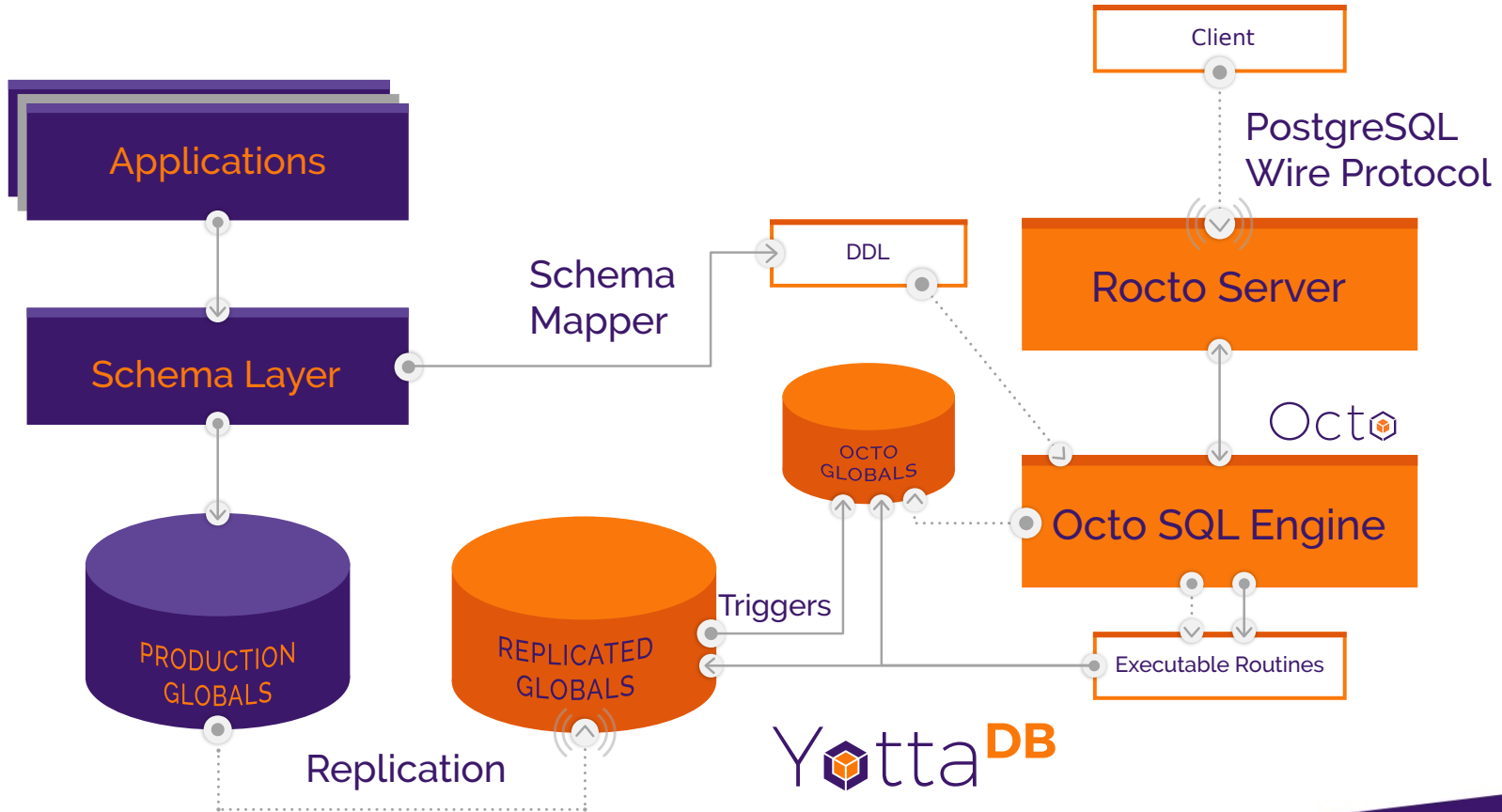
Octo



- Octo is a SQL database engine that whose tables are stored in global variables
- Octo is a YottaDB application, not a GT.M application
 - Requires functionality in YottaDB and not available in GT.M
 - Runs on SI replication instance from GT.M or YottaDB

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Octo Production Configuration



SQL Query of Synthea Vista

Squirrel SQL Client Version 3.9.1

Connect to: Mnementh Active Session: 1 - Mnementh (dummy) as...

SQL

```
select NEW_PERSON_ID, NAME, ACCESS_CODE, DATE_ACC_CODE_LAST_CHANGED from ...
```

Limit Rows: 100

```
select NEW_PERSON_ID, NAME, ACCESS_CODE, DATE_ACC_CODE_LAST_CHANGED from NEW_PERSON WHERE AUTH_TO_WRITE_MED_ORD IS NOT NULL;
```

Rows 33; select NEW_PERSON_ID, NAME, ACCESS_CODE, DATE_ACC_CODE_LAST_CHANGED from N Selected Rows: 1, Cols: 0

NEW_PERSON_ID	NAME	ACCESS_CODE	DATE_ACC_CODE_LAST_CHANGED
9	DOCTOR,VERY PRIVILEGED	498365838673847335	3170514
11	DOCTOR,ONE	49796768798482	49796768798482
12	NURSE,ONE	<null>	
15	DOCTOR,TWO	50796768798482	50796768798482
16	DOCTOR,THREE	5267YSQ	5267YSQ
17	DOCTOR,FOUR	52796768798482	52796768798482
18	DOCTOR,FIVE	53796768798482	53796768798482
19	DOCTOR,SIX	54796768798482	54796768798482
20	DOCTOR,SEVEN	55796768798482	55796768798482
21	DOCTOR,EIGHT	56796768798482	56796768798482
22	DOCTOR,NINE	57796768798482	57796768798482
23	DOCTOR,TEN	LPWG531	LPWG531
24	DOCTOR,ELEVEN	4730WQD	4730WQD
26	DOCTOR,TWELVE	6565KQL	6565KQL
27	NURSE,TWO	UOMO251	UOMO251
28	NURSE,THREE	3986ICX	3986ICX
29	NURSE,FOUR	KHVG351	KHVG351
30	NURSE,FIVE	SOKH491	SOKH491
31	NURSE,SIX	9521GRK	9521GRK
32	NURSE,SEVEN	1649WEN	1649WEN
33	NURSE,EIGHT	0053HQG	0053HQG
34	NURSE,NINE	GTQC759	GTQC759
35	NURSE,TEN	1252UND	1252UND
36	NURSE,ELEVEN	5176AOR	5176AOR
37	NURSE,TWELVE	9977HOD	9977HOD
38	NURSE,THIRTEEN

SQLState: XX000
ErrorCode: 0
Query 1 of 1. Rows read: 33. Elapsed time (seconds) - Total: 0.028, SQL query: 0.024, Reading results: 0.004

Logs: Errors 27, Warnings 9, Infos 11 40 of 363 MB 1:46:30 PM EDT

Status & Road Map

- Initial production release (1.00) Sep 18, 2020
 - VistA Fileman to DDL mapping tool
 - Read-only access (SQL-92 plus required extensions)
 - PostgreSQL compatible JDBC client support
- Octo 1.10: INSERT (usable today), UPDATE, DELETE
 - Target Q1 2022
- Octo 1.20: More SQL functionality

Octo Demo

Sam Habel's talk!



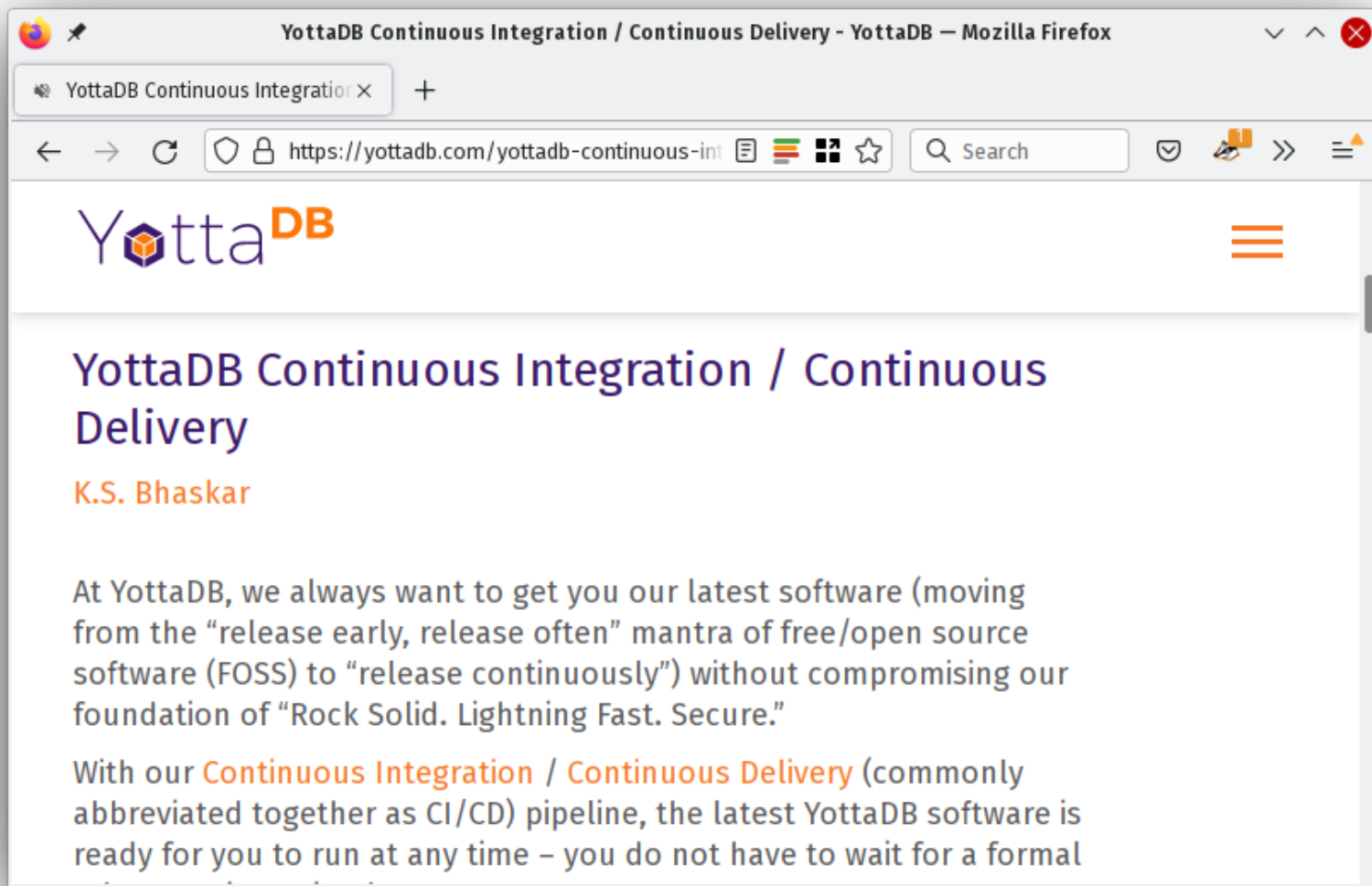
DevOps, CI/CD



DevOps, CI/CD

- Containers & Kubernetes: Yes
- CI/CD: Yes

Continuous Release



The screenshot shows a Mozilla Firefox browser window with the title "YottaDB Continuous Integration / Continuous Delivery - YottaDB". The address bar shows the URL "https://yottadb.com/yottadb-continuous-int". The page content includes the YottaDB logo, a navigation menu icon, and the main heading "YottaDB Continuous Integration / Continuous Delivery" by "K.S. Bhaskar". The text describes the company's commitment to continuous releases, moving from "release early, release often" to "release continuously" while maintaining their core values: "Rock Solid. Lightning Fast. Secure." It also mentions their CI/CD pipeline and that the latest software is available for immediate use.

YottaDB Continuous Integration / Continuous Delivery

K.S. Bhaskar

At YottaDB, we always want to get you our latest software (moving from the “release early, release often” mantra of free/open source software (FOSS) to “release continuously”) without compromising our foundation of “Rock Solid. Lightning Fast. Secure.”

With our **Continuous Integration / Continuous Delivery** (commonly abbreviated together as CI/CD) pipeline, the latest YottaDB software is ready for you to run at any time – you do not have to wait for a formal

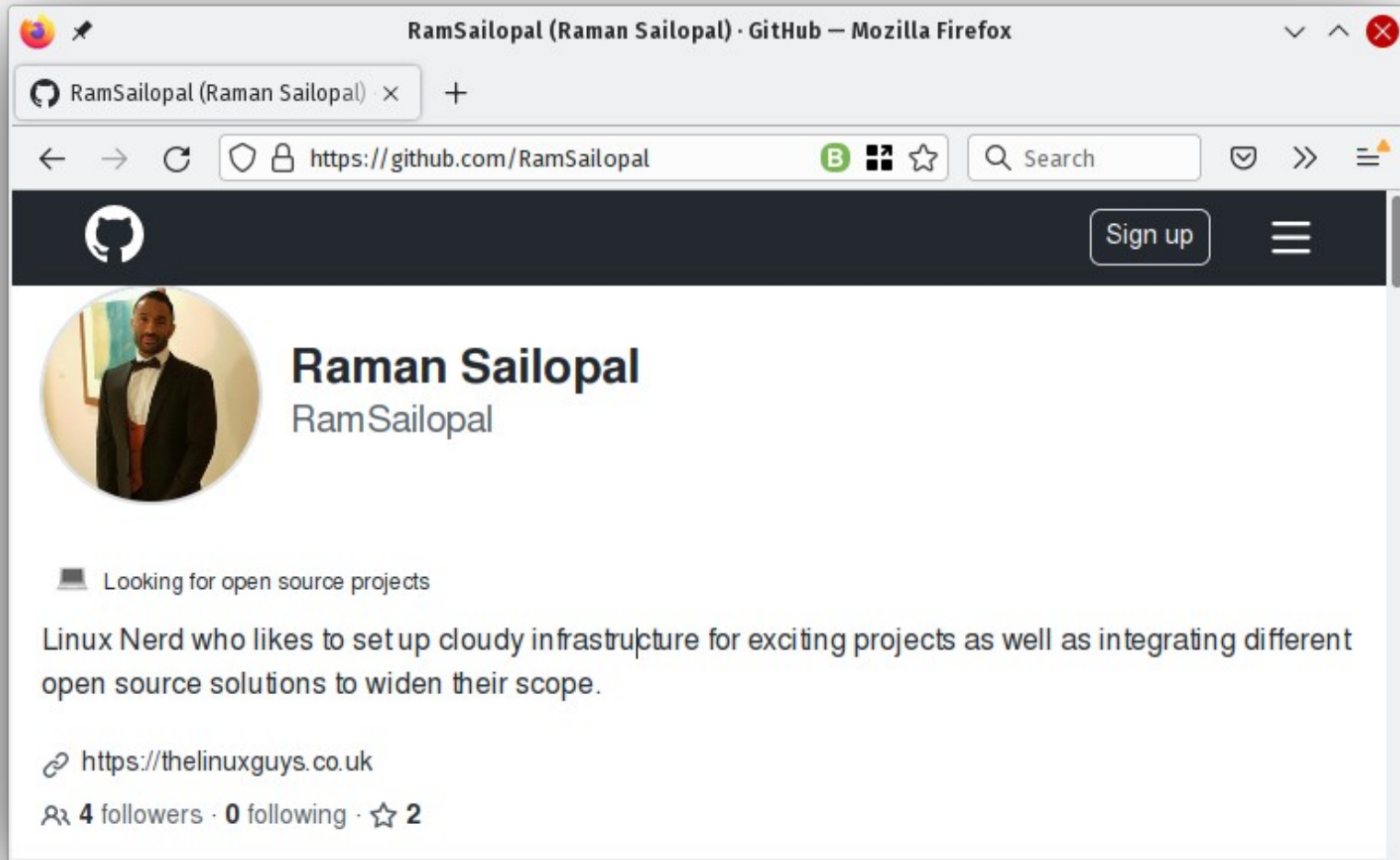
Ecosystem



Language Wrappers

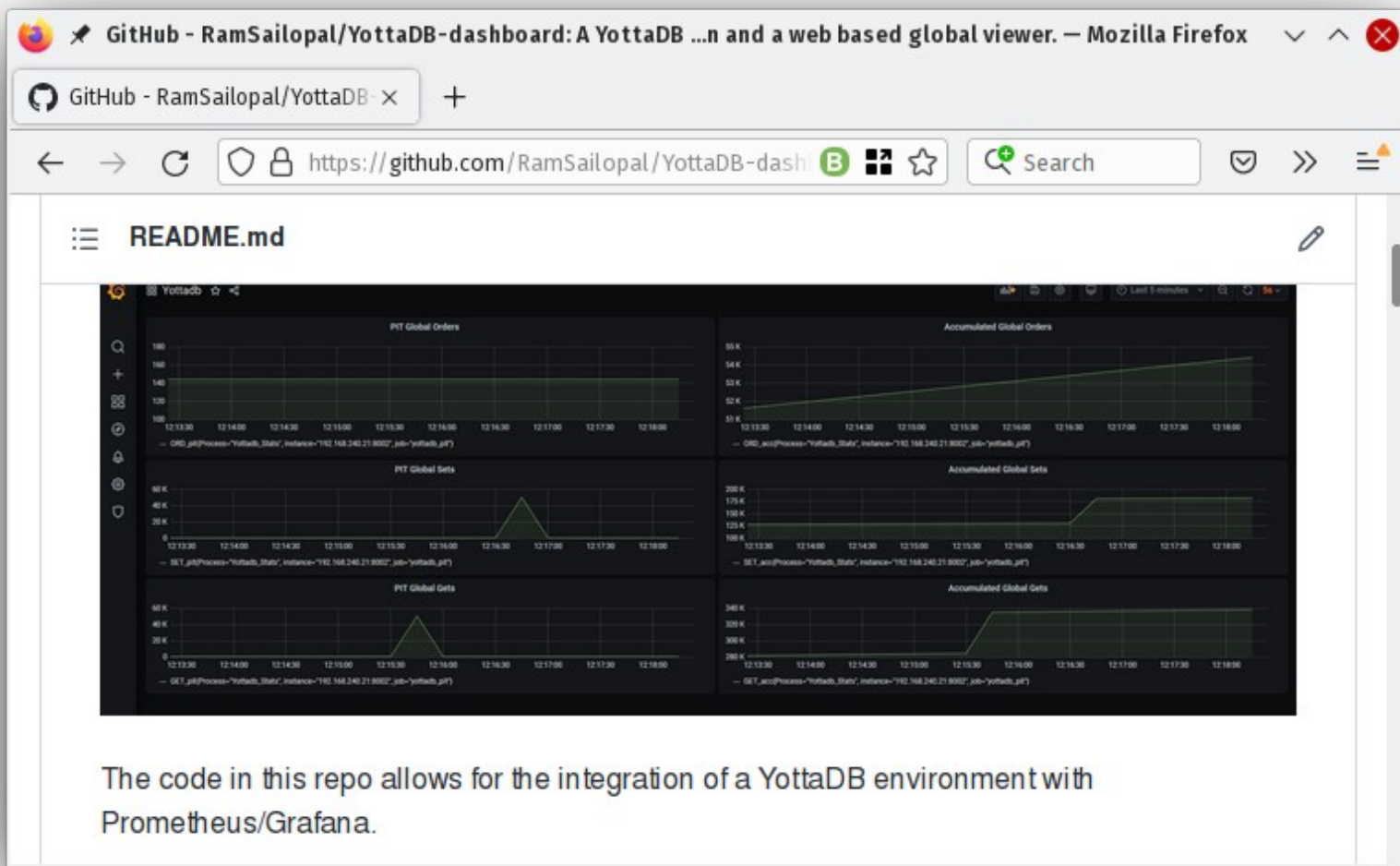
- Node.js – two wrappers
 - Thanks David Wicksell (Nodem)
 - Thanks Chris Munt (mg-dbx)
- Perl – thanks Stefan Traby, RIP

Ram Sailopal



The screenshot shows a Mozilla Firefox browser window with the title "RamSailopal (Raman Sailopal) · GitHub". The address bar displays "https://github.com/RamSailopal". The page content includes the GitHub logo, a "Sign up" button, and the profile of Raman Sailopal. The profile features a circular profile picture of a man in a suit, the name "Raman Sailopal", and the username "RamSailopal". Below the name, it says "Looking for open source projects" with a laptop icon. A bio reads: "Linux Nerd who likes to set up cloudy infrastructure for exciting projects as well as integrating different open source solutions to widen their scope." A link to "https://thelinuxguys.co.uk" is provided. At the bottom, it shows "4 followers · 0 following · ☆ 2".

YottaDB-dashboard



The screenshot shows a Mozilla Firefox browser window displaying a GitHub repository page for 'RamSailopal/YottaDB-dashboard'. The browser's address bar shows the URL 'https://github.com/RamSailopal/YottaDB-dashi'. The page content includes a 'README.md' file and a dashboard visualization. The dashboard consists of six line graphs arranged in a 3x2 grid, showing various database metrics over time (from 12:13:30 to 12:18:30). The top row shows 'PT Global Orders' and 'Accumulated Global Orders'. The middle row shows 'PT Global Sets' and 'Accumulated Global Sets'. The bottom row shows 'PT Global Gets' and 'Accumulated Global Gets'. Each graph has a y-axis representing the number of operations (e.g., 0 to 180 for PT Global Orders) and an x-axis representing time. The 'Accumulated' graphs show a steady increase over time, while the 'PT' graphs show a sharp spike around 12:15:30.

GitHub - RamSailopal/YottaDB-dashboard: A YottaDB ...n and a web based global viewer. — Mozilla Firefox

GitHub - RamSailopal/YottaDB - X +

← → ↻ 🔒 https://github.com/RamSailopal/YottaDB-dashi B ☆ 🔍 Search

☰ README.md ✎

Yottadb

PT Global Orders

Accumulated Global Orders

PT Global Sets

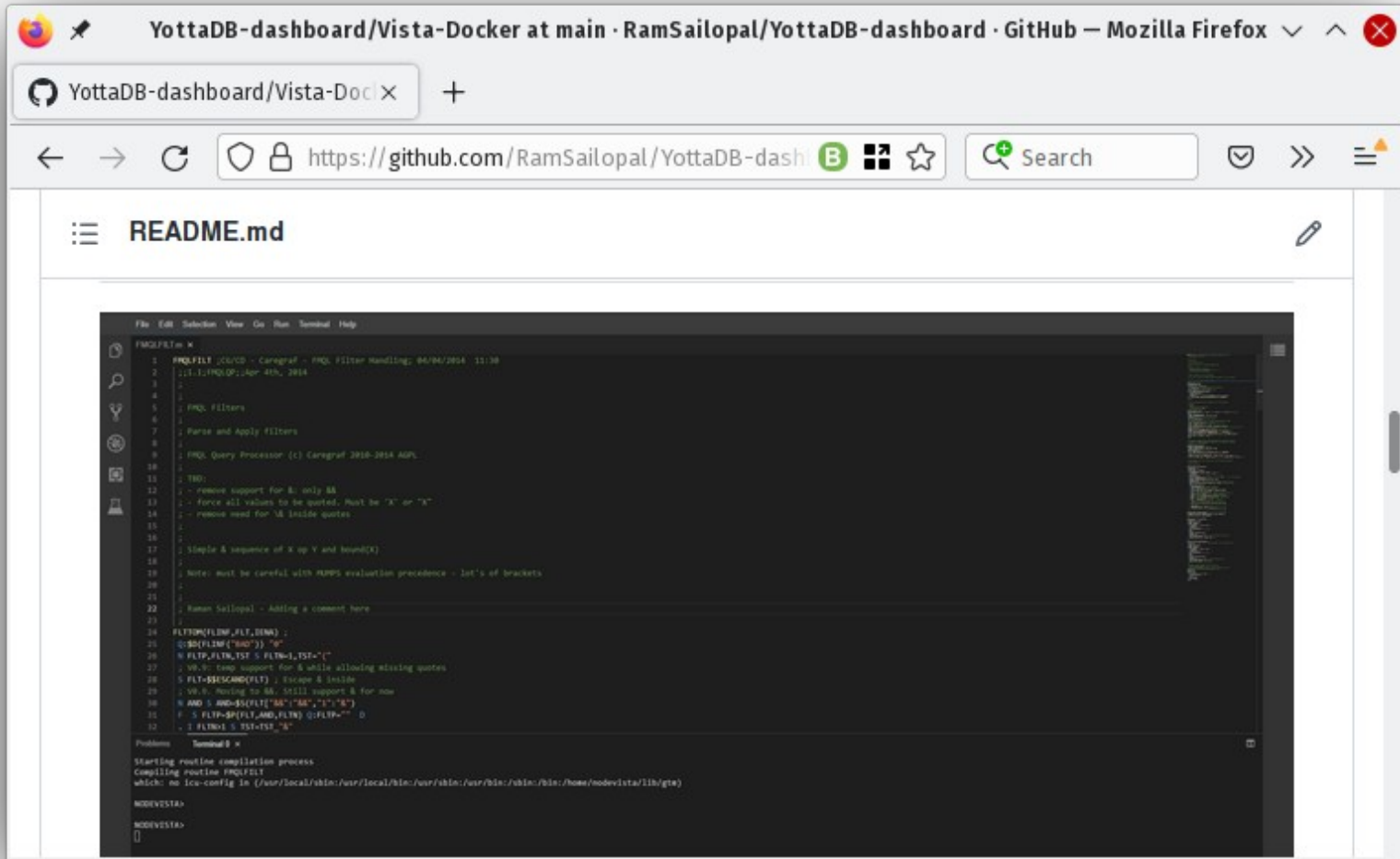
Accumulated Global Sets

PT Global Gets

Accumulated Global Gets

The code in this repo allows for the integration of a YottaDB environment with Prometheus/Grafana.

Vista+YottaDB IDE



- JsonHIVES – JSON document store
 - (Still in development)

json
HIVES

Roadmap



AIM – Application Independent Metadata

- Facilitate search by content, e.g., cross reference pieces of data
- Designed for use by all applications
 - Initial use is by Octo
- Invoke on demand
- Uses triggers to ensure consistency of data and metadata

Foundations To Build On

- Successes to build on
 - Largest VistA system (Hakeem)
 - Large banking systems (tens of millions of accounts)
 - Paying customers for Go & SQL access
- Waiting for success
 - IoT applications – good technical fit, but looking for first adopter

More Attention Needed

- Administration & Operations GUI
 - Functionally complete, needs packaging and documentation
- Recruiting – continuing challenge to find talent
- Marketing
 - Paused for pandemic; need to resume
 - May need to find partner(s)



YottaDB

Thank You!

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