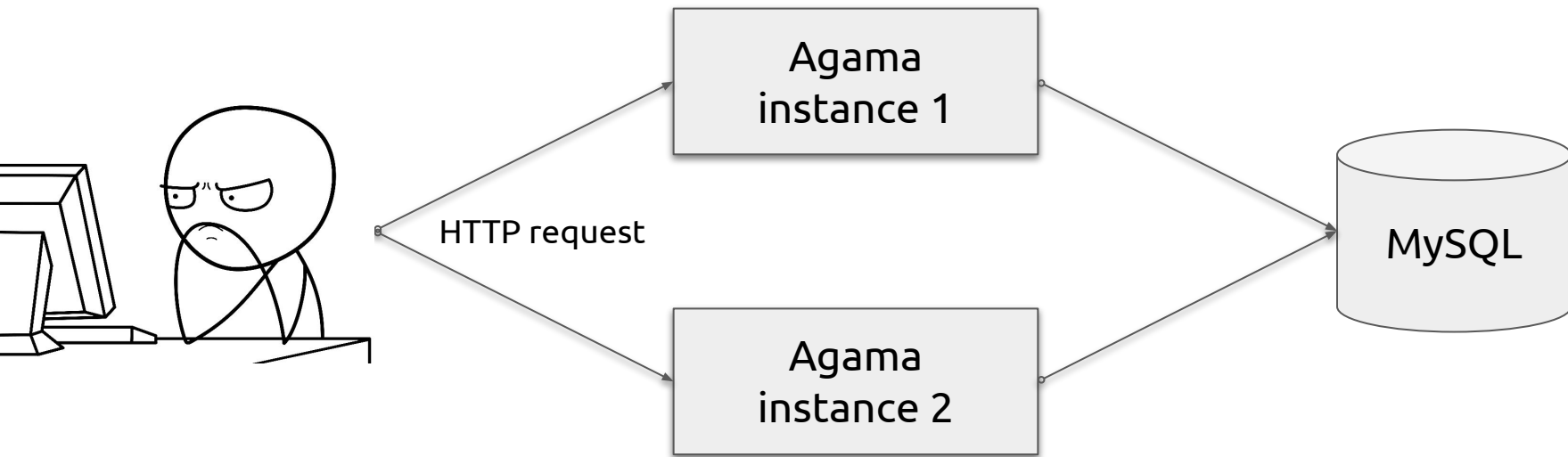


# IT Infrastructure services

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2024

Everything should die!

# Webserver redundancy: round-robin DNS



```
$ host www.mydomain  
www.mydomain has address 11.22.33.81  
www.mydomain has address 11.22.33.82
```

# Webserver redundancy: round-robin DNS

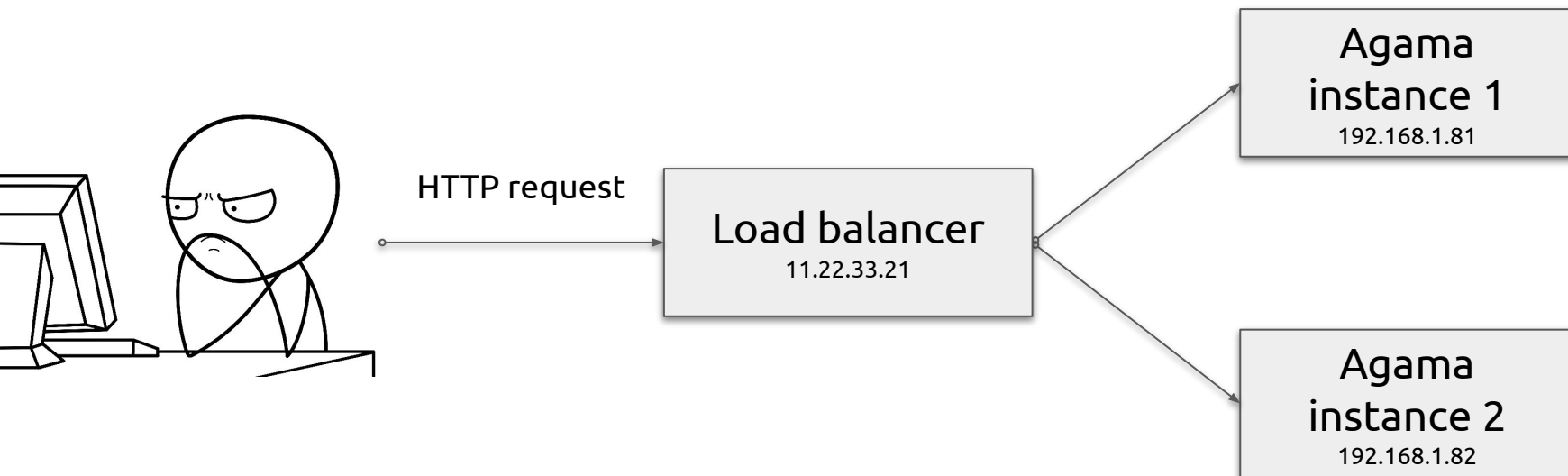
## Pros:

- Easy to implement
- No additional software/hardware required

## Cons:

- DNS caching
- No service health checks (IP may resolve but the service itself is down)
- **The client should support this**

# Server-side load balancing



```
$ host www.mydomain  
www.mydomain has address 11.22.33.21
```

# Server-side load balancing

## Pros:

- Service health and utilization checks
- Load **balancing**, not just distribution

## Cons:

- Additional software, hardware or cloud service required
- Another component that needs to be highly available

# Server-side load balancing

## Hardware

- Appliances by F5 Networks, A10, NetScaler etc.

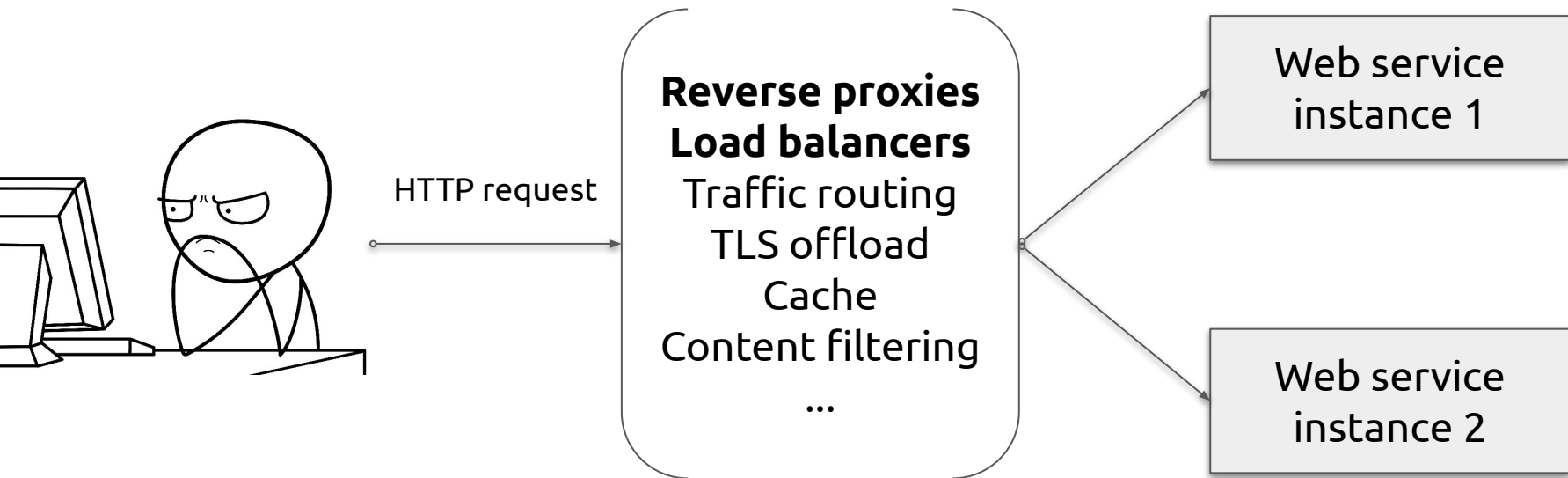
## Cloud based

- Most cloud providers and IaaS platforms
- Every CDN

## Software

- HAProxy, Nginx, Traefik etc.

# Server-side load balancing and more





# Server-side load balancing: HAProxy vs Nginx

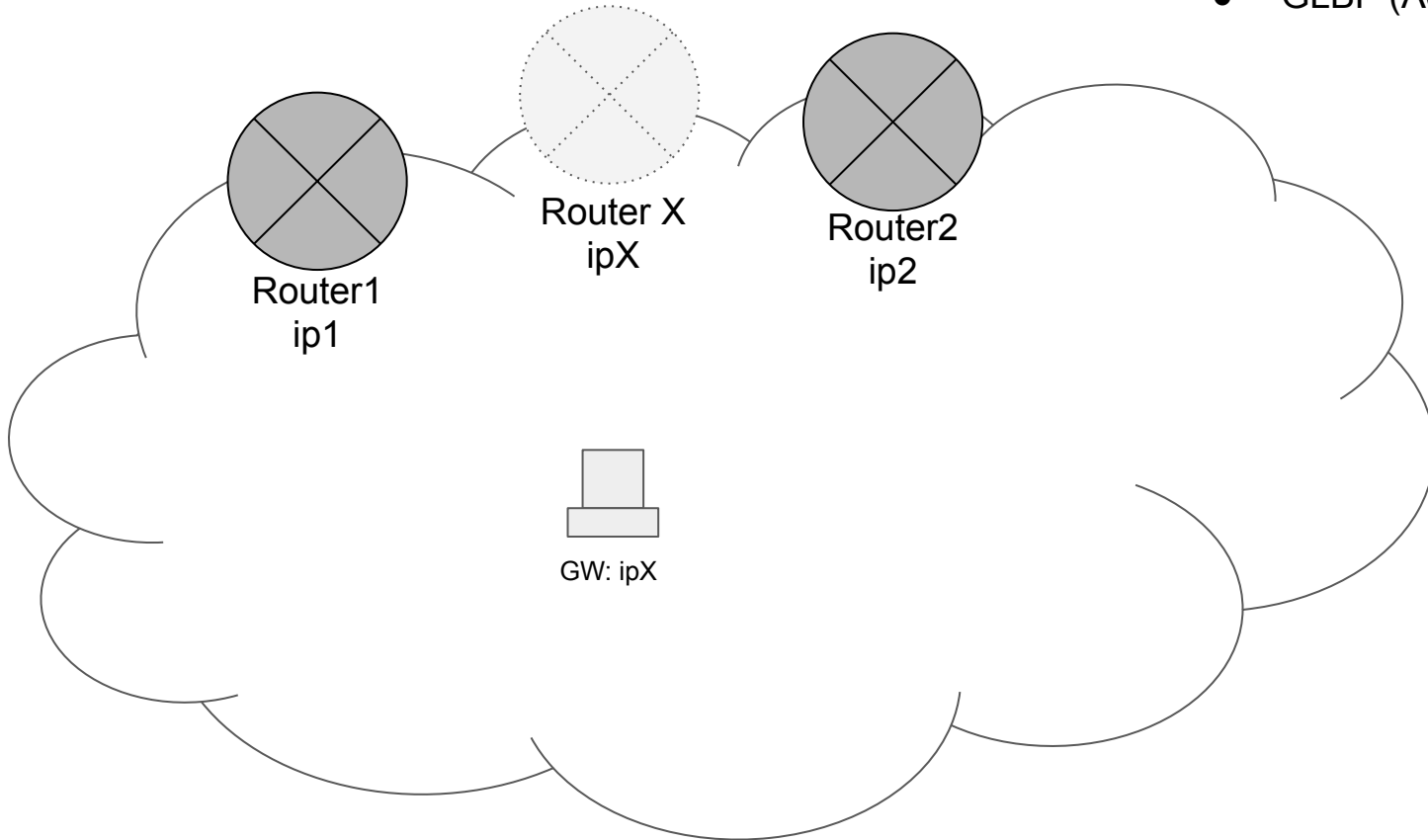
- **Both are fine for simple load balancing**
- If you want something more advanced, check the docs and choose wisely
- HAProxy is solely a proxy, Nginx is also a web server

Possible advise (very holy-war'ish)

- If you **already use** Nginx and need a simple load balancer, go on with Nginx
- If you don't have any load-balancing capable service yet, start with HAProxy

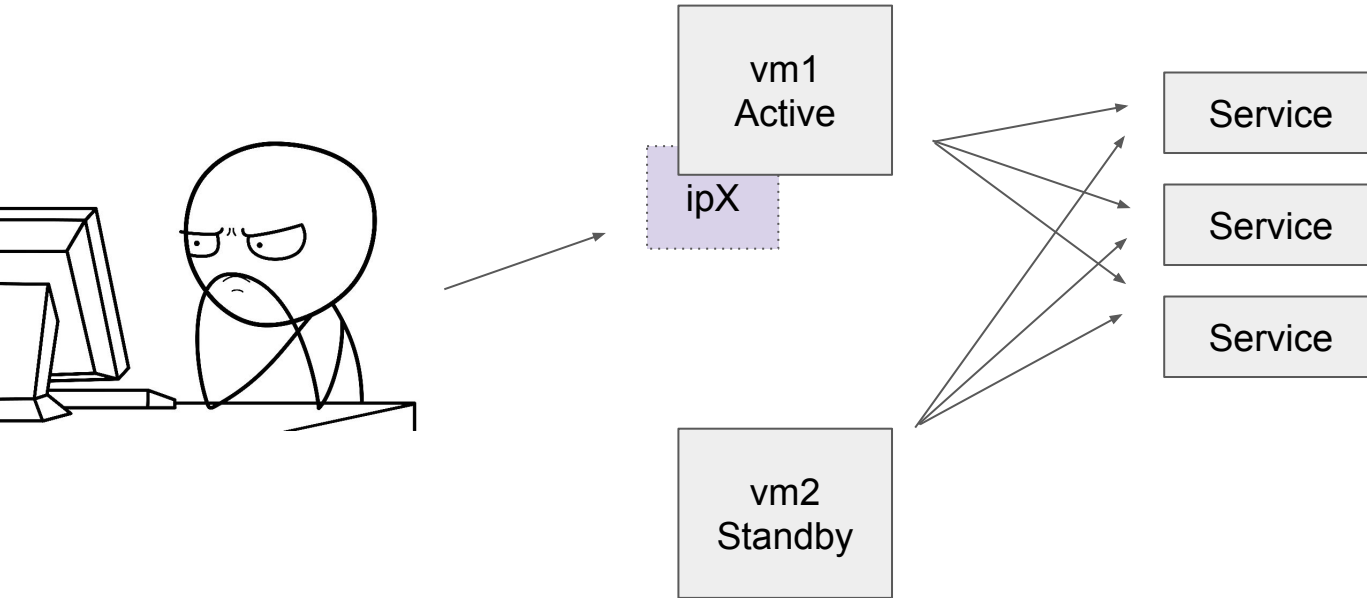
# FHRP

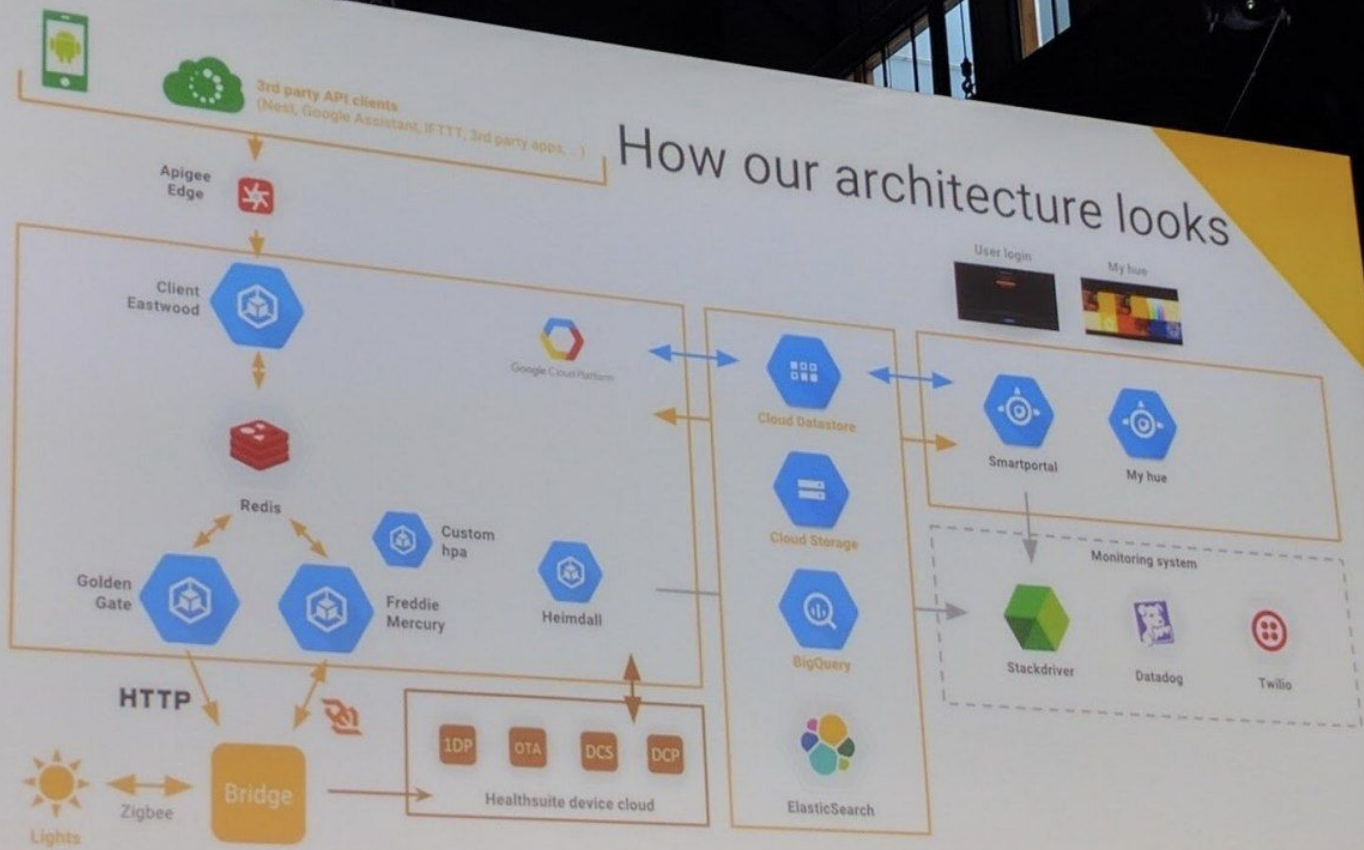
- HSRP (Active/Standby)
- VRRP (Active/Standby)
- GLBP (Active/Active)



# Keepalived (VRRP)

<https://www.keepalived.org/manpage.html>





Google Cloud