IT Infrastructure services

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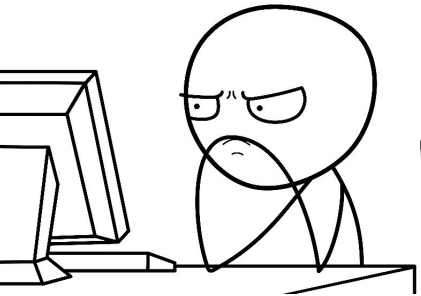
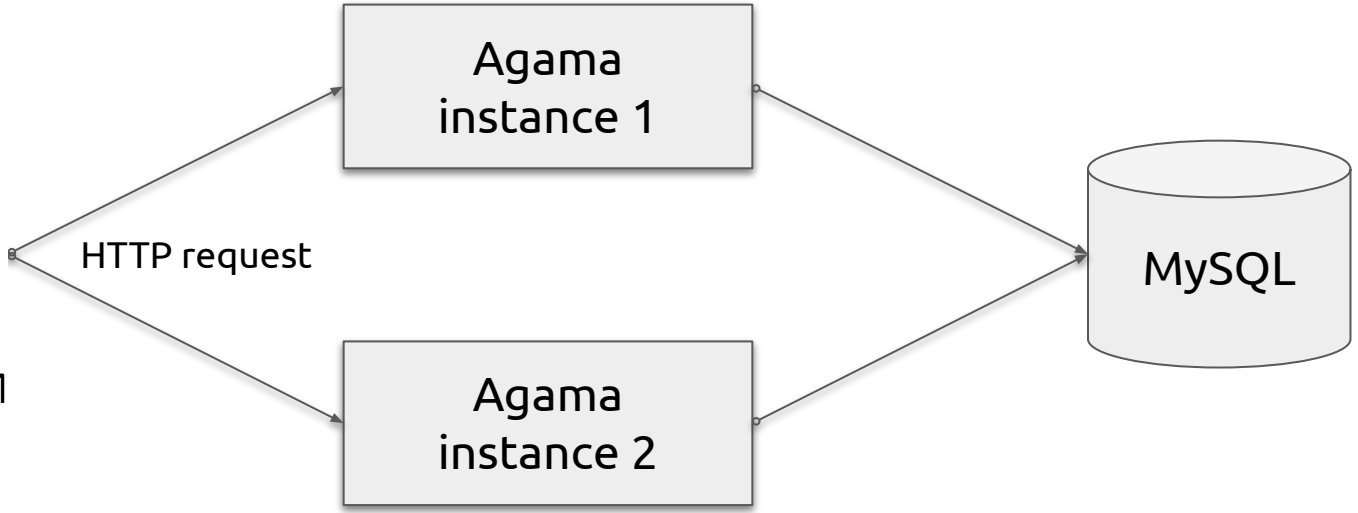
Everything should die!

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

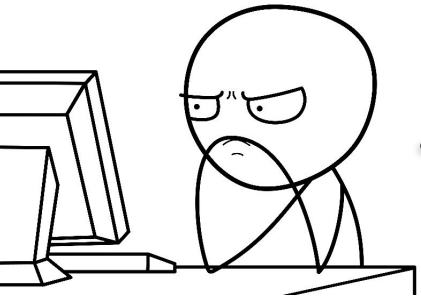
Pros:

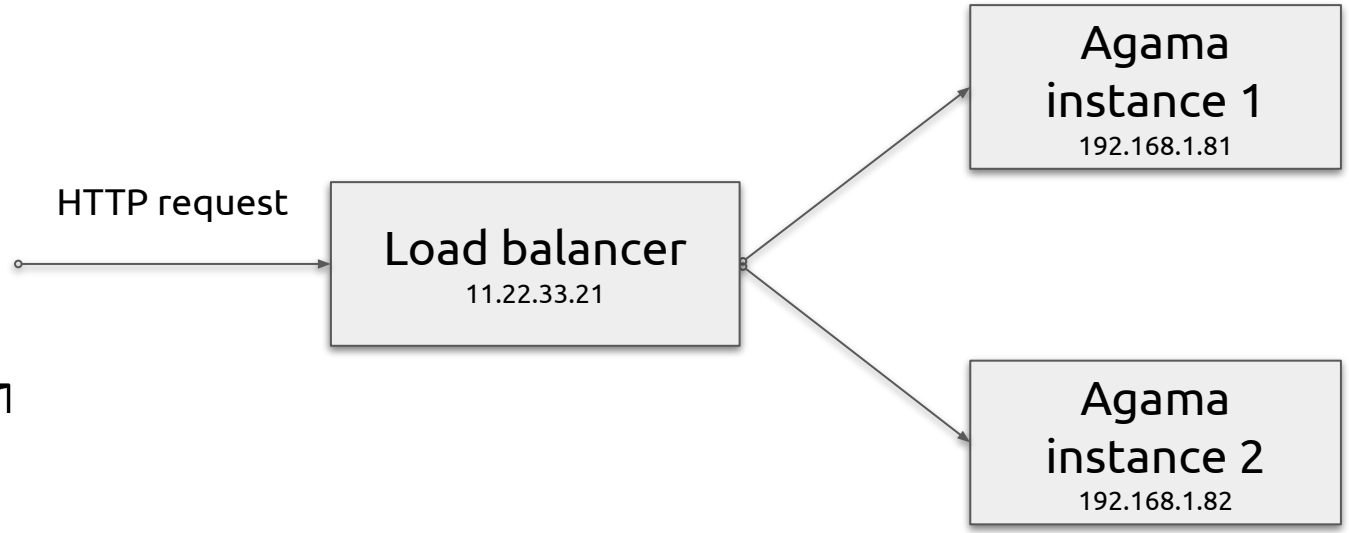
- Easy to implement
- No additional software/hardware required

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.

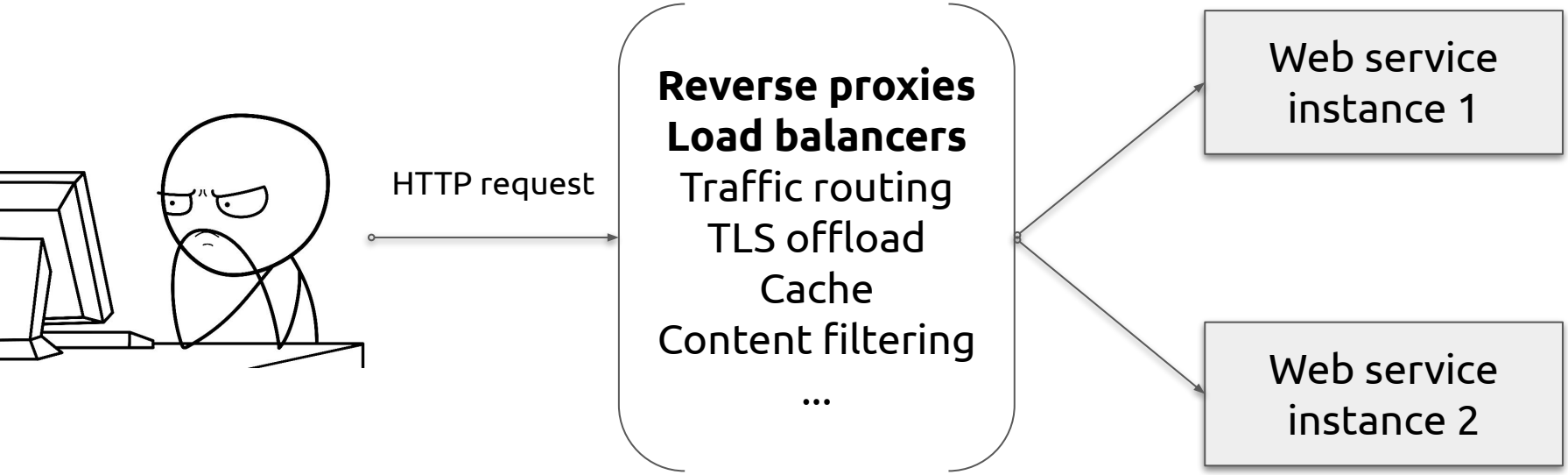
Cloud based

- Most cloud providers and IaaS platforms
- Every CDN

Software

- HAProxy, Nginx, Træfik, Envoy etc.

Server-side load balancing and more



Server-side load balancing: HAProxy vs Nginx

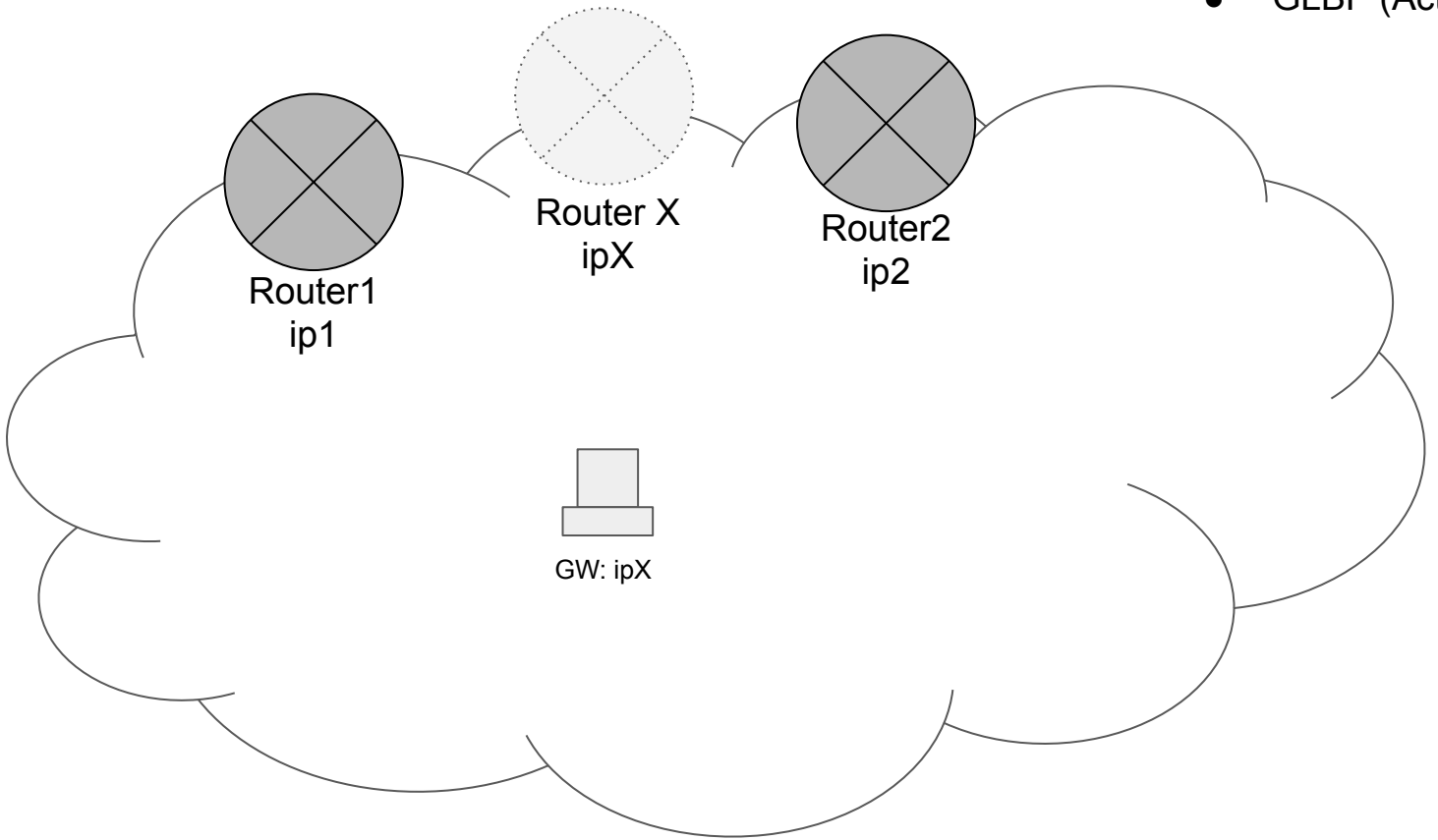
- **Both are fine for simple load balancing**
- If you want something more advanced, check the docs and choose wisely
- HAProxy is solely a proxy, Nginx is also a web server

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

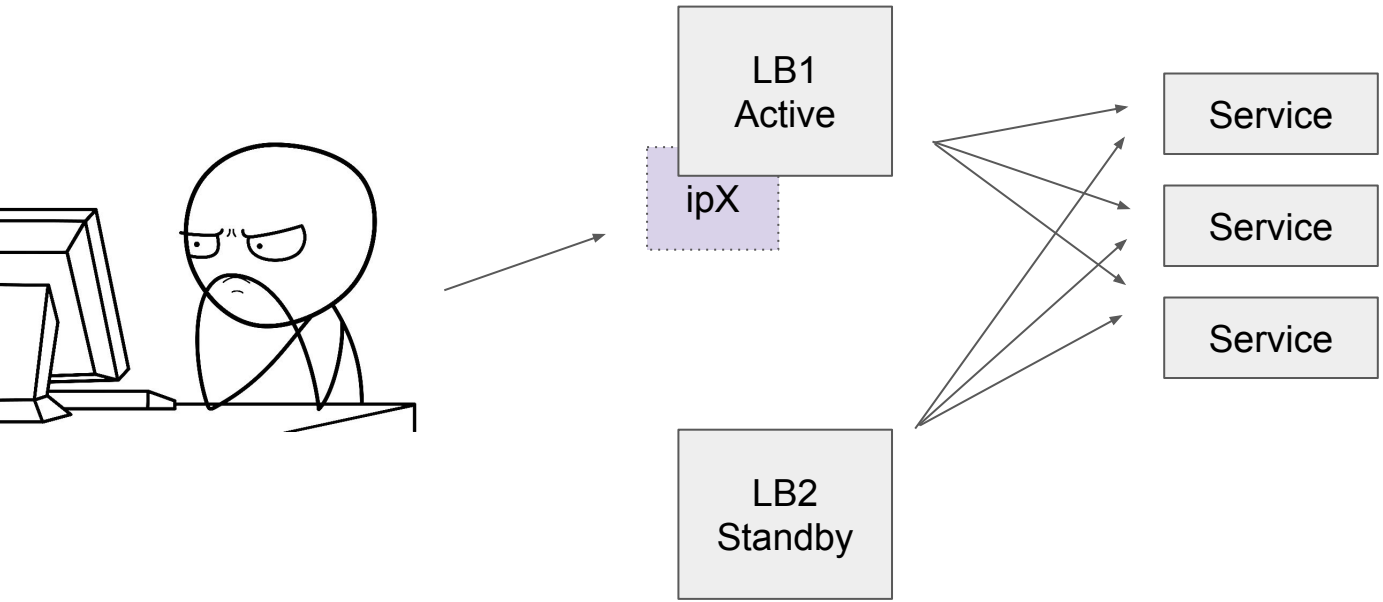
FHRP

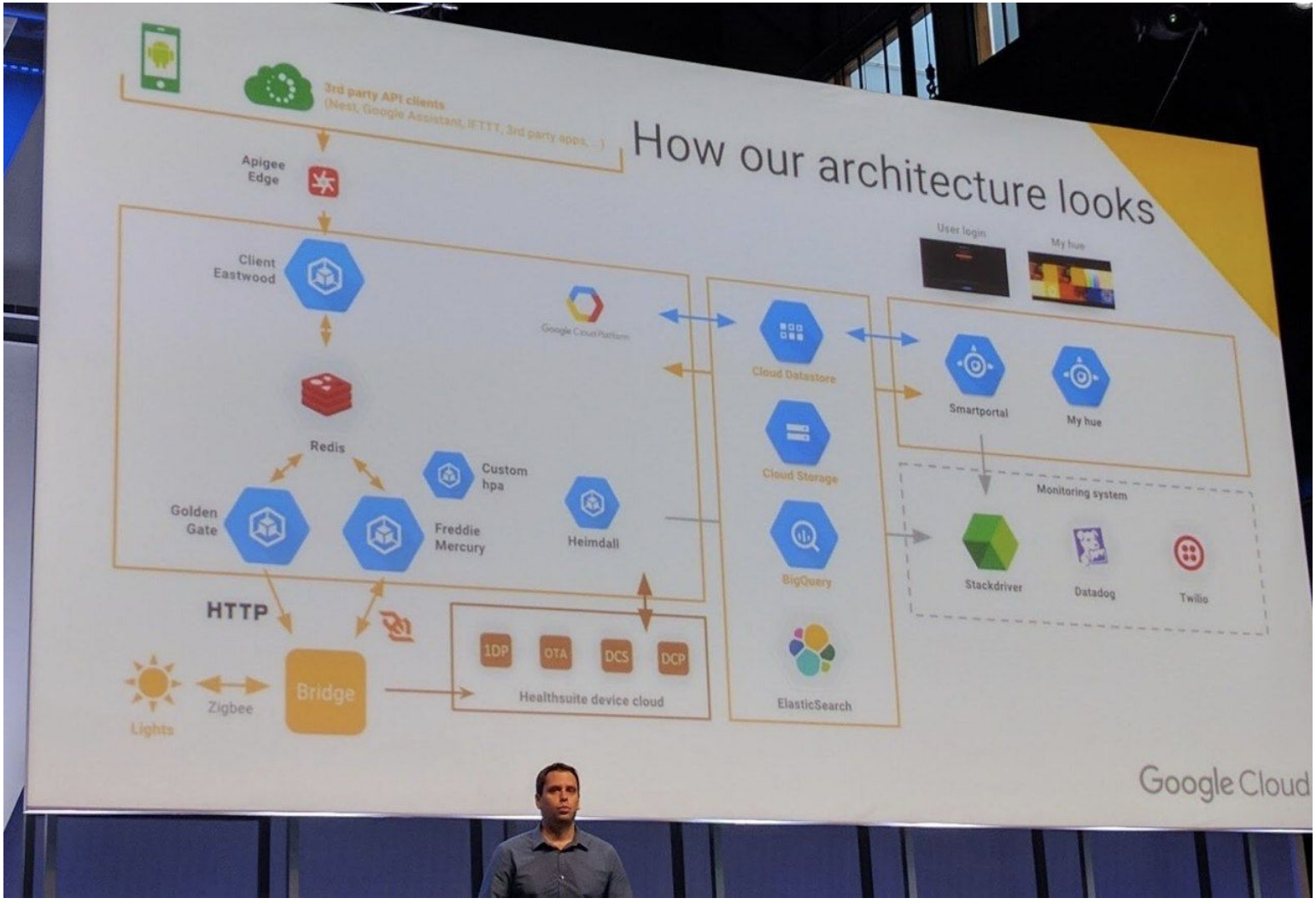
- HSRP (Active/Standby)
- VRRP (Active/Standby)
- GLBP (Active/Active)



Keepalived (VRRP)

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




How our architecture looks
3rd party API clients
(Nest, Google Assistant, IFTTT, 3rd party apps, ...)
Apigee Edge
Client Eastwood
Redis
Golden Gate
Freddie Mercury
Custom hpa
Heimdall
HTTP
Bridge
Zigbee
Lights
1DP
OTA
DCS
DCP
Healthsuite device cloud
Google Cloud Platform
Cloud Datastore
Cloud Storage
BigQuery
ElasticSearch
User login
My hue
Smartportal
My hue
Monitoring system
Stackdriver
Datadog
Twilio
Google Cloud