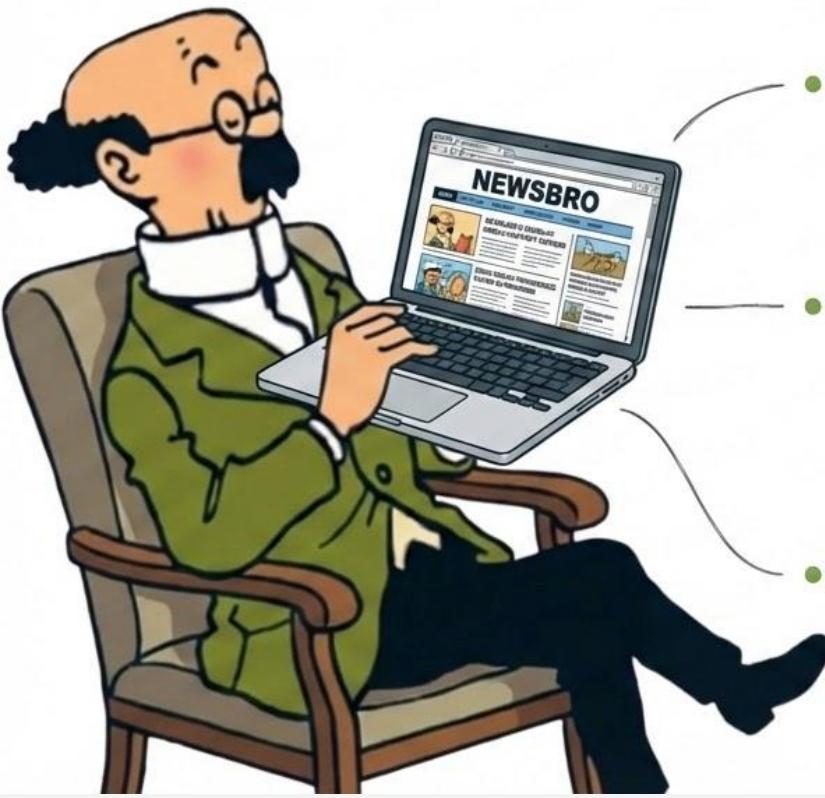




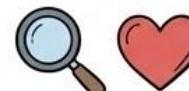
# NewsBro

*Matéo Lelong - Maxim Bocquillion  
Oscar Le Dauphin - Samy Yacef*

# Why NewsBro?



- **Privacy-aware** news reader + recommender.



- **Core features:** browsing, search, article reading, likes/ saves, recommendations.



- **Goals:** high availability, strong security, observability, extensibility.



- **Clients:** Web + Mobile (Capacitor/Ionic).



- **Infra:** Kubernetes, PostgreSQL, MinIO, Kafka, Vault + ESO, Terraform, Datadog.

# I. Features



## Accounts & Identity

OIDC/social login,  
anonymous sessions



## Reading

full-article reader



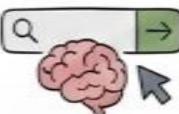
## Browsing

topic feeds, trending,  
curated lists



## Interactions

like, save, share



## Search

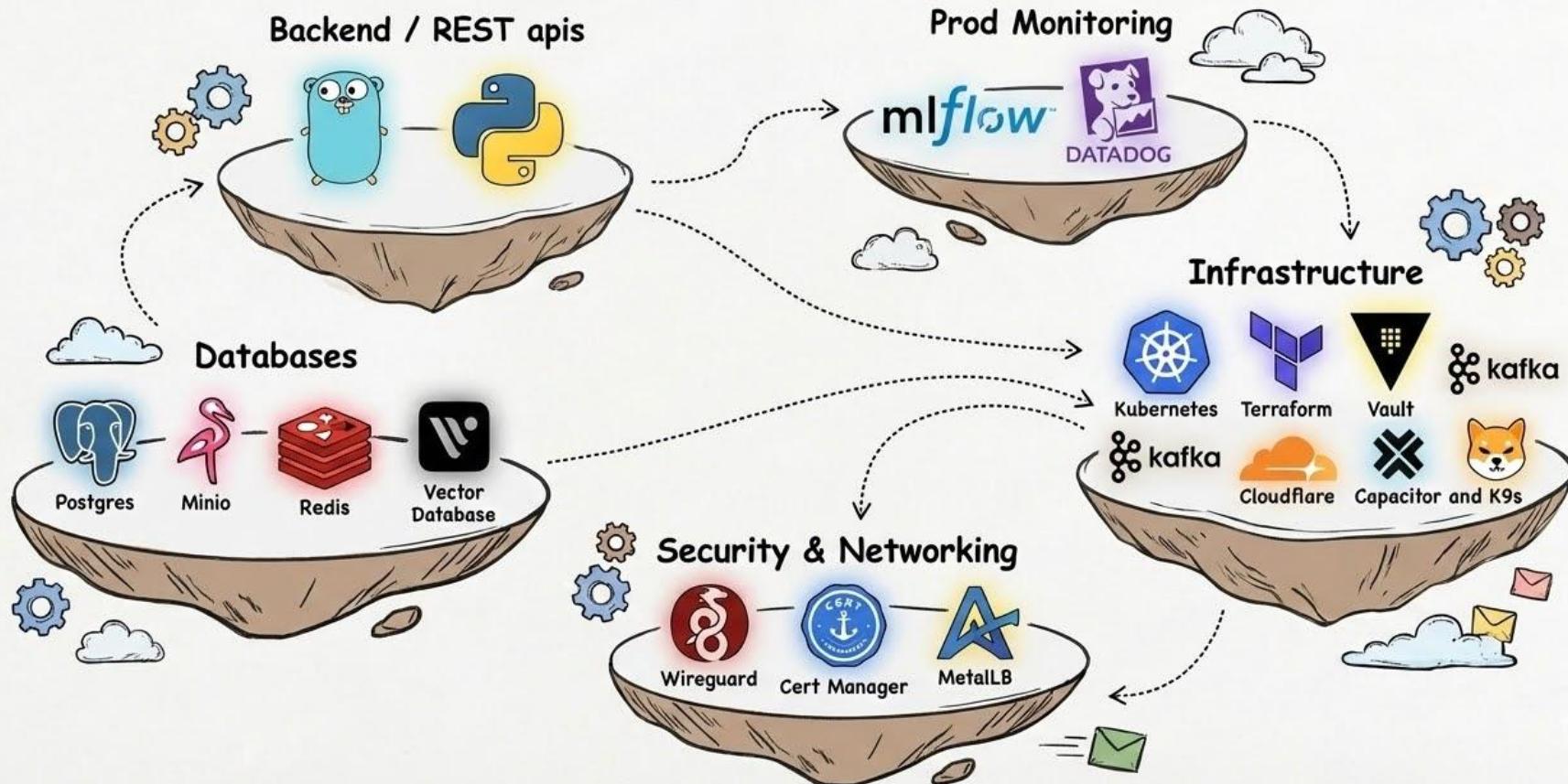
faceted + semantic  
(SBERT)



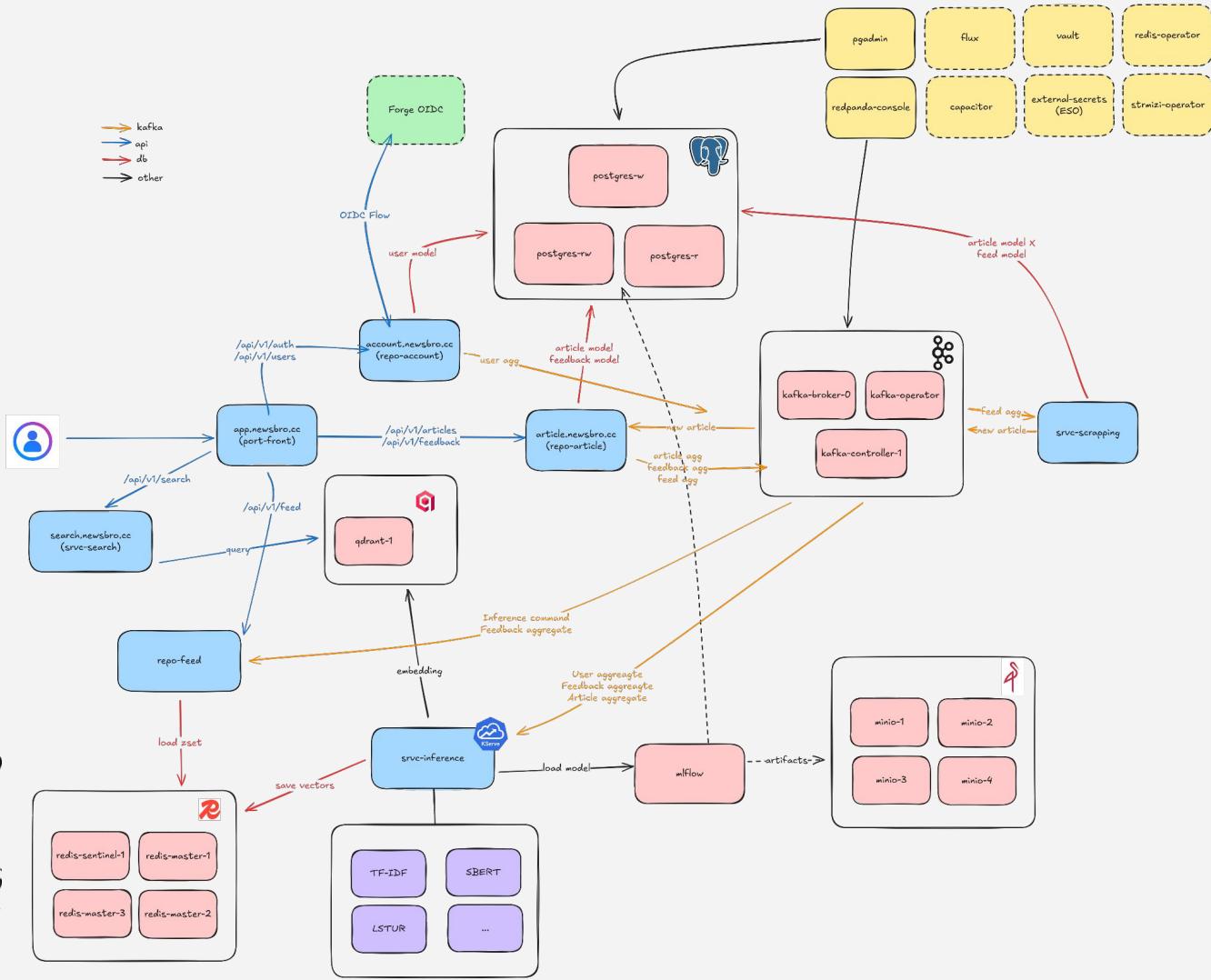
## Recommendations

feed from previous  
interactions

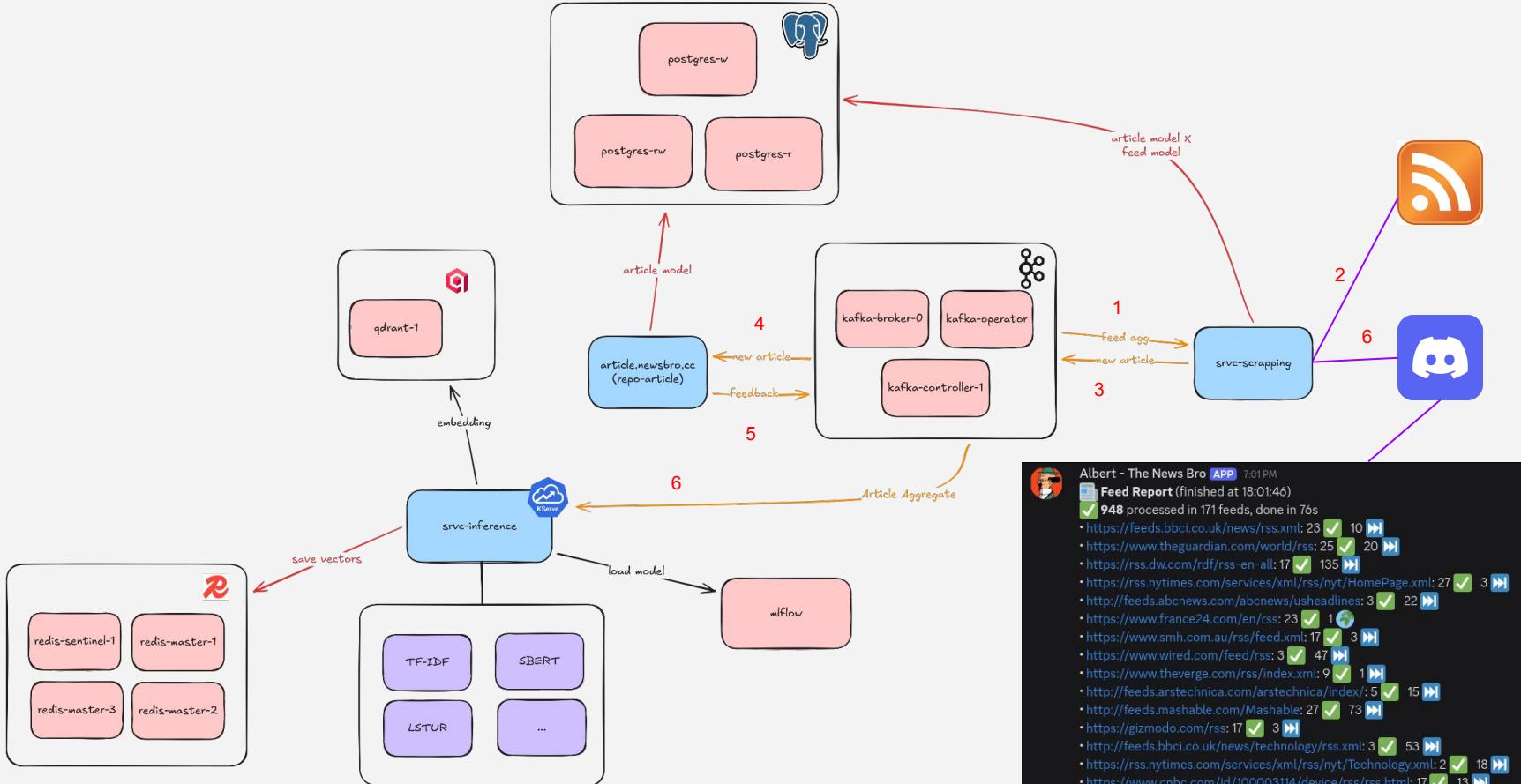
# Technology Stack Overview



# I. Architecture Overview

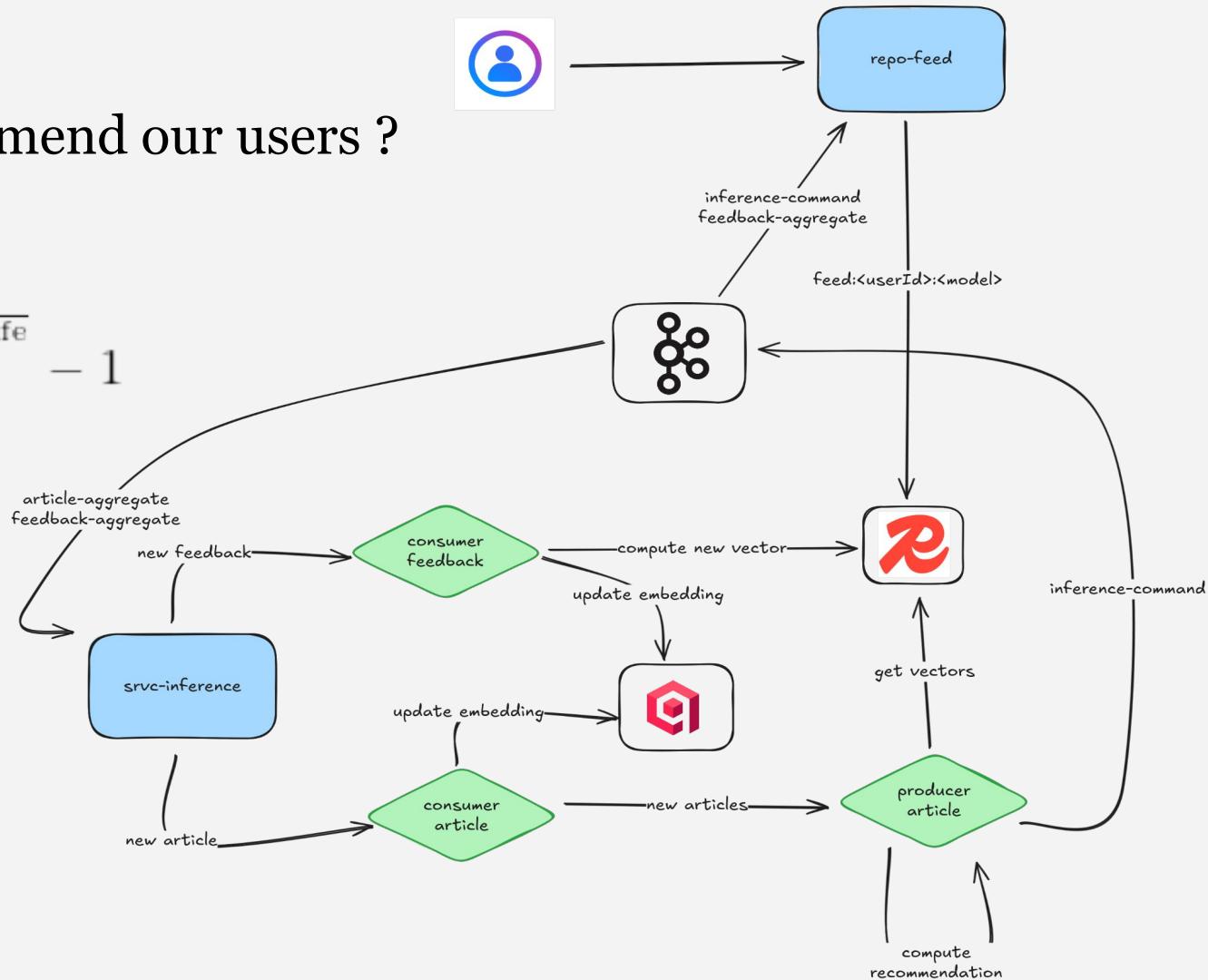


# How do we ingest articles ?

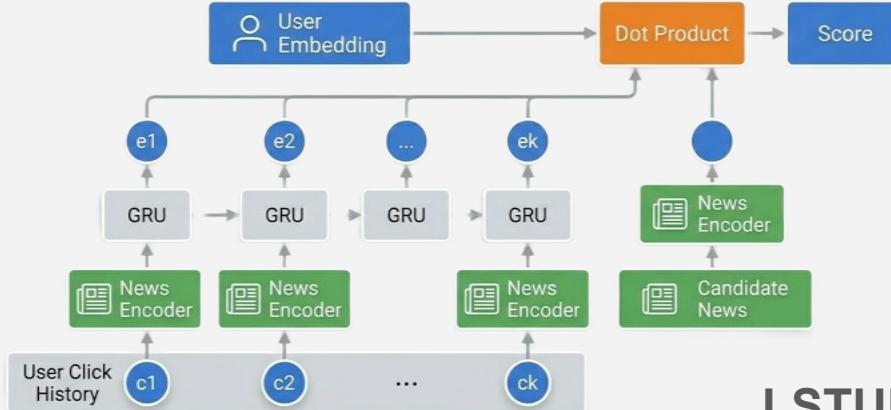
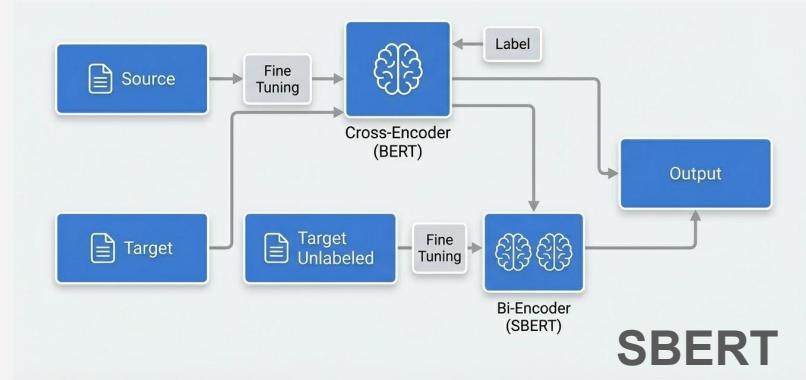
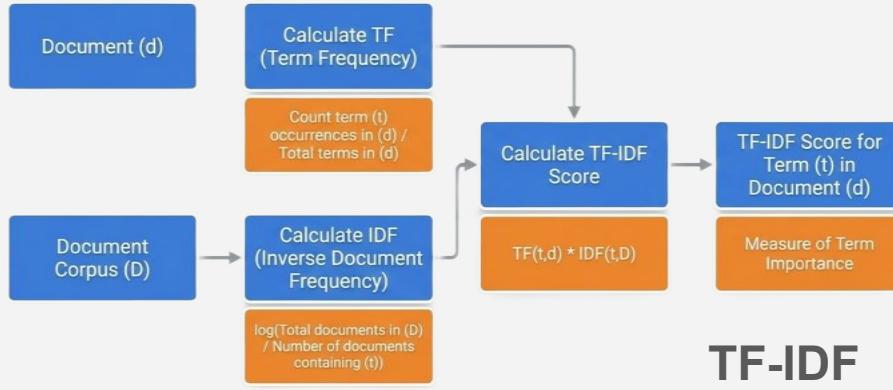


# How do we recommend our users ?

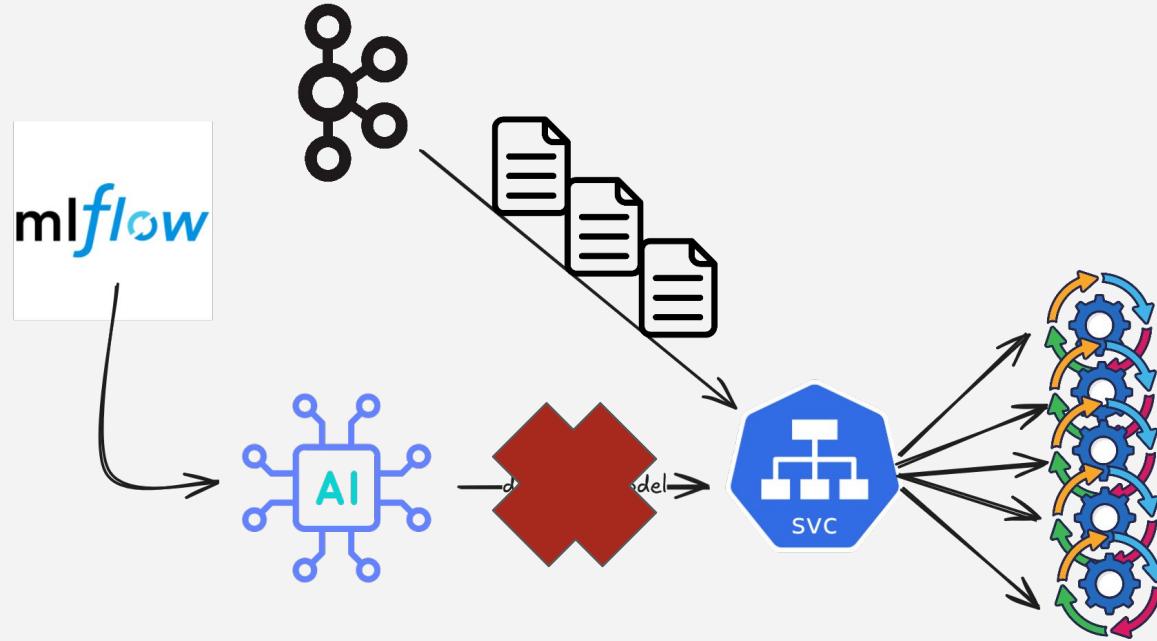
$$f(t) = s + \left(\frac{1}{2}\right)^{\frac{t}{\text{halfLife}}} - 1$$



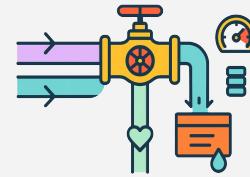
## II. Models



# High pressure & Proxy bottleneck

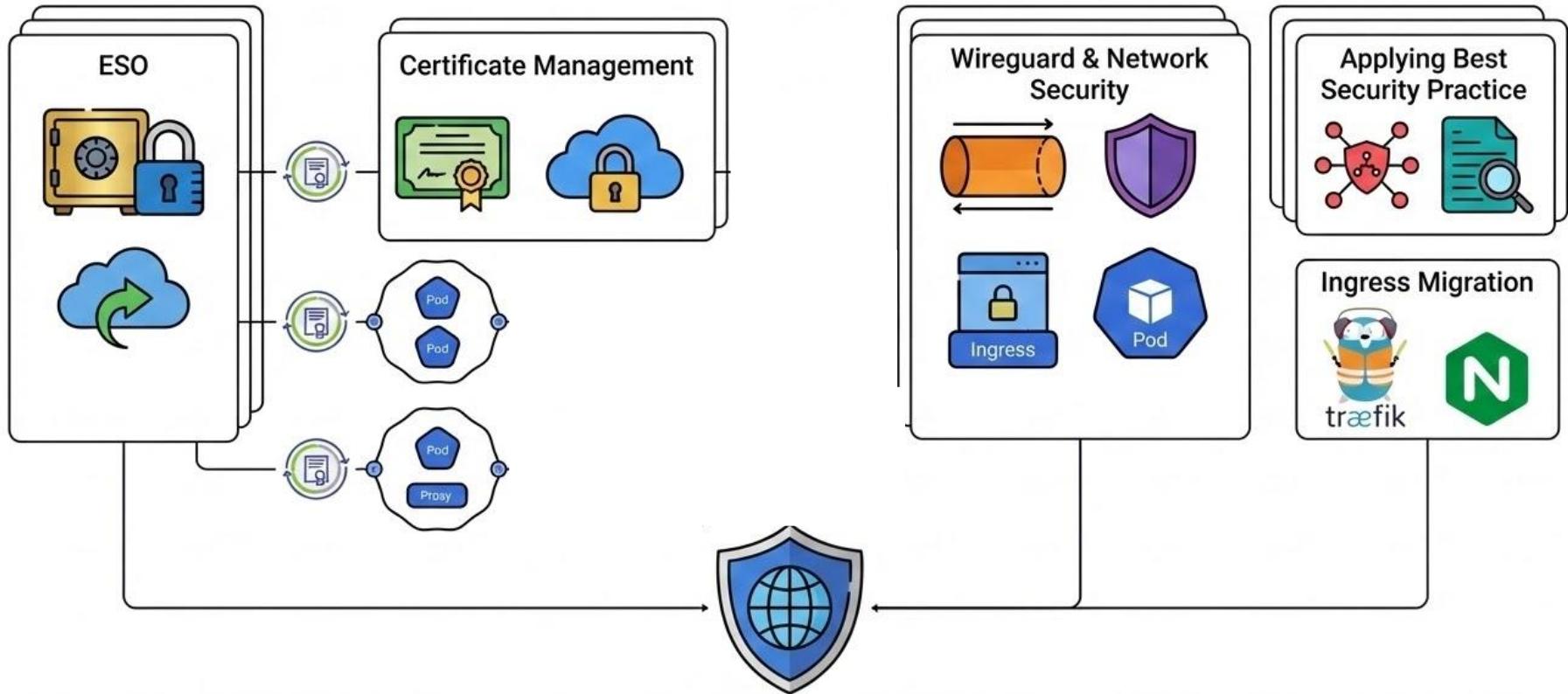


Increasing mlflow proxy [body size](#)

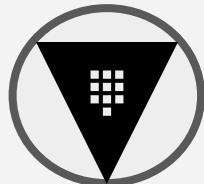


Implementing [backpressure](#) techniques

### III. Security & Networking



# How do we keep our **secrets** secret ?



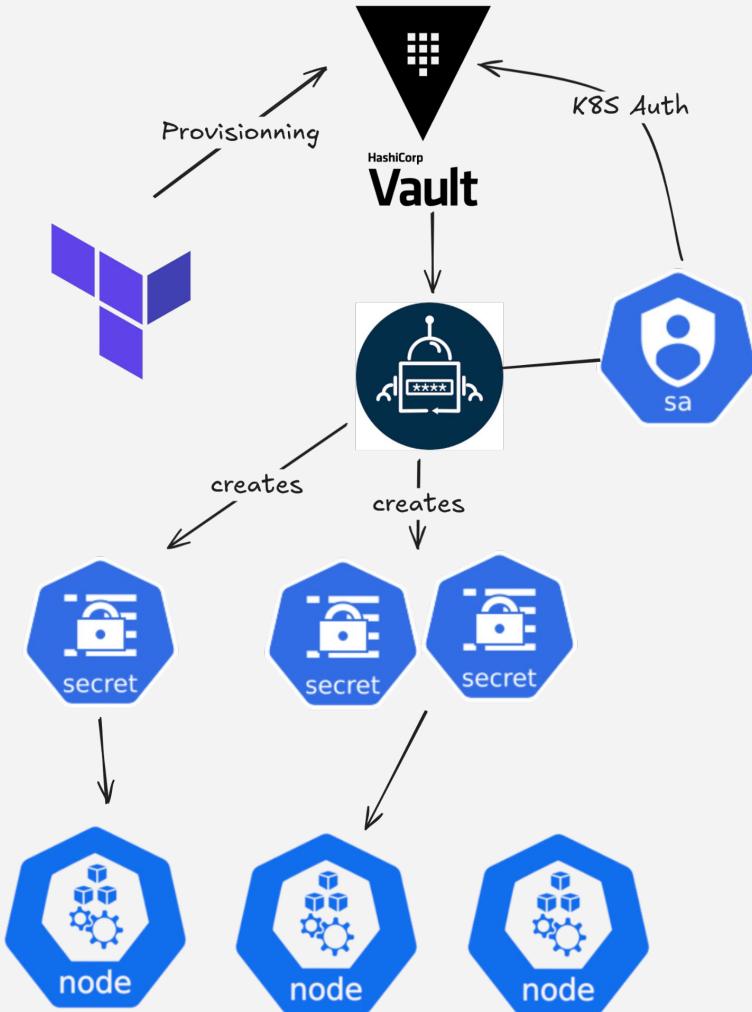
**Vault** stores secrets and manages **authorization**



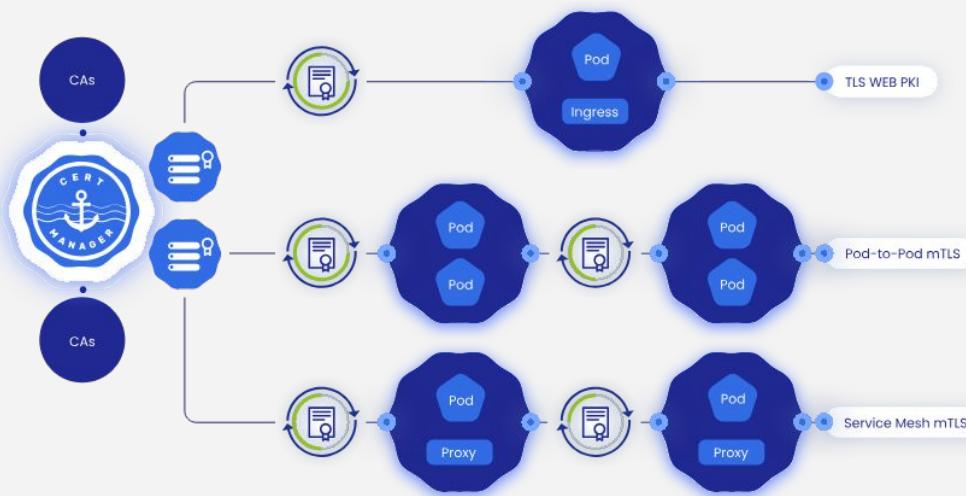
**ESO** handles **retrieval** and distribution in cluster



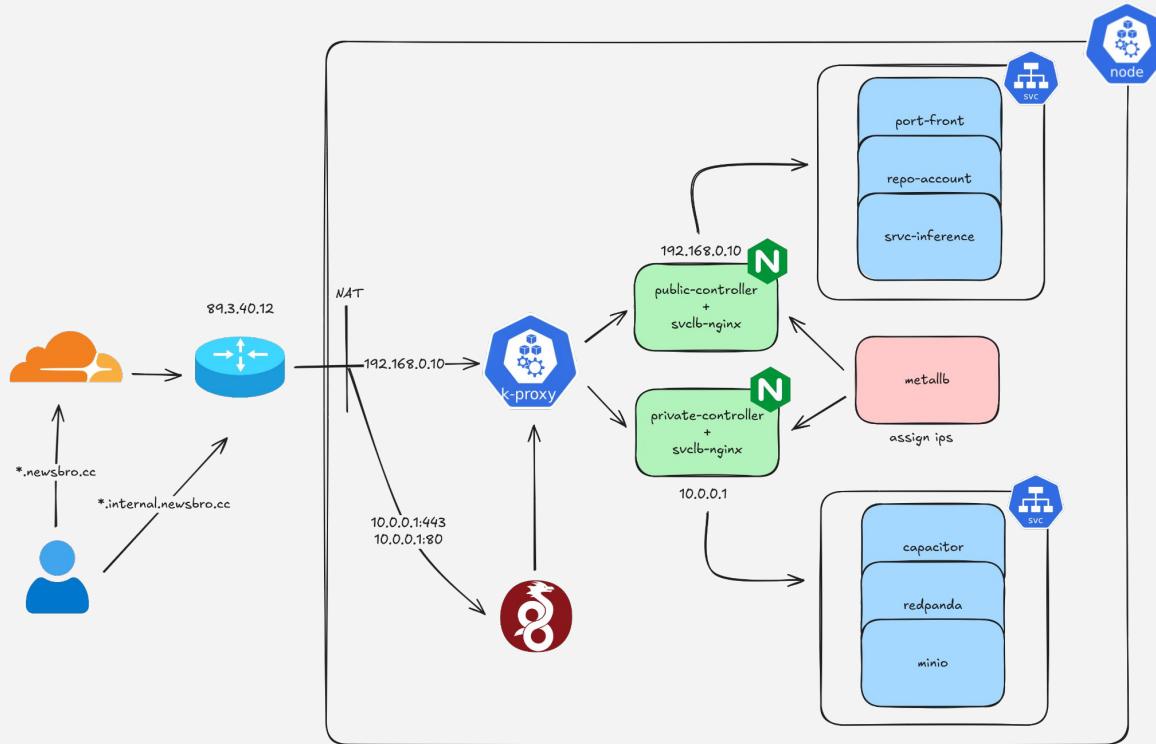
**Terraform** allows provisioning by admin



# Managing certificates with cert-manager



# VPN & Private Ingress for internal services



# Applying best security principles



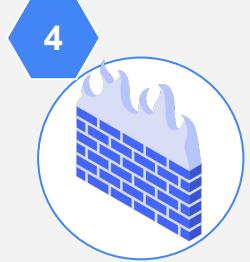
Network Policies  
to secure  
**east-west** traffic



Docker Image  
hardening  
image signing, multi  
step build, image  
scanning



Pod Security Policies  
reducing privileged  
access and  
escalation



Hardening Firewall  
and NAT rules  
reducing potential  
threats



Rate Limiting, TLS &  
JWT to secure  
**north-south** traffic

## IV. Observability

ML Lifecycle & Database Management



RedisInsight

Monitoring & Infrastructure



DATADOG

Datadog



capacitor

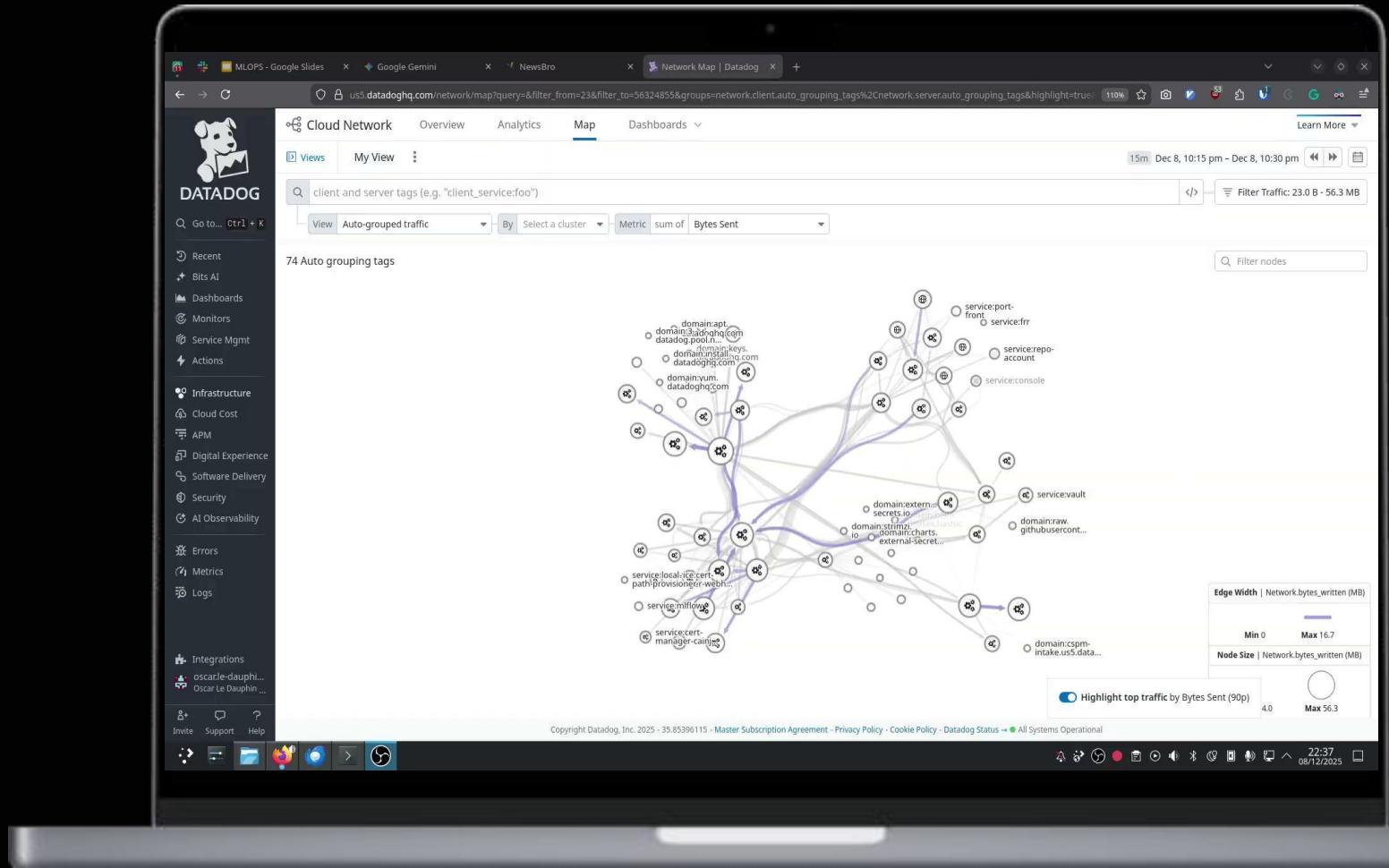
Capacitor



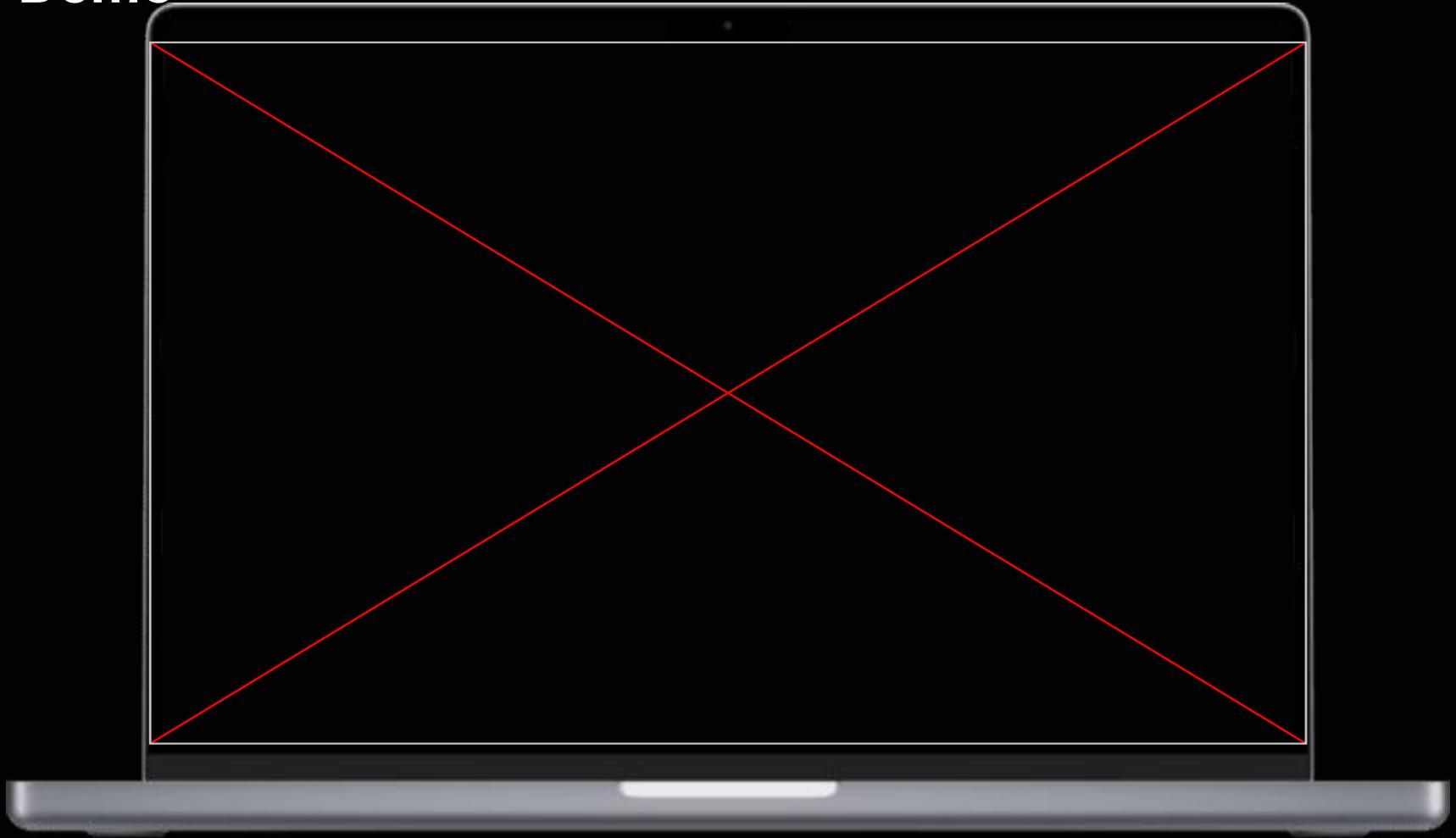
K9s

# **DEMO !**

# Network Map Demo



# APM Demo



# App Demo



# TRY IT OUT!



NewsBro

<https://app.newsbro.cc>

