Overview

1. Introduction

2. Multi-modal Redis

3. Use cases
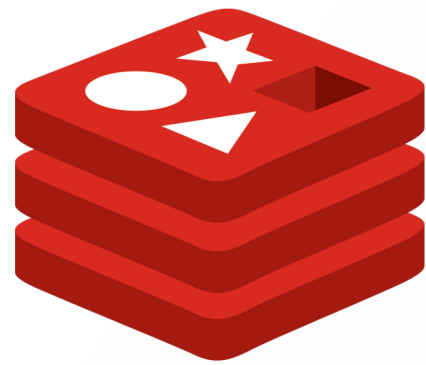
4. Wrap-up / Q&A

redislabs
HOME OF REDIS

Dr. Christoph Zimmermann

- PhD in reflective operating system architectures

- First crush on Linux: kernel 0.95

- Tech support + more @ FraLUG

- Arch package maintainer

- Hobbies include:

  - Community liaison / solution architect @ Redis Labs

  - SDLC

  - IT security and other forms of black art
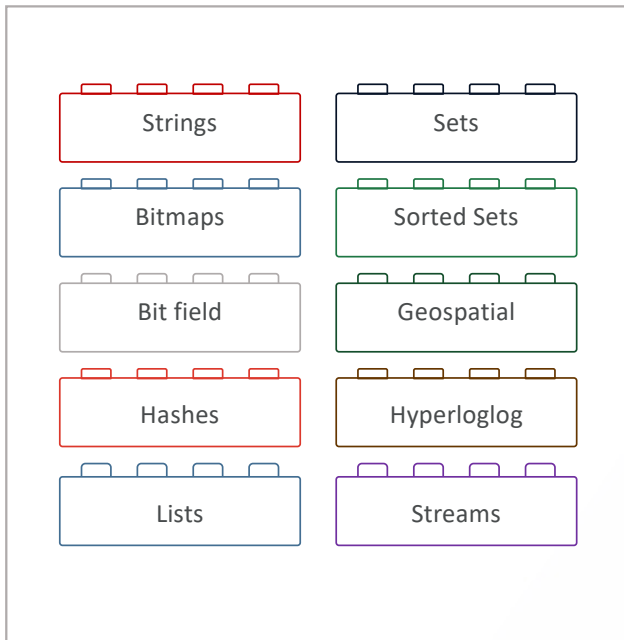
linuxinlaws.eu

Our Roots Are in Open Source

An **In-memory open source database**, supporting a variety
high performance operational, analytics or hybrid use case
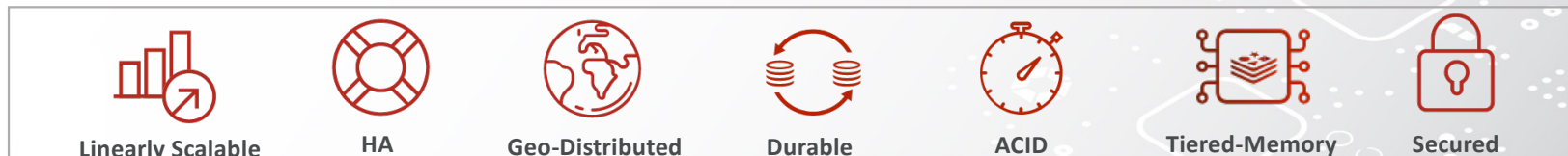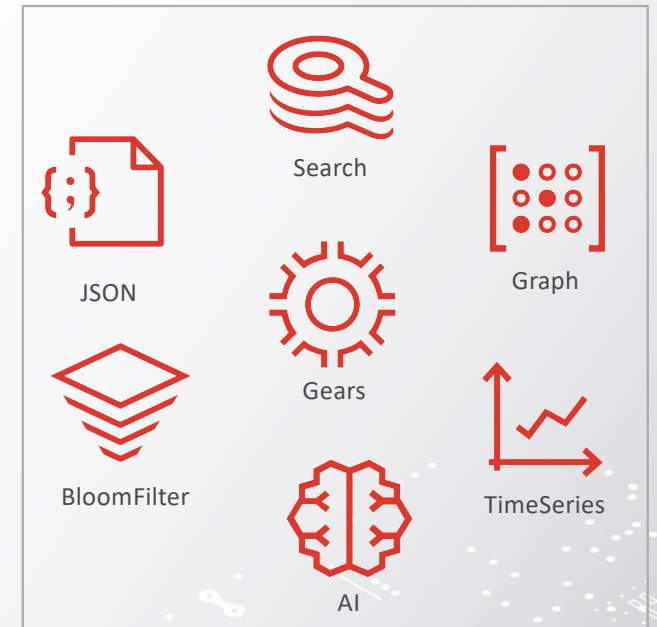
The Redis Community

172
CLIENTS IN 53 LANGUAGES

9.8K+
GITHUB COMMITS

100+
HIGHER LEVEL LIBRARIES AND TOOLS

46K+
REDIS GITHUB STARS

500+
CONTRIBUTORS

48.6K+
STACK OVERFLOW QUESTIONS

redislabs
HOME OF REDIS

Redis and its ecosystem

Redis Native Data Structures

Strings	Sets
Bitmaps	Sorted Sets
Bit field	Geospatial
Hashes	Hyperloglog
Lists	Streams

Redis Modules

JSON

Search

Graph

BloomFilter

Gears

TimeSeries

AI

Linearly Scalable   HA   Geo-Distributed   Durable   ACID   Tiered-Memory   Secured

Redis Enterprise

redislabs
HOME OF REDIS
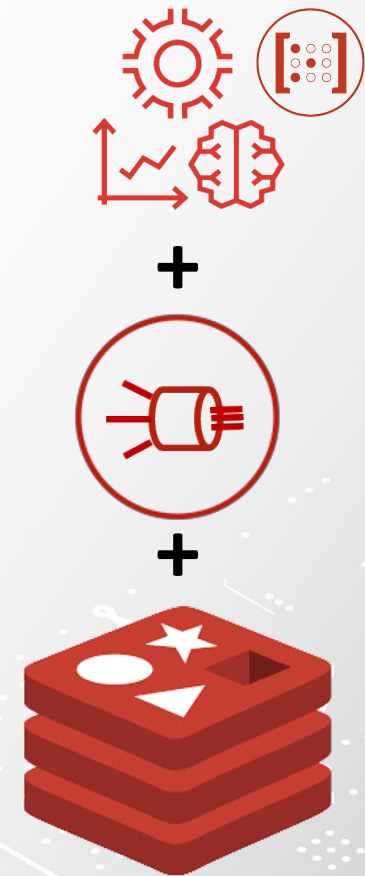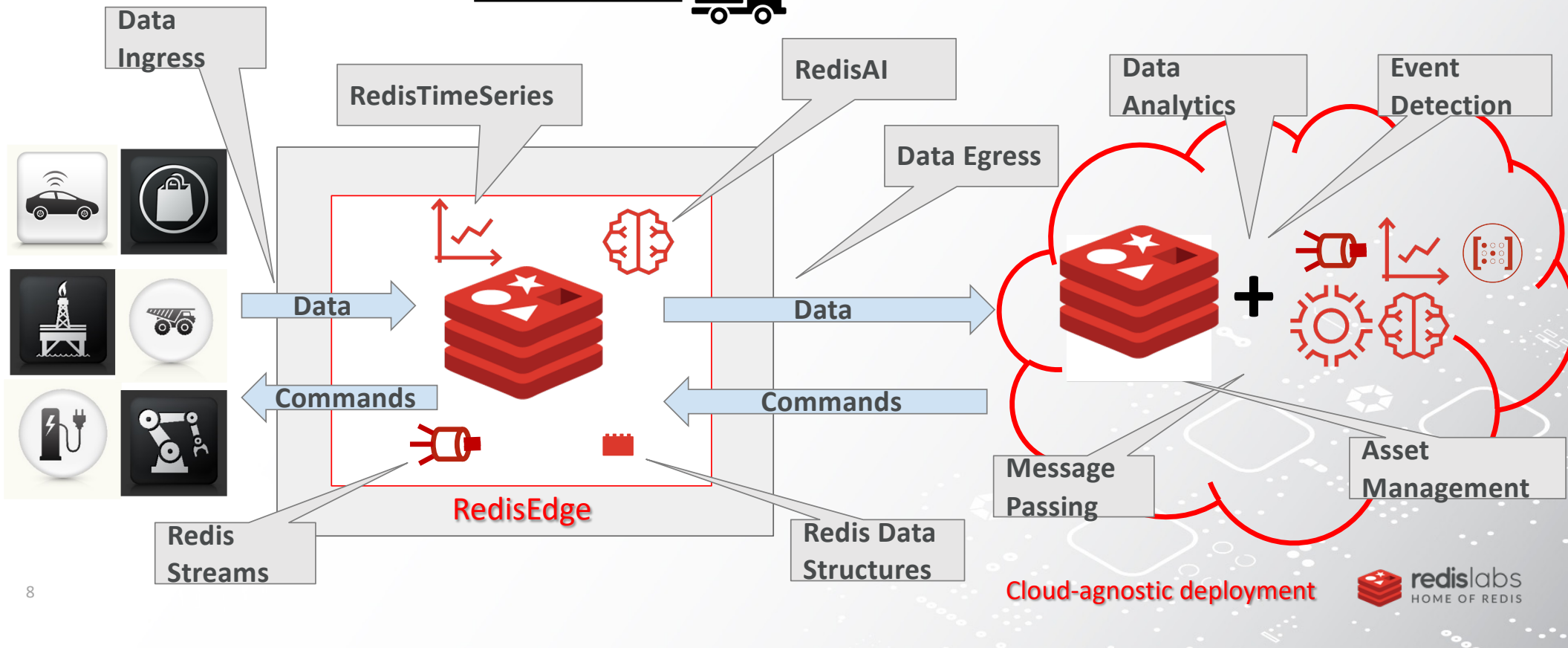
RedisEdge for the IoT Edge

- Redis OSS with Streams + Modules
  - Time Series
  - Graph
  - AI
  - Gears
- Small Footprint
  - <5 MB footprint
  - Multi-platform: ARM32, ARM64, x64
- High Performance for large and fast data at the edge
  - Real-time data ingress from sensor network
  - <1ms processing latency at the edge
  - Tunable data persistence
  - Multi-model for servicing multiple data models

redislabs
HOME OF REDIS

Hybrid Deployment

Data Ingress

RedisTimeSeries

RedisAI

Data Egress

Data Analytics

Event Detection

Data

Data

Commands

Commands

RedisEdge

Message Passing

Asset Management

Redis Streams

Redis Data Structures

Cloud-agnostic deployment

redislabs
HOME OF REDIS

8

Module Case Study: RedisGraph

- OpenCypher compatible Graph DB extension
- Efficient storage in sparse matrices
- Fast GraphBLAS-based implementation
- Performance gain: 10x – 50x compared to industry leader
- Clients available:
  - Compiler-Based: Rust, Golang, Java
  - Other: Python, JavaScript, Ruby, PHP

redislabs
HOME OF REDIS

Demo time

redislabs
HOME OF REDIS

Conclusion

- Flexible multi-model in-memory DB

- From Edge right to scalable cloud deployments

- Edge, X-platform:

  - From embedded to pot. FPGAs

- Comprehensive ecosystem:

  - Module SDK (any P/L supporting C bindings incl. Rust)

  - Rich client-side environment

redislabs
HOME OF REDIS

Questions & answers

Thank You!

Dr. Christoph Zimmermann
christoph at redislabs dot com

redislabs
HOME OF REDIS