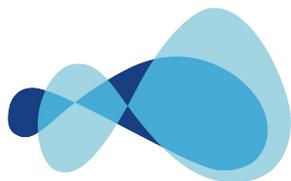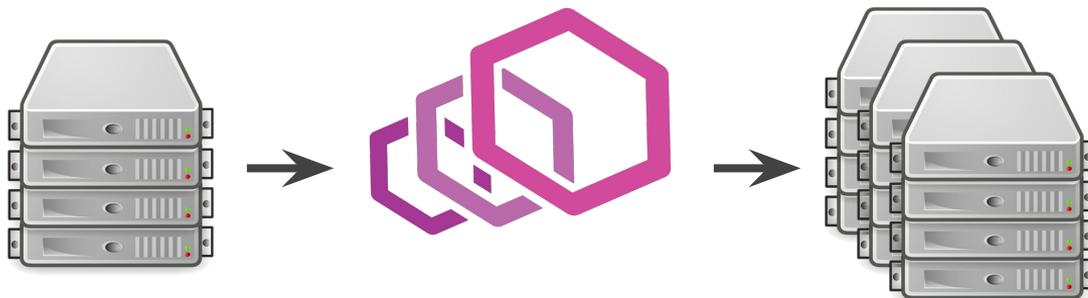# Envoy Deep Dive

Lizan Zhou
05-23-2019

Agenda

- What is Envoy?
- Envoy design goals
- Architecture overview
- Extension and pluggability
- What's new?
- Q&A

What is Envoy?

The network should be transparent to applications.

When network and application problems do occur it should be easy to determine the source of the problem.
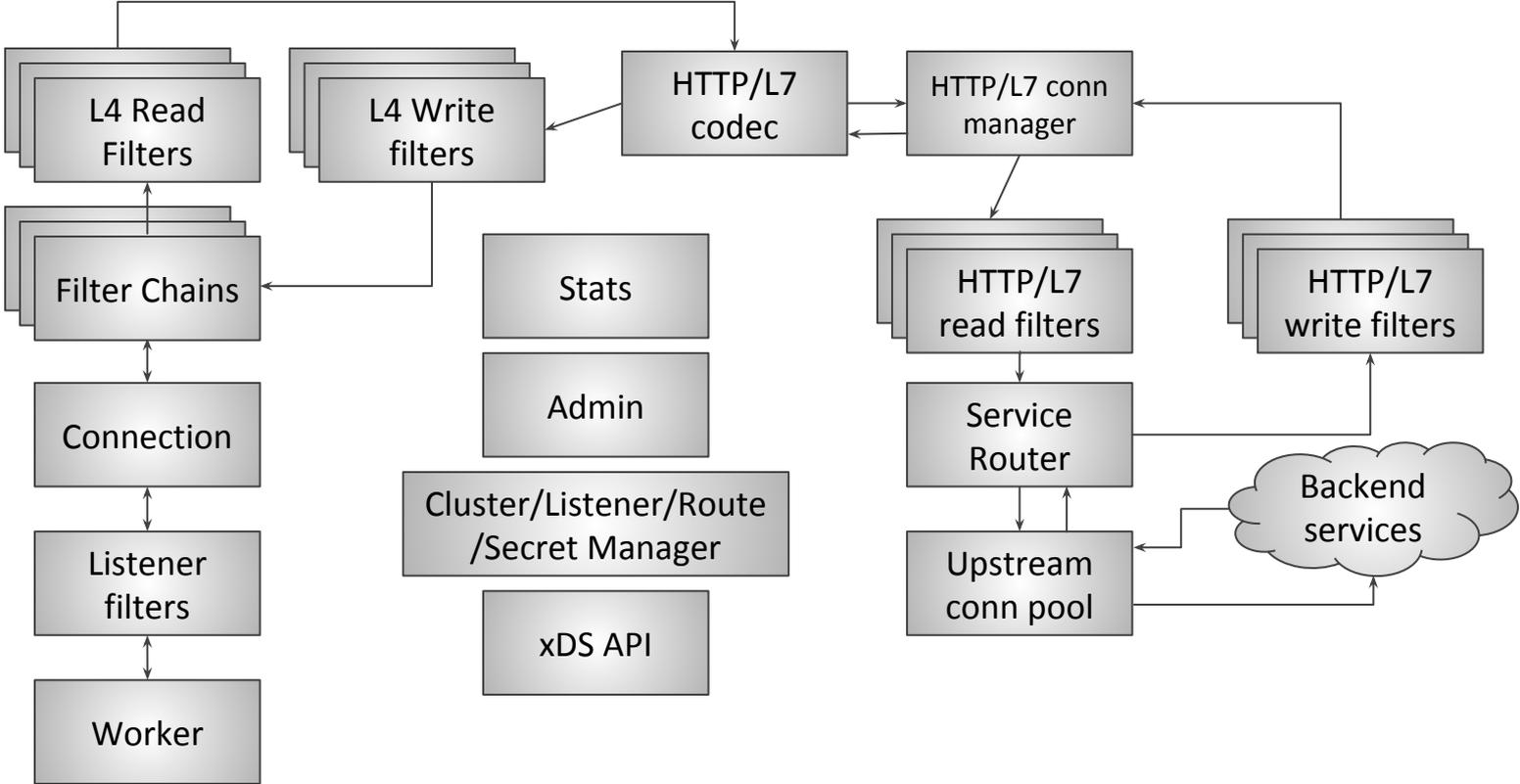
Design goals

- Out of process architecture
- Low latency, high performance, dev productivity
- L3/L4 filter architecture
- HTTP L7 filter architecture
- HTTP/2 first
- Service/config discovery via API
- Active/passive health checking
- Advanced load balancing
- Best in class observability
- Service/middle/edge proxy
- Hot restart
- Extensibility

Envoy architecture

Extension and pluggability

Envoy is designed to have multiple extension point. E.g.:

- L4/L7 filters
- Access loggers
- Tracers
- Health checkers
- Transport sockets
- Retry policy
- Resource monitors
- Stats sink

What's new?

Tetrate

- TAP
- MySQL
- Kafka
- Dubbo
- Lots of small improvements / bug fixes

Why Envoy + Q&A

- Quality + velocity
- Extensibility
- Eventually consistent configuration API
- No "open core" / paid premium version. It's all there.
- **Community, community, community**