# tetrate

POWERING THE WORLD'S APPLICATION NETWORKS

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**Solutions Engineering**

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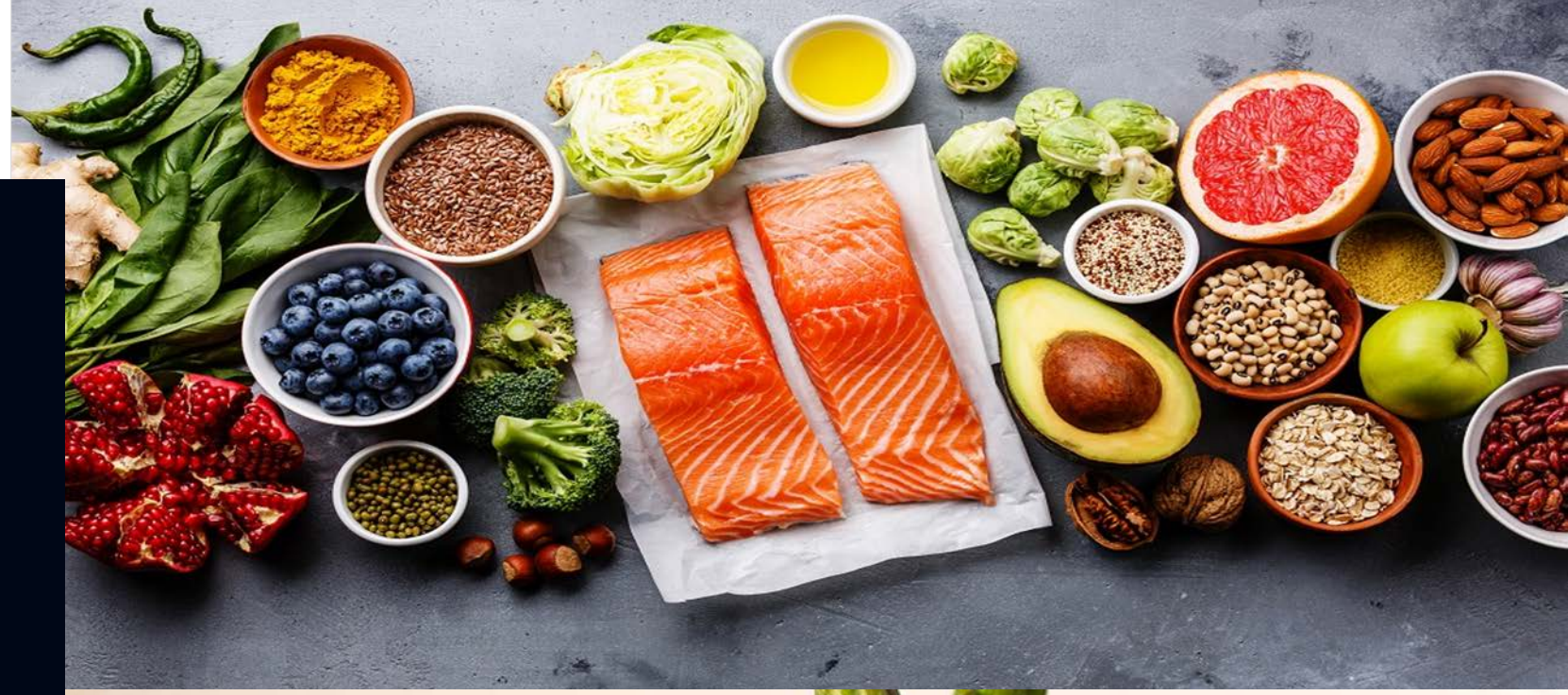
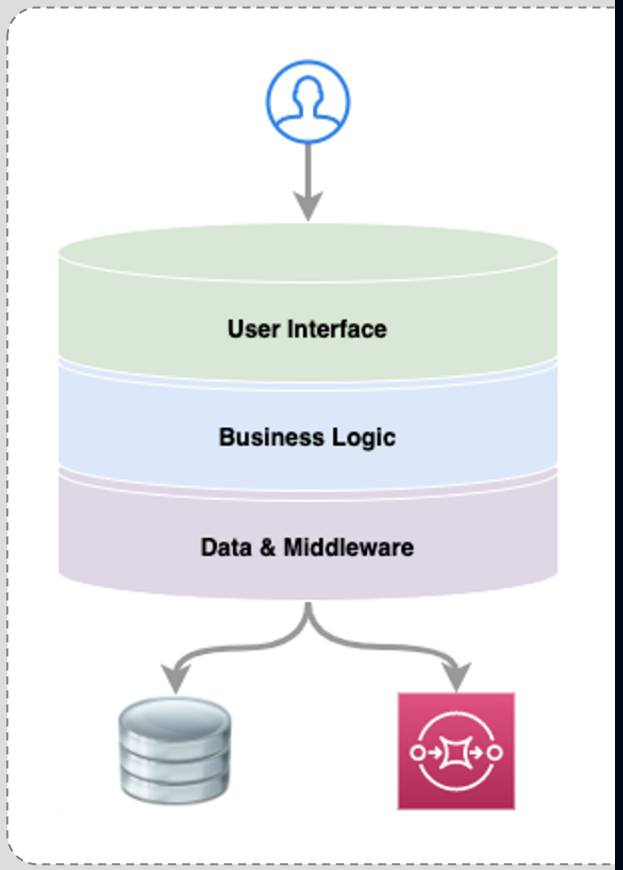
# Ingredients

Cloud Native Shift
Service Mesh Architecture
Key Ingredients to Enabling ZTA
Operationalizing





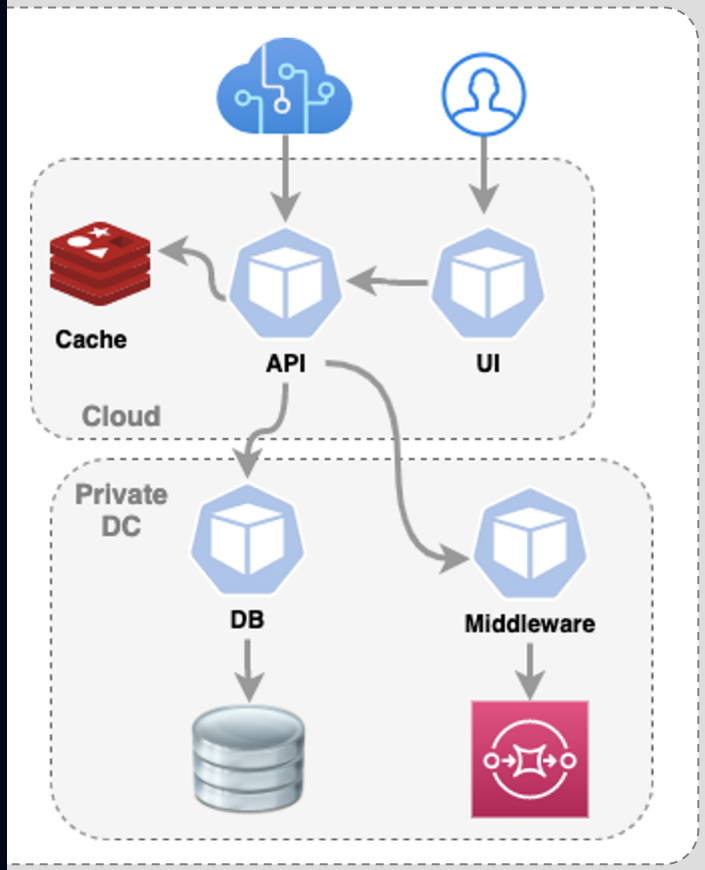

# Cloud Native Shift

Attack Surface Area

*All Resources* Networked Attached

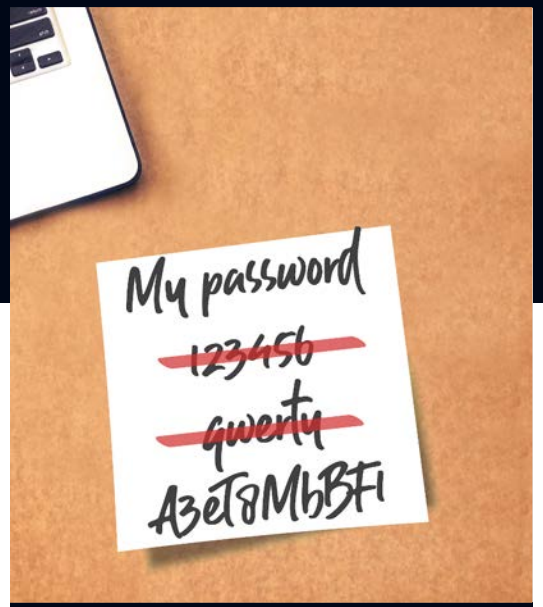
New Paradigm For Identity, Trust, and Verification

**All Shifted to App Teams**

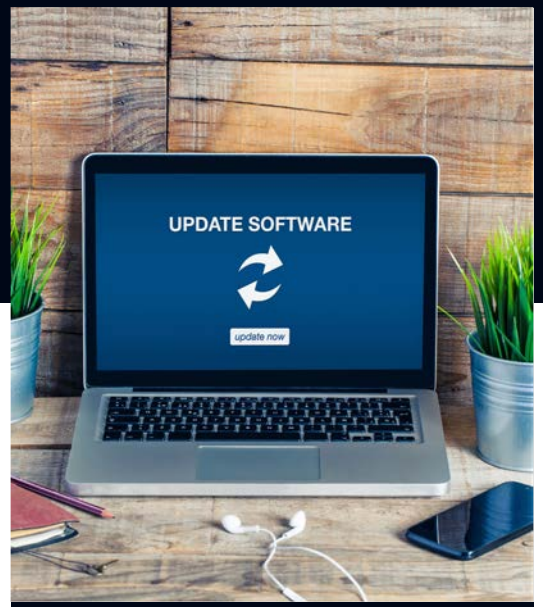


# The Unwanted Ingredients

Mesh Architecture Protects You




[Weak] Leaked Credentials



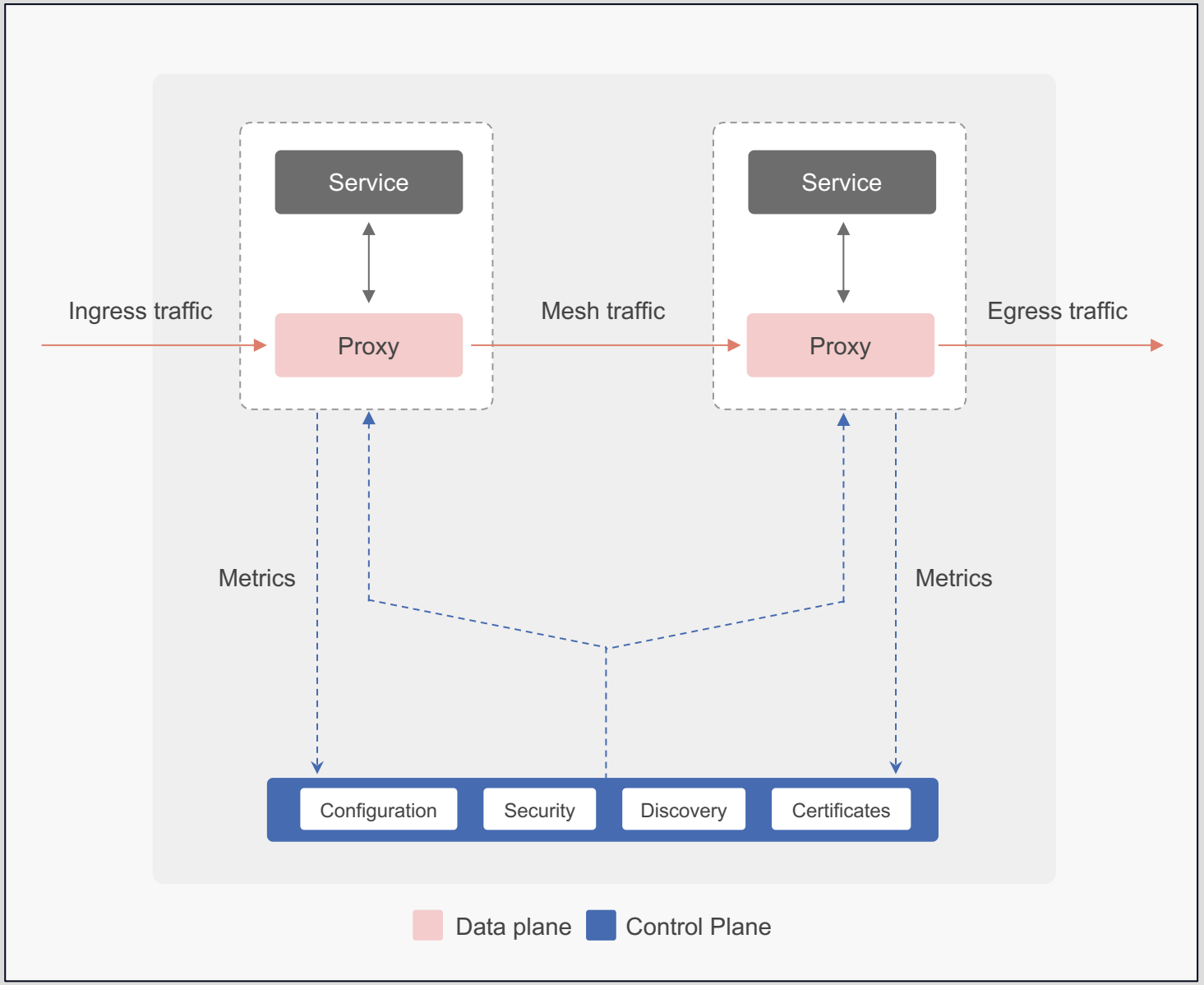

Unpatched or Misconfigured Software

Time

Implicit Trust

# What is a Service Mesh?

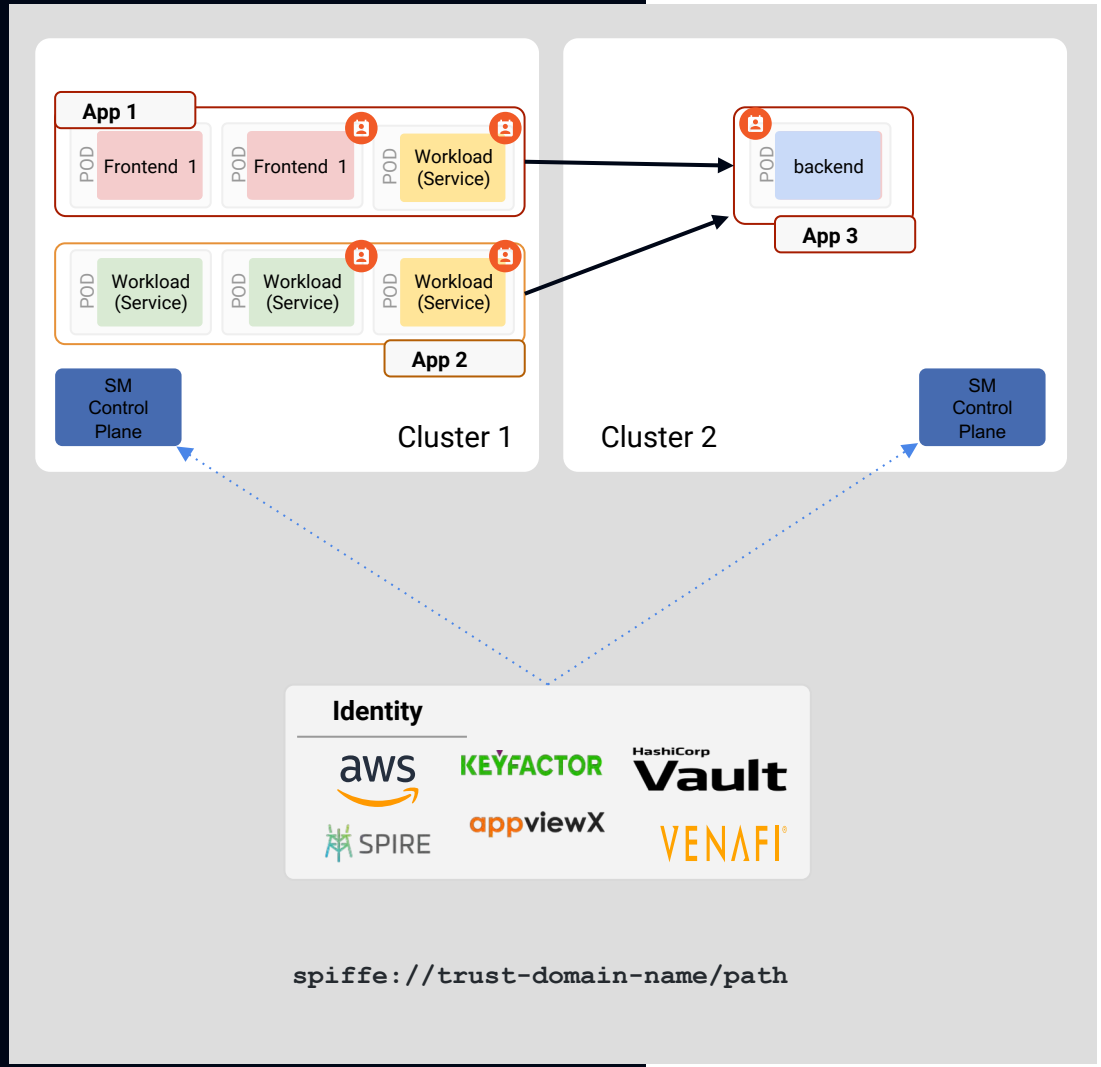
A Service Mesh is a dedicated & transparent infrastructure layer placed between the application and the network that enables ***Reliable, Fast, and Secure*** service communication



# Service Identity

A service mesh will issue cryptographically-verifiable workload identity for all services this is not tied to infrastructure

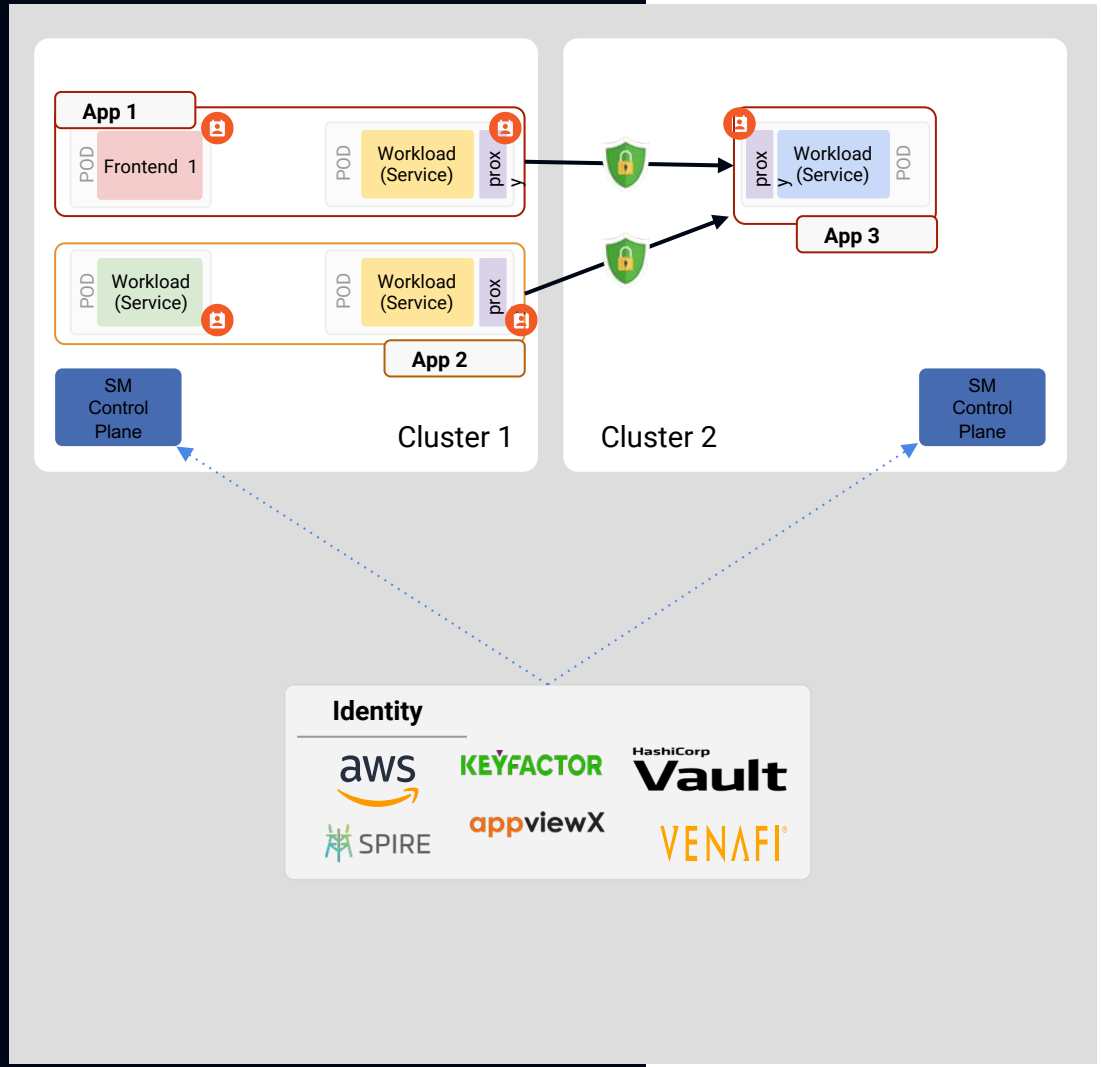
SPIFFE is widely adopted identity framework most commonly utilizing short very lived X.509 certificates



# mTLS

X.509-based identities are utilized in a full stack solution for transport authentication and encryption of data in transit

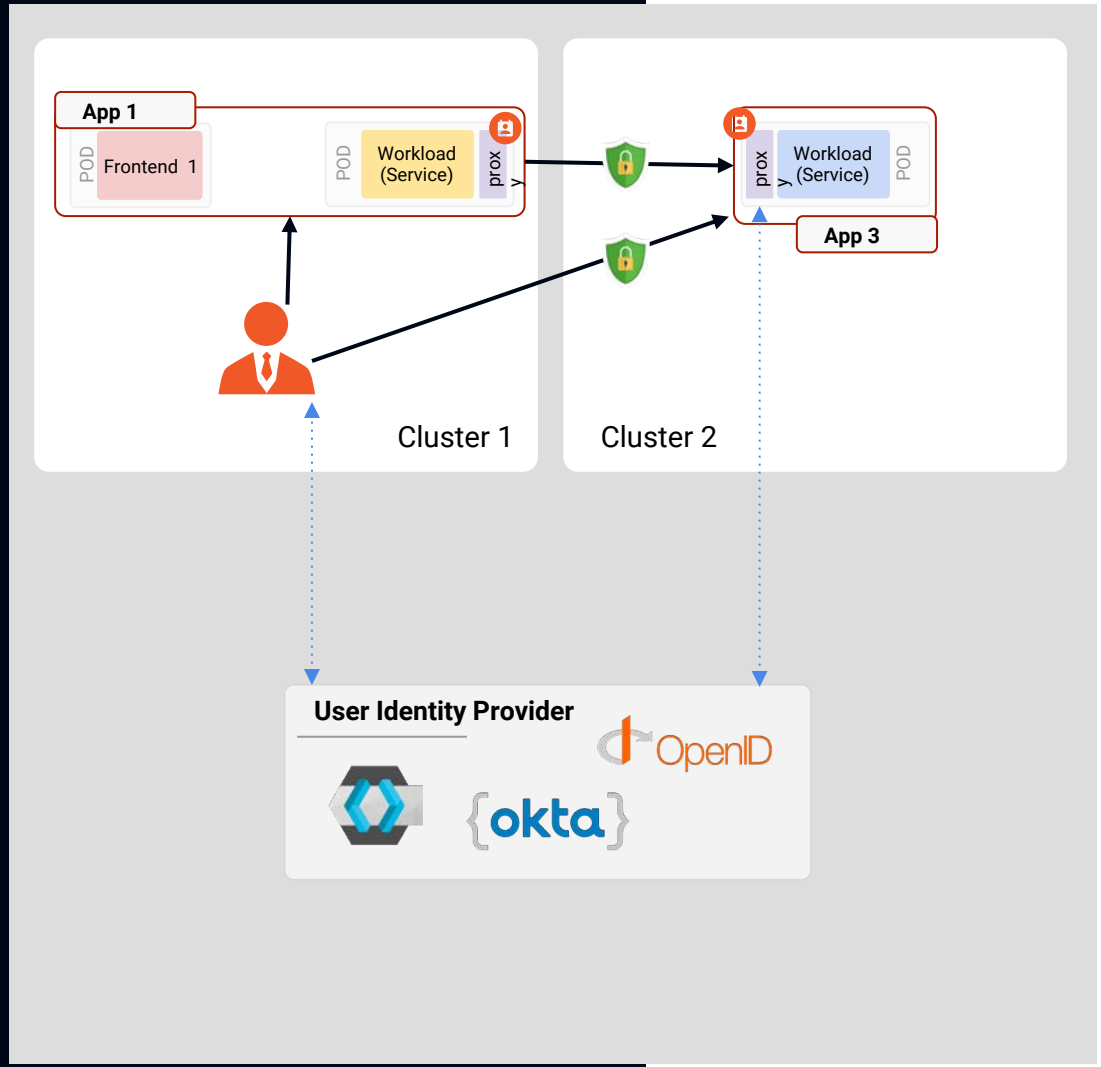
Mesh sidecars serve as Policy Enforcement Points (PEPs) guarantee policy conformance with zero application changes



# End User Credential & Identity

Fine-grained control over end user and/or external upstream service requests

Control end user AuthN/Z based on identity expressed in JWT credential or layer 7 request attributes

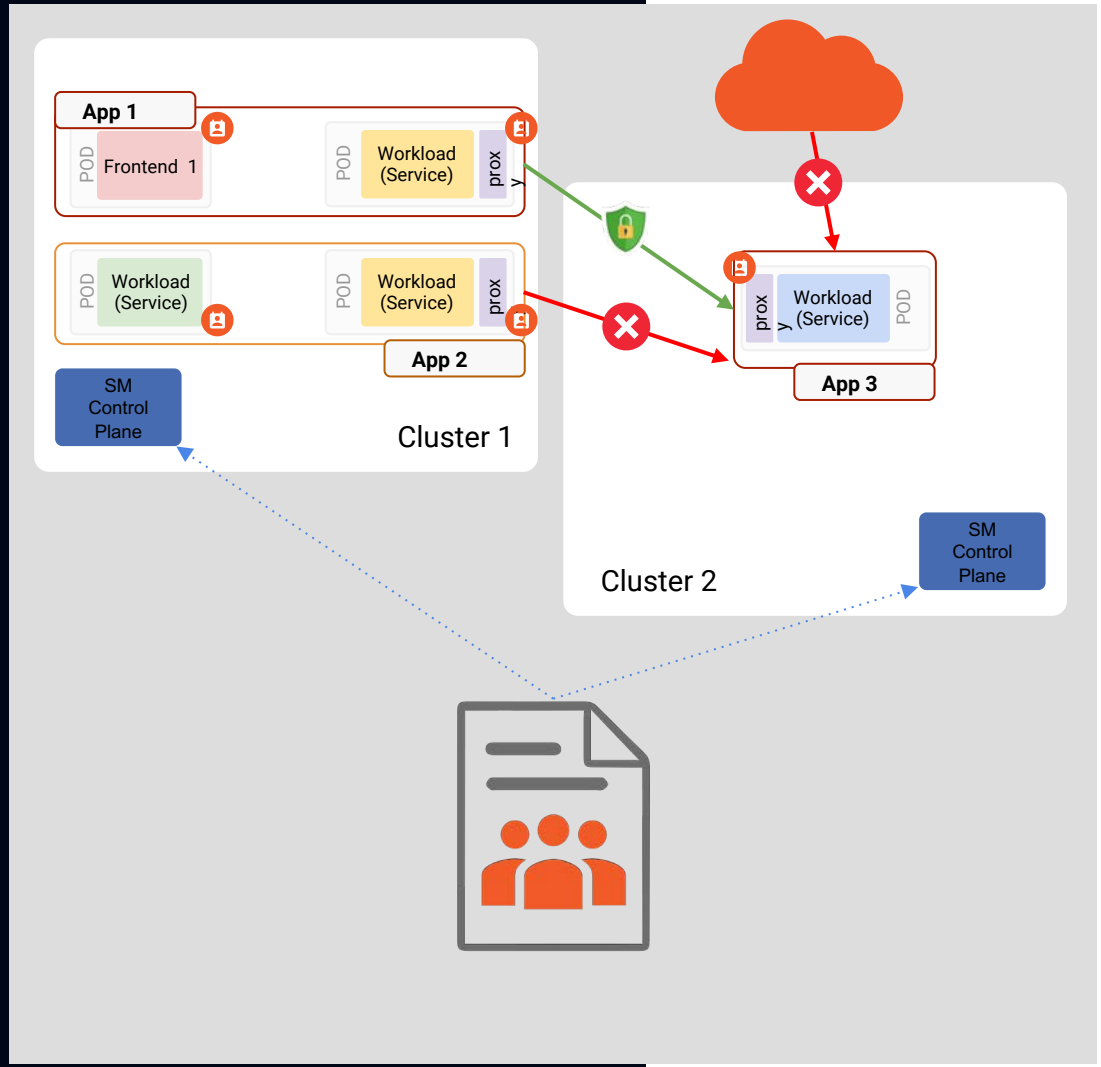


# Network Policy

A Service Mesh provides centralized policy management with distributed runtime enforcement

Whitelisting/Blacklisting or shape traffic based on service, IP, layer 4/7 request attributes, or logical environment

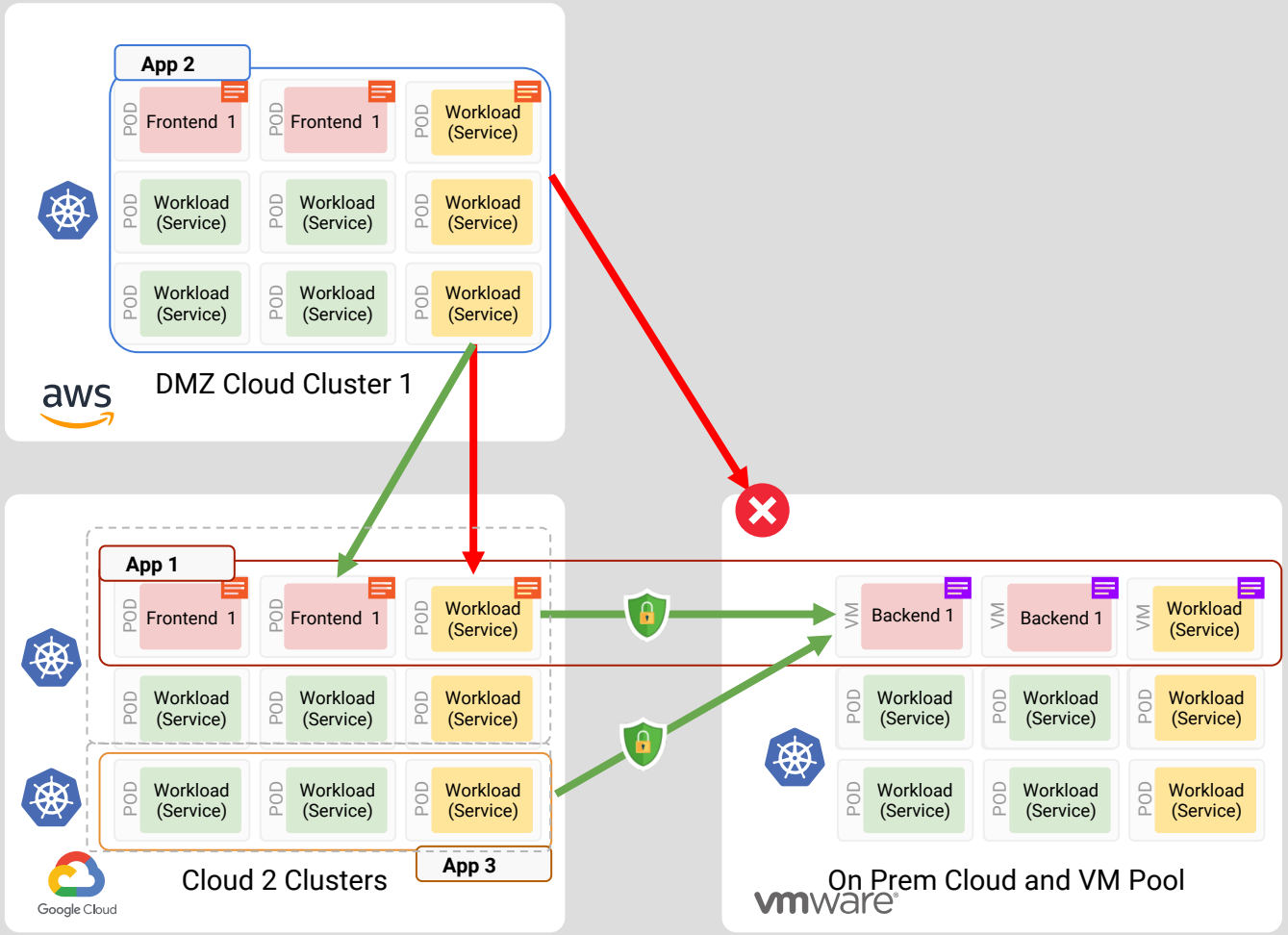
Usually a combination of many



# Operationalize Mesh With DevSecOps

As complexity increases:
- Multi-Cluster
- Multi-Cloud
- Hybrid Cloud
- Integration with Legacy

ZTA must be built into automation toolchains



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# Thank You

## Contact

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 For any further queries, feel free to contact us at info@tetrate.io